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SPECIAL REPORT

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ABOUT THE REPORT

The United States Institute of Peace, in conjunction with Mobile Accord, TechChange, the UN-mandated University for Peace, and the National Defense University, hosted a Smart Tools for Smart Power event on June 24, 2010, entitled “Can You Help Me Now? Mobile Phones and Peacebuilding in Afghanistan.” The meeting brought together a cross section of the leading innovators in the use of mobile phones in difficult environments with Afghanistan specialists and government policymakers. Mobile telephony has significant potential to further peacebuilding efforts in Afghanistan. This report summarizes the key points addressed during the meeting and expands on them with additional research and analysis.

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with contributions from Cecilia Paradi-Guilford

Can You Help Me Now?

Mobile Phones and Peacebuilding in Afghanistan

Summary

- A decade ago, mobile phone usage in Afghanistan was almost nonexistent; now there are 13 million subscriptions for a total of 29 million citizens, and the annual growth rate of subscription is estimated at 53 percent. A number of factors have fueled this dramatic increase, including the sheer popular demand for communication, an absence of viable landline substitutes, government deregulation, and a competitive market that flourishes despite the conflict.
- Each of the major telecommunications companies in Afghanistan identifies the same five challenges to future expansion: poverty, high illiteracy rates, corruption, an untrained workforce, and lack of security. Despite these challenges, Afghanistan has proved an exceptional case study in the use of mobile phones for social change in support of peacebuilding, as it has been the focus of numerous pilot application programs conducted by the government, non-governmental organizations (NGOs), and the private sector.
- Mobile money transfer (MMT) applications have proved to be powerful mechanisms for helping to reduce corruption, foster security sector reform, and promote economic development. Yet neither the international community nor the Afghan government has shown the will or the capacity to move MMT programs forward at a pace commensurate with their demonstrated potential. At least two other high-value mobile applications were cited during the June summit as having improved conditions for stability and reconstruction in early deployments: (1) the provision of market information through mobile phones, especially in the agricultural sector, and (2) the use of mobile phones to strengthen local governance and civil society. Both applications have sufficient promise to warrant large-scale rollouts and merit careful consideration by international donors, whose support is vital during the transition to sustainability.
- Other applications on the horizon that hold tangible if still aspirational promise for peacebuilding are those that use mobile phones for land dispute resolution, election monitoring, and gender empowerment and education.

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- Across nearly all mobile phone applications in Afghanistan, two overarching needs appear essential to adoption: user training and an interactive voice response system to accommodate a largely illiterate population.
- International organizations operating in Afghanistan play a vital role in helping the country realize the promise of mobile telephony, bringing lessons learned from other conflict environments and the development sphere. Yet there is currently no mechanism in-country for coordinating across these organizations and with Afghan stakeholders, despite the obvious need for shared infrastructure and security. A mobile applications working group would be a powerful step toward promoting accelerated rollout, ongoing innovation, and greater cooperation and efficiencies among donors, NGOs, and telecommunication companies themselves.

Opportunities and Challenges of Mobile Telephony

Mobile phones and their potential contributions to peacebuilding efforts and development in Afghanistan have attracted increasing attention and resources. The narratives fluctuate between excitement about the latest new application of mobile telephony and profound disappointment with the uptake of those applications owing to insurgent attacks, vandalism, corruption, or sheer incompetence.¹

The reality, of course, is more complex. Mobile phone usage has increased dramatically across the country, connecting citizens on a hitherto unimaginable scale, raising new hopes, and presenting new challenges. In this report we reflect on both the challenges and the opportunities in an effort to assist policymakers in optimizing the expanding resources being applied to the mobile phone sector in Afghanistan. Although mobile phones certainly play a significant role in development and stabilization across a number of sectors in Afghanistan, much more can be done to realize this technology's potential. At the same time, much of this potential cannot be realized without fundamental changes in the broader political and rule-of-law environment in which the mobile sector operates.

The Mobile Telephone Landscape in Afghanistan

Nine years ago, Afghanistan had between 10,000 and 20,000 fixed lines, and mobile telecommunications were virtually nonexistent. Since then the country has seen explosive growth in mobile subscribers, network providers, and physical infrastructure. The total number of subscriptions is approximately 13 million for a total population of roughly 29 million people, and the annual growth rate of subscription is estimated at 53 percent (2009–10).² A 2009 Asia Foundation survey found that 52 percent of households had mobile phones (compared to 81 percent for radio, 41 percent for television, and 6 percent for computers). Moreover, 44 percent of rural households reported having a mobile phone, and 11 percent of those surveyed said they used short message service (SMS) to receive news and information about current events at least once a week.³

