

**EatSafe: Evidence and Actions Towards Safe,
Nutritious Food**

EatSafe Innovation Challenge Finalist Profiles: *Nigeria and Ethiopia*

August 2022

The EatSafe Innovation Challenge is an activity led by the EatSafe Consortium, which includes the Global Alliance for Improved Nutrition, International Livestock Research Institute, and Pierce Mill Entertainment and Education, Busara Center for Behavioral Economics, supported by the Scaling Up Nutrition Business Network (SBN).

Citation

Global Alliance for Improved Nutrition/Scaling Up Nutrition Business Network. 2022. EatSafe Innovation Challenge Finalist Profiles: Nigeria and Ethiopia. A USAID Project Report.

Acknowledgments

This report was written by Ritta Sabbas Shine and Yetunde Olarewaju, with contributions and feedback provided by Caroline Smith DeWaal, Teale Yalch, Abigail Reich, and Haley Swartz.

Agreement Type

Cooperative Assistance

Agreement Number

7200AA19CA00010

Period of Performance

June 31, 2019 – July 30, 2024

Geographic Scope

Global Food Security Strategy Countries

USAID Technical Office

Bureau for Resilience and Food Security (BRFS)/ Office of Market and Partnership Innovations (MPI)

Agreement Officer Representative

Lourdes Martinez Romero

For additional information, please contact:

- Richard Pluke, EatSafe Project Director, rpluke@gainhealth.org
- Caroline Smith DeWaal, EatSafe Deputy Director, cdewaal@gainhealth.org

Global Alliance for Improved Nutrition
1201 Connecticut Ave NW, Suite 700B-2
Washington, D.C. 20026

This document was made possible through support provided by Feed The Future through the U.S. Agency for International Development (USAID), under the terms of Agreement #7200AA19CA00010. The opinions expressed herein are those of the Global Alliance for Improved Nutrition (GAIN) and do not necessarily reflect the views of USAID or the United States Government.

TABLE OF CONTENTS

1. Activity Overview.....	1
2. Top 5 Finalists in Nigeria.....	2 - 4
3. Top 5 Finalists in Ethiopia.....	8 - 13
4. Next Steps.....	14

I. ACTIVITY OVERVIEW

Purpose

Every year, the World Health Organization estimates that 600 million children and adults become ill and many die because of unsafe food. Improving food safety is a global challenge. Many new innovations have been developed and adopted in high-income markets to address food safety risks from farm to market. However, not enough of these innovative ideas have been adapted or applied for traditional food markets or along the value chains that supply those markets in low and middle income countries (LMIC).

To address this challenge, the EatSafe Innovation Challenge issued a call to students, researchers, entrepreneurs, and innovators in Nigeria and Ethiopia to share their ideas on how food system innovations can be adapted and applied in traditional food markets and along value chains to resolve food safety issues. Applicants are seeking the chance to participate in the global EatSafe Innovation Challenge Grand Finale, which will take place at the Technical University of Denmark (DTU) in October 2022. Finalists will work with DTU technical experts to improve their innovations and then participate in a final global pitch competition with the chance to win a \$10,000 grand prize.

Innovation Categories

Seven types of innovation categories were identified along the food supply chain. Candidates were invited to submit concepts for innovations which could improve food safety for use by consumers, vendors, farmers, etc.

The seven innovation categories include:

- Peer learning platforms
- Food processing
- Food waste technology
- Sensors for food safety assessment
- Retailing and packaging
- Urban-rural linkages and food system logistics
- Platforms for supply chain management



Selection Process

The call for applications was launched in April 2022. A total of 740 entries were received from Nigeria and Ethiopia. After two screenings and reviews of applications, ten innovative concepts emerged as the finalists to proceed to the EatSafe National Innovation Challenge in both countries, five finalists from Nigeria and five from Ethiopia.

The concepts were assessed according to key criteria, including food safety and nutritional benefit, adaptability to low- and middle-income countries, scalability, and environmental sensitivity. For more information, visit the challenge page [here](#).

2. TOP 5 FINALISTS IN NIGERIA



2 in 10 people in Nigeria say they experience **serious harm** from food and water

FOOD SAFETY CHALLENGE

In Nigeria, food safety is a pressing issue – in 2019, 20% of [surveyed Nigerians](#) experienced serious harm from food and water, leading to illnesses, malnutrition, stunting in children, and even death. In 2018, it was estimated that more than [200,000 Nigerian died of food poisoning](#) due to contaminated foods.

