



ATSAF - CGIAR++ Junior Scientists Program

Final Report

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Internship/Fieldwork Report

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List of Abbreviations

CGIAR	Consultative Group on International Research
DITSL	German Institute for Tropics and Sub-tropical Agriculture
IITA	International Institute for Tropical Agriculture
PRA	Participatory Rural Appraisal
SIA	Sustainable International Agriculture
SWOT	Strength, Weakness, Opportunities and Threats
UDS	University for Development Studies
US	Underutilized Species

Summary

This report presents a summary of internship I did in Ghana in the period from December 2018 to March 2019 with IITA Tamale under UPGRADE PLUS project. I worked with six (6) women's groups within four communities in four districts of Northern Tamale. The purpose was to analyse the entrepreneurial potential of these women's groups for processing of underutilized species which serve as an additional means of their livelihood and empower them substantially and has the potentials of improving the diets of children.

Prior to the fieldwork, I set up several goals and objectives to be met on the field. These goals formed part of the activity lists I intended to carry out. Having the goals in mind, I adopted multiple participatory rural appraisal tools to be used because the research approach was qualitative in nature. To approach my participants, I applied a collaborative learning model to systematically get the trust, time and commitment of the participants to work with on the field. The main goal was to jointly develop a contextual business model depicting their potentials in terms of resources, needs and constraints. Meetings with the groups were on daily basis depending on the objective and sometimes with smaller groups.

To this effect, I got dataset that is yet to be analysed. Aside the data, it was a form of learning platform for knowledge to be discovered for us as researchers and for the women. So, their capacities were enhanced based on the experiences they had visiting processing centres and attending educational trainings. They identified and discovered their motivations and goals for the processing. Aside gaining this, women also identified important resources that are important for their business and the potential constraints of which they are exploring solutions on how to turn them to their advantage. I participated in few activities under the authority of IITA and I got the chance to also present the work I was doing on the field to the staff members.

I gained so much experiences and new skills. My interest in research increased especially transdisciplinary research involving societal stakeholders. To this end, I realised I did not only collect data, but I also did learn a lot. Experiencing the culture of the people, meeting and interacting with likeminded professionals and establishing important contacts are all rich experiences I will carry in my next adventures in research as a career.

1.0 Introduction

This report serves the purpose of reflecting, collecting and presenting my experiences and outcomes from fieldwork/internship with the International Institute for Tropical Agriculture (IITA) Tamale, Ghana under the UPGRADE PLUS project. This was in the period between December 2018 and March 2019 as part of my Master thesis data collection towards the completion of a Master of Science (MSc.) degree in Sustainable International Agriculture (SIA) with a profile International Agribusiness and Rural Development Economics at the Georg-August Universität Göttingen and University of Kassel. This was partly sponsored by the Consultative Group of International Agriculture Research (CGIAR) Junior Scientist scholarship program. The report covers five different parts which highlight the aspects I have been directly involved with. This includes: **1.** Short summary of UPGRADE PLUS project **2.** My main objectives, purpose and task on the field, **3.** Methodologies, approaches and tools **4.** Preliminary findings including experiences and reflections on the internship and **5.** Conclusion.

1.1 Description of the internship: UPGRADE PLUS Project

UPGRADE PLUS project is aimed at supporting and empowering rural self-help women's groups to process underutilized species which serve to empower them financially and can potentially increase and improve the nutritional content of children's diet. Important elements centred around the project include but not limited to gender empowerment, food security, capacity building, livelihoods enhancement, and nutritional securities. The project is a joint cooperation and partnerships with different research partners and organizations across four countries: Ghana, Nigeria, Sierra Leone and Germany. These partners work in different scientific areas and involve various work packages. German Institute for Tropics and Sub-tropical Agriculture (DITSL) is directly involve with work package 6 (WP6) on "development of innovative capacity building strategies to support women's group processing businesses", of which I worked closely with work package 6 (6.2 specifically) to analyse the entrepreneurial potential of women's groups for processing underutilized species (US) in Ghana. This includes jointly assessing the processing goals with the women, women understanding their boundaries in terms of the available resources that can support their business development, needs and constraints, collective decision-making power and their capability to take advantage of opportunities and what is available to them in the community (local conditions).

1.2 Purpose, Objectives and Task.

The main purpose of my work/task was to analyse the entrepreneurial potentials of women's groups for processing underutilized species as stated above.