Afghanistan is a sparsely populated, volatile country with a largely rural population. Almost all of its thirty-four provinces contain rugged, mountainous terrain and lack developed transportation infrastructure and a stable electricity supply. These characteristics, combined with the violent conflict that has engulfed the country since 1979, have imposed serious limitations on the expansion of fixed telephone line infrastructure and postal services.⁴

Once mobile telephony was identified as the optimal information and communications technology, the government of Afghanistan, with technical assistance from the U.S. government and international organizations, began to design a regulatory policy to encourage growth.⁵ They created a market regime based on "aggressive liberalization, transparent

regulation, fair competition and private sector participation.”⁶ Today there are five competitors in the Afghan market: Afghan Wireless (AWCC), a partly state-owned company; Roshan, a domestic company; MTN Afghanistan and Etisalat, which have operations across the Middle East and Africa as well; and Afghan Telecom, which is fully owned by the state. According to estimates, each of the private companies has at least a 20 percent market share, with AWCC and MTN emerging as the dominant players. Most important, competitive market conditions have driven down prices by about 70 percent since 2003, expanding⁷ affordability and ultimately making telecom, according to Mohammad Stanekzai, the former minister of communications and current adviser to President Hamid Karzai, “the fastest growing sector in Afghanistan today.” In fact, taxes on the mobile sector account for about 15 percent of government revenue,⁸ and the sector has become one of the largest employers of the local labor force, second only to the agriculture sector.

Slowing Growth

Despite their competition and differing public-private constituencies, leaders from the five mobile network operators (MNOs) in Afghanistan interviewed for this report agreed that the continued pace of expansion would be determined by their ability to grapple with five principal challenges.

- *Poverty.* More than a third of the Afghan population lives below the poverty line, which poses unique pricing difficulties for MNOs.⁹ At the time this report was written, it cost four Afghanis (AFN) per minute to make a phone call. Insofar as the annual income for the average Afghan citizen is 18,524 AFN, a one-hour monthly mobile call requires about one-sixth the average user’s annual salary.¹⁰ These per-minute usage rates are prohibitive for most low-income users.
- *Illiteracy.* Only about 28 percent of the population is literate, making Afghanistan the second most illiterate country in the world.¹¹ Though mobile phones are more accommodating to illiterate populations than other communication media, they still require basic literacy and numeracy to be used easily. User training and interactive voice response (IVR) systems help address this problem but greatly increase the cost per user.
- *An untrained labor force.* Only 16 percent of boys and 8 percent of girls attend secondary school in Afghanistan. Consequently, MNOs must recruit from a severely untrained labor force and invest much more than their counterparts in other countries on employee training. At one point, MNOs tried to recruit skilled labor from abroad, but the worsening security situation largely ended this initiative. The problem is compounded by a lack of ICT-related skills among the Afghan government staff and ministers, who are now receiving some support and training from USAID, the UN, and other international organizations.¹²
- *Corruption.* The Afghan telecom sector has identified widespread corruption as a major cause of drastically increasing business costs. In 2008, the World Bank rated the amount of “informal payments it takes to get things done” in Afghanistan as roughly 40 percent higher than the world average.¹³ Bribery mainly involves midlevel bureaucrats, particularly customs officials, though in some cases provincial leaders are also involved. Some MNOs pay bribes to gain bureaucratic support, and the fierce competition between MNOs only fuels such behavior.¹⁴
- *Security.* The Afghan state is unable to protect its citizens or their property, or to enforce the rule of law.¹⁵ In the telecom sector, this means that insurgents and vandals are able to disrupt communications either by attacking mobile towers, which cost about \$250,000 each, or by stealing the electrical generators the towers run on.¹⁶ During the 2009 presidential elections the Taliban blew up eighteen Roshan towers alone, costing the company

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\$14 million in total damages—a figure that could have been markedly reduced had Roshan agreed to pay insurgents the extortion money they demanded for protection, which Roshan cannot do according to its company rules.¹⁷

Taliban forces have also shut down mobile service because of the ability of international military forces to monitor their transmissions.¹⁸ The Taliban even issued a fatwa demanding that mobile towers be switched off or risk being blown up, an order that was later amended to apply only to overnight operations. Thus, in the southern and eastern areas of the country, where the insurgents are strongest, MNOs generally turn off their towers at night.

However, innovative protection programs are beginning to show good results. Roshan, for example, introduced the Community Protection Plan (CPP) in 2009. The CPP empowers local communities to manage security threats by providing them with tangible economic benefits in the form of both revenue and energy sharing from the use of solar panels on mobile towers. Community members receive compensation tied to the productivity of the mobile towers they protect. Today Roshan has a thousand towers covered by the CPP. It has seen a \$13 million increase in revenue through gains in productivity and a roughly two-thirds reduction in losses, in part attributable to the success of the CPP.¹⁹

Demonstrable Potential

Despite these daunting challenges, Afghanistan's MNOs not only continue to expand operations at an impressive pace, as noted earlier, but have also experienced noteworthy success in a few high-profile mobile programs with potentially profound implications for the country's stability and peacebuilding efforts. These programs are

- mobile money transfer,
- increased market information access, and
- measures to strengthen local governance and civil society.

