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Mentoring, OUR Way: Example of the Hilton Interns

We have had an informal mentoring system ever since Rural Outreach Africa (ROA) started as Rural Outreach Program (ROP) over 30 years ago. The whole idea was based on my having been a sportswoman in my school days and appreciating the Relay Race which is won mostly by how well the baton is passed. Accomplished as I was, I realized the only way to leave a legacy was to be able to pass on skills and practices which could not be read in any book. Also, having come back to Kenya after studying in the USA, I had a lot to share with others who may not have had the same opportunities, but who needed to help contribute to Africa's development. My stay in the USA was during the *analog* time when little was known about Africa. I saw a lot of merit in promoting cultural exchange. Over the years, over 50 interns, both Kenyan and others have passed through our offices. Normally I take on a promising first degree or diploma graduate, give them the opportunity to work in our office and beside me. I learn from them as they learn from me. I consider mentoring to be two-way. Most of our mentees have gone on to be fairly successful; we are preparing a database that can be shared on our website. The comments on the benefits of the mentoring process will also be shared.

We would like to formalize our mentoring program in a way that it can be competitive and structured. The way it works is that when we get contacted, I request the individual to come to the office for an interview where we can gauge their real interest, passion, expectations and future aspirations. Sometimes we connect, sometimes we do not. Occasionally, an individual is introduced by someone who knows me. Acceptance depends on whether we have space, and our ability to provide some minimal stipend.

Mentoring is good and should be expanded nationally and internationally, as it has a unique way of building capacity. It is also a way of keeping young people engaged and kept busy as they await other opportunities. The only challenge is that there are many more young people graduating from universities and colleges than there are opportunities available.

So what does an intern do while at my organization?

One, they interact with other interns and learn to work as a team from slightly different disciplines, they work on the journal to understand what scholarly publishing is all about and get practice in all the processes, they get exposed to different disciplines as they peruse authors' manuscripts, they interact with me for any advice, we send them to different meetings that the organization is invited to, and last but most important, they must get to the field and experience it by getting involved in our rural development activities. They also to study and understand how the two organizations, Rural Outreach Africa and African Journal of Food, Agriculture, Nutrition and Development started and for what reason.

I am describing here what goes on under normal circumstances. The current situation is of course abnormal. With the VIRUS hitting every corner of the world, everything is at a standstill.

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The Hilton Grant interns we have highlighted here were identified through our office. Three of them are graduates of Kenyan universities, one from the USA, and accessed this UCLA (University of California in Los Angeles), USA, facility that was acquired through a former student, who also served as an intern under me, and is now a Professor at the institution.

Ruth Oniang'o
Editor-in-Chief, AJFAND

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RURAL OUTREACH AFRICA

SCHOOL-BASED AGRICULTURAL PROGRAMS CREATING IMPACT BEYOND THE SCHOOL

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Acknowledgments

We would like to acknowledge and thank the primary sponsors of this work- The Hilton Foundation, UCLA and ROA. I would like to particularly thank Professor Edith Omwami of UCLA and Professor Ruth Oniang'o, the founder of Rural Outreach Africa for the opportunity to do this work, review of this report and for the overall guidance and career mentorship. Special thanks go to ROA staff in the field who are instrumental in the successful implementation of the projects; colleagues in Nairobi for their generous contribution in time, technical expertise, advice, and monitoring and evaluation.

This report constitutes a review of the school-based intervention projects undertaken by ROA since 2015 working with various partners. The report considers the impact school-based agricultural programs have outside of the school, focusing on 3 areas: household food security and skills development, nutrition knowledge, and the policy environment. The grant facilitated staff travel to the field to collect feedback from teachers, students and parents on school and home-based agricultural projects: what works, what doesn't, what is ideal, and ways to scale-up the program.

Many thanks go to the students, teachers, and parents who have been so generous with their time, efforts, and have warmly welcomed us to their schools and homes. Finally, we would like to thank county education officials who granted ROA permission to carry out this work without any interference.

School-based agricultural programs creating impact beyond the school

Kenya is an agriculture-dependent economy where agriculture directly contributes 35% to the gross domestic product (GDP) and a further 27% indirectly[1]. Agricultural activities account for 65% of the total export earnings and employs 40% of the total population and more than 70% of the rural population[2]. Agriculture, therefore, plays a critical role in poverty alleviation as the bulk of the population depends on it as the main source of livelihood, and ensures household food security and nutrition. School-based agricultural programs hold great promise in developing agricultural and life skills in young people, as well as values like hard work, integrity, entrepreneurship, and self-reliance.

There is, however, a persistent decline in farm productivity in sub-Saharan Africa due to population pressure, rural to urban migration, over-cultivation, little input use, and climate change is exasperating an already risky enterprise. The farming population is also aging; smallholder farmers in sub-Saharan Africa are mostly women of average age 60 years. Youth participation in agriculture is minimal due to negative perceptions,

[1] The Food Security Portal. Food Security Report http://www.foodsecurityportal.org/kenya/food-security-report-prepared-kenya-agricultural-research-institute

[2] FAO. The agriculture sector in Kenya http://www.fao.org/kenya/fao-in-kenya/kenya-at-a-glance/en/

low returns and other limitations like the lack of material assets like land and capital. Still, agriculture holds the largest potential for youth employment, and more importantly, their participation in food production is vital in ensuring future food security and nutrition for the country.

How then can youth see agriculture as a viable way to earn a living and move them from poverty to prosperity? At Rural Outreach Africa (ROA) we have found that when we demonstrate that agriculture is profitable, young people's perceptions change, and they are able to run successful agricultural enterprises in school and at home.