Hundreds of thousands of Nigerians source their food every day from traditional markets and below EatSafe has identified five local innovators who are working to make the food in those markets safer.

Timilehin Oluwatoyinbo

INNOVATION:
MEATDIRECT



FOUNDER,
MEATDIRECT TECH

 [WATCH PITCH VIDEO](#)

 **INNOVATION CATEGORY**
Food Loss and Waste Technologies



INNOVATIVE SOLUTION

In Nigeria, meat is hawked on foot with a calabash tray containing meat cuts, which may or may not be covered with cloth. This exposes the meat to hazards like flies and dust. This period of exposure during street-hawking can largely depreciate the meat's quality and create food safety risks at a rapid rate. MeatDirect aims to improve the quality and shelf life of meat sold by conventional retailers through our solar-powered cooling storage and door-to-door bicycle distribution system.

MeatDirect is a technology that utilizes solar panels — using sunlight to power cooling systems where meat is stored in an easy-to-move bicycle. This ensures the meat is always kept at a low temperature while improving accessibility, as the rider will be able to cover larger areas on the bicycle, an improved means of transportation compared to walking long distances.

MeatDirect will substantially reduce the depreciation and contamination of our meat before, during, and after sales by our retail street vendors to ensure healthy consumption.

CONTACT

Email: oluwatimilehinoluwatoyinbo@gmail.com

Twitter: @Tme_kl

Mobile: +2348164057206

Ruth Ede

INNOVATION: SCRATOP ORGANIC FERTILIZER



BUSINESS LEAD,
SCRATOP NIGERIA LIMITED

 [WATCH PITCH VIDEO](#)

 **INNOVATION CATEGORY**
Food Loss and Waste Technologies
.....

INNOVATIVE SOLUTION

We believe that food safety is not limited to handling and processing; food safety starts with the soil. This is why we believe organic fertilizers in Nigeria can contribute to improved food safety and are preferred by consumers over chemical alternatives.

With Scratop's fertilizer recipe, the utilization of farm losses and its proper conversion into healthy soil food (organic fertilizer) is possible. Soil and crops can benefit from our organic fertilizer and increase yields.

With this innovation, food crop farmers can monetize bio-waste and afford locally produced, high-quality organic fertilizer. Our fertilizer supports the production of quality and healthy food crops through our climate currency model, a direct partnership program between farmers and Scratop.

CONTACT

Email: ederuth@gmail.com

Twitter: [@ederuthRuthie](https://twitter.com/ederuthRuthie)

Mobile: +2348131251751

Oyeyemi Fadairo

INNOVATION:
INFLATABLE TUNNEL
SOLAR DRYERS



RESEARCH & PROJECT
ASSOCIATE,
SIMPLIX CONSULTING

 [WATCH PITCH VIDEO](#)

 INNOVATION CATEGORY
Processing



INNOVATIVE SOLUTION

The inflatable tunnel solar dryer utilizes solar energy to remove excess water present in food, thereby reducing spoilage and making more safe food available to the growing Nigerian population. It can be installed and used across different communities and regions in Nigeria, and it can be adapted to a wide range of foods. The dryer provides a sustainable solution to challenges encountered with traditional sun drying. Risks from improper sun drying include exposure to rain and foreign matter, poor quality, and contaminants like aflatoxins, a major food safety concern in Nigeria.

This innovation is also a relatively low-cost and energy-saving alternative to other existing methods that preserve food (e.g., oven drying, smoking, and freezing). The solar dryer could benefit farmers by reducing loss of their produce, increasing their profits from having more products available for sale, and by creating employment opportunities such as the export of dried foods.

CONTACT

Email: oyeyemifadairo@gmail.com

Twitter: [@oyeyemifadairo](https://twitter.com/oyeyemifadairo)

Mobile: +2348030674373

Tijjani Ali Lawal



FOUNDER,
FARMSPACE
TECHNOLOGY

INNOVATION:
ECHOTRONICS SOLAR-
POWERED REFRIGERATOR
BOX



[WATCH PITCH VIDEO](#)



INNOVATION CATEGORY

Platforms for Supply Chain Management

.....

INNOVATIVE SOLUTION

Echotronics is a rentable refrigerator cooling box that helps keep fresh food safe and in good condition over time. This technology provides affordable cold chain logistics for smallholder farmers and fresh food vendors in Nigeria.

The innovation is a smart, temperature-controlled cooling box powered by solar energy and water. Echotronics provides optimum temperature for keeping food fresh for a longer all along the supply chain from farm to market.