All three have demonstrated tangible impact in either pilot programs or small-scale implementations, with MMT showing the most potential, according to the experts surveyed, to transform accountability in such critical areas as salary payments to police and other government workers.²⁰ It should also be noted that in the first two of the three applications, Roshan is the leading implementing MNO, a function of its unusual mandate to engage in social and economic development by virtue of the majority ownership held by the Aga Khan Fund for Economic Development (AKFED).²¹ While three of the other mobile providers, Etilasat, AWCC, and MTN Afghanistan, have devoted resources to corporate social responsibility programs, Roshan has specifically utilized its mobile networks and products to support such programs in Afghanistan.

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Mobile Money Transfer: A Vitaly Important Application

A staggering 97 percent of the population of Afghanistan is unbanked, and most customers earn so little income that their business is of little interest to most commercial banks. This leaves microfinance institutions and numerous informal lenders as the only financial resources available to most Afghans.²² It is against this backdrop that MMT has become one of the most exciting mobile applications in Afghanistan to date, with proven value for not only facilitating economic development and commerce but for helping to curb corruption.

M-Paisa, the debut MMT project in Afghanistan, was launched two years ago by Roshan in partnership with Vodafone and with support from USAID's Agriculture, Rural Investment and Enterprise Strengthening (ARIES) program. Modeled after the highly successful M-Pesa program in Kenya (*pesa* means "money" in Swahili, as does *paisa* in Dari), it allows users to deposit and withdraw cash from mobile-based accounts, pay bills, secure microfinance

loans, purchase goods with e-currency, and transfer money between users with their mobile phones. Customers are required to have identity documentation to create an account, and their transactions can be tracked, making money laundering and other crimes difficult. The planned electronic national ID system in Afghanistan will further help MNOs adhere to Know-Your-Customer regulations and prevent the creation of ghost accounts. After each transaction, users immediately receive an SMS confirming the amount exchanged. Roshan had 130,000 M-Paisa customers at the end of March 2010. Since April 2010 it has been acquiring between five hundred and eight hundred new M-Paisa customers daily.²³

Other mobile operators in Afghanistan are beginning to develop plans for MMT systems of their own. According to AWCC, for example, the company is actively working on implementing a “full-fledged mobile financial services platform” that would include salary and retail payments, among other services, which it hopes to begin deploying within the next year.²⁴

Roshan has delivered MMT services to a number of private companies, allowing them to electronically administer salaries to their employees. Perhaps most significant in terms of the conflict has been the use of M-Paisa to distribute salaries to members of the Afghan National Police. Fifty officers in the 2009–10 pilot program in Wardak province received 30 percent larger payments with the program and did so about twenty days sooner than prior to their enrollment, because salary poaching from their commanding officers and manual transport methods were reduced. This is critical when, according to accounts from policemen that were aired on Radio Afghanistan, the timeliness of their salary payments has greatly affected force retention. One Kabul-Kandahar highway patrolman interviewed said that fifteen to twenty of his fellow policemen in the same area had left the service as a result of tardy payments, which have been known to arrive as much as five months late.²⁵

Even in its preliminary stages, M-Paisa has produced several benefits, in addition to the shortened pay cycle and transparency noted above:

- *Expanded cash distribution systems.* All the banks in Afghanistan combined manage to reach only 2.2 million people, and there are only thirty-eight ATMs in the entire country. M-Paisa agents are present in all thirty-four provinces, and more are being added all the time. This offers end-users unprecedented access to cash distribution systems in both rural and urban areas, a foundational requirement for economic development. The central bank (Da Afghanistan Bank, or DAB) has successfully tested its Afghan Funds Transfer System, but owing to widespread distrust of the banking system, Afghans continue to depend on informal money vendors known as *hawallahs* and personal networks. MMT provides a cheaper and more transparent alternative to these informal systems.²⁶
- *Expanded reach of microfinance institutions.* Microfinance institutions report that by utilizing M-Paisa for microfinance loan repayments, they have been able both to leverage their resources more efficiently and to expand their footprint into remote and rural areas using fewer personnel. By the end of March 2010, almost seven thousand clients of First Microfinance Bank were using M-Paisa, out of about forty thousand total active borrowers. Of the bank's twenty-one full-service branches, seventeen already have M-Paisa-trained agents, and First Microfinance Bank has been so enthusiastic about the system that it has actively encouraged other telecom companies to begin developing similar services.²⁷
- *Reduced financial transaction fees.* Fees charged to customers, both individual and institutional, are negligible compared with fees charged using current methods, for using M-Paisa eliminates the need to travel with cash in high-threat areas and other opportunities for cash skimming.