ROA works with primary school children to set up agricultural enterprises where they learn how to: grow food, keep and care for animals, prepare food, and carry out agribusiness, through the 4K clubs in primary schools. The main principles of ROA's 4K programs are to prepare future hunger fighters, to prepare future leaders, to create change agents in the community, and to improve the academic performance of the students involved.

Many Kenyan primary schools have farmland which we use as learning centers for the surrounding community. From the school farm, community members get to know what other crops can do well in the area. In western Kenya where we work, most farmers practice maize mono-cropping, but there are many other food crops that can do well in the area: sorghum, finger millet, Bambara nuts, groundnuts, and sesame, just to name a few. ROA is using school farms to change community attitudes towards farming, to encourage dietary diversity with local foods, and to stimulate parental involvement in their children's education.

Agriculture education in Kenya

Agricultural programs in primary schools in Kenya are run by the 4K clubs. 4K, which stands for Kuungana (unite) Kufanya (work) Kusaidia (help) Kenya was introduced in Kenya in 1963 (the year Kenya became independent) by the Ministry of Agriculture and Animal Husbandry, modeled after the 4H clubs of the United States of America. The program is based on the rural extension principle of increasing agricultural productivity while widening the horizons of individual youths who participate in them. 4K's larger goal is to empower the youth with agricultural and life skills to contribute to better nutrition, health and higher standards of living.

In post-independence Kenya, agriculture was taught in primary, secondary and at vocational levels as a way to impart agricultural knowledge and impress on the students' positive attitudes towards the subject. However, several factors like the decline in government support, refocused donor support, agricultural knowledge and skills gaps, ambiguous curriculum reforms, and demand for purely academic education in Kenya contributed to a decline in agricultural education and attitudes towards agricultural careers in Kenya.

In 2003, a revised primary school curriculum was implemented. It removed vocational subjects like agriculture, home science, arts, and crafts, with the aim of reducing the

workload for both teachers and students. Agriculture became a non-examinable subject at this point.

In 2017, a new competency-based curriculum (CBC) was launched by the Ministry of Education, designed to emphasize the development of skills and knowledge and also nurturing and building student competencies. Since the roll-out of CBC, schools are more receptive to agricultural clubs in their schools because they are aligned to the new curriculum, or to quote the teachers, "4K clubs are CBC-compliant".

Household food security and skills development

The 4K clubs mainly engage in crop production but some will go into livestock farming, poultry, fish farming and other income-generating activities like shaving (barbershop). The school farms are used to grow maize, beans, vegetables, sweet potatoes, tomatoes, onions, etc., which are used in the school feeding programs and a part can be sold to teachers and the surrounding community.

Produce from the school farms is used to subsidize parents' contribution (maize and beans) to the school feeding program. Many schools use the subsidizing model to feed students from needy families, and income generated from the school garden is used to pay for school levies, buy stationery and other small needs of the students

The school farm also serves as a demonstration garden for students, teachers and the community where they can learn about good agronomic practices, new seed varieties, nutrition, pest and disease control, and new technologies in farming. For students, they use the school farm as an outdoor classroom for science lessons. They learn about nutrition, the environment, soil and water conservation, food preparation and hygiene, healthy habits, and agripreneurship (market gardening).

In previous school gardening projects undertaken by ROA, we have found that students practice at home what they learn in school, in terms of crop management and good agronomic practices. In order to keep the activity sustainable, 4K clubs will set up nurseries for multiplication of seeds and planting materials, which are given to club members to plant at home, and are also sold to teachers and parents to generate income for the club.

In a recent UCLA-funded pilot project implemented by ROA, students were able to establish profitable agricultural enterprises in their homes and also contribute to their family's food needs by replicating at home what they did in school. They grew indigenous vegetables and sweet potatoes, part of which was consumed by the family and the surplus sold to neighbors. Students marketed and sold their produce to generate income. Income was used to pay school levies, buy books, pay for school trips, buy shoes and clothes, and to meet personal needs. Parents were relieved of some financial needs concerning their children.

Students gain entrepreneurial skills through market-gardening. In the UCLA-ROA pilot, students managed their garden projects profitably, made decisions about what to

do with the income, what to grow next, and how to sustain their enterprises. They expanded their enterprises by diversifying into other crops and projects such as kales, spinach, crotalaria, and keeping hens, ducks, and rabbits. Hens were a favorite for both boys and girls.

Because the school-agricultural programs are student-led, students get a sense of empowerment as they are able to make decisions regarding their projects. They develop healthy youth-adult communication as they interact during market gardening, and a sense of community is developed around the school farm. When parents and the community are involved, they ensure the success and sustainability of the programs.

Nutrition knowledge

School-based agricultural programs are effective in teaching about nutrition to students as it links agriculture to nutrition. They provide a chance for students to gain knowledge in locally available nutritious foods, vegetables, pulses, and animal-source proteins. When selecting 4K projects, the students are given an opportunity to reflect on their choices and give the reasons why a particular crop or animal was chosen. The experiential learning 4K clubs provide, coupled with classroom nutrition education, help students to be more aware of their nutrition needs, bringing about behavior change related to food choices.

Currently, ROA is promoting orange-fleshed sweet potato (OFSP), indigenous vegetables (black nightshade, spider plant, crotalaria, jute mallow), and groundnuts; all are nutritious and acceptable in the local food culture. These crops were selected for their nutritional value (vitamin A), adaptability to local conditions, ease of cultivation within a school term, ease of preparation, and high market value. The dark leafy greens are affordable sources of vitamin A and are used to improve existing meals.

