



## Combining Local Radio and Mobile Phones to Promote Climate Stewardship

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### Initiative Overview

Among the remote, rural communities on the Eastern edge of Zambia, along its border with Malawi, it seems an unlikely place to talk about the impact of human activity on the long-run future of the global climate. However, as the population throughout the region continues to grow, and swelling numbers of urban poor continue to use charcoal as the only means of cooking their food and warming their homes, forested communities like these find themselves in the middle of a global crisis. Every day, black-market charcoal traders clear forests throughout these communities, including in supposedly protected reserves, to satisfy the growing need for cooking fuel in both countries. This widespread activity not only strips carbon-fixing forests out of the ecosystem, but the subsequent burning of the charcoal itself, an inefficient and dirty fuel, is a significant climate and public health problem. Still, the scale of the market, combined with relatively weak enforcement in both countries, makes top-down mitigation of this problem impossible, so organisations throughout the region are now focusing on bottom-up strategies, by both helping the poor find and afford alternatives to charcoal cookstoves and by working with stakeholders near the forests to help mitigate deforestation at its source.

Information, especially comprehensible and efficient dissemination of information throughout often widely dispersed communities, is a critical part of stakeholder engagement. In many of these communities, where poverty is high and infrastructure is largely inadequate, simple technologies like radio and basic mobile phones are incredibly effective channels for distributing and interacting with stakeholder communities. This case study focuses on our pilot project, which aimed to bring effective radio programming and mobile-phone based interaction to these communities, in an effort to increase their knowledge of the local deforestation issue and deepen their stake in reversing the trend.

With support from the Foundation to Promote Open Society, Developing Radio Partners (DRP) launched the one year pilot project in these border communities, working in partnership with three local radio stations in each country. The primary aim of *Zachilengedwe Tsogolo Lathu*, as the participants named it ("Our Environment, Our Future"), was to empower rural Zambians and Malawians to address key climate change issues, especially local deforestation, by improving their access to information on the subject via radio and mobile phone, rural Africa's two most ubiquitous and trusted ICTs. The substance of these projects focused on both climate change mitigation, by emphasising the value of the local forests in both economic and ecological terms, and adaptation, by sharing insights into ways that rural households could preserve their households in the face of a changing and uncertain climate.

### Application Description

ICT was a key part of the success of *Zachilengedwe Tsogolo Lathu*. By focusing on the two simple, cheap, and ubiquitous communications media in the project areas – radio and basic mobile phones –

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this project was able to implement communications systems and strategies that were effective and sustainable, requiring almost no outside expertise or financial support to maintain.

*Radio.* Radio was the anchor of our engagement approach and local radio stations the key partners in this project. Because of the relatively low cost of radio infrastructure and receivers, and the wide reach of radio signals, small community stations are an appropriate and often only source of locally relevant information in remote rural communities like those in our project area.

*Mobile Phones.* Radio is an instant and ubiquitous medium for mass communication, but it is, by its nature, a passive broadcast mechanism. To ensure that we were really reaching the targeted stakeholders, and to deepen their engagement with the lessons and information being shared in radio broadcasts, we tapped another nearly ubiquitous communications tool in the region: the basic, humble mobile phone. In order to facilitate mass interaction, rather than simply one-to-one conversations, we used the free, open-source and innovative software platform FrontlineSMS. By connecting a GSM modem to a radio station's computer, Frontline SMS routes text messages to a computer screen rather than a mobile phone, making it easier for radio staff to see and respond to messages, as well as to gauge the overall sentiment of participating listeners. For example, after a segment on the impact of deforestation on the climate was presented, radio hosts could ask poll questions or solicit feedback, to see what lessons were sticking with their audience.

## Formal Drivers

Charcoal- and wood-fired cookstoves are a hydra-headed threat to global wellbeing, especially in terms of our climate (see Figure 1). Since using the stoves means both cutting down carbon-sequestering forests and burning the resultant carbon, they represent a two-pronged threat to climate stability. As the same time, inhalation of the smoke from the stoves, which are usually used indoors, is creating a serious public health hazard. In countries like Zambia and Malawi, where as much as 90 percent of the population use wood to heat food, there is no more immediate threat to the climate and health than the cookstove status quo. A December 2009 article in the *New Yorker* called the stoves a "universal environmental threat" and suggested that cleaning up emissions of the stove "may be the fastest, cheapest way to cool the planet" (Bilger 2009).



**Figure 1: Cooking with Wood, Mchinji, Malawi**

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Recognising the two-way threat – climate change threatens the livelihoods of the poor but those livelihoods themselves pose a challenge to climate stewardship (as well as to public health) – both Zambia and Malawi have national action plans to mitigate and adapt to climate change. Acknowledging the scale and scope of the problem, the plans emphasise community-level interaction, and specifically target locally influential institutions like radio stations as key channels to positively change behaviour and spread information about clean alternatives to charcoal stoves. DRP agrees with the assessment of both the scope of the problem and the right ways to solve it, and this is a key reason why we chose this rural, forested region as the target for our pilot.