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Challenges to Mobile Money Transfer

In the case of M-Paisa, perhaps the greatest technical hurdle to the implementation of MMT was resolved early on: the widespread illiteracy that required enhancement of the system with IVR technology. The system now responds to English, Dari, and Pashto instructions.²⁸ Yet major challenges to the wider adoption of MMT in Afghanistan remain.

- *Electronic money and financial sector regulations and cooperation with banks.* The country's electronic money regulations need adapting to embrace the expansion of an effective MMT system. Yet MMTs are regulated by the central bank (DAB) through its money service provider (MSP) and electronic money institution regulations, and it is the banking system that derives substantial profits from transaction fees, interest payments, and other charges under the status quo. According to some estimates, if the M-Paisa program alone were scaled up to its full potential, more than \$60 million a year that is currently lost in the financial system because of corruption and banking fees could be retrieved.²⁹ Roshan, with assistance from CGAP, the World Bank, and USAID, worked with DAB³⁰ to produce a revised version of MSP regulations that would accommodate more prevalent MMT.³¹ Yet the banking sector remains wary of, if not hostile to, MMT, because it reduces profitable customer transaction costs up to sixfold.³² As Roshan's Shainoor Khoja pointed out during the June summit in Washington, D.C., "With the efficiency that the telco brings, you are now disrupting the ecosystem."³³
- *Fraud.* MMT customers must own a mobile phone to enroll in the service.³⁴ Because mobile devices cost at least \$10, and a third of Afghans live below the poverty line, Afghan households often share phones, which adds additional complexity to security of funds.³⁵ However, this problem is not insurmountable if each MMT user has his or her own SIM card to insert into the shared handset. More challenging has been the problem of police commanders taking the SIM cards from their officers and presenting them to M-Paisa agents en masse as a way to continue their practice of skimming money from each paycheck. The need for personal identification numbers to draw money with each SIM card prevented this threat from being realized. Nonetheless, it underscores the more intractable problem of officers determined to stymie the program for reasons of personal gain.
- *Training and marketing.* Despite the availability of user-friendly IVR technology, Afghans who have lived in a cash-based society are unaccustomed to the concept of handling money through a technology-enabled platform. In order to scale the program, acquire subscribers, and address the general lack of public awareness about the benefits of MMT, more customer training, product agents, and marketing are required. When the mobile-based salary payment was first introduced to pay policemen in Wardak, some of them became frustrated as they could not use the system, which prompted Roshan and its partners to deliver more extensive training to its agents. However, this is time-intensive and expensive, as training agents costs between \$5,000 and \$6,000 per agent per year.
- *Liquidity.* Another challenge to wider scaling is smooth cash management and sufficient liquidity for M-Paisa agents, who may receive and disburse large amounts of cash. This will be an issue for any MMT system being deployed for large-scale salary disbursement. Tackling this problem requires far greater partnership with banks, which has been difficult for reasons already stated.

The bottom-line conclusion of virtually every expert consulted for this report, whether authorities on Afghanistan's financial industry, telecommunications experts, or experts on endemic corruption, was that the opportunities for MMT in Afghanistan are vast and the challenges surmountable. If the practice of mobile-based salary payment were to expand, for example, it could allow the Afghan government to deduct taxes at the source, resulting in enhanced government revenues and more transparency in taxation. Reportedly, more than

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\$3 billion in cash has left Kabul in recent years, which is more than what the Afghan government collects in taxes and customs revenue each year. Some suspect that the greatest part of this cash has been siphoned from international aid money and U.S., NATO, and European contracts and flown out of the country in suitcases or transferred through the national system of informal money vendors or *hawallas*.³⁶ A nationwide rollout of the pilot project to pay Afghan National Police salaries through M-Paisa, estimated to cost approximately \$50 million, could be a first step in reducing this kind of corruption.

Despite the stunning success of the pilot program, however, Roshan's repeated efforts to secure U.S. government funding assistance have met with little success to date. Similarly, the Afghan government has done little to facilitate this expansion. According to one expert who attended the June summit in Washington, D.C. (and who asked for anonymity), "The reason why the police salary payment scheme hasn't been rolled out on a national basis is the Ministry of the Interior. Hanif Atmar signed off on it, but after he was sacked, the program lacked support. Why? Perhaps the biggest reason is that the senior police chiefs all take their cut—for instance, it costs a \$200,000 bribe to become the provincial police chief of Balkh (or at least it did)—and they make their investment back partly by farming out the district police chief and other senior roles, and at all levels they want the ghost salaries." While it has been impossible to verify the specifics of this comment, similar sentiments have been echoed by others who have seen MMT programs transform banking in countries such as Kenya and Uganda: "It is unconscionable," observed another summit participant, Emrys Schoemaker from iMedia, "that a program as powerful as this one for helping to fight corruption and promote economic development is not being aggressively deployed while so much blood and treasure is spilled to achieve the very same things."

