



ATSAF - CGIAR++ Junior Scientists Program Final Report

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Country: Ghana

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Start and end date of stay at IARC: Nov 2018 - May 2019

Start and end date of remotely supervised project: -

Title: Modelling Farmer's Preference and Willingness to Pay for Sustainable Intensification Practices in Ghana.

Funded by the German Federal Ministry for Economic Cooperation and Development (BMZ)



ATSAF-CGIAR Junior Scientist Program

Internship/Fieldwork Report

(November 2018 – May 2019)

Sponsored by:

Arbeitsgemeinschaft für Tropische und Subtropische
Agrarforschung (ATSAF)

&

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THE FINAL REPORT

This report presents a summary of my work and experience as one of the participants of the ATSAF-CGIAR Junior Scientist Program and the Consultative Group of International Agriculture Research (CGIAR) Graduate Research Program, which lasted for 6 months from November 2018 to May 2019. This was a part of my master thesis data collection towards the completion of a MSc. degree in Sustainable International Agriculture, a jointly taught programme at the University of Kassel and Georg-August University (Göttingen) with a specialization in International Agribusiness and Rural Development Economics. My host institution was the International Institute of Tropical Agriculture (IITA) with its regional office in Tamale, Ghana. My focus was working on the adoption of a sustainable system of agriculture known as the Sustainable Intensification Practice (SIP) under the IITA's Africa RISING (Research in Sustainable Intensification for the Next Generation) project.

The Africa RISING project is led by a three sister CGIAR institute namely; International Institute of Tropical Agriculture (IITA), the International Livestock Research Institute (ILRI) and the International Food Policy Research Institute (IFPRI) and supported by the United States Agency for International Development (USAID). This is a part of the U.S. government's Feed the Future initiative and it comprises of among others, a research for development projects in three regions of Africa (West Africa, Ethiopian Highlands, and East and Southern Africa).

Prior to the fieldwork, my perception was that, cost and willingness to pay was the most important factor affecting technology adoption. Which means even though farmers know the importance of new technologies, improved fertilizers, seeds, etc., they are not able to implement them due to financial constraints. hence, access to funds, subsidy, divisibility of technology and affordability of the technology was the order of day and once these are in place, adoption will follow suit.

With this in mind, choice experiment was proposed to estimate the willingness of farmers to pay for the technologies that make up the SIP. The results will be used to help policy makers in designing SIP as a package while taking smallholder farmers' willingness to pay into consideration, yielding a bottom-up approach to the problem of adoption of the SIP in Northern Ghana.

During my time in IITA Tamale, I was able to get a first-hand, more concise and practical knowledge of the role of agriculture towards development and sustainability. At the same time, I noticed a huge difference between the theoretical/classroom knowledge of research and the practical/field experience.

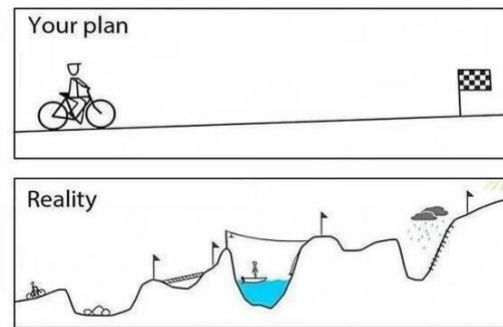


Image showing plan versus reality (the-goodcoach.com, 2015)

While in Tamale, I had series of discussions with my host supervisor who was in the person of Dr. Hundie Kotu Bekele as well as other stakeholders in the field of agricultural research in IITA. It was then I realized that cost and willingness to pay for technologies was as important as knowledge and understanding. Furthermore, I got to understand that unlike machines, farms do not run based on their components but like humans, they react to their components as well as their environment and no two farms are exactly the same; hence, making a sustainable agriculture work, require a continuous work and understanding by farmers. Therefore, designing a sustainable practice is a temporal and spatial assignment and not a general combination of parts or technologies that we assume should work well theoretically.

Furthermore, trying to streamline farmers' low adoption reasons to financial problem tends to be spurious and considering cost and willingness to pay as a sole point of consideration for low adoption of SIP might not be tenable.

Though, cost and willingness to pay are very important and considering the bottom-up approach is also good, ways of understanding the time and space is considered more important as farmers should be informed to be proactive and understand their farms and environment more. A new project idea was however established and this used current farmer's combination of production technology, yield and income to estimate the best combination that has the greatest impact on yield and income with the aim of

proposing a system that composed of the combination with the highest effect on yield and income in the region of Northern Ghana.

As a result of the change in scope, the use of the baseline data of the IITA was suggested and backed-up with field visitations for on-field practical experience of data collection and discussion with farmers. This helped in emphasizing the discussions and reinforced the reason for the need for change of scope as farmers adopt different technologies. To tackle different constraint ranging from environmental, geographical and financial, farmers adopt different means of technologies to enhance smooth production. Noting that financial is just one of the many constraints towards sustainable agricultural production.

I was able to improve my data collection, cleaning and analysis experience while interning at IITA Tamale. I had lots of fieldtrips with IITA data management team such as the visit to the Tingoli and Cheyohi 2 in the Kunbungu district of Northern Ghana. This fieldtrip was based on data collection of some of the respondents of the Africa RISING project with the aim of improving the Africa RISING project database. The data was collected using the Kobo toolbox with preinstalled information areas such as personal and household data, major technology package the farm is benefiting from the Africa RISING Project, preferred technology package, farm management practices and other services including inputs, assessment of yield in terms of quantity, means of storage and facilities available, amount available for household consumption, sales, gifts, and amount lost and information weather and other environmental factors.

Also, being part of the two days Africa RISING project science review meeting was a great opportunity with discussions with some Africa RISING stakeholders and insights on the current state of things, challenges and lessons learnt. My project was also discussed, and professional ideas were given for my successful project accomplishment.

Planning and attending the National Farmers' Day in Ghana was another opportunity for me to meet with other agricultural development institutes in the country and share successes, challenges and information on the latest developments while outstanding stakeholders in the field of agriculture were being recognized and awarded.

This report will be inconclusive without appreciating the institutes and people that made the fieldwork and experience gained from it an addition to my body of knowledge. Starting with the Arbeitsgemeinschaft für Tropische und Subtropische Agrarforschung (Council for Tropical and Subtropical Agricultural Research) ATSAF for the financial assistance to make this a success and my internal supervisors in the persons of Prof. Martin Qaim and Dr. B. L. Debela for the scope, structure and support throughout the entire project. The importance of the International Institute of Tropical Agriculture (IITA) and her staff cannot be overemphasized starting with my immediate supervisor, Dr. Kotu Hundie Bekele, to other staff like Dr. Fred Kizito for his mental supports and discussion on how to make my experience a success. Mrs. Afua for the soft landing and making Tamale a home for me, Mr. Dokurugu and his team for the field experience. I acknowledge and continue to appreciate the time and support towards the success of my internship/fieldwork project.