

External Research Digital Inclusion Program

Wireless Device Gives African Women a Voice in Community Radio

In sub-Saharan Africa, women's living conditions and social status have declined in recent decades, despite efforts to alleviate poverty and disease. To help address these challenges, two researchers at the University of Colorado at Boulder are aiming to empower women in Kenya by bringing their voices to the influential medium of community radio.

When University of Colorado Ph.D. student Revi Sterling met with women in the Kamba region of southeast Kenya to explain her idea for a small device that could wirelessly transmit women's comments to the community radio station, she asked if they would want a feature to disguise their voices. Because the women traditionally have had limited social or economic status in their community, Sterling assumed that they would want the safeguard of anonymity when expressing opinions that could be broadcast on the radio. But their answer was a unanimous "No."

"The women wanted to hear their own name. They wanted to be citizen journalists," says Sterling. The Kamba women's reaction led Sterling to realize that the palm-sized device might have even more far-reaching potential to empower women in the developing world than she had originally imagined.

Sterling and her academic advisor, Dr. John Bennett, director of the University of Colorado's interdisciplinary ATLAS (Alliance for Technology, Learning and Society) Institute, are currently field testing a prototype of the device among 34 women's work collectives in Kenya, with the help of EcoNews Africa, a Nairobi-based nonprofit organization. Their project—called Advancement through Interactive Radio (AIR)—was one of 17 recipients of grant funding and technology resources from the Microsoft Research Digital Inclusion Program in 2006.

The starting point for the AIR project was a concern that technology initiatives in the developing world often do not address—and sometimes run the risk of magnifying—gender inequalities. "There is a growing body of literature showing that sustainable



Fast Facts

Project: Advancement through Interactive Radio (AIR)

Project Principals:
 Dr. John Bennett and Revi Sterling,
 University of Colorado at Boulder

Web Site:
<http://webfiles.colorado.edu/sterlins/www/>

Profile:
 This project aims to empower Kenyan women within their communities by enabling them to record and wirelessly transmit comments and reports to their community radio station. The research team is currently field testing a prototype device among 34 women's work collectives.

Digital Inclusion Program

The Microsoft Research Digital Inclusion Program provided US\$1.2 million in research funding in 2006 to empower academic researchers worldwide to tackle technological challenges that could positively affect health, education and socioeconomic conditions. The 17 recipients, selected from among 162 proposals from 34 countries, received technology resources as well as project funding.

The Digital Inclusion Program is administered by the External Research group within Microsoft Research and is part of the group's ongoing commitment to investing deeply in innovative research. The External Research group collaborates with the world's foremost researchers in academia, industry and government to move research in new directions across nearly every field of computer science, engineering and general science.

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development initiatives can succeed only when women benefit to the same degree as men," says Bennett, a computer scientist and engineer. "One of the reasons that women bear such a disproportionate share of the social burden associated with poverty and regional crises is their lack of access to the very information that could help them mitigate or manage these circumstances." He cites gender segregation and lower literacy levels among women as particular obstacles to their ability to benefit from new kinds of information and communications technology (ICT).

As part of a broader effort to develop and deploy sustainable and appropriate ICT-facilitated development solutions, Sterling and Bennett have developed technology that enhances an existing and widely deployed communications medium: community radio. While community radio is typically focused on the needs of the community it serves, it risks mirroring the gender gaps that exist in the community. Radio is inherently unidirectional, which limits the direct involvement of individual women and challenges the axiom that community radio is the "voice of the community."



The heart of the AIR project technology is a handheld device that adds interactivity to community radio, giving women a voice with which to respond to programming and to participate in the creation of programming content. This device enables women to record voice feedback and news for community radio at the touch of a button. This feedback is then routed asynchronously back to the radio station, where it can inform subsequent broadcasts and facilitate additional discussion.

Sterling and Bennett have chosen to field test their device in collaboration with Kamban women's work collectives, called *mwethya*, because the collectives are accepted within the community and offer a way to reach large numbers of women. The *mwethya* are organized by type of agricultural or household production, and each has between 20 and 100 members. The collectives involved in the AIR project are all within the broadcast area of Radio Mang'elele, a station that in the past received less than 5 percent of its incoming calls or letters from women. One AIR device was distributed to each *mwethya*, whose members decided among themselves how to share the device.

As an outgrowth of the project, Radio Mang'elele has started a Women's Hour, hosted by a female broadcaster, as well as a news show made up of reports submitted by *mwethya* members using the AIR device. Topics include health, women's and children's education, women's rights and other issues that affect families and the larger community.

From the user's perspective, the AIR device functions much like a simple voice recorder. Users press a "push-to-talk" button and speak into the microphone. Device status is indicated by three colored LEDs. The four AA-size batteries that power the device can be recharged using a car battery, a special solar-recharge station or, when available, electricity from a regular outlet. Voice input is stored digitally and is automatically transmitted to the local community radio station when the device comes within range of the station's antenna or an AIR device that is configured as an intermediary collection unit for the community. When the station receives a woman's recording—as a sound file delivered to a computer at the station where programming content is managed—a green light on the device acknowledges receipt.

Sterling and Bennett are monitoring women's use of the AIR device, as well as radio station transcripts, to determine the kinds of issues women raise. They are also examining which stories and comments actually get on the air and are conducting surveys to gauge response within the larger community to the addition of women's voices on the radio. Recent ethnic violence in Kenya has delayed some fieldwork, but the researchers are poised to resume the monitoring as soon as it is feasible. They are also preparing to launch a similar pilot in Bangalore, India, working with a number of women's self-help organizations.

Sterling and Bennett hope that the AIR project will lead to a shift in how women perceive themselves. "We're asking: How do women's impressions of themselves change?" says Sterling. "What does this do to women's sense of self?"

Adds Bennett: "From the social theory side, one lasting impact of Revi's work can be a deep understanding of the power of voice—one that goes beyond the simple application of this particular experiment."

He notes that AIR also offers a way for development organizations to learn which kinds of information women need and what they perceive as their community's greatest challenges. "AIR can help development agencies gauge the impact of their work," says Bennett.

"There is a strong need for research and projects that consider the entire context in which development takes place," he adds. "We are very grateful that Microsoft Research found this project to be something that they wanted to support."

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