



FEED THE FUTURE ALL-IN PROJECT IN BRIEF

DIGITAL COMMUNICATION TO REINFORCE NUTRITION AND HOUSEHOLD RESILIENCE IN NORTHERN GHANA

Lead Principal Investigator

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Project Partners

Image-AD, Northwestern University, USAID Resiliency in Northern Ghana Project (RING)

Development Innovation

Interactive voice response for nutrition messaging

Commodity

Multiple

Targeted Population

Households with children under 2 years old

Country/Location

Northern Ghana

Timeline

2020-2024

Funding

\$449,833 (USAID)

Nutrition is critical for children's growth and development in rural areas of Sub-Saharan Africa where families face the additional risks of climate-related shocks like drought. The USAID Resiliency in Northern Ghana (RING) project seeks to improve the nutrition and livelihoods of vulnerable families. This ALL-IN project measures the impacts of the RING project and tests whether nutrition-related messages by mobile phone reinforce the RING project's impact on families' nutrition and resilience. The study also analyzes the costs and benefits of nutrition-related messages to guide the future scaling up of such programs.

The Challenge

In 2013, Ghana was the first country in Sub-Saharan Africa to attain the Millennium Development Goal (MDG) of halving poverty.¹ However, poverty continues to be pervasive in Ghana's rural areas. Further, Ghana has significant regional differences in poverty, with the northern, upper east and upper west regions reporting poverty rates exceeding half of the population.²

This persistent rural poverty has had dire consequences for families' nutrition. In 2019, about one in five children under five years of age in Ghana were stunted, and one in ten were underweight.³ In Ghana's northern region, the prevalence of stunting in 2017 was 33 percent, almost twice the national average.⁴ This high burden of malnutrition affects children's education outcomes, cognitive development as well as physical growth.⁵

The USAID Resiliency in Northern Ghana (RING) project is an integrated project under the Feed the Future initiative that seeks to improve the livelihoods and nutritional status of vulnerable rural families. RING-I, implemented from 2012 to 2019, was designed to increase the consumption of diverse quality foods, improve nutrition and hygiene among women and young children and strengthen local networks for vulnerable households. RING-II, currently underway, promotes

RESEARCH INNOVATION

An increasing number of studies are looking at the use of mobile phones in development programs. SMS text messages, Interactive Voice Response (IVR) and short codes are all being used because of the increasing penetration of mobile phones in developing countries and the fact that these three platforms support all phone types with the potential to reach billions of people.

Mobile phones can be a powerful tool to change behaviors that directly impact a family's welfare. Previous studies¹ have demonstrated the relationship between communications for healthy behavior change. Previous studies² have also found that text message interventions and nutritional information are effective in improving consumption of healthy foods such as fruits and vegetables. In particular, the framing, timing and frequency of messages to poor households can have significant impacts on key developmental outcomes.³

¹ Fitzgibbon, M., et al. 2007. "Communicating Healthy Eating: Lessons Learned and Future Directions." *Journal of Nutrition Education and Behavior*.

² Rose, T., et al. 2017. "A Systematic Review of Digital Interventions for Improving the Diet and Physical Activity Behaviors of Adolescents." *Journal of Adolescent Health*.

³ Keyworth, C., et al. 2018. "Does message framing affect changes in behavioural intentions in people with psoriasis? A randomized exploratory study examining health risk communication." *Psychology, health & medicine*.

families' wellbeing and resilience through improved farming practices.

Direct mobile phone communication through an Interactive Voice Response (IVR) platform may help to expand the impacts of the RING project by seeking to improve poor and vulnerable families' nutrition. While communication on its own will not improve nutrition and reduce poverty, understanding its contributions to these broader efforts can improve its impact in ongoing and future programming.

Research Design

This ALL-IN research project, led by the Institute of Statistical, Social and Economic Research (ISSER) at the University of Ghana, Legon, evaluates the impacts of the RING project on household nutrition and resilience to shocks in Northern Ghana. The evaluation includes a careful examination of whether communication (i.e. IVR messaging) can encourage and reinforce this kind of nutrition-based intervention. The research team is also exploring whether messages sent to men and women separately or together has a larger impact on household decisions related to nutrition.