## Objectives/Purpose for ICT Usage

The goals for this project were three-fold:

- To strengthen the capacity of community radio stations to deliver accurate, informative, and engaging content on topics such as deforestation, conservation farming, clean cookstoves, and climate change to listeners in the project area.
- To use FrontlineSMS to engage listeners and create a participatory media environment, a proven approach that deepens the stake of listeners in the stories they are hearing and brings home the reality of abstract topics like CO<sub>2</sub> concentrations.
- To use this engagement to launch community-driven action outside of the radio sphere, supporting activities in the 'real world' that follow on reported content.

## Stakeholders

A summary of the stakeholders involved in the project is provided in Table 1.

Stakeholder	Contribution
Developing Radio Partners	Training, information and support to stations on how to report on climate change issues and engage listeners. Distributed field recorders and FrontlineSMS technology, held workshops for local radio staff and journalists, worked with radio presenters on content and delivery of stories with weekly bulletins. Organised workshop with permaculture specialists with field demonstrations (permaculture is an excellent way to mitigate climate change). Provided funds to stations for community events.
Open Society Institute	Provided funding for project.
Breeze FM	Breeze served as the base of operations for ZTL. Station staff here helped support other stations' staff, while also participating in workshops and training events. Organised public events to reinforce messages being shared in radio broadcasts.
Other Radio Stations	The other five stations also participated in training events and learned how to deliver effective, interactive reports on climate change issues specific to their communities. Organised community events.
Tribal Leaders / Local Government	In full support of the project, local formal government and tribal leaders helped spread awareness of ZTL, and helped organise and drive participation in community events supplementary to the information in broadcasts.
Local Farmers	The ultimate stakeholders in the success of this project, the local farmer communities received new information and participated in broadcasts and action events. The goal of the project was to help these communities realise the value of their surrounding forest communities, and also to learn about strategies to mitigate the danger of their stoves, among other lessons.

**Table 1: Zachilengedwe Tsogolo Lathu Stakeholders**

### Impact: Cost and Benefits

The impact of the project was multifaceted. Radio not only brings information to people, but also is unique in fostering discussion *with* citizens and public officials to change behaviour and policy. The total budget for this was US\$97,212. No costs were incurred for Frontline SMS, and the training was included in two workshops.

The benefits are many:

- Citizens are better informed about local climate change issues and actively participated in adaptation and mitigation strategies. For example, in Mchinji, Malawi, the local Community Oriented Development Programme (CODEP) held Action Events to supplement radio programming on deforestation and its impact on the climate. Action Events encouraged the community to collaborate with CODEP in the future, which also provided the community with seedling trees.
- Journalist capacity has improved, with previously amateur and volunteer radio presenters now having the skills to find and tell compelling stories on climate change issues. For example, at station Radio Mudzi Wathu, journalist Joseph Mazizi spoke to a small organisation called Total Land Care, where he learned about an inexpensive way to make more efficient stoves from local material—anthill soil, animal dung, and bricks—at little or no cost. Mazizi not only built a radio series on climate change and alternative energy sources around the initiative, but also worked with Total Land Care to demonstrate the stoves in person to local women and tribal leaders, many of whom began using the cleaner stoves (see Figure 2).
- Local stations and NGOs have begun working together to engage local government and tribal leaders on key climate issues. Early results indicate positive feedback, including a pledge from many local leaders to begin reforesting decimated forests.



**Figure 2: Making a More-Efficient Cookstove at Radio Mudzi Wathu Community Event**

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## Evaluation: Failure or Success

In light of the benefits identified (and also given relatively low cost), the project can be given an interim evaluation of success. Of course, the contribution to climate change mitigation and other changes around climate change adaptation and public health can only be judged in the long-term. But the long-term prospects for the project look good both technologically and institutionally.

Both local radio and mobile phones represent sustainable technologies. It must be acknowledged that – while mobile phone usage is widespread and growing throughout sub-Saharan Africa – at the very bottom of the pyramid, where these projects are targeted, usage is not yet as widespread. Literacy is also a major barrier to interaction using SMS, the most common way for radio stations to solicit feedback. However, as trends in mobile phone use continue, this will most likely become less of an issue in the future. Overall, the innovative use of mobile phones and text messaging with FrontlineSMS was considered a success by participating journalists, especially at Breeze FM, where the software is now used for all radio programmes, not just the environment and climate change programming included in the original project.

Institutionally, one can identify what is seen as the biggest success of the project: the close partnerships built between local environmental organisations and the newly empowered radio stations and their staff. These low-cost, strategic partnerships are an effective and sustainable way to continue raising awareness and engaging the community in climate change mitigation (and adaptation). This is in addition to the weekly half-hour environmental programmes aired by all the stations plus their community events.

