Cultivating farmer resilience to climate change

Catalyzing restorative action for degraded landscapes

Farm Radio International supports farmers in learning about and applying techniques to increase their resilience to climate change. We work closely with partner radio stations in sub-Saharan Africa to produce and broadcast participatory radio programs that provide practical, detailed information on adaptive agricultural practices. These radio programs — broadcast in local languages and featuring the voices of local farmers — give farmers the confidence they need to apply new practices. With greater resilience to rising temperatures, decreased rainfall and extreme weather, farmers can produce more food and achieve greater food security without compromising local landscapes.
THE PROBLEM
Climate change is an immediate and unprecedented threat to the food security of people who depend on small-scale agriculture. Climate change contributes to erratic rainfall patterns, extreme weather events, deforestation and desertification. These changes make it increasingly challenging for farmers to meet their food needs.

Furthermore, the crisis of declined agricultural productivity and increased poverty can lead to unsustainable land use practices such as deforestation and bush burning. These practices can reduce farmer resiliency and further exacerbate the threats posed by climate change.

FRI APPROACH
In order to reduce the impact of climate change on small-scale farmers, their families and communities, FRI works with radio station partners to produce and broadcast programs about climate change and adaptive practices. These programs encourage farmers to apply new practices such as: water conservation, soil protection, techniques for producing crops in drier conditions and quickly adapting to rapidly changing and unpredictable weather patterns.

Detailed and practical information on specific adaptive and restorative agricultural techniques is shared through participatory radio campaigns and other innovative, interactive radio formats. These programs are tailored to local needs and priorities, and feature farmer voices and dialogue with extension agents. They are broadcast in local languages at times when farmers are available to listen. This approach has been proven to both increase farmer knowledge about adaptive and restorative techniques and to move farmers from knowledge to application of these techniques.

HIGHLIGHTS OF FRI’S WORK TOWARDS CLIMATE CHANGE RESILIENCE

- **Increased knowledge:** Farmers who had access to six months of radio programs about climate change and adaptive techniques scored 46% higher on a knowledge quiz on the subject versus farmers without access to the radio programs (from control communities). 1

- **New practices:** Approximately 78% of Ghanaian adults who listened to at least one broadcast from a 40-week program on improving resilience applied at least one adaptive practice. Approximately 68% of these listeners applied at least three adaptive practices. 2

- **Innovative technology:** beep4weather is an innovative system that makes weather forecasts and related agricultural advice from experts available “on demand” to farmers via cell phone, free of charge.

- **Broadcaster training:** Broadcasters trained to implement specific resilience-related programming carry forward strengthened knowledge of adaptive agricultural practices to ongoing farmer radio programs.

- **History:** FRI has been working with radio station partners to produce targeted programming on climate change adaptation since 2007. We have promoted resilient, environmentally-sound farming practices since our founding in 1979.

- **Commitment:** FRI holds environmental sustainability as a core value and promotes the conservation of natural resources and biodiversity in all of our projects.
Yarbout Peter is a farmer in the Bunkpurugu Yunyo district of Ghana’s Northern region. Climate change and land-degradation have resulted in both decreased yields and crop failures in this region. But Yarbout has adopted new farming practices that she learned about through a local radio program, and this has enabled her to increase her yield and profit. An estimated 283,000 adults in the Northern and Brong Ahafo regions of Ghana applied a new farming practice to boost their resilience to climate change as a result of FRI campaigns developed and broadcast by radio station partners in 2014-15.

Yarbout constructed stone boundaries in her field, a technique that prevents soil erosion and runoff. Information on the benefits of stone boundaries, along with details on how to make them, was broadcast on Lom FM, one of FRI’s broadcasting partners. As a result of this new practice, Yarbout was able to improve water management in her field and enjoyed a robust dry season harvest. “I gained a lot of profit from it,” she said. “I plant my vegetables; I use some for home consumption and sell some to get money to pay my children’s school fees.”

Techniques such as stone boundaries, plowing across the slope, mulching and planting cover crops were known to many of the farmers reached by this FRI initiative. Farmers interviewed in focus group discussions during the final evaluation reported that while the messages they heard were similar to those they had received from other sources (such as extension officers or other NGOs), the radio programs:

- provided more detailed climate change and adaptation information than they had previously heard and;
- gave clear and understandable messages that motivated them to try the practice.

An estimated 361,000 adults heard at least one episode of the program, broadcast over 40 weeks on four stations. While an estimated 283,000 farmers applied at least one improved farming technique promoted through the program, 247,000 adults applied at least three new adaptive farming practices – thereby increasing their ability to make informed decisions about their livelihoods and ultimately improving their food security.

This project was carried out in partnership with German Technical Cooperation (GIZ) and the Department for Agricultural Extension Services of the Department of Food and Agriculture of Ghana.

**Climate Threats**
- Higher temperatures
- Lower rainfall
- Extreme temperatures more frequent
- Extreme rainfall (flooding) more frequent
- More pests; more plant disease.

**Adaptive Practices**
- Soil conservation techniques
- Forest restoration
- Irrigation
- Use of stress-tolerant crops


**IN AFRICA, CLIMATE CHANGE DEMONSTRATES A RISK OF**

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<th>Decrease in agricultural yields in some countries by 2020.</th>
<th>Decrease in net crop revenues by 2100.</th>
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<td><strong>UP TO 50%</strong></td>
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Case Study
Filling the Information Gap to Catalyze Action

In the Mount Elgon region of Uganda, agriculture expansion, poor land management, deforestation and uncontrolled grazing have been identified as the key causes of soil degradation. This land degradation has led to frequent crop failures, risks of landslides, increased food shortages and reduced soil fertility.

For several years, the International Union for the Conservation of Nature (IUCN) has targeted villages in the Mt. Elgon area, seeking to work with locals on restorative projects with economic and food security benefits. Conservation officers and extension agents reached out to these villages with information on practical forest landscape reforestation activities such as tree planting, use of soil trenches and mulching.

Early efforts by the IUCN were proven to increase knowledge of restorative practices in the target area and more than half of the people applied one of the recommended practices. However, when FRI joined the initiative, the percentage of people applying a restorative practice increased dramatically. FRI staff worked in close partnership with the IUCN and the local radio station, Kapchorwa Trinity Radio. Together, we produced a radio campaign on restorative practices that was broadcast from January to June 2015. Of the people in the survey sample who had listened to the campaign, 91% had applied one of the techniques mentioned in the radio program during the previous five months, compared to just 58% of those that did not listen to the program.

Farmers surveyed explained that the radio program filled in knowledge gaps by providing specific information needed to overcome obstacles to applying restorative practices (such as customary beliefs around the negative effects of trees on household life). The programs also achieved a dialogue between farmers and conservation agents, thereby increasing farmer comfort and confidence in advice from these agents.

This project was carried out in partnership with the International Union for the Conservation of Nature (IUCN) in Uganda.

2. Building Capacity of Radio Stations in the Brong Ahafo and Northern Region on Climate Change Adaptation to Radio project, in partnership with German Technical Cooperation (GIZ) and the Department for Agricultural Extension Services of the Department of Food and Agriculture of Ghana.

Farm Radio International is a Canadian charity that harnesses the power of radio to meet the needs of small-scale farmers. We work with more than 600 radio partners located in 38 African countries to fight poverty and food insecurity. FRI resources and training help African broadcasters produce and deliver practical, relevant and timely information to tens of millions of farmers. We also work with a range of partners to implement radio projects that respond to community needs. In 2015, FRI received the WSIS Project Prize in recognition of our innovative use of radio to change lives.