CONTACT

Email: tijjanali@gmail.com

Twitter: [@tijjeali](https://twitter.com/tijjeali)

Mobile: +2347034889147

Idogun Jennifer



INNOVATION:
MARVY AUTO DRYERS



[WATCH PITCH VIDEO](#)

TECHNICAL LEAD,
THAMA ENTERPRISE



INNOVATION CATEGORY

Processing

.....

INNOVATIVE SOLUTION

Marvy Auto Dryers aims to improve the safety of processed fish and/or meat for local and international markets. It is made for rural households involved in food processing, especially women who typically spearhead this activity.

Traditionally, coal or felled woods are used for drying. The dried products end up having a great deal of carbon deposit in them that is unsafe for local consumption and substandard for export. This innovation addresses both health and environmental safety, and it adopts the use of renewable energy for the construction of dryers that are easy to use by small and medium-scale rural processors.

The dryers have doors that keep the products free from airborne pathogens during the period of drying to ensure food safety. At the same time, the dryers are automated so heat can be regulated and timed — making work easier and faster, which results in increased productivity and translates to increased income and profits.

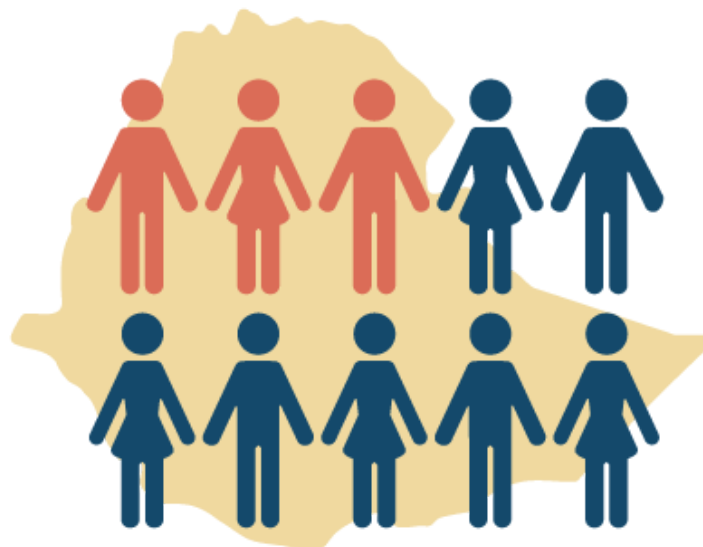
CONTACT

Email: idogunjennifer@gmail.com

Twitter: [@tamahenterprise](https://twitter.com/tamahenterprise)

Mobile: +2348062776215

3. TOP 5 FINALISTS IN ETHIOPIA



3 in 10 people in Ethiopia say they experience **serious harm** from food and water

FOOD SAFETY CHALLENGE

In Ethiopia, food safety is a pressing issue – in 2019, 33% of [surveyed Ethiopians](#) experienced serious harm from food and water, leading to illnesses, malnutrition, stunting in children, and even death.

Many Ethiopians source their food every day from traditional markets and below EatSafe has identified five local innovators who are working to make the food in those markets safer.

Eyoel Legesse Arega



INNOVATION: WHOLE EGG POWDER

 [WATCH PITCH VIDEO](#)

DIRECTOR OF FOOD
MANUFACTURING BUSINESS UNIT,
ETHIO-GABANA TRADING PLC

 **INNOVATION CATEGORY**
Processing



INNOVATIVE SOLUTION

Our company, Ethio-gabana Trading, is processing whole egg powder as a safe, supplementary food for children, lactating mothers and pregnant women to improve daily nutritional intake.

Processed whole egg powder can eliminate the risk of Salmonella in fresh eggs and provide a nutritious product with a long shelf life. Processing whole egg powder also allows for easy-to-measure portions and has application in local stews like 'Shiro' and 'Misir Wat'. The whole egg powder also contains supplemental fortification with minerals and vitamins.

In addition to this, by empowering women through breaking gender bias, we create economic growth by sourcing table eggs for our whole egg powder directly from women-owned poultry farms.

