

## FERARI INTERNS

### SOCIO-ECONOMIC SURVEYS BY FERARI INTERNS



FERARI is currently conducting surveys with several master's-level socioeconomic students from Ghanaian universities and Mohammed VI Polytechnic University (UM6P). These students designed the surveys and collected data on value chain actors in the agriculture sector, including about 700 farmers and 400 other stakeholders, such as the Ministry of Food and Agriculture. The students examined the yield trends of maize, rice, and soybean in Ghana, investment and production decisions made by farmers, and the marketing strategies for these crops. The students expressed their excitement about engaging with the FERARI team and the farmers. ■



▲ A survey underway with a farmer group at location in somewhere, Ghana.

## FERARI FEATURE

### FERARI SUPPORTS ESTABLISHMENT OF GHANA FERTILIZER PLATFORM WITH COMPLETED GFP STUDY

IFDC's FERARI program is collaborating with the Government of Ghana Fertilizer Expansion Program (GFEP) to establish the Ghana Fertilizer Platform (GFP) for sustainable development of the fertilizer sector for improved food and nutrition security. A multi-stakeholder GFP is welcomed by stakeholders in Ghana due to FERARI's deliberate and concerted efforts, as evidenced in the recently completed GFP Study report. This comprehensive report engenders the following:

- ✓ Successful identification and interaction with over 50 key stakeholder institutions that could be represented on the GFP.
- ✓ Sound information on success factors, lessons, and recommendations to demonstrate how the GFP can become an inclusive, functional, and sustainable multi-stakeholder platform for addressing fertilizer issues.
- ✓ A report on the GFEP Fertilizer Stakeholders Roundtable Meeting in April 2021, which stimulated insightful discussion, generated enthusiasm, and delivered a course of action through strong stakeholder consensus, buy-in, and endorsement of the GFP.
- ✓ A signed resolution and an action roadmap for establishment of the GFP.

FERARI continues to provide more evidence and support for a relevant, representative, and sustainable GFP with ongoing research on strategically important issues, including: "framing and discourse analysis" to generate effective communication of fertilizer issues and "power relations" among sector actors with varying interests in issues of scaling in the fertilizer value chain.



## AGRONOMIC DATA COLLECTION ON CROPS YIELDS AND FERTILIZERS

The process of developing a machine-learning model calls for adequate data to train the model to make accurate and relevant predictions. FERARI has recruited three interns to work closely with Eric Asamoah, a Ph.D. candidate conducting research on the "Analytical framework for fertilizer recommendations." Agronomic data on soil, weather, landscape, and crop data will be collected for maize, rice, and soybean from fertilizer yield response trials across the entire country. A substantial amount of data from trials conducted by students and researchers is believed to be available in unpublished reports in libraries and offices of various universities and research institutions. This exercise is expected to last three months, starting in July 2021.

### FARMER-MANAGED TRIALS SIMPLIFY COMPLEX ISSUES THROUGH USE OF FERTILIZER BRIQUETTES

*After observing that the differences in crop agronomic practices and yield levels*

*between researcher-managed on-farm trials and farmer fields were too great*, FERARI has planned to engage in farmer-managed trials in 2021. This should assist in better understanding the actual farm practices to identify the factors that keep yields low. Two different fertilizer treatments will be provided to three maize farmers, with or without improved seeds, in four districts for 0.5 acre each.

Our studies have highlighted the complex issues farmers face with fertilizer use. They must choose from an array of fertilizer products that often do not provide information on crop specificity, and the timing of applications, such as basal and topdressing, that can cause confusion.

FERARI will experiment with fertilizer briquettes, which are fertilizers from different sources compressed into briquettes of 3-4 grams each. Two briquettes will be applied per maize plant after emergence followed by two urea briquettes as topdressing. This approach could have several agro-technical and socioeconomic benefits. Various briquette compositions will be tested in on-station trials as well. ■

### FERARI WILL CONTINUE AND EXPAND ON-FARM AND ON-STATION TRIALS

*FERARI will continue most of the trials conducted in 2020 with some minor adjustments.* The most important

modification is the expansion into three more locations. In addition to the regions served by SRI (Kumasi), KNUST (Kumasi), UDS (Tamale), and SARI (Tamale) in 2020, trials will also be conducted by SARI (Wa) and the universities in Mampong and Sunyani in 2021.

Students, with co-supervision by FERARI staff, will definitely benefit from this opportunity. Based on findings from last year, a special effort will be made to reduce the variability of the trials, which hampers detection of significant effects; however, some patterns in crop yield performance have already been observed with the various treatments.

Students and staff from the involved universities and research institutes, together with FERARI staff, are currently conducting in-depth analyses on the data gathered in 2020. ■



▲ Students and farmers visit IFDC-FERARI/AAMUSTED field trial site for soybean at Mampong, Ashanti Region, Ghana.