In sub-Saharan Africa, indigenous food culture is being lost as children no longer have time to spend with their mothers learning about local foods, preparation methods and how to cook. Nutrition is not taught in-depth at the primary school level. The result is a young generation with little knowledge of where food comes from, and what constitutes a healthy diet. ROA has realized the importance of starting early nutrition education with young people, if we intend to have an impact on child nutritional status, on the health of their mothers, and that of whole families.

At the end of the growing season, the schools have a harvest and celebration day for the whole school and parents are invited. In this event, they cook and enjoy the produce they had in their school farm like sweet potatoes and vegetables. ROA facilitates a cooking demonstration where students, parents, teachers, and community members participate in preparing balanced as well as delicious meals. Cooking demonstrations are intended to help families prepare nutritious meals with locally available foods, learn about food handling and hygiene by providing a hands-on learning activity. Cooking teams consisting of students, parents, and teachers develop recipes that are evaluated for taste, method of preparation, balanced plate, food handling, and hygiene.

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Policy environment

Kenya has over the past decade made significant progress in economic and structural reforms to sustain economic growth (5% over the last five years). Even though Kenya has moved from a low to low-middle income status, an estimated more than 10 million Kenyans, many of them in rural areas, suffer from chronic hunger and malnutrition. In the 2019 Global Hunger Index, Kenya ranked 86 out of 117 with a score of 25.2 placing the country at a serious level of hunger, although the prevalence of wasting, stunting and mortality of children under five has reduced[3].

Food and nutrition security refers to a situation where all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life[4]. The Kenya Constitution (2010) explicitly states that "every person has the right to be free from hunger and to have adequate food of acceptable quality". The policy environment in Kenya is conducive to the attainment of national food and nutrition security. The National Food and Nutrition Security Policy (2011)[4], the Food Security Act (2017)[5], Agricultural Sector Transformation and Growth Strategy (2019-2029)[6], provide the frameworks for the improvement of food and nutrition security in the country, focusing on associated issues like production, availability and access, quality and safety, education, environment, climate, finance, etc.

Marginal (smallholder) farmers, farming on less than 2 acres, depending on rain for food production and practicing mono-cropping of maize, face serious food and nutrition security challenges. Due to the nature of farm sizes, most household food production is for subsistence use, and many families will deplete their food reserves within two months after harvest. Weather variability and low household incomes compound this situation. Households face hunger during the lean months of October and November, and March to July. Because no households are growing all of their food, food insecurity is manifested as a lack of money to buy food, as well as a lack of food from their own production.

Household hunger affects school-going children because it is difficult for them to concentrate in class when they are hungry. Some students will miss school or not return after lunch because they do not have food at home. Recent research carried out by ROA revealed that many primary school children do not get breakfast at home, and others only get the evening meal. Crops like sweet potatoes can be grown year-round with little input use in order to provide relatively affordable substantial breakfast food that can be eaten by the whole family or by students as a mid-morning snack. Eating a morning meal is linked to a better concentration in class, increased energy levels

[3] The Global hunger Index https://www.globalhungerindex.org/kenya.html
[4] National Food and Nutrition Security Policy 2011 https://extranet.who.int/nutrition/gina/sites/default/files/KEN%202011%20National%20Food%20and%20Nutrition%20Security%20Policy%5B1%5D.pdf
[5] The Food Security Act http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2017/FoodSecurityBill_2017.pdf
[6] The Agricultural Sector Transformation and Growth Strategy http://www.kilimo.go.ke/wp-content/uploads/2019/01/AGRICULTURAL-SECTOR-TRANSFORMATION-and-GROWTH-STRATEGY.pdf

throughout the day, and higher micronutrient intakes in school-age children. School attendance is especially important in grades 7 and 8 as the students prepare for national examinations.

Some opportunities exist in current policies to support school-based agricultural programs for the students and the communities as well:

- Provision of rural extension and advisory services. With the decentralization of agriculture, county governments can strengthen agricultural extension services and utilize schools as centers for learning.
- Promoting cultivation and consumption of indigenous foods like cassava, finger millet, arrowroot, Bambara nut, sorghum, indigenous vegetables, mushrooms, etc., that are drought-resistant, using little water and inputs. Edible insects are also a way for families to get cheap protein. Moving away from maize monoculture will diversify diets and ensure that people are getting proper nutrition.
- Promotion of sustainable production practices like agro-ecology for climate resilience. Traditionally, African agriculture was agro-ecological. Using indigenous knowledge, farmers made efficient use of natural resources to produce the nutrients they needed. Agro-ecology practices like agro-forestry, woodlots, green manure, cover crops, crop rotation, biochar, water conservation, push-pull technology, etc. can be taught (re-taught) in the schools and passed on to farmers encouraging them to apply on their farms.
- Supporting community seed banks to conserve local seeds (genetic material), support seed multiplication efforts of traditional crops, and facilitate access to quality seeds (local and/or commercial).
- Employing a food systems approach and harmonize multi-sectoral policies that affect food systems- agriculture, trade, environment, health, climate, energy, governance, social services, rural development, etc. Review existing policies to ensure that they take into account climate change, are people-centered, and any barriers to inter-disciplinary, multi-sectoral dialogue.
- Reviewing the school curriculum to teach youth sustainable agriculture, climate resilience strategies, making efficient use of available resources. The new Competency-based Curriculum (CBC) is a step in the right direction as it encourages students to create ideas and knowledge instead of being consumers of knowledge.
- Providing in-service training for teachers (4K club patrons) in order to develop the capacity for successful school-based agricultural programs. Teachers may need re-skilling in technical knowledge (agriculture, nutrition), management, mentoring, and marketing. In addition, a manual for running agricultural enterprises in the school would guide the teachers in their work.