CONTACT

Email: eyoell@ethiogabana.com

Twitter: [@eyoell](https://twitter.com/eyoell)

Mobile: +251911607499

Binyam Kassa Engidasew



TECHNICAL MANAGER,
ETALIM TRADING PLC

INNOVATION: PROBIOTIC YOGURT



[WATCH PITCH VIDEO](#)



INNOVATION CATEGORY

Processing



INNOVATIVE SOLUTION

There are more than 1,500 milk shops in Addis Ababa that sell unprocessed milk products for low-income consumers. One of the products is Ergo, a traditional fermented milk in Ethiopia. Ergo is prone to food hazards such as microbial spoilage, as it is not pasteurized. The solution we propose is pasteurization and incubation during the process of fermenting milk to produce yogurt. This will avoid the S.aureus, E. coli and Salmonella infections of fermented milk as pasteurization kills all pathogenic microbes.

In addition, our innovation prolongs the three-day shelf life of Ergo to one month. Pasteurized milk will be inoculated with Yoba probiotic yogurt cultures that have the dual purpose of enhancing the health and nutrition of consumers. The solution focuses on piloting appropriate tools, such as pasteurizing stoves, thermometers, and incubation chambers, adaptable to small producers in Addis Ababa. It will also help diversify nutritious food products in the market at an accessible cost for low-income consumers.

CONTACT

Email: binyam.kassa@gmail.com

Mobile: + +251911863173

Yezichalem Tessema



CEO,
THEDAY AGRO
INDUSTRY PLC

INNOVATION: PAPAYA POWDER



[WATCH PITCH VIDEO](#)



INNOVATION CATEGORY

Processing



INNOVATIVE SOLUTION

Papaya powder will use the latest fruit drying technology in order to have minimal nutrition loss during food processing. This innovation will provide nutritious, quality and affordable dry fruit-based snacks to our population in Ethiopia.

This innovation will identify techniques to minimize post-harvest losses of fruits, especially when in season, by converting the fruit into powder for use when it is out of season. The innovation will identify techniques to minimize the risk of contamination of the papaya powder during the drying process.

CONTACT

Email: yezich@thedayjam.com

Mobile: +251911203831

Saeed Ismael



FOUNDER,
SOMHUMUS

INNOVATION: SOMHUMUS

 [WATCH PITCH VIDEO](#)

 **INNOVATION CATEGORY**
Food Loss and Waste Technologies



INNOVATIVE SOLUTION

Somhumus is making compost from organic waste to improve production of safe nutritious crops in Ethiopia. We do so by collecting organic food waste and combining it with dry grasses to produce a nutrient rich compost.

This innovation will convert waste from fruits, vegetables and other crops discarded in the market into good quality, organic compost which will add more nutrient to the soil structure. We believe Somhumus will help farmers improve their soil and use fewer chemical pesticides and fertilizers on their crops. This innovation will help to transform food waste into food gain and provide economic value to the people and the country of Ethiopia.

CONTACT

Email: saciidguure125@gmail.com

Mobile: +250785371909

Helen Weldemichael



ASSOCIATE PROFESSOR,
WOLKITE UNIVERSITY

INNOVATION: ADVANCING OF INDIGENOUS FOOD METHODS



[WATCH PITCH VIDEO](#)



INNOVATION CATEGORY

Processing



INNOVATIVE SOLUTION

This innovation seeks to improve traditional kocho processing to create a safe, quality product. The indigenous processing methods of kocho is usually carried out in the backyard of a farmer's home. The traditional processing method uses natural microbes present in the substrate and age-old processing equipment. This fermentation process of kocho is often lengthy, labor-intensive and can lead to an inconsistent and unhygienic product. Thus far, little is known about the roles of microbial communities found in kocho and their roles of fermenting, spoilage, and pathogenic microbes. Moreover, traditional knowledge is generally owned by women.

This innovation aims to design and develop processing equipment and starter cultures to optimize, standardize and transform kocho into a commercial-level product while improving the quality of life for Ethiopian women.

CONTACT

Email: nelehwm@gmail.com

Twitter: [@HelenWeldemich1](https://twitter.com/HelenWeldemich1)

Mobile: +251911067719

4. NEXT STEPS

In July 2022, food safety mentors were assigned to guide each finalist in refining their innovative ideas for the national pitch event that will take place in August. Mentors will support the finalists to develop a pitching package that includes a pitch deck, a business model canvas, and a summary business plan that clearly outlines how these innovative solutions will facilitate access to safe and nutritious foods in traditional markets.

The National Pitch Challenge is scheduled to occur in Nigeria and Ethiopia in the final week of August 2022. After the challenges, the top two finalists from each country will proceed to the Grand Finale to compete for the chance to win \$10,000 at the Technical University of Denmark (DTU) in October 2022.

The winning idea will be judged based on food safety and nutritional benefit, adaptability to low- and middle-income countries, scalability, and environmental sensitivity.