Other mobile applications, such as those discussed in the next section of this report, have also met with considerable success in Afghanistan. Judging from expert opinion, however, MMT appears to have the greatest near-term potential for affecting peacebuilding objectives such as reducing corruption. The full impact will only be realized, however, if the mobile-based salary payment program is expanded to encompass all police, as well as others on the government payroll.

Finally, it should be noted that a 2007 strategy report by the Afghan Ministry of Communications and Information Technology lists the following as one of its priority goals: "By the end of 2008, mobile commerce should be possible on a nationwide basis and also facilitate standard commercial transactions amongst users and vendors."³⁷ This goal is still far from being achieved.

Two High-Value Mobile Applications

Accessing market information through mobile phones. Recent successful innovations around the globe in the use of mobile-based information exchanges for commodity pricing to assist small farmers and fishermen have inspired similar deployments in Afghanistan. In Niger, for example, the marketing and distribution of millet, a household staple sold via traditional markets scattered across the country, have been dramatically improved by making SMS-based information about pricing, surpluses, and shortages available to traders. Similarly, in the Indian coastal state of Kerala, the economist Robert Jensen found that mobile phones reduced price differences across fish markets by almost 60 percent between 1997 and 2001. Further, mobile phones significantly reduced the amount of catch left unsold at the end of the day by providing fishermen with information on the markets with the best prices and demand for their catch.³⁸

In Afghanistan, organizations such as Development Alternatives Inc. (DAI), Mercy Corps, Roshan, and USAID have adapted lessons learned from Niger, India, and elsewhere to introduce

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a range of programs—TAMAS, TradeNet, Malomat—that use mobile phones to inform Afghans of agricultural prices in markets beyond their immediate vicinity. Although the security situation limits the mobility between markets seen in Kerala (India) and elsewhere, the information itself has enabled greater efficiency in sales and distribution.

The TAMAS program, developed by DAI's USAID-funded agriculture program, for instance, provides five hundred producers, suppliers, and salesmen with price updates on twenty-five commodities at eleven different locations, all through an SMS system in the eastern part of Afghanistan. The system receives sixty to eighty price requests through SMS each day, allowing users to know how much farmers elsewhere are charging on the open market, or what the market is willing to pay for their products.³⁹ The program is currently being expanded to the northern and western regions of Afghanistan and enhanced to incorporate IVR, given the inability of so many farmers to read text messages. Usage is rising steadily, reports DAI, which is also expanding TAMAS to cover animal stock, leveraging work that USAID and Mercy Corps have already done to develop a livestock market information system.⁴⁰

TradeNet provides essentially the same service with similar usage rates, and its users indicate they would like to expand the system to include international market prices from neighboring countries.⁴¹ Roshan and DAI, the creators of TradeNet and TAMAS, respectively, have recently decided to work together more closely and consolidate these programs, expand into other regions of Afghanistan, and then expand into neighboring Pakistan as well. This collaboration represents a welcome development in light of the promise of these systems and the economic realities of Afghanistan. Donor funding is variable and sustainability is a core concern; eliminating such redundancies is essential. Until a sufficient revenue stream can be generated, interim financing is vital for subsidizing the cost of getting to scale.

Mobile phones to improve local governance and civil society. The discussion of mobile telephony vis-à-vis the political dimensions of the conflict has been dominated by the Taliban's use of the medium for propaganda and threats. In particular, summit participants noted the increasing use of mobile phone videos distributed by the Taliban, to some effect—a point echoed in a report prepared for the British Department for International Development, whose author, Nick Fielding from iMedia, described how a “gateman at the compound had just received a video sent to his mobile phone. It turned out to be a martyrdom video showing a young Afghan man preparing to carry out an IED attack on Coalition troops. The video was accompanied by songs extolling the prowess of the mujahideen fighters and ended with an explosion.”⁴²

Viewing these videos requires handsets that are multimedia capable—still relatively limited in-country but increasing rapidly. Nevertheless, the prevailing sentiment of summit experts was that the most effective way to oppose the extremists lies not in countering their propaganda with more propaganda but in leveraging the power of mobile phones to enhance the ability of citizens to communicate directly with their government on key issues of daily concern, as well as to communicate with each other in new, “networked” ways.