To realise this main objective, the work was composed in ten (10) different sequential phases/activity lines which served as sub-objectives, combined with sessions on capacity building and enhancement activities necessary for the groups. These phases included:

1. Establishing relevance to understand women's activities--both income and non-income generating, major crops in the community: male and female crops, Advantages and disadvantages.
2. Co-identifying underutilized species including information on availability, stability, parts eaten, known preservation methods and potentials to be sold when processed.
3. Selection of crops/products by women to work with and associated criterion for selection.
4. Soliciting groups motives, expectations and interest level which is important for developing realistic working goal based on individual expectations.
5. Exploring women's experiences in business to draw and establish knowledge pool and subsequently identify knowledge gaps: From members within the groups and from an expert.
6. Co-organize group activities and structure with respect to the delegation of responsibilities/activities to shift power from researchers to the women to have ownership and control of the project and its activities. For this was a transdisciplinary research in nature, with the involvement of societal actors (women).
7. SWOT analysis including activities to elaborate individual strengths, to understand the needs, constraints and opportunities of the group as a business entity.
8. Learn with women about the importance of a business plan and how it is developed, create Blueprint for Business plan activities with roles and timelines.
9. Co-design action plan for business development based on all the lessons learned.
10. Video Proposal to be presented by the women based on their motivations for documentation.

2.0 Methods and approaches

The work on the field used qualitative research approach to gather data and dig deep into more insights on the entrepreneurial potentials of these resource poor rural self-help women's groups. Using this approach, collaborative learning model was applied to facilitate and guide the learning process: 1. establish the collaboration between the participants (women groups) and the researchers 2. Dialogue 3. Discovery of new knowledge and co-creating solutions with the groups and move further 4. to the application of such solutions (Restrepo, Lelea, Christinck, & Kaufmann, 2014). The most important thing was to build trust with the women that is necessary to create good environment between us the researchers and the project participants. It was also important to establish good relationships with the actors or participants. Moving forward, application of various Participatory Rural Appraisal (PRA) tools was done at each activity section to collect, document and fulfil the objectives and also semi-structured questionnaires for individual interviews was conducted. Among the tools used include, pairwise discussion/beehive method, activity analysis, brainstorming, participants observation, focus group discussion, SWOT analysis, expert interviews, direct observation, responsibility chart, participation and narrative interviews.

3.0 Preliminary findings and experiences.

3.1 Fieldwork findings

In this section, I present briefly the preliminary findings from the fieldwork, the experiences I have gained working with staff members of IITA and other few interesting outcomes that tells much about my internship work. I worked with the six women's groups from four communities mainly on whole group meetings and sometimes smaller groups depending on the activity schedule. These groups vary in terms of the activities they do at the community level. However, they shared a common uniting activity which is the use of money box for contributions.

Although the collected datasets have not yet been analysed, the preliminary outcomes explain a bit about what was found. In establishing relevance, women's groups were able to identify and tell what kind of crops are common to their locality, the advantages and disadvantages of each crop. Specifically, they were able to indicate male and female

grown crops alike and how they attach importance to crops being regarded as female crops.

Discussing few challenges and constraints, the women mentioned specific barriers confronting them during their farming activities. These include inadequate access to farm inputs, credit facilities, small land sizes, price fluctuations, pest and diseases, among others. In co-identifying underutilized species, women presented the kind of crop species that are available (stable and continuous) in their communities, parts eaten and known preservation methods. The range of commodities identified are as follows: Roselle, neem, baobab, moringa, kapok, dawadawa, orange flesh sweet potato (OFSP), Tom Brown (flour made from rice, maize, millet, sorghum, soybean, groundnut), sweet potato, groundnuts, tamarind, and so on. “Regarding this initiative, underutilized species (both plant and animal) are those with a potential, not yet fully exploited, to contribute to food security and poverty alleviation. Examples of such species include hulled wheats in the Eurasian region, pili nut in the Philippines, quinoa in the Andean region, many traditional African vegetables, the grasscutter or cane rat in West Africa and the I-pig in Vietnam. These species tend to be neglected by research, extension services, farmers, policy- and decision-makers, donors, technology providers, consumers and socio-cultural practices. Many of them were once more widely used than they are today but have fallen into disuse for a variety of agronomic, economic, genetic and cultural reasons. This is endangering the existence of these species and the genetic base for future crop and animal breed improvement” (Food & Agriculture Organization, 2018).