Partnerships for success

The success of school-based agricultural programs depends on sustained financial support. In order to have long-term impact, these programs need to run continuously. Support comes in different forms: financial, technical, in-kind, etc. The schools are

willing to embrace and scale-up their agricultural programs, the county education departments are cooperative, the students are excited, and parents supportive. Most programs are supported by parents and teachers, but this support wanes due to financial constraints.

Since 2015, ROA has worked with various partners, global and local, to empower youth in agripreneurship and boost food security and nutrition.

i. 2015-2017: The National 4H Council partnered with ROA to establish agricultural enterprises in 50 schools in Kakamega and Siaya counties. Over 2,000 students were actively involved in the program, and over 200 school teachers trained in positive youth development.
ii. 2018: ROA partnered with Nestlé for Healthy Kids Program to establish nutrition gardens in 30 primary schools in Kakamega and Nairobi counties. 1,300 students were actively involved in the program, 170 teachers trained on linking nutrition to agriculture and using the school gardens as an outdoor classroom.
iii. 2019: ROA partnered with the University of California Los Angeles on a project aimed at promoting youth adoption of agriculture. Demonstration gardens were set up in six Kakamega County schools and 50 students facilitated with seed packets to establish home gardens. The program was successful as students were able to manage their home gardens profitably, contribute to household food needs and expand their projects (sustainability).
iv. 2019: ROA partnered with Nestlé for Healthier Kids Program to establish 20 school gardens in Kakamega County, to promote health and wellness, to encourage students to make healthy food choices, and to use the school garden as a center for learning and skills development. Over 900 students are actively involved in the program.

The successes of these programs are periodically featured in the national dailies[7],[8],[9] and it spurs other partners to work directly with the schools.

Lunza primary school, one of ROA's model schools has succeeded in demonstrating that school-based agricultural programs are effective in knowledge and technology dissemination in rural areas. Because of what they were able to demonstrate working with us, the school was, in 2019 awarded a greenhouse by the Kenya Plant Health and Inspectorate Service (KEPHIS) for their remarkable efforts in promoting youth agriculture. Other partners (seed companies- Western Seed, Kenya Seed Company) came onboard to establish demonstration plots for various crops like upland rice, wheat, sorghum, vegetables, sweet potatoes, maize, beans, and soybean. The partners

[7] A Case for revival of 4K clubs in schools. September 22, 2018. Available at https://www.nation.co.ke/business/seedsofgold/A-case-for-revival-of-4K-Clubs-in-schools/2301238-4771208-l5k693/index.html
[8] Village school where farmers go for lessons. September 21, 2019. Available at https://www.google.com/search?client=firefox-b-d&q=village+school+where+farmers+go+for+lessons
[9] School farm raising future agripreneurs. April 6, 2019. Available at https://www.farmers.co.ke/article/2001314087/school-farm-raising-future-agriprenuers

sponsored a farmers' field day where the community members, leaders, and other schools participated.

Buchenya primary school has benefited from maize and cabbage demonstration plots by Ultravetis Seed Company. The school is located in a busy rural town (Sabatia) and has a large farm. Seed companies make use of strategic locations to market their seeds and the school gets to keep the produce after harvest.

School administrators are being recognized for their efforts in sustaining and/or promoting agricultural programs in their schools. Ms. Lilian Pessah, headteacher at **Bukolwe primary school** came 2nd in the western region headteacher awards because of the 4K program in her school. The school did not have a 4K program previously, but after partnering with ROA, they were able to start and even leased more land for farming. The 4K program gave the educator advantage over the other competitors.

There are opportunities to partner in research and intervention programs in these schools. ROA offers institutional support for foreign research students, for example, Laurelyn Mynhier, a Ph.D. student from UCLA (USA) whose research is looking at students' self-perceptions that contribute to persistence and graduation rates in primary and secondary schools. The schools allow us to conduct research in their schools (with approval from the ministry of education) because they benefit from interventions like the agricultural programs. Continued work in western Kenya contributes to the trust ROA shares with the rural communities.

There are well-established programs in the USA that ROA staff could benefit from. A knowledge-share or knowledge-exchange program would develop the capacities of ROA staff to mobilize local support, innovate for sustainability, design interventions with lasting results, and learn how to properly evaluate for impact.

In conclusion, the Hilton Grant Program is truly high value and generates huge benefits for those it touches. This is highly appreciated. We hope it grows to greater heights.