In terms of the former, enhancing local governance, Afghanistan has evolved rapidly as a test bed for mobile-based programs at the district level that have the potential to improve both communication with government officials and transparency. This is exemplified by the work done by the UK-managed Helmand Provincial Reconstruction Team (PRT), which has launched two mobile-based programs that deserve careful consideration for broader rollout in other districts: a specialized call-in radio program and a crime-reporting hotline. The team has demonstrated initial success in holding local government officials accountable for their response to emergencies and crime while engaging civil society anew, and the programs make for worthwhile case studies.

Radio call-in shows are not new to Afghanistan. What distinguishes this weekly program in Helmand is the expanding audience it has, thanks to its regular use of provincial officials

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as hosts who take questions from citizens about civil administration. The show is hosted on local station Bost and is funded by the UK government, which purchases commercial airtime for the show. Radio is the most popular and easy-to-use communication medium in Afghanistan, but call-in programs have had varying degrees of success. This show, however, has proved to be very popular by allowing provincial officials, who are constrained in their ability to travel because of security concerns and poor transport, to speak about the state of affairs in their sectors and address the concerns of constituents. Nick Lockwood of the Helmand PRT underscored the potential of this forum when he described a program that had led a senior police chief to make a number of changes to his unit in response to listeners' complaints about corruption among his officers. Subsequent programs hosted by other district police chiefs benefited by attracting ever bigger audiences.

In an information-starved environment like Afghanistan, where such call-in programs meet with notable success, officials should also consider using an IVR-based news system to combat the rumors that can be so dangerous. In fact, the Institute for War & Peace Reporting launched its IVR-based news service around the September 2010 elections in Afghanistan. Its Cell Phone Voter Project provided users with a toll-free number to access news stories about the elections via their phones in Dari, Pashto, and English.⁴³

MobileActive.org's Katrin Verclas, a pioneer in mobile phone deployments, pointed to Zimbabwe, where MobileActive.org had helped to implement an information system with features that could be adapted for similar purposes. On hearing of an event or news story, users can send an SMS to the system, which then replies with a phone call that provides accurate information about the event or news. Users can listen to messages in three different languages. In the first week of its implementation in Zimbabwe, this program received over three thousand phone calls and is helping to create a more politically engaged public. Verclas further noted that mobile telephony is likely to be used more frequently in this way to raise awareness of critical issues of citizen concern, share documented stories of local crime and corruption, record user responses to questions and prompts, and poll citizens about local issues. Lockwood of the Helmand PRT confirmed this observation in the Afghan context, indicating plans to explore ways of promoting the agenda, activities, and meetings of the District Community Councils (DCCs) as a way of creating a sense of ownership of the DCCs among their constituent populations and instilling a demand for services. USAID also has plans to create a service called Mobile Khabar (*khabar* means "news" in Dari and Pashto) to use mobile phones as a delivery system for news and information.⁴⁴

Lockwood further recounted the Helmand PRT's establishment of an emergency call-in line called Crimestoppers that allows citizens to report incidents of violence and crime over their mobile devices. People are encouraged to call when they see crime or need help. The Helmand PRT stresses that this is not designed for counterinsurgency but rather is a form of traditional community policing, akin to the Neighborhood Watch programs in communities across America. Shortly after being established, the line received an average of 1,060 calls a week, a volume that was both encouraging and problematic. When first established, the program had only one active phone line and one operator, creating frustration for callers. Plans are under way to create ten more lines and hire additional operators. But even when those lines are in place, coordinating an effective government response to users' concerns will be a challenge, and Lockwood cautioned against raising unrealistic expectations among citizens.

Siddhartha Raja of the World Bank indicated that the bank is working with the government of Afghanistan to launch multiple initiatives to assist the government in using mobile technologies to strengthen program management and public service delivery. The goal is a functional ICT ecosystem, created and used in cooperation with government ministries and the private sector, that will be able to leverage mobile applications as both a mechanism to monitor the progress of various government programs and a means to connect more

In an information-starved environment like Afghanistan, where such call-in programs meet with notable success, officials should also consider using an IVR-based news system to combat the rumors that can be so dangerous.

Afghans to finance, information, and markets. As seen from the pilot programs launched in Helmand province and elsewhere, however, there is already much to be learned from the provincial programs' experience in using mobile telephony to improve governance and civil society development.