After co-identifying the available US in the respective communities, each group selected a commodity with the associated product to process, in order to jointly develop a business plan with that commodity that will be used for the business implementation. Four groups chose dawadawa, an African locust bean to process into dawadawa spice (condiment) and tea. The groups presented the following reasons that are inspiring them to choose dawadawa over the other crops. First motivation was due cultural reasons which they indicated that “dawadawa is something that defines us as Dagomba women”. Padmanabhan (2007), observes that dawadawa as ingredient really forms part of the main component of every meal prepared by Dagomba women especially soup and they are culturally connected to the dawadawa. Based on this, they also possess the required skills to process as it has been part of them. I observed series of connections regarding their criterion of selecting dawadawa. Another reason was, during all occasions, for example

funerals, weddings, naming ceremony etc, dawadawa is always the first thing you present as a woman according to them. They wish to take advantage of the market for dawadawa to process and package nicely to sell to communities within Tamale and beyond. Selling it brought about the income incentive as to why they chose it. Other reasons were its nutritional benefits. Presenting these benefits, women acknowledged the fact that processing dawadawa is tedious and require intensive resources. Ak, Adejumo, Adamade, & Bodunde, (2010), confirms this statement in their review work on challenges and prospects of processing dawadawa and argues on the prospects to be mechanized in order to tap the economic benefits of the condiments.

One of the groups chose OFSP to process into flour which can be used to make porridge for children. Several criteria are identified in the selection of OFSP. These include: income, food, grown by themselves, can be dried easily using sunlight etc. And the last group chose groundnut to process into groundnut cake, oil, groundnut chips and paste. Even though groundnut is regarded as commercial crop, it was interesting to know about the definition of underutilized crops/species in the context of these women. Their main criteria had to do with availability and the fact they cultivate it themselves. Also getting many products out of the commodity inspired them to choose groundnut.

The overall criterion for selection were based on monetary incentives out of sale, others due to cultural motivations, and food and nutritional benefits were incentives for choosing to others. Establishing their motivations on why they want to do business with such chosen products, reasons were not quite different from the reasons for selecting the commodities. Other reasons added were the fact that they possess the skills to process and they use cheap source of energy to dry which is sunlight. All these aspects provided outcomes to the stated objective.

We then wanted to understand women's knowledge in business. We conducted focus group discussions where experienced women shared their business experiences on how they started, their success stories, failures, and recommendations to the women. These helped in understanding what they already know about business and what they can improve moving further. Same approach was used with an expert in business where they also learned similar stories from a well-established entrepreneur.

These experiences triggered their thinking into coming out with their own activities and having control over the research activities. Activities listed were: Visit to a processing

factory to learn about processing and other interesting facts about business, visit to another processing centre to learn about packaging, labelling and branding. We also conducted resource mapping activity to release what is available and how they can tap opportunities. In mapping out the needed resources necessary for the business, the following have been identified as potential constraints: poor condition of cutting tools e.g. knives, lack and inadequate grinding milling, tools/machines and poor water resources in almost all the communities.

3.2 Other capacity building and enhancement activities

As part of the learning process, women came out with activities they wanted to do in order to improve their knowledge. The activities accomplished in that regard were:

1. Expert session with B-Diet entrepreneur from Tamale where they learned more about the experiences of the entrepreneur regarding his business on how he started, what he is currently doing, his success and failure stories and potential recommendations to them as they plan for their own businesses.
2. Visit to Noyine Maltinga in Sumbrungu at Bolgatanga: processing and packaging of indigenous food and medicine factory to learn about making dawadawa tea and other products. Women participated and observed most processing techniques and business management strategies.
3. Visit to B-diet processing factory in Tamale to learn about packaging, labelling and branding and how to use your brand to communicate to potential consumers.
4. Market visit to learn about exiting products, what is available, prices, packaging and various packaging materials.

3.3 Work experiences at IITA

I was opportune to visit the field with a team from IITA and Youth Mappers from University of Cape Coast to experience the work they do. This was one interesting activity I carried at IITA. I gained a well meaningful knowledge working with Mr. Dokurugu and Mr. Benedict on the field. Fieldwork started at 7:00 am, where there were visits to the Cheyohi 2 and Tingoli communities in the Kunbungu district of Northern Ghana. This fieldwork was based on collecting information from beneficiaries' farmers under the Africa RISING project or intervention. The aim of the interviews was to collect information and create farmers profile which will serve as a database for further

references. The data was collected using a kobo Toolbox that records information of the farmer in the following areas:

1. Personal data 2. Household data 3. Major technology park the farm is benefiting from the Africa RISING Project 4. Preferred Technological park 5. Farm Management practices and other services including inputs. 6. Assessment of yield in terms of quantity and means of storage and storage facilities 7. Household consumption, Sales, Quantity as gifts, amount sold, and amount lost 8. Also, information about how weather information gets to farmers and farmers interest to be sent information 9. Means of saving after sales and practicing of Grain Banking (storing grains to sell during lean season). I participated in the data entry process. Aside these experiences with the team, I also learned how to perform tracking using OSM Tracker. It was an amazing experience with the team from IITA and the students from University of Cape Coast (UCC) Youth Mappers.