## Enablers/Critical Success Factors

One key to the success of this project was the **early and ongoing involvement of the participating community** itself. From naming the project at the very beginning, participants, many of whom worked as volunteers for tiny stations, had a real sense of ownership of the project, and their personal attachment was a key part of keeping them engaged and, in turn, getting their listeners engaged. There was also regular communication with all the radio stations – even those located far from the project central base – to ensure a continuous sharing of good practices and new ideas.

Technologically, the project has succeeded because it largely chose **to use existing technological infrastructure**. The radio and mobile phone infrastructures were already in place; the project merely sought to overlay new or improved application of that technology. Adding in FrontlineSMS and integrating mobile phones at a time when they were only just starting to become widespread meant the project did push the envelope to some extent, but not to such a degree that it became a 'bleeding-edge' project that fails due to technological over-ambition.

**Strong, local institutional partners** were important. Nodal partner Breeze-FM already had institutional capacity – this did not have to be built – including a professional staff eager to organise the workshops and provide mentoring and monitoring to the smaller stations. Within the communities too, there was a motivational capacity that did not have to be created: strong buy-in from local leaders and community organisations helped ensure the success of awareness-raising activities, which served to deepen listener engagement and enact the lessons of the programming.

The project management style can be described as one of "**clear destination but flexible routing**". The project team set and maintained clear goals from the beginning of the project. We focused our intervention on radio station staff, empowering them to go into their communities and work with local organisations, thereby ensuring the sustainability of those partnerships and connections. While

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keeping an eye on those goals, however, there was flexibility to cope with contingencies. For example, it emerged that many of the participating stations lacked key workable resources, from microphones and recorders to computers. Although these items were not originally budgeted, the leadership at DRP was flexible enough to find ways in which these tools could be provided.

## Constraints/Challenges

**Resource constraints – financial, human, technological** – were and remain an ongoing challenge for local/community radio projects. Most radio stations in the area have almost no operating budget, meaning that journalists are often volunteers with little training, equipment is old and failing, and even station power fails routinely, making it difficult to schedule and promote regular segments.

Those resource constraints are themselves in part a symptom of broader **geographical and infrastructural constraints**. The project deliberately targeted remote, rural communities as those most in need of information and assistance. Yet this means that transportation and accessibility became significant hurdles to project implementation. Flooded roadways made it difficult to carry out regular observations at each station involved in the project. Further, radio journalists often could not get around to interview sources or do local reporting.

## Recommendations/Lessons Learned

**Build resources, build capacity for radio and climate change.** Radio is a key and effective channel for climate change-relevant information that can reach very large numbers. But resources matter. Even though, technically, radio stations are widespread throughout even the most remote rural regions, they usually lack the resources and technology to effectively serve their communities as climate information hubs. Thus projects must ensure that financial support for stations and technical capacity building is a major component: otherwise the messages might never reach their audience.

**Move beyond dissemination and interaction, to engagement and action.** Radio has a great value in disseminating information and making listeners aware. Adding mobile telephony can turn this into an interactive process. But to have an impact on climate change, these informational processes must be turning into behavioural changes and action. This requires activities beyond ICTs, and projects should ensure that ongoing community events and even resources for citizen advocacy are part of their toolkit. More generally, ICT – particularly radio – projects must be prepared for the action implications of their work: in this case the radio reports had a surprisingly positive impact on the community, and the appetite for engagement outgrew the capacity of the project.

**Keep technology "within the envelope".** Don't push so far ahead with ICT innovations that you lose your project partners. Tools like FrontlineSMS are free and incredibly powerful, but one should not overestimate the technological capacity of journalists or the audience. Just introducing the technology and assuming it will be used effectively – or even used at all – will not work. Projects must ensure that technology training around any innovations is a major part of their capacity building.

**Recognise the tension between value and challenges in remote, rural areas.** Remote, rural areas are often those most affected by climate change. They are also most information-poor, and therefore the areas where ICT projects can bring the greatest value addition. Yet they are additionally – due to their resource and infrastructural constraints – the most challenging areas in which to implement ICTs-and-climate-change projects. Certainly working in far-flung rural regions will always pose more transportation challenges than you predict and projects should consider purchasing motorbikes to speed travel throughout coverage areas.

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## Data Sources & Further Information

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Data for this case study were obtained from personal observation of and participation in the project by Bill Siemering, the results of an independent evaluation conducted by Juliana Chileshe, and conversations with leaders of local organisations, including the Southern Alliance for Indigenous Resources, the Zambian National Farmers Union, and the Community Oriented Development Programme.

Further information can be found at:

- <http://www.developingradiopartners.org/>
- <http://www.frontlinesms.com/>

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