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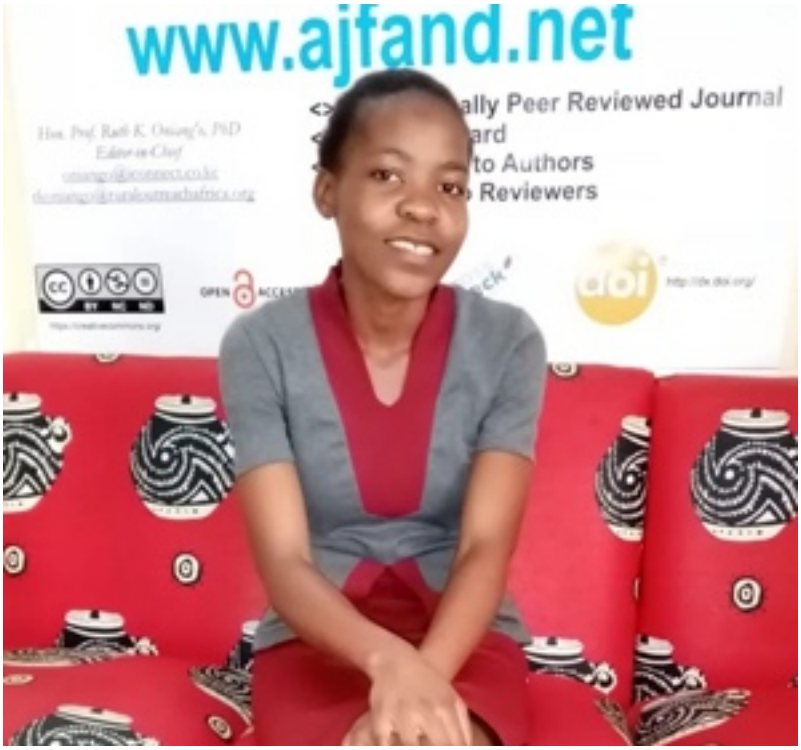
INTERNSHIP REPORT

THE HILTON GRANT



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CHAPTER 1: INTRODUCTION

History

The *African Journal of Food, Agriculture, Nutrition and Development* (AJFAND) is a peer reviewed scholarly journal with a global reputation published in Kenya. AJFAND was started in 2001 by Prof. Ruth Oniang'o as the Editor-in-chief to date. The first issue was published in August 2001, making it one of the first continuously published agriculture, nutrition and development research publication in Africa. It is a prestigious publication with each issue combining research, programs and policy aspect. AJFAND will celebrate 20 years next year (2020) which will also be a milestone for the journal.

Vision

AJFAND envisions a world where information on Food, Agriculture, Nutrition and Development is contributed and shared honestly, respectfully, equally and impartially, a world in which the journal supports all those who would like to contribute to knowledge building in the global South as well as in the North. A key guiding principle of AJFAND is that no culture has a monopoly of knowledge.

Mission

AJFAND wants to improve policy and decision-making in the field of Food, Agriculture, Nutrition and Development, the application of emerging technologies, their regulation and related research.

Objectives

AJFAND wants to improve policy and decision-making in the field of Food, Agriculture, Nutrition and Development, the application of emerging technologies, their regulation and related research.

Target group

The primary audience of the journal consists of scientists, researchers, policy makers, students and non-governmental populace whose profession and/or interest lie in sustainable development, agriculture and food and nutrition security. The secondary target group also includes a wide range of people like journalists, lecturers, opinion leaders, who work in the media and provide the actors with information through newspapers, magazines, lectures, website, radio, television, traditional dance and drama. AJFAND is open to both African and non-African contributors. We publish papers from Africa, Europe, Asia, Australia, and the Americas, that discuss issues pertaining food systems in the continent. Besides academic research, the journal provides an avenue for sharing information on national-level food, nutrition and agricultural programs.

Activities

AJFAND is designed to meet its objectives through publication. Preference for publication is given to practical examples of policies, theories, strategies and programs which utilize educational, organizational, economic and/or environmental approaches. It also internationalizes many processes of spreading information, through its

international advisory board, international editorial board and use of the media. AJFAND activities include:

- Education and Research: It supports networking, accessing, sharing, and publishing of papers for researchers, scholars, scientists, and academics on agriculture, food, nutrition, environmental management and sustainable development related information.
- Health and Nutrition: supporting and facilitating communication, networking, accessing, sharing, and publishing of information between researchers, practitioners, and policymakers involved in health promotion activities. Recent topics include non-communicable diseases, HIV/AIDS, health and sanitation promotion in rural areas, food safety, food security, indigenous foods, climate change, sustainable food production, value addition, healthier eating, infant feeding, and immunization.
- Library: AJFAND has created and maintains a large repository articles, over 1500, on the website which is linked to CABI archives, Bioline, AJOL just to name a few. The journal ensures that its collections remain forward-looking, open to browsing, and of world-renowned quality.
- Publishing Support**:** Strengthens the work of editors and communication professionals, especially those in research and science. Through publishing, AJFAND makes people aware of the resources available to them, and through innovation, it makes access to these resources easier.
- Rural Development and Agriculture: Supports networking, accessing, sharing, and publishing of information for rural development practitioners. The lack of basic information plays a significant part in the persistence of poverty. Poor people need better connections to schools, health care, markets, essential services and each other.

Indexing and partnership

AJFAND is accredited by Department of Higher Education and Training in South Africa and also ranked in SCImago Journal Rank (SJR). Additionally, AJFAND is also indexed in SCOPUS, Food Science and Technology Abstracts, AJOL, DOAJ, just to name a few. AJFAND participates in the Research4Life program, AGORA, a platform that provides free or low-cost access to major scientific journals in agriculture and related biological, environmental, and social sciences to public institutions in developing countries. These have greatly improved its reputation and reach.

Published articles are assigned digital object identifiers (DOI) which are unique identifiers with stable, persistent links that preserve scholarly citation records and link AJFAND content to other publishers and organizations websites. This way, AJFAND content is more useful to readers who can easily link from our references to other relevant articles and vice versa, increasing AJFAND's visibility and journal influence factor.