## FERARI FIELD DAY: STUDENTS AND FARMERS VISIT THE IFDC-FERARI/AAMUSTED FIELD TRIALS



**FERARI set up a series of fertilizer management trials with public universities in Ghana**, including Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED). Ten trials were carried out by researchers, together with the master's-level students, at the university's experimental station.

To demonstrate the trials' successes in improving maize, soybean, and rice yields, a field day was organized to showcase the growth and development of the crops to smallholder farmers, agricultural student groups, and extension officers from the Ministry of Food and Agriculture in the Mampong and Ejura districts, as well as their directors. Key farmer-based organization leaders were also in attendance. In total, 72 participants visited the experimental sites, and the researchers were happy to answer their questions. ■



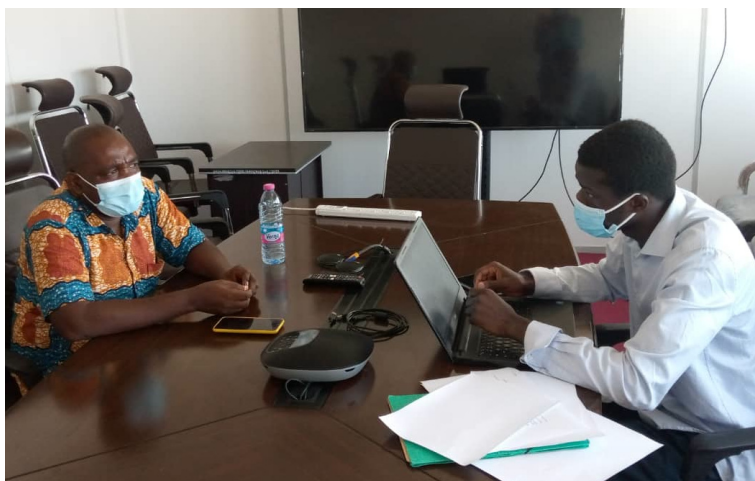
▲▼ The field day showcased visibly successful crop trials.



▲ Students and farmers visit IFDC-FERARI/AAMUSTED field trial site for maize at Mampong, Ashanti Region, Ghana.

## FERARI EXAMINES POWER RELATIONS WITHIN THE VALUE CHAIN

After the April 2021 GFEP Fertilizer Stakeholders Roundtable Meeting in Koforidua, Ghana, we visited key fertilizer sector stakeholders in May and June to conduct interviews about stakeholder power relations within the fertilizer value chain. Despite some challenges with the availability of some interviewees, the information gathered is relevant to the scaling potential of the national multi-stakeholder platform and the forms, sources, and arenas of power, as well as the decision-making process in the fertilizer sector in Ghana. The data still require an in-depth analysis. One promising outcomes of this FERARI-led research is that the quality input will facilitate informed and balanced decision making within the fertilizer sector in Ghana. ■



▲ Master's-level intern Pierre Diene interviews a fertilizer sector stakeholder.

### FERARI LOOKS TO SOCIAL INNOVATION TO FACILITATE SUPPORT FOR SOIL FERTILITY



**FERARI's social science doctoral candidate, Seth Tetteh**, aims to engage farmers and policy actors in the agriculture sector with three principal objectives:

1. Understand the various perceptions that actors, including farmers, government, NGOs and development partners, local financial institutions, and agro-dealers, in the agriculture sector have about soil fertility management and how these perceptions influence their commitment to improve soil fertility in the country.
2. Identify and study the soil fertility interventions (and related processes) that have been or are being promoted in the country and to detail the strengths and weaknesses of these interventions and the institutional support systems that can be established to make current soil fertility initiatives more effective.
3. Conceptualize the relevant diversity that exists in the soil fertility system in Ghana and how this diversity influences soil fertility management and also understand the different interventions that can be implemented to support farmers in improving the fertility of their soils. ■



### FERARI PUBLISHES TWO NEW SOCIOECONOMIC BASELINE SURVEYS



**FERARI has published its fifth and sixth reports as of early 2021.** These reports continue the series of baseline studies on socioeconomic conditions in Ghanaian agriculture.

Report No. 5 details baseline information for the FERARI project, which is necessary for guiding research and activities during the program period. It provides quantitative information, based on farmer recall, on crop production and fertilizer use and documents the reasons for this.

Report No. 6 verifies the findings of the baseline study, analyzing physical yield cuts and farmer interviews. This report also outlines the various production risks and labor needs within the farm households.

Overall, these reports reveal opportunities to move farmers from their current productivity levels to their actual potential. As an impact-driven program, FERARI will turn these reports into policy briefs and scientific research papers to reach a larger audience, which will use these findings, and to enhance their policy relevance. The program also seeks to receive a wide range of comments from broad-based disciplines on these reports as a way of enhancing FERARI's interdisciplinary approach in improving the agriculture sector and the lives of the farmers. ■



## FERARI INTERNS PARTICIPATE IN FOCUS GROUP DISCUSSIONS

Interns with the FERARI project perform research in the lab, experimental stations, and online, and also through face-to-face interviews with rural farmers to discover their views and experiences with methods to improve soil fertility and get the most efficient and economical use from inputs. We hear from three of our current interns about their experiences speaking with Ghanaian farmers:

**Christina Appiah-Adjei** said, "It was a privilege to have my M.Phil. project under FERARI." She explained, "It was a nice encounter with farmers who are willing to farm not just for their own consumption but also for others. I'm looking forward to an amazing engagement with the farmers each and every period."