Finally, summit participants encouraged policymakers to draw on lessons learned from similar programs that have been deployed in the region. In Pakistan in October 2009, the State Department, in collaboration with Mobile Accord, launched the mobile-based social networking platform Humari Awaz ("Our Voice" in Urdu). It allows users to create communities around various interest areas, sharing information with one another via SMS text messages. The program surpassed its initial projection of 24 million text messages in five weeks, a volume it expected would take a year to reach. The State Department funded these first 24 million text messages. The program connected over one million people and, by the time of the summit, had delivered more than 300 million messages, at times to groups numbering in excess of fifty thousand users. Enabling a similar kind of social network platform in Afghanistan appears to be eminently feasible, observed Mobile Accord founder James Eberhard at the summit. The U.S. embassy in Kabul has subsequently issued a request for proposals to create a similar platform in Afghanistan.⁴⁵

Others at the summit, such as Ivan Sigal of Global Voices, emphasized the importance of capitalizing on lessons learned in Pakistan. For example, there was a dramatic drop in usage in Pakistan once texting was no longer free, and Afghanistan will certainly be more price sensitive. In addition, the IVR component of the system will be more vital to success in Afghanistan than it was in Pakistan.

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Aspirational Mobile Applications

Numerous mobile applications being used around the world were discussed at the Washington summit for their potential value in the rapidly evolving mobile landscape of Afghanistan. Reference was made to English-language-learning programs in Bangladesh and mobile health programs in Malawi and Zambia; the latter have already been adapted on a small scale for prenatal care in Afghanistan.⁴⁶ However, three applications were identified as particularly noteworthy, for different reasons, and should be given careful consideration by ICT planners going forward:

- land dispute resolution,
- election monitoring and citizen reporting, and
- gender empowerment and education.

Land dispute resolution. Land ownership is a major source of conflict in Afghanistan, particularly in remote and rural regions. Eighty-five percent of Afghans rely on the land's resources as their primary source of livelihood. The recent announcement of a trillion dollars' worth of lithium and other mineral resources in Afghanistan only magnifies the issue.⁴⁷

The Internet Bar Organization (IBO), a nonprofit organization that focuses on the use of technology tools for justice and dispute resolution, is developing the Silk Road Initiative, a project that will train Afghan dispute specialists to leverage mobile telephony to collect information vital to resolving land disputes through peaceful arbitration. This includes using smart phones to record GPS coordinates of boundaries, taking photographs, noting information about the disputed properties, and then sending the data via SMS to Silk Road's main hub for arbitration. This information will be kept in a digital repository with free and open access. In addition, a panel of arbitrators (either trained by IBO or drawn from local elders) will be empowered to render decisions, which will be transmitted back to disputants via mobile phones.

Currently, the promise of this program seems to be mainly in capturing land data in digital form through the use of smart phones in order to convert handwritten and woefully inadequate land records into reliable digital repositories. The actual arbitration via mobile phone of the project is decidedly more problematic. Although a great deal of preparatory work has been done, considerable cultural challenges remain, given Afghanistan's traditional justice system. Most of the Afghanistan rule-of-law experts who were consulted expressed great skepticism about the willingness of local communities to abide by decisions rendered by officials, however impartial, who are remote and unfamiliar to them.

Election monitoring and citizen reporting. The Afghan presidential and Provincial Council elections held on August 20, 2009, were marked by violence and fraud. Ballot-box stuffing and voter intimidation were rampant, and roughly one-fourth of all votes were discarded as a result.⁴⁸

At the time of that election, a unique mobile phone-enabled mapping platform known as Ushahidi was deployed by the Afghan organization Pajhwok News with support from Small World News, an international NGO, to document election irregularities. The project was called Alive in Afghanistan. Eighty designated election monitors from Pajhwok News circulated to various polling centers around the country and were instructed to use their mobile phones to text and call in incidents of violence and fraud, along with other relevant news about the elections. The information was then verified at Pajhwok's central command station and plotted on a Web-based map. Citizens were also invited to submit data via SMS.

There were problems, however. On the day of the election, a rumor spread that the Afghan government was monitoring the mobile phone traffic. This rumor was never substantiated, but nevertheless it intimidated people who might otherwise have contributed useful information, and the number of reports received was disappointing, given the extent of the irregularities. In addition, the system was set up relatively late in the election cycle, which also meant fewer people were aware of the reporting option available to them. But some valuable lessons were learned from this initial effort, and the prospects of success are much greater for future elections, judging from similar efforts to leverage the Ushahidi platform for monitoring elections in other conflict-prone societies.⁴⁹ A consensus view developed at the Washington summit regarding the importance of investing sufficient resources in advance of the next milestone election to ensure an effective mobile phone-based election monitoring program is in place.

Gender empowerment and education. The Taliban regime significantly constrained the lives of Afghan women, banning them from education and other activities. As a consequence, women are the most illiterate group in the country, with only 8 percent of girls enrolled in secondary school.⁵⁰ Those who do attend school in areas where the Taliban remain in control face extreme risks such as acid attacks.