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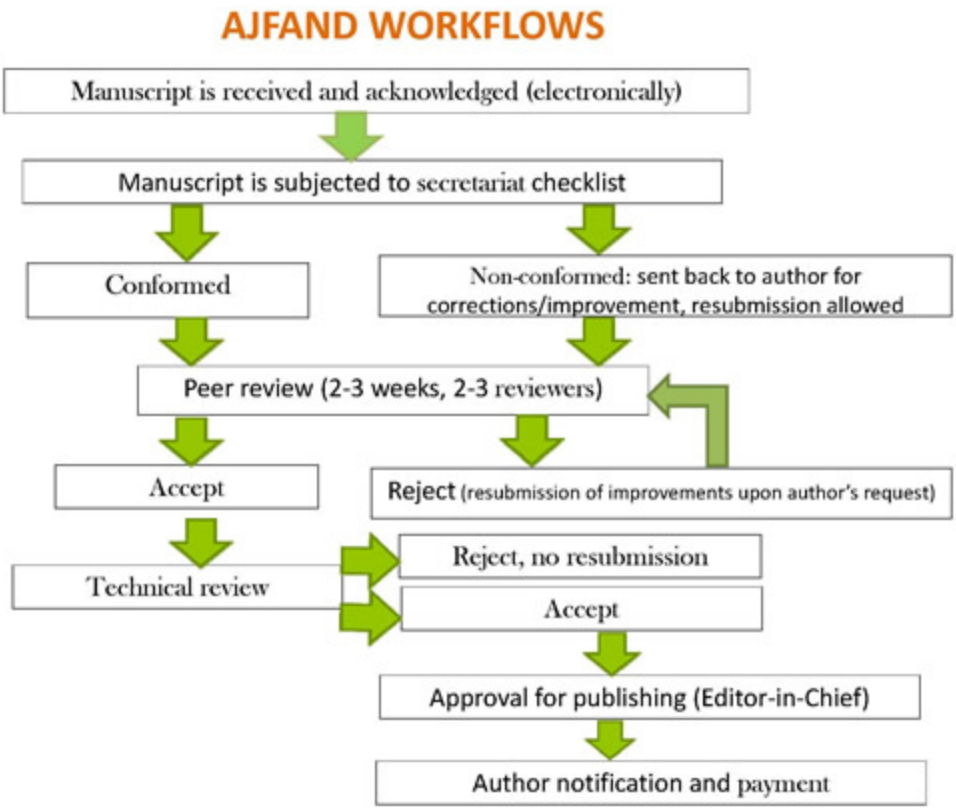
CHAPTER 2: MY WORK AND RESPONSIBILITIES

Editorial work

I work as an editorial intern at AJFAND. My responsibilities include checking for grammatical or stylistic errors, correcting any inconsistencies within the content and ensuring the manuscripts follow the AJFAND style guide. This is at the initial stage after the author has submitted the manuscript for review. After the initial checks, the paper is sent back to the author for corrections, and peer review commences once the paper conforms to AJFAND style. Peer review consists of two to three knowledgeable and experienced reviewers who go through the paper and decides whether the paper should go on with the publication process or be rejected. The paper can be rejected on the basis that the topic is not related to AJFAND, or the research is not valid. If a paper is rejected at the peer review stage, the author can still improve on it and resubmit. It will go back to the same reviewers. After peer review, papers are sent to technical reviewers who check for clarity, relevance and appropriateness of the research, and also any redundancies and inconsistencies. Papers that are rejected at the technical review stage cannot be resubmitted. After this stage the papers are sent to the Editor-in-chief for approval. The entire process of publication is represented in the flow chart below.



The publication is a very long process and it takes time for a paper to go through. On average, papers take 12-15 months from submission to publication. A lot depends the availability of reviewers, when we get review comments, and how quickly authors revise their manuscripts. Starting its journey in 2001, AJFAND has published 19 volumes and 87 issues, some of which are Special Issues. Examples of published special issues include Special Issue devoted to Biofortification' by HarvestPlus. This issue demonstrated how biofortification can play important role in improving nutrition and ending hunger by giving evidence of how some of biofortified crops have worked in Africa. For instance, orange maize in Zambia, iron beans in beans in Rwanda, Vitamin A cassava in Nigeria, and sweet potatoes development and delivery in sub-Saharan Africa. Another special issue is the Special ILRI Issue on Aflatoxin in Eastern Africa. This issue provided information on how aflatoxin enters the food chain, its consequences on health, the extent of the problem, and how this can be mitigated. Through social media platforms like twitter, and LinkedIn, AJFAND has been able to reach thousands of people across the globe, and this has helped in dissemination and sharing of information.

Besides working on the journal, I was also able to write a book review for a different journal, the book tittle is 'Agriculture for Improved Nutrition: Seizing the Momentum'. The book is interesting and covers important links between agriculture and nutrition. It inspires those who want to scale-up successes that can transform food systems and improve the nutrition of billions of people, and it is ideal for policy-makers, practitioners, and students working in agriculture, international development, and nutrition.

Conference

While at AJFAND, I have had an opportunity to attend a professional conference. The conference was entitled '**Industrial Innovation and Research for Food Safety in Africa**' organized by the Food Science & Technology Platform of Kenya (FoSTeP-K) in partnership with AJFAND and other organizations. This conference brought together stakeholders and specialists in the field of food science and nutrition to share experiences, build networks, and come up with solutions to food safety problems. The subthemes covered include: Food security and nutrition, Current trends in Food Safety Current and Quality, Testing Methods Alignment for Food Safety, Industrial Research Technologies and Innovations and Implications of Food Regulations and Standards on Trade. The conference involved training from the specialists, short presentations by the researchers and panel discussions on various topics all revolving around the subthemes. Some of the research work presented by researchers are: The role Public Health Laboratory in assuring food safety; the trend of food contamination in Kenya; macro trends impacting the food system and a focus on solution; effectiveness of garlic extracts, on shelf life of meat; non-thermal plasma: applications in food and agriculture and many other research. Generally, the conference provided a valuable learning experience.