During the internship, I also participated in two days Africa RISING Science Review meeting in Tamale, Ghana. This offered me the greatest chance to interact with professionals and partners of the Africa RISING project. It was nice that they offered me time to share my fieldwork updates. After the presentation, I received lots of meaningful questions and ideas to follow up and consider when writing my thesis. These, I consider it to be very helpful. More importantly, I interacted with few of the participants to get to know what they do in their area of work. It was memorable establishing these contacts through IITA.

Another very important experience I gained was the direct supervision of my field activities by Dr. Fred Kizito. He was helpful in every aspect of my work. Discussing all the plans with him, he always gave me support and information and connected me to other resourced persons. Working under him helped me learn about the importance of collaborations, networks and partnerships with regards to community work.

3.4 Reflection on the Internship

In this section, I share a bit more on my personal experiences, encounters and how the internship has improved my career path.

Prior to my fieldwork, I was uncertain as to whether I will be able to achieve my goals. This was because I had no experience with qualitative means of data collection and not familiar with the use of PRA tools. I now understand better how to use most of them and

the techniques to apply to get good results. I look forward to improving myself when exposed to another opportunity. The interesting part of it was the preparation of facilitation plans on weekly basis to be used on the field. This improved my understanding into qualitative research and participatory research. I am already overwhelmed with the data analysis process as I am getting ready to analyse and present the results scientifically.

During presenting updates to all the stakeholders of UPGRADE PLUS project, I was uncomfortable as to how to communicate and share my preliminary findings. It was unclear to me as to what they other partners expect. Because this was the case some work packages needed information from others to kick start their activities. And I was in the position to feed such information to few partners because I was directly working in the communities and understand better the local situation and what is available. After the meeting, I realised how much I have improved in terms of my ability to communicate. I gained much confidence and it was so impressive to me. This gave me much understanding of what I was doing as people asked questions. Based on this experience, I was able to present the fieldwork updates with an ease both at IITA office to their staff members and during the Africa RISING Science review meeting at Modern City Hotel, Tamale.

The internship was also a good way to experience the culture of other people. I was not convinced within myself how to especially dress during field visits as these were predominantly Muslim communities with different way of dressing apart from what I am used to. This was challenging in the beginning, but after a couple of weeks, I learned to adapt to become part of them in terms of dressing and other ways of carrying myself. This experience makes me feel I am capable of adapting to fit in any culture I find myself regardless of the environment.

I planned to complete all the outlined activities before returning to school, but due to time constraint, few activities were passed on to my field assistant to complete, of whom I am constantly in touch with on daily basis. These includes documenting comprehensive action plan for the business implementation and doing video proposals to communicate their motives.

Before my internship, I had few doubts about what I really want to do. I always knew I wanted to engage with research in the near future, but in which field specifically I did not know? Now I am more than convinced that I want to plan my future career in research in

the areas of Agriculture, Gender and food security using transdisciplinary research approach.

4.0 Conclusion

To sum it up, this fieldwork/internship with IITA under UPGRADE PLUS Project has been a very helpful experience. I have acquired a lot of knowledge and gained new skills and had the opportunity to make contacts with new people. I worked to the best of my capacity to achieve most of my goals and objectives, others I could not because of few prevailing conditions and local situations that did not permit. Applying most of the tools was very exciting, few posed challenges and I believe there is a room to discover new techniques using them and to improve.

I have learned practically what defines rural communities, what they do, how they do it, why they do and how it impacts them. This is potentially complementing my theoretical knowledge in rural development economics studies which I am very happy about. Spending time, working and interacting with different women's groups and individuals within the groups in the various communities within Tamale have been such an inspiration for me. I have experienced a lot about the culture of the people, their special values and believes system. I have learned that, in Tamale, the people of Dagomba hold strongly their cultural believes and values which have important implications in designing and implementing any policy interventions.

I learned a lot about the important aspects of working and relating with different people from different backgrounds and the essences of using links and networks to deepen fieldwork information gathering and make data available and accessible to different people.

The internship helped me to identify and affirm my interest in working with rural communties. This will serve as a mark and a milestone for my next line of experiences to my career plans and development because I was able to find out what my strengths and weaknesses are, and this knowledge is helpful for me to think about what to improve. I hope to carry these amazing experiences to my next professional life and career.

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