Christina admitted, "Initially, I had the impression that farmers were not interested in marketing. Through this field work, I now know they are. But they are often impeded by numerous factors, most of which are not under their control." Her preliminary observation was that farmers have more information on inputs, such as fertilizers, than on marketing of their outputs, which can be a limiting factor in improving their livelihoods.

**Edward Edu Kyei** also enjoys his FERARI internship. "I am very grateful for this great opportunity to share in this experience and to be a part of FERARI. It has really helped to improve my understanding of agricultural production and the challenges farmers are facing." He further stressed the importance of giving attention to the agriculture sector in Ghana, as it is a developing nation with many resources and prospects in agriculture."

**Abukari Anass Neindow** became interested in learning about all of the factors that affect farmers' investment decisions. He was impressed by their commitment and desire to improve their personal well-being through their farm activities.

Abukari was encouraged to see the cooperation among farmers, chiefs, and opinion leaders during the survey. He did note that a few farmers were unwilling to share the correct information about their farms and other resources they have. However, Abukari realized that such occurrences were due to a lack of records and the farmers' fear of being denied incentives in the future because of information disclosed to the researchers or policymakers.

All of the other students have also shown much enthusiasm about their research. They are expected to complete their research studies in due time. The survey data provide detailed information on crop production and marketing in the various locations of the Guinea Savannah and Transitional zones of Ghana.

Important and interesting findings are expected to emerge from these students and their research studies. They are being co-supervised by their universities and Dr. William Adzawla, a FERARI staff member. ■



▲ Christina Appiah-Adjei interviews a farmer as part of her research activities.



▲ Edward Edu Kyei after an interview with a farmer.



▲ Abukari Anass Neindow interviews a farmer.

## FERARI AS SEEN FROM IFDC COMMUNICATIONS



**The IFDC Communications staff at IFDC Headquarters in Alabama, USA, are the people who produce our newsletter:** James Thigpen, Acting Head of IFDC Communications; Julie Kohler, Editor; and Meg Ross, Graphic Designer. This team has witnessed FERARI's work evolve over time, and described their insights as they prepared this edition.

James began the discussion, "FERARI represents the best of IFDC and its partners. We talk a lot about impact, led by the question, 'How do we make sure the work we do is effective and long-lasting?'" He continued, "FERARI is taking this one step further in making impact impactful. The program's unique contribution to development in Ghana should not be overlooked." He pointed out how instead of simply implementing a traditional "project," FERARI shines in that it puts the future of Ghanaian agriculture (and that of other countries) in the hands of the future scientists, policymakers, and entrepreneurs. "I love that the project prepares these future leaders to solve the problems of tomorrow by integrating them into tackling the challenges of today," he said.

Julie, as editor, reviews all newsletter contributions to polish the writing style according to IFDC guidelines. With long experience of dry research prose, she observed the difference in student newsletter contributions, saying, "I love hearing how excited the students are about their research. They are engaging with everyone involved in the fertilizer value chain and are being supervised by researchers who are invested in furthering their knowledge." Julie also pointed out the project's hands-on nature, saying, "The students are in the field seeing what farmers do and why they do it. And they are eager to help them improve their production and livelihoods!"

Meg works with the IFDC Communications team to prepare the FERARI newsletter and other project materials. She said, "My expertise is in graphic design, not agriculture. However, in the course of my work with the FERARI project, it has been both interesting and educational to observe the growth of FERARI and its staff, students, and interns. Their enthusiasm to investigate such a variety of research topics, with the guidance and encouraging attitudes of the instructors and senior research staff, it's energizing."

Like James, Meg takes a larger view: "These are the new generation coming up, who know the issues facing their own countries, and through their collaboration with FERARI are becoming the professionals who will be able to competently advise their governments for better food security and farm-household incomes." She noted, "I keep this in mind because I want my work to present their work in the best possible way, to get the attention and respect their work deserves."

These perspectives reflect well on the FERARI approach, just as the Communications team skills help showcase our work to improve Ghanaian agriculture. ■



**FERARI**  
FERTILIZER RESEARCH & RESPONSIBLE IMPLEMENTATION

 **IFDC**  
Developing Agriculture from the Ground Up

### CONTACT

**Dr. Prem Bindraban** [pbindraban@ifdc.org](mailto:pbindraban@ifdc.org)

**Dr. Williams Atakora** [watakora@ifdc.org](mailto:watakora@ifdc.org)

### IFDC Ghana

No. 113A Mbabane Avenue, East Legon Residential Area  
PMB CT 284 Cantonments, Accra | +233 (0) 560 027 917/8

[www.ifdc.org](http://www.ifdc.org)