Field work

I also had an opportunity to go to the field. The field work involved taking anthropometric measurements of primary school children in western Kenya, for research purpose. Anthropometric measurements are quantitative measurements of the muscle, bone, and adipose tissue used to assess the composition of the body. They include but not limited to weight, height, Mid-upper arm circumference (MUAC), head circumference, skinfold thickness and waist circumference. The anthropometric data are used to measure nutritional status of the individual, used as a baseline for physical fitness and to measure the progress of fitness, and also present diagnostic criteria for obesity which significantly increases the risk for conditions such as cardiovascular disease, hypertension and diabetes mellitus. The anthropometric measurements during our field work were specifically weight (kg) and height (cm). The equipment used were: weight scale and tape measure. For weight measurement, the weighing scale was put a level ground, then calibrated to zero mark before children were weighed. The children were asked to remove their sweaters, shoes and empty their pockets before they were weighed. Then they were asked to stand straight on the weighing scale then the weight was recorded. The measurement procedure was done twice for each child for accuracy purpose. For height, the children stood barefooted with back facing the wall. The back of the head, back, buttocks, heels were meant to touch the wall with the feet together. The height was recorded and the procedure was repeated twice.

CHAPTER 3: EXPERIENCE AND SKILLS GAINED

As an editorial intern at AJFAND, I have gained vast experience in the time I have been there. I have learnt a lot regarding scholarly publishing and now I know the whole process a scholarly article should go through from submission to publication and beyond. I have seen articles going through each stage of editorial process, I have read them as they improve and finally become ready for publication. I have enjoyed reading different articles from different authors as I edit them. Each author presents a different research topic. Through this, I have been able to get wide knowledge on scientific and development issues on agriculture, nutrition, food, environmental management and sustainable development. In addition, reviewing several manuscripts, has helped me improve on grammar, communication and critical skills. Writing book reviews and reports have not only helped me sharpen my writing skills and idea development, but also enhanced my research skills as I learn how authors present and evaluate evidence. On the other hand, transcribing has helped me improve on listening skills as it requires a lot of attention.

I have come to learn that publishing is important because:

- It ensures accuracy- All submitted research is reviewed by expert in the field who ensures that false information is not distributed.
- Enhances communication- Publishing helps with the sharing of findings with other people.

- Establishes reputation- Publishing enforces an academic reputation as a scholar and open door for them to collaborate with other experts. It also helps scholars to get promotions.
- It ensures honesty- The researchers have to have to write accurate information because before the work is published, it will be evaluated by other professionals for the same.
- Assures accountability- The academics are held accountable to the public by assuring that the academics meet their goals and do research that will contribute to their field.

The conference I attended was of great importance to me. The training, presentations and panel discussions provided valuable learning experience where we were able to get new ideas and share knowledge. I was able to know the latest research in the field food science and nutrition. It also provided a platform for professional networking as I met new contacts in my profession. On the other hand, field work was another great learning experience. I was so grateful for this opportunity because, the work was directly related to my degree. I got to remember so many things that I had forgotten. Furthermore, field work was an enjoyable experience that gave me a chance to appreciate a new environment and get to understand other people and their culture.

CONCLUSION

Overall, this internship has provided a high-impact learning experience that integrated learning and real-world experience. AJFAND has offered a healthy, interesting and gratifying work environment as it believes that a good working environment is a prerequisite of better output. The Editor-in-chief and other staff members have been very supportive and I have developed a meaningful relationship with them. With their help, I can say that my internship has been successful. In conclusion, I can say that I have enjoyed my time at AJFAND. I have not only learnt about scholarly publishing, interning at the journal has also taught me so much about the power of working together as a team to achieve best results. I have been able to interact with so many people, learn new things, and be exposed to the real world. I have also been able to refine my communication, writing, reading, listening and editing skills. It has been a valuable experience and I appreciate the chance to intern at AJFAND and I feel it will serve me well in my future career.

Acknowledgement
I would like to acknowledge Hilton Grant for supporting me in this internship. My heart appreciation goes to the Editor-in-chief Prof. Ruth Oniang'o for giving me an internship opportunity at AJFAND. I also thank all the entire staff at AJFAND for supporting and making my internship successful.

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A Report of Daisy Lanoi's involvement in Rural Outreach Africa through the various activities

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INTRODUCTION

Rural Outreach Africa (ROA) is a non-governmental organisation whose focus is the development of rural communities in Africa. It aims to address conditions that are undermining their development by identifying key challenges as well as sustainable opportunities to alleviate poverty, build resilience and support inclusion to the continent's overall growth. This is done in a unique participatory process.

The main activities within ROA cut across the board and they range from water and sanitation, food production, health, nutrition, and economic engagement. All are aimed at eradicating poverty and restoring human dignity. Rural Outreach Africa (ROA) works in partnership with communities, schools, government, local organizations, international organizations and the private sector towards practical changes at the grassroots level with the aim of empowering people.
My engagement with Rural Outreach Africa (ROA) has majorly circulated within activities involving school garden programmes in Western Kenya and the Food Science and Technology Platform of Kenya association.

SCHOOL GARDENS PROGRAMME IN WESTERN KENYA

Through Prof. Ruth Oniang'o's (Founder of ROA) initiative, my first assignment with ROA was a Youth Agriculture project that involved conducting surveys in six primary schools in Western Kenya, setting up demonstration plots in the schools and facilitating selected 4K students (50) to establish home gardens.