Nonetheless, Afghanistan has seen some progress in recent years in providing women with opportunities for both education and economic empowerment. In partnership with AfghanAid, Roshan launched the Women's Public Call Office (WPCO) in 2007. The WPCOs are essentially phone booths run by women that can be used for domestic and international calls. These franchises are also operated by men, but female managers receive special micro-finance loans at lower interest rates and a 60 percent discount on airtime they use.⁵¹

But the program has encountered strong social and cultural resistance. Women who received media attention for their participation were forced to leave their businesses because of local peer pressure and outrage from male colleagues. Consequently, programs of this sort are still very rare in Afghanistan, despite their evident success in other countries with similar literacy and poverty profiles, such as Bangladesh, where the Grameen Village Phone System and Mobile Women programs have developed huge followings. Similarly,

Most of the Afghanistan rule-of-law experts who were consulted expressed great skepticism about the willingness of local communities to abide by decisions rendered by officials, however impartial, who are remote and unfamiliar to them.

Women who received media attention for their participation were forced to leave their businesses because of local peer pressure and outrage from male colleagues.

If there is a lesson to be learned from the mobile phone–based gender empowerment programs to date, it is that participants and sponsors alike must be mindful of the extreme dangers to women in these programs and must be vigilant to protect them.

mobile-based educational platforms have enormous untapped potential for Afghanistan, judging from the results that organizations such as UNESCO are reporting for projects such as Literacy by Mobile Phone that they have launched in other countries, including Pakistan. Neither will be possible, however, without tackling the social stigma faced by women in the community, let alone women wanting to use cell phones. If there is a lesson to be learned from the mobile phone–based gender empowerment programs to date, it is that participants and sponsors alike must be mindful of the extreme dangers to women in these programs, and must be vigilant to protect them.

Conclusion and Recommendations

With the tremendous growth in mobile connectivity and the presence of so many organizations devoted to positive social change, Afghanistan has become an incubator for high-value mobile-based applications and their use in peacebuilding. Their potential is considerable, and the following recommendations are designed to help the country realize this potential as quickly and as fully as possible.

- **Create a coordinating mechanism.** A mobile applications working group with staff support should be created that is tasked with promoting accelerated rollout, innovation, and greater cooperation and efficiencies among donors, NGOs, and telecom companies themselves. The Washington summit surfaced several programs that have shown great success on a local or pilot program level and are poised for larger-scale implementation. The working group would be separate from, but communicate with, the Telecom Adviser Team being set up to coordinate the broader ICT strategies of ISAF, the U.S. Department of State, USAID, the Afghan Ministry of Communications and Information Technology, and MNOs.
- **Facilitate shared adoption among MNOs of community-based security models.** Roshan’s Community Protection Plan, which combines productivity incentives with renewable energy production to engage communities in tower protection, has demonstrated the value of this approach for infrastructure security and revenue generation.
- **Integrate IVR into plans for scaling applications.** IVR should be integrated into applications going forward to avoid unnecessary delays. IVR has proved to be a foundational, “need-to-have” technology, owing to Afghanistan’s pervasive illiteracy.
- **Make MMT a priority in the fight against corruption.** The importance of MMT in fighting corruption should be communicated unequivocally to the Afghan government and financial support provided for MNOs to roll out nationwide public and private sector salary payment programs. Whenever possible, international governments should use MMT to pay their own contractors and employees to facilitate greater transparency and more effective cash management.
- **Collaborate with the Afghan government to incorporate mobile platforms for public services delivery.** The U.S. government and international development organizations such as the World Bank should step up efforts to work with the Afghan government to expand the use of mobile telecommunication technology for internal government systems as well as for public services delivery, such as education, administration, and taxation.

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Appendix: Expert Participants at the Conference

- Jeff Aresty, Internet Bar Organization
- Ruha Devanesan, Internet Bar Organization
- James Eberhard, Mobile Accord
- Eric Gundersen, Development Seed
- Sheldon Himelfarb, United States Institute of Peace
- Adam Kaplan, USAID
- Shainoor Khoja, Roshan
- Nick Lockwood, UK Stabilisation Unit, Helmand PRT
- Patrick Meier, Ushahidi
- Shahm Mahmood Miakhel, United States Institute of Peace
- Josh Nesbit, FrontlineSMS: Medic
- Margaret Orwig, Development Alternatives Inc., IDEA-NEW program
- Siddharta Raja, World Bank
- Jake Schaffner, U.S. Department of Defense
- Merrick Shaefer, UNICEF Innovation
- Emrys Schoemaker, iMedia
- Ivan Sigal, Global Voices
- Vikram Singh, SRAP
- Col. J. M. "Matt" Venhaus, United States Institute of Peace
- Katrin Verclas, MobileActive.org
- Dave Warner, MindTel
- Scott Worden, United States Institute of Peace

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