The research team is employing a multi-stage sampling procedure where participants are selected from 15 districts, and within each district a random selection of 180 communities. Participants are households with children under two years old. The majority of these households are smallholder farmers who cultivate maize, soybean, groundnut, cowpea and leafy vegetables. The total number of participants is estimated to be about 1,800 households.

The team is working with Ghana-based IT firm Image-AD to send out nutrition-based messages by mobile phone to randomly selected households in the treatment groups. The nutrition-based messages to be used are key messages derived from the nutrition-

based programs undertaken as part of USAID programming in the project area. Testing differences in outcomes between participating households and their non-participating counterparts will indicate whether these messages improve nutrition-related decisions and behaviors, and resilience to shocks like drought.

The study is measuring the intervention's impacts on household income, household expenditures on water, sanitation and hygiene, spending on food, and dietary diversity as well as children's nutrition-related outcomes such as weight and height and incidence of illness.

Development Impact

The USAID Country Development Cooperation Strategy (CDCS) has an overall goal of supporting Ghana to increase self-reliance with all citizens living a healthy and productive life. Current inequalities biased against Northern Ghana require a systematic approach that takes these inequalities into account. This is particularly important as the adverse effects of the COVID-19 shock is likely to linger on and exacerbate spatial inequality.

If the RING program improves households' welfare, it could lay the foundation for planning the country's development agenda with poverty and inequality at the heart of such a plan. This ALL-IN project includes an evaluation of the cost effectiveness of using a mobile phone platform to speed up behavior change. Fortunately for Ghana, mobile phone penetration is very high. This makes the use of mobile phones for communicating to smallholder farmers as a means to improve families' nutrition and reduce poverty a real possibility.

¹ UNDP

² Ghana Statistical Service (GSS)

³ UNICEF

⁴ USAID

⁵ Osei, R. D. et al. 2021. "Effects of Long-Term Malnutrition on Education Outcomes in Ghana: Evidence from a Panel Study." *The European Journal of Development Research*.

FEED THE FUTURE ADVANCING LOCAL LEADERSHIP & INNOVATION NETWORKS (ALL-IN)

This research is funded by the Feed the Future Advancing Local Leadership & Innovation Networks (ALL-IN) initiative, an innovative collaboration between the Kenya-based think tank International Centre for Evaluation and Development (ICED) and the U.S.-based Feed the Future Innovation Lab for Markets, Risk & Resilience at the University of California at Davis.

Launched in 2020, ALL-IN advances host-country leadership in defining and implementing research projects and to deepen host-country networks. The initiative funds research to develop and test financial and market innovations that take the most promising agricultural tools for rural families in developing economies from the lab to the field.

Historically, Feed the Future Innovation Labs have built their research programs on partnerships between researchers at U.S. universities and researchers at host-country universities and institutions. Historically, these partnerships have been led, in both program administration and the ideas that drive the research, from the U.S. ALL-IN shifts this leadership role to researchers and institutions in Africa.

ALL-IN builds on research capacity in African countries by inverting the traditional model of research collaborations led from U.S. universities. With funding through ALL-IN, researchers at African institutions lead these collaborations, defining research priorities and leveraging their local knowledge, skills and ideas to build actionable evidence for effective policy with U.S. university research partners to supplement their own skills, talents and ideas. ALL IN also addresses capacity gaps among many research institutions in managing large and complex awards.

[Learn more at www.iced-eval.org/all-in/](http://www.iced-eval.org/all-in/)

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ABOUT FEED THE FUTURE

As the U.S. Government's global hunger and food security initiative, Feed the Future works to give families and communities in some of the world's poorest countries the freedom and opportunity to lift themselves out of food

insecurity and malnutrition. By equipping people with the knowledge and tools they need to feed themselves, Feed the Future addresses the root causes of poverty and hunger, helping people end their reliance on aid and creating important opportunities for a new generation of young people—all while building a more stable world.