These activities were aimed at improving the food and nutrition security of households, and the economic wellbeing of the pupils and the community. The activities involved working closely with students who were in the 4K club together with their patrons.
The 4K stands for *Kuungana, Kufanya, Kusaidia Kenya* which means to unite, to work with one's hand, to help develop Kenya, through youth empowerment in agricultural and life skills that contribute to better nutrition, health and higher standards of living.
The following schools were involved in the program:

1. Eshikomere Primary
2. Emukangu Primary
3. Shisango Primary
4. Lunza primary
5. Mwiyenga Primary
6. Eshibimbi Primary

In each of the schools, the visitation involved a courtesy visit with the head teacher during which introductions were done. The project team, led by Mary Karanu gave the context of the project and the proposed approach. The head teacher then introduced the agriculture teacher or the patron of the 4K club to us. Any questions and clarifications would be addressed at this point. After this session, the agriculture teacher together with the head teacher would lead us to one of the classes where we met with 8-10 selected 4K club members, together with their parents who were requested to be part of the meeting.

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A session of introductions would be done, after which Ms. Njeri would give a brief of the project, its objectives and anticipated results to the students and their parents. She made it clear to them what their roles were. In the case of any questions, time was allowed for any of the participating members to enquire for any clarification.

Project Description

The Youth Agriculture project was to help students and their agriculture teachers/ 4K club patrons set up demonstration plots/gardens (10mx 10m) within the schools and facilitate the same students (a total of 50 students) to set up similar kitchen gardens in their homes. Students were supplied with orange-fleshed sweet potato (OFSP) vines, two varieties of indigenous vegetable seeds i.e. black nightshade (*managu*) and spider plant (*sageti*), and organic fertilizer. The school and home gardens were monitored for six months to assess the impact on food security and the economic benefits of the youth involved. The parents played a key role in ensuring the kitchen gardens at homes were well maintained when the students were in school. This in the long run, enhanced ownership and commitment to the project.

In the end, the expectation was that the produce obtained from the plots would be used at homes to enhance their meals and surplus would be sold to generate income. Students would also multiply and distribute the OFSP vines to other members of the club so that they could also plant in their homes and get the same benefits. This, in the long run would enhance food security and nutrition and it would also contribute to the empowerment of youth in agripreneurship.

During monitoring at the end of the six months, we saw that the students were able to produce vegetables that contributed to their families' meals, they earned money from the sale of the vegetables, and they also expanded their garden enterprises by multiplying the OFSP vines, diversifying to other vegetables and projects, for example, keeping chicken.

Administration of questionnaires

The project team administered questionnaires to the parents and students with the help of their teachers. The questions indicated the availability and frequency of consumption of various kinds of foods both at homes and through the school feeding programs. It would also help us gauge whether they would be in support of the pilot project that we were introducing to them.

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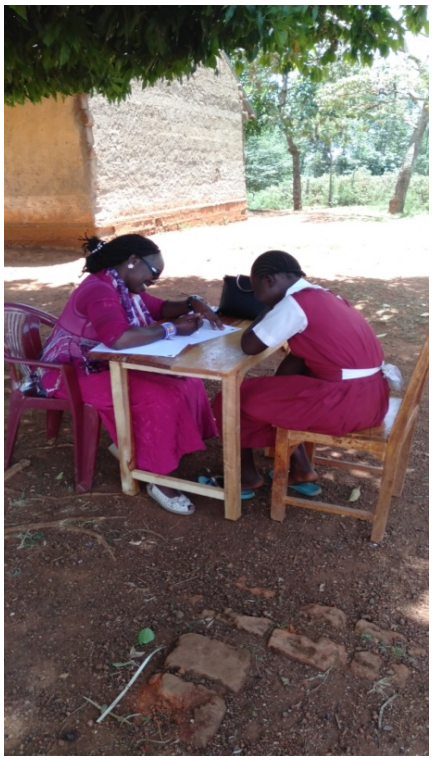

Fig. 3: Administration of questionnaires

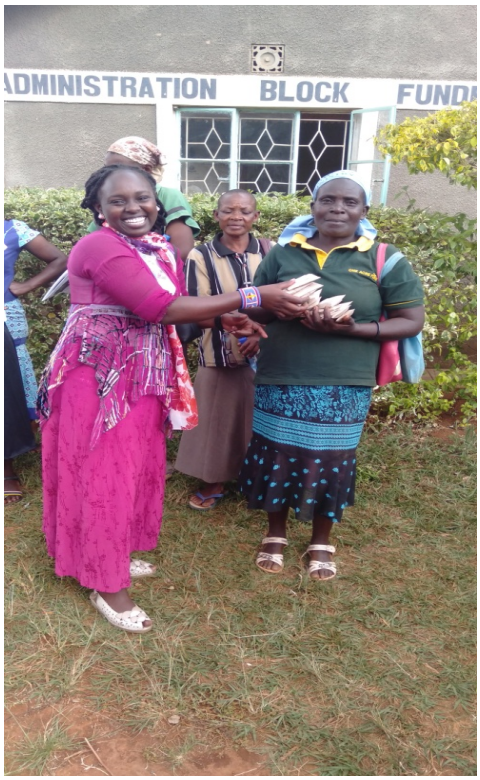

Fig. 4: Handing inputs to parents

Demonstration plots

The plots were measured (10mx 10m) then ridges and furrows were created according to the recