Hand-Held News: Innovations in Mobile Platforms

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I. Introduction

While the number of Internet users worldwide has more than quadrupled in the last 10 years, connectivity rates in developing countries lag far behind. At the same time, more than 90% of the world's population has become connected to mobile networks. In developing nations and rural areas, access to mobile phones has overtaken high-speed Internet infrastructure development. In the developing world, Internet users comprise only 21% of the population; only 4% actually have their own broadband subscriptions. Mobile Internet access through smartphones, tablets, and other devices is similarly rare in the developing world: only 5% have mobile broadband subscriptions. In these same areas, 68% of the population has a mobile phone subscription, a proportion that has tripled since 2005.[1]

In 2007-2008, Knight Foundation awarded three early Knight News Challenge grants to projects that sought to develop platforms for delivering news and information over cellular phones. All three are using commonplace technologies — such as SMS text messaging and voicemail menus — in areas with low rates of Internet connectivity and literacy. The purpose of these experiments was to see if this technology could help these populations create, disseminate, and obtain news and information that affects their communities, social and political environments, and livelihoods. Together with its grantees, Knight hopes to better understand how innovations in mobile platform development fit into the rapidly-evolving landscape of mobile technologies and increasing Internet connectivity worldwide.

This report was completed as part of an interim review of the Knight News Challenge focused on the early winners (2007-2008). The project clusters that serve as the organizing principle for the interim reports were created through the process of conducting data analysis for this assessment; these categories were not organizing principles for the competition at the start. This report is based on: a review of project reports, websites and other materials; key informant interviews with winners, key partners and field experts; and facilitated review and structured reflection with Knight Foundation staff.

Key Learning Questions

- What role can mobile innovations play in enhancing the flow of news and information?

- To what extent do they help bridge the digital divide?

- How can mobile platforms be linked to other communications technologies, such as newspapers and radio, to increase citizens' access and engagement with news and information?

- What are the main barriers to implementation and widespread adoption?

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[1] Source of all Internet and mobile phone usage statistics: International Telecommunication Union

Overview of Mobile Platform Projects: 2007-2008

The foundation invested in a total of three mobile platform projects in 2007-08 that were meant to increase the utility of common cell phones in fulfilling journalistic and information delivery purposes: two that developed mobile platform software to allow organizations or individuals to provide content via mobile phones to audiences who have no Internet access and one that trained citizen journalists to produce news stories and provide the content to community and mainstream newspapers via cell phones. All three sought to put critical news and information into the hands of those who are otherwise largely isolated from opportunities to receive or contribute to news and information.

	Freedom Fone	**Mobile Information Platform**	**Iindaba Ziyafika**
Grant	**Winner:** Bev Clark (Kubatana) **Grant Amount:** $876,000 **Timeframe:** 3 Years **Year Awarded:** 2008	**Winner:** Joel Selanikio (DataDyne) **Grant Amount:** $325,000 **Timeframe:** 2 Years **Year Awarded:** 2008	**Winner:** Guy Berger (Rhodes University) **Grant Amount:** $630,400 **Timeframe:** 3 Years **Year Awarded:** 2008
Idea	**Use mobile phones to share and receive information in areas where government restricts freedom of information:** Develop downloadable software to enable any individual or citizen group to make audio content available 24 hours a day via cell phone news products.	**Create a mobile phone-based news system in developing countries:** Develop an SMS messaging software platform that enables viewing and rating of news and information on cell phones for populations with little or no Internet access. The project also targeted communities that have been traditionally underserved by Internet news sources because of language or literacy barriers.	**Develop a participatory multimedia news system to unite a town separated by language, race and class divisions:** The project's combination of citizen media training, mobile content management, and involvement of Rhodes University journalism students aims to produce a vigorous local dialogue.
Innovation	Capitalize on widespread access to cell phones in Zimbabwe to facilitate communication focused on human rights, democracy, and development — via voicemail, SMS, and voice menu features — in a way that cannot be easily controlled by authoritarian governments.	Inspired by Frontline SMS, Selanikio intended the Mobile Information Platform (MIP) to address what he saw as limitations in the Frontline model at the time, particularly its limited bandwidth and requirement to own a computer from which to run the communications. MIP runs from a website, enabling content management and dissemination from any computer and Internet connection.	This project represents a pioneering citizen media newsroom and training program in South Africa, and focuses on teaching citizens to use mobile phones for two-way communication between the community and newsroom. Additionally, the mobile content management system developed through the grant enables small newspapers with minimal IT infrastructure to manage and publish citizen journalists' submissions via cell phones, as well as provide their own content digitally.

Output / Reach / Impact

Freedom Fone

Output (as of 06/11)
- Developed and released 6 versions of open-source software, with increasing functionality and usability

Reach (as of 12/10)
- Averaged nearly 500 page views per month at freedomfone.org; the online demo page averaged 288 views per month
- 1616 downloads of first 4 software versions[2]
- 7 organizations in Africa and 1 in Cambodia deploying Freedom Fone
- 15 organizations testing, piloting, or preparing to deploy it
- Dozens more across the world have shown interest in using it

Impact
- Despite being shut down by the Zimbabwe government on one occasion, Freedom Fone has been used successfully to disseminate human rights, election, and community news and information and create opportunities for citizens to contribute content and feedback
- Freedom Fone has proven to be a viable means for community radio stations, which have been categorically denied broadcasting licenses in Zimbabwe, to reach their audiences

Mobile Information Platform

Output
- Developed and piloted MIP platform with success in agriculture and health applications
  - SaludMóvil deployed MIP with *promotores*[3] in Peru to provide reminders of key health information from the workers' training.
  - DatAgro, a pilot of the MIP platform with Chilean farmers, provided critical agricultural and weather information in a timely and accessible way.

Reach
- To date, four deployments of the platform have reached over 900 individual subscribers:
  - DatAgro: 343 users
  - Yo Agricultor: 20 users (a pilot)
  - SaludMóvil: 112 users
  - Mercado de Agua: 431 users

Impact
- DatAgro is one of the most recognized agricultural projects in Chile, and has been replicated within and outside Chile. It has also stimulated other efforts to help smallholding farmers get relevant and essential information
- SaludMóvil resulted in higher knowledge retention among trained *promotores*; there were also anecdotal reports of greater job satisfaction, as *promotores* felt less isolated from news and information and more supported and valued while providing health care in rural regions of Peru.

Iindaba Ziyafika

Output
- Developed and deployed multiple iterations of a mobile CMS platform, NIKA, with increasing functionality and compatibility with community newspaper infrastructure
- Citizen media newsroom created, and 200 community members trained through 6-week course
- Oversaw weekly youth community radio program (Y4Y) produced by and for young people from Grahamstown's 13 high schools

Reach
- Grocott's Online (town newspaper website), Jul 2009 – Feb 2011
  - 135,000 visits
  - 390,000 page views
  - 800+ registered users
- Grahamstown NOW (mobile platform), as of Feb 2011
  - 1,800 unique visitors
  - 9,000 page views
  - 100+ registered users
- Y4Y youth radio program
  - Significant youth engagement via instant message and SMS while program airs

Impact
- 200 citizen-generated stories in print, 280 online, representing 20% of Grocott's Mail content (up from 0%), and providing wider coverage of and new perspectives on local news and current affairs
- Some preliminary evidence of community- and policy-level change due to citizen-generated print and radio stories

[2] The fifth and sixth releases of the Freedom Fone software, v2.0.1 and the final version of v.1.6 product line, occurred during the data collection period.

[3] Promotores is a Spanish term used to describe a type of community health worker who generally share the ethnicity, language, socioeconomic status, and life experiences of the community members they serve. The trusting relationships that are fostered by this shared experience enable promotores to serve as a link between community members and health and social services.

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	Freedom Fone	**Mobile Information Platform**	**Iindaba Ziyafika**
Lessons	• Software development process often takes more time and resources than expected; each cycle to debug software and test new functions takes about 6 months • Infrastructure and staff capacity of deploying organization affect success; stable power source and ability to maintain software and audio content are key • Technical functions important to deployers for implementation, such as the ability to evaluate caller statistics, may conflict with users' privacy and safety interests	• Attaching information to news stories on cell phones can be an effective vehicle for educating the public. For instance, the Health Ministry in Honduras got teens interested in receiving educational information about HIV by packaging it with other news of interest. • Finding partners to pay for the messages they send can help with sustainability	• Relying on volunteer or student labor for developing source code may save money initially, but can be inefficient and be difficult to manage in the long run • Collecting baseline data (e.g., community knowledge and civic engagement) at program's start can help projects better demonstrate impact • University affiliation benefitted the project by providing expertise, student support and additional resources.

II. Grant Implementation, Reach and Impact

These three 2007-2008 News Challenge projects have developed multiple iterations of their intended mobile platforms and continue to expand their reach and impact with products that are increasingly ready for wider uptake and promising impact. Having taken the time to develop and test their software, address bugs, and increase functionality and user-friendliness — often in collaboration with partners and users — all three projects offer platforms through which further innovation and impact can be achieved. As a group, these projects are responsive to the systemic problem of access to news and information for those lacking Internet connection. They have created solutions that go beyond a low(er)-tech, low-literacy news delivery mechanism: they are connecting underserved and under-heard populations to news sources and each other while enhancing the capacity of NGOs, community radio stations and small independent newspapers to reach — and hear from — wider audiences.

Freedom Fone

Brenda Burrell and the team from Kubatana Trust of Zimbabwe devised Freedom Fone in 2005 as a means for organizers to provide on-demand information regarding human rights, democracy, and other news and information to people without easy access to such information due to literacy barriers, lack of Internet access, and/or lack of non-governmental communications outlets. Based on her experience as co-founder of the Kubatana Trust of Zimbabwe, an organization that aims to aggregate information about civil society in Zimbabwe, Burrell reflected that "people across the world were talking about Zimbabwe but Zimbabweans themselves were not privy to those conversations." In many cases, the Zimbabwean government was, and still is, actively blocking citizens' access to any information not controlled by the government.

Recognizing that mobile phones were quickly approaching ubiquity where Internet access was not, and that mobile phone networks could more easily access content outside the government's control, Burrell launched Freedom Fone. The system enables NGOs to record audio messages (essentially mini-podcasts) on various topics that citizens can access by calling a phone number and navigating voice menus. It also provides a mechanism for two-way communication, allowing callers to leave feedback, reactions, requests for information, or further information about topics they've listened to. The most recent release of the software includes multiple live voice and leave-a-message menus and the ability to link voice menus and create multilingual services for future deployments.

Implementation of Freedom Fone in Zimbabwe has been beset with challenges. The government has threatened the project, shutting it down once and creating ongoing legal hurdles and hindering Freedom Fone's deployment in the country. In addition, since Freedom Fone was awarded the News Challenge grant, Zimbabwe experienced severe hyperinflation that resulted in its currency becoming completely devalued and eventually abandoned. This economic crisis meant implementing Freedom Fone in a time of uncertainty and a "survival mode" mindset for the project team.

External Organizations Currently Deploying Freedom Fone

- **Community Radio Harare (CORAH),** Zimbabwe
- **Radio Dialogue,** Zimbabwe
- **Creative Centre for Communication and Development,** Zimbabwe
- **Farm Radio International,** Tanzania and Ghana
- **Equal Access,** Cambodia and Niger
- **Andalus Institute for Tolerance and Anti-Violence Studies,** Egypt
- **United Methodist Church** in Zimbabwe, Zimbabwe

External Organizations Testing or Preparing to Deploy Freedom Fone

- **Si Jeunesse Savait,** Democratic Republic of Congo
- **Action IEHDC,** Zimbabwe
- **Black Looks,** Nigeria
- **Cairo Institute,** Egypt
- **Centre for Economic Prosperity,** Tanzania
- **Comfrel,** Cambodia
- **Detroit Summer,** USA
- **Gharbeia,** Egypt
- **Idasa: Institute for Democracy in Southern Africa,** South Africa
- **K-NET,** Canada
- **Nomadic Stories,** USA
- **Radio Style 99.3FM,** Ghana
- **Small World News TV,** Afghanistan
- **Women'sNet,** South Africa
- **Women on Web,** Holland

Another set of challenges was technological in nature. It was necessary to look outside of Zimbabwe for a development team with the right technical expertise. The chosen team's location in Sweden meant less opportunity for face-to-face meeting and more room for misunderstandings about the implementation context in Zimbabwe, both of which slowed the platform development process. Burrell noted that "the stability and sophistication of the team was helpful, but their testing environment cannot mimic the low quality mobile networks prevalent in many developing countries. This means that it is difficult for them to reproduce problems we face, making bug fixing and troubleshooting a more difficult prospect." Freedom Fone also faltered due to a problem with the low cost devices that are used to connect the Freedom Fone software to mobile phone SIM cards.

Data security was another major concern: while Freedom Fone wanted to offer deployers the ability to evaluate caller statistics and content selection, this functionality raised serious concerns about users' privacy and safety when calling or texting in to sensitive or polemic Freedom Fone-based deployments. Freedom Fone sought and received separate funding from Internews Network to address these security concerns.

Finally, because the team wanted to release the software at multiple times early in its development in order to get feedback from field tests and inform the developmental process, initial versions of the software were released before all prospective functionality could be included. This meant that some of the early versions did not include functionality deemed essential to some potential deployers — such as nested menus for multi-lingual content — resulting in delays in uptake of the software until later releases were available.

Despite these challenges in the project's development, there have been several successful deployments of Freedom Fone and significant international interest in the platform. Seven NGOs in Africa, some outside of Zimbabwe, and one Cambodian organization are currently implementing Freedom Fone to provide human rights, agricultural, election, and community news and information to citizens. An additional 15 organizations are testing, piloting, or preparing to deploy Freedom Fone, and three dozen more around the world have been in touch with great interest in using the system. Freedom Fone also has potential applications for coordinating information during humanitarian, disease epidemic, and disaster relief efforts. Freedom Fone's staff believes that the latest version of the software is ready for widespread adoption, having addressed previous flaws and barriers to implementation. Given that downloads of the software have increased significantly with each new release, the potential for this newest release to take hold at a higher level than ever before leads Burrell to think that Freedom Fone is "on the brink of an explosion."

One of the many examples of Freedom Fone's utility as a tool for human rights work can be seen in the recent experience of the Creative Centre for Communication in Bulawayo, Zimbabwe. Through Freedom Fone, the organization launched an advocacy campaign against gender-based violence (GBV). Freedom Fone increased women and girls' access to information about GBV and provided a venue for sharing their experiences, asking for help, and reporting cases of GBV without fear of harassment or retribution. One case of GBV shared on Freedom Fone inspired the organization to develop and air (through Freedom Fone) a drama series highlighting the issue. According to its website, the Creative Centre for Communication and Development now plans to use Freedom Fone to advance other rights for women.

Unexpectedly the platform has met with much success in its application in community radio and has been a vital factor in the launch of "participatory radio" in Africa. Freedom Fone has proven to be a viable means for community radio stations, which have been denied broadcasting licenses in Zimbabwe, to reach their audiences by serving as a parallel broadcasting platform using mobile phone networks instead of radio airwaves. Freedom Fone also has allowed community radio stations to add feedback loops and the capacity for interaction with listeners where only one-way information dissemination was possible before. The ability to be in touch with audiences — particularly in citizens' own local languages — has helped community radio in Africa respond quickly to audience information demands and showcase voices and wisdom from listeners themselves. Four of its current deployments involve community radio: Radio Maria (Tanzania), Voltastar (Ghana), Radio Dialogue (Zimbabwe) and Community Radio Harare (Zimbabwe).

> *"Community Radio Harare is best positioned to achieve social change as a radio station, albeit off air, using innovative means like Freedom Fone that will help it circumvent the need to get a broadcasting license."*
>
> **Stewart Musiwa**
> Community Radio Harare, Zimbabwe

While not created with radio stations in mind, Freedom Fone works particularly well in this setting for a few reasons. First, whereas other organizations wanting to offer content via Freedom Fone must arrange for, and in many case pay for, marketing and outreach, radio stations can use their own airtime to broadcast the number they want listeners to call and to explain to listeners how to interact with the system. Second, those running community radio stations already possess the equipment and skills to create and edit audio content. While other successful applications of Freedom Fone outside the radio arena have shown that this is not at all a precondition for success, the ability to use Freedom Fone as an extension of community radio programming and audience engagement makes it a natural fit. At least ten of the three dozen organizations who have expressed interest in using Freedom Fone are community radio stations.

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Mobile Information Platform

Joel Selanikio, co-founder and CEO of the web and mobile software company DataDyne, developed the Mobile Information Platform (MIP), which was awarded a News Challenge grant under the project name "News on Cell Phones" to connect people in rural and developing areas to governments and other organizations seeking to disseminate information. Mobile Information Platform capitalizes on the prevalence of mobile phones in those rural areas, delivering automated, custom news feeds through SMS. DataDyne has developed a web-based platform that enables organizations or individuals to easily disseminate content of their choosing to large groups of people, who receive the information in the form of SMS messages on their cell phones. Inspired by the work of Frontline SMS, MIP aims to address the limitations in the Frontline model, particularly its limited bandwidth and requirement to own a computer from which to run the communications. The web-based nature of MIP means that organizations can create, manage and disseminate content from any computer or Internet connection. Costs are low since the infrastructure is hosted online: a user organization's main expense is that of the SMS messages being sent. Current plans for MIP include developing it as a web application that can be operated independently by anyone who wants to use it, with no need for coordination with DataDyne.

MIP was first piloted in Chile as a project called DatAgro. The goal was to allow the Agriculture Department to send information about weather, crops, seeds, and other critical news and information to a cooperative of 400 smallholding Chilean farmers to support their farming and livelihoods. For farmers whose livelihoods depend on their crops, relevant and timely information about international events affecting their markets or weather predictions with implications for the timing of their planting cycle, for example, can make all the difference in the world.

An evaluation of DatAgro conducted by an independent research team in Chile examined the technical functioning of the messaging as well as the relevance and usefulness of the content being disseminated.[4] The evaluation revealed problems with sending and receiving messages, in part because the project was launched before the platform was fully tested and stabilized. These problems were fixed for subsequent deployments. Other challenges the evaluation identified included gaps in user literacy and digital literacy, which the evaluation research team suggests addressing by providing individual capacity building "to ensure a minimum ability to interact with the system" and developing content that aligns with users' literacy levels. Despite these challenges, anecdotal evidence suggests that the messages farmers received were enormously helpful: for example, in one case they provided weather information that allowed a farmer to make an informed decision to delay planting — a decision that prevented the

> *"From a technology perspective, we're happiest about realizing that what we've created isn't a specific content area or a directive technology, but a platform for innovation."*
>
> **Joel Selanikio**
> News on Cell Phones winner

loss of an entire year's crops (and income) for that farmer. An outcomes evaluation to more systematically document impacts such as these has not yet been conducted.

A ground-breaking project with recently trained *promotores de salud (promotores)* working in rural areas of Peru highlighted the platform's utility in the health field. An agricultural NGO called SaludMóvil used MIP to send *promotores* key facts, training reminders, and illness warning signs via mobile phone while they were out in isolated areas visiting rural mothers and families. Because messages were stored in their phones, they could more easily review the information and share it with the families they met. They were also able to receive general news, information about upcoming meetings or urgent notices such as the need to get vaccinated for H1N1, and new developments in medicine and treatments. According to Dr. Carlos Urbano, a Peruvian pediatrician who specializes in Integrated Management of Childhood Illness, those who received the messages improved their retention of the knowledge from the training curriculum, scoring significantly better than a control group of similarly-trained *promotores* on a four-month post-test of training topics and information. In addition to retention of critical health information that enabled *promotores* to better care for rural families, the project had a surprising effect on job satisfaction, as *promotores* felt more connected, supported and valued in their role providing health care in rural areas. Dr. Urbano found MIP to be an exciting and promising tool in the health care field, and is eager to try it in other contexts such as in hospitals.

Efforts to ensure sustainability have been ongoing for MIP, and as the technical aspects of MIP become more refined and ready for wide release, business planning is taking more of a center stage. So far, Selanikio has found that organizations deploying MIP have been willing to pay the SMS service charges related to disseminating their messages. He says that the key is to find deployers who have a strong interest in getting their information out. Those involved in the early applications of MIP were struck by how much value the news has to those isolated from the Internet and other mainstream sources of information. Organizations that want to communicate their own content can make their offerings more attractive by sending news stories as well. For populations who

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[4] Torres, F. and Mújica, F. (2010) Final Report: Evaluación Proyecto DatAgro (C. Buré, Translation to English)

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welcome this connection to news, this can be a powerful incentive. For instance, the Health Ministry in Honduras got teens interested in receiving educational information about HIV and AIDS by packaging it with other news they were interested in getting. Selanikio has also been exploring a "freemium" model feature, such as Skype's pricing model, which could contribute to the platform's sustainability. Because web applications can be cost efficient to scale up, Selanikio believes there are enough organizations with the capacity and willingness to pay for some premium features to subsidize the platform for everyone else who wants or needs to deploy a free version. Finally, DataDyne is in conversations with SafariCom, a major mobile network provider in Africa, to determine how MIP could be offered as a bonus feature for SafariCom subscribers, a move that would boost uptake for both companies.

MIP has been recognized with several awards in Latin America and elsewhere, including the FRIDA Award, the Yahoo Green Award, the PAHO South-South Cooperation Award, and the FACT Social Justice Award.

Iindaba Ziyafika

Unlike the two mobile platform projects discussed above, The News Is Coming — locally called Iindaba Ziyafika — was inspired to fulfill a place-specific goal for Grahamstown, South Africa to develop an innovative multimedia news system that fosters greater dialogue across language, race, class and age lines, thereby creating a wider, more representative and participatory public space in Grahamstown. The project incorporates activities that go beyond the development of an open source platform, including training and engagement of local residents and students. A core component involves teaching citizens to use mobile phones for two-way communication between the community and small media outlets. Iindaba Ziyafika involves the following elements:

- **Development and deployment of NIKA, an open source mobile content management system that facilitates two-way communication via mobile phones:** Residents can submit content, and small newspapers with minimal IT infrastructure can manage and publish those submissions via cell phones.

- **Creation of a citizen media newsroom, co-located with the Grahamstown local newspaper, *Grocott's Mail*:** Grahamstown locals can participate in a six-week training course and use the newsroom to access digital technologies for creating and contributing content to the paper.

- **Development of Grahamstown NOW, the mobi-site within Grocott's Online:** Responding to the growth of smartphone use, even among the less wealthy, this mobi-site reconfigures the newspaper's web content for mobile devices to align with the way people use their phones in everyday life to access information.

- **Intensive engagement of youth:** To develop a cadre of young early adopters and encourage youth-driven conversations that cross race and class lines in the town, the project established a presence through clubs and "school-based citizen journalist" trainings at all 13 high schools in Grahamstown. Advancing this "Schools Media Outreach Project" has included a weekly youth-for-youth radio program and student content in the paper's "School Page."

- **Connection to Rhodes University Journalism and Media Studies Department:** One of the unique features of this project is its close ties to the University's journalism school. News Challenge winner Guy Berger succeeded in procuring sponsorship of a Chair at Rhodes from South Africa's largest telecommunications company; this support made it possible to hire a dedicated project manager without using News Challenge grant funds to manage the project. It also yielded fruitful connections with journalism students, faculty and other experts at the University. Journalism and other University students have contributed to building the code for the platform, worked with residents to co-produce audio and video content, and broadened their understanding of the role of news dissemination methods outside of print in reaching and engaging different audiences.

Despite a late start — grant disbursement was delayed, and the project manager was not brought on until January 2009 — Iindaba Ziyafika has been able to achieve what it set out to develop, and has met with success in both its software development and citizen media pursuits. About 200 citizens have been trained, and 20% of *Grocott's Mail's* weekly content is now produced by residents, where none was before. Overwhelmingly, citizens trained by the project represent those whose voices are currently underrepresented in local and mainstream media, as intended by the project. About 60% of trainees have been men, almost all have been very poor or unemployed, and about 95% have been Black South Africans, who make up about 90% of the population of the Eastern Cape. The web presence of *Grocott's Mail* has been greatly enhanced, with a more robust and functional website, and with the addition of Grahamstown NOW. Grahamstown NOW is the mobi-site on the Grocott's website that reconfigures the newspaper's web content for mobile devices and organizes content and events by relationship to the current time, and will soon start accepting mobi-stories, allowing it to become another platform for citizen-generated content. NIKA, the mobile CMS development project, was developed and steadily improved to work well as an all-in-one resource within the infrastructure and expertise commonly found at small newspapers. It can receive, manage and publish content to print, web, mobile and instant message platforms, and has relatively low technical requirements, making it quite promising as a free and simple way to enhance the capacity of small community newspapers.

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Staying responsive to the trends and capacities of citizens, including youth, engaged by the project, Iindaba Ziyafika expanded into radio and Instant Messaging (IM), which are accessible and compelling to Grahamstown citizens who may not otherwise participate in the news and information arena. The Youth 4 Youth (Y4Y) radio program, produced by and for youth, has found a significant listenership among youth; it fosters live conversations via instant message and SMS, some of which are broadcast as the program airs. This functionality has facilitated significant youth and community engagement with the programs and the topics aired. Listenership and live engagement in Y4Y is so high that the weekly show may become a daily installment. A second radio program for adults, Lunchtime Life, features news, talk and citizen-generated content and similarly relies on engagement via cell phones through calls, instant messaging and SMS. Listenership of these two radio programs has been estimated at about 10,000, but will be more reliably documented through an evaluation survey planned for September 2011.

It is early to expect evidence of impact of the project on the residents of Grahamstown. However, anecdotal evidence — along with the now consistent integration of citizen content into the Grocott's Mail print and online editions — suggests that it has achieved wider-ranging coverage of local news and current affairs and better awareness of those issues on both sides of the race and class divides. One example of impact shared by Iindaba Ziyafika Project Manager Harry Dugmore is a series of citizen-contributed stories about negligent municipal garbage collection which triggered sufficient pressure from citizens on the city to ensure prompt pick up in all parts of town. Rhodes master's level students will be conducting an evaluation to explore outcomes and impacts of this project among Grahamstown citizens in September 2011.

About a dozen community newspapers have experimented with the NIKA mobile CMS in their newsrooms, and six have piloted it, including the Highlands Herald and the Free State Times, as well as Grahamstown's local annual arts festival daily paper CUE, which is produced for 10 consecutive days every year during the National Arts Festival. However, these and other papers interested in installing and using NIKA on an ongoing basis lack the IT resources needed to sustain its implementation. Project staff hopes that more substantial and sustained uptake will be facilitated by the next release of NIKA as a more "plug and play" version.

As with many of the News Challenge projects, now that the development process is advanced, with NIKA and Grahamstown NOW closer to being fully replicable, the project's staff is turning more attention to business and sustainability planning. Leveraging the project's links with the university, collaborations with students and experts have facilitated the development of a viable business model for the mobi-web platform, Grahamstown NOW, Dugmore reports. This business model capitalizes on high community demand for cost saving opportunities, given

the economic downturn and high rates of unemployment Grahamstown experiences. Local businesses can pay to advertise high-value and/or time-limited coupons and deals available exclusively to Grahamstown NOW users. Project staff hopes that Grahamstown NOW's ability to serve as an aggregator and exclusive distributor of local business specials and personalized, just-in-time alerts will interest a growing number of local merchants in paying for their specials to be included.

Project staff has been active in presenting NIKA and project lessons at major conferences, including three years in a row at Highway Africa, the largest annual digital media gathering of African journalists. The presence of the project at this conference has raised its visibility and afforded opportunities to disseminate the platform software and manuals, along with hands-on training, to others in the field. In addition, project staff and developers have reached out to virtually every one of the over one hundred newspapers in South Africa to help ensure NIKA can be a user-friendly, all-in-one model for other community newspapers to adopt and to understand existing needs for customizing the platform. Project staff is actively circulating funding proposals to sustain the work, and *Grocott's Mail* itself has committed to maintaining some of the projects through its own operations. Another encouraging sign of sustainability is the addition of a "citizen journalism editor" position to the *Grocott's Mail's* newsroom staff.

III. Lessons and Learning Opportunities

The three 2007-2008 mobile platform projects have each met with considerable success in accomplishing what they set out to do as News Challenge winners. Despite challenges faced by each, all three are on a trajectory of continued expansion beyond the News Challenge grant period. Key insights from these projects' successes and challenges are offered below to inform and strengthen the work of other innovators in mobile platforms.

- **Ensure that the targeted users of the platform are equipped to learn and adopt a new tool.** One of Freedom Fone's challenges was citizens' confusion in navigating the voice menus meant to direct them to information or to collect feedback. For example, in a community radio deployment of Freedom Fone in Ghana, about half of callers to the system hung up after the welcome message. For South Africa's Iindaba Ziyafika, the citizen media training program and newsroom, where trained citizens can access necessary equipment and support for producing content, have been critical elements of the program's success. Digital literacy and reading level-related challenges experienced by rural Chilean farmers during the first deployment of the Mobile Information Platform could have been mitigated by assessing users' digital literacy and reading capacity and providing individual technical assistance or capacity building. Training with users could also help them identify ways to act upon the information they receive.

- **Training for community partner organizations is critical in ensuring that innovative platforms and technologies are successfully implemented and adopted.** Community radio station employees using Freedom Fone received technical training to ensure that they could continue to use the technology after day-to-day support from the implementing partner, Farm Radio International, was no longer available. As Bart Sullivan, an ICT and radio specialist with Farm Radio International who helped implement Freedom Fone in community radio stations in Tanzania and Ghana, noted, "the reason [this platform] can be successful is that it is relevant and accessible on demand, so it has to stay updated. For that reason, it is important for organization staff to update their content on a regular basis." Training of staff is essential not just for the technical success of implementation, but also so that organizations deploying Freedom Fone can independently sustain operation of the platform.

- **Stay flexible to meet changing expectations and needs of the current market.** Some of the mobile platform projects' biggest successes followed from adaptations to the products' design or application in response to user trends, market needs, and unexpected opportunities. Freedom Fone found a niche market in community radio partners, and consequently honed features such as feedback capabilities that were initially considered minor functions but fulfilled a need for the community radio user group. In Grahamstown, Iindaba Ziyafika's engagement with youth in schools uncovered the trend that instant messaging

was becoming more popular than SMS messages as a mode of communication; therefore, the project pioneered the use of phone-based IM and integrated this functionality into NIKA, the mobile platform.

> *"Evolution should be part of the expected journey."*
>
> **Dave LaFontaine**
> Mobile platforms expert

- **Tailor platform application approaches to the local culture, resources and infrastructure.** One facilitator of success for these three projects was the degree to which their technical solutions were married with a strong awareness of the cultural and infrastructural contexts in which their platforms would be implemented. Applications of both Freedom Fone and Mobile Information Platform made content available on multiple mobile telecommunication networks so that citizens could access content no matter which network they belonged to, making calls and texts more affordable. Freedom Fone also helped community radio stations and other organizations using the platform find affordable hardware on which to run the software, which one partner identified as a critical piece of assistance. Another infrastructural challenge Freedom Fone's implementation had to take into account was that small towns and community radio stations in many locations in Africa commonly struggle with unstable power sources and a lack of reliable hardware from which to run Freedom Fone. Pilot community radio stations were chosen partially based on the presence of back-up electricity and access to technicians for supporting the physical infrastructure. This attention to existing infrastructural infrastructure contraints was important for giving the pilots the best possible chance of succeeding. Another challenge for mobile platforms of this nature is addressing the cost of airtime for mobile phone users. Several of those involved with these three projects noted that subsidizing or removing callers' airtime and SMS costs, allowing more people to use the systems and spend as much time as necessary to explore all content or leave lengthy messages, would help further widen the reach and impact of the projects. Freedom Fone's callback feature, currently in development, is one effort to address this issue of reducing costs for callers.

> *"A major strength of Freedom Fone is that they were coming from a civil society perspective. A lot of other tools were coming from the banking sector or profit-oriented business; Freedom Fone is based in Africa and they understood the limitations and benefits of the mobile culture here."*
>
> **Bart Sullivan**
> Farm Radio International

- **Pilot testing is critical, and must take into account users' capacity to deploy platforms still under development.** As with many News Challenge projects, the Freedom Fone and News on Cell Phones mobile platforms were initially deployed and/or piloted in early stages of their development to begin testing their functionality in the field. While these early deployments were important for testing features and generating feedback about what worked well and what still needed to be developed, it was clear that there is a delicate balance to strike between the need of developers to test platforms in the field and the need of users to be able to depend on a well-functioning platform.

  Freedom Fone partnered with Bart Sullivan of Farm Radio International to pilot the early versions of the platform at community radio stations. While code writing wasn't an explicit component of the partnership agreement, the ability of this partner to make contributions to the code in response to field needs, refine features as needed in the field, and support its implementation at the stations was enormously helpful for the development of the platform and for ensuring that small stations with low technical capacity could properly implement Freedom Fone for their purposes. While Sullivan acknowledges frustrations from all parties that these early versions didn't work perfectly "out of the box," the pilot testing was invaluable and led to the development of enormously improved software.

  In Chile, the first pilot deployment of News on Cell Phones' MIP platform, DatAgro experienced technical problems and irregularities both with sending messages and receiving messages by users. Those problems have been addressed and operation is smoother. However, the technical problems in that initial implementation interfered with users' ability to truly assess the relevance and usefulness of the platform, since it was difficult to know how useful the content would be if delivered and received properly. Additionally, as the DatAgro evaluation noted, the users — rural Chilean farmers — essentially served as beta testers, a role played more commonly by a smaller group of testers possessing more familiarity with the technology rather than an entire group of participants that the project intends as the end user: "These participants, as is typical of people from rural areas, are not generally used to new technologies

and found it difficult to understand the technology development process of an innovative new tool. In effect, this created some confusion about the value of the project and the tool itself."

The Knight News Challenge's support of these grantees has in all three cases moved their innovations from ideas to fully functioning platforms that are poised to have real impact on efforts to expand access to news and information around the world. As these grantees build the visibility and sustainability of their projects and advance the momentum toward wide scale uptake, the valuable lessons learned about the successes and challenges of mobile platform projects can inform the next generation of innovations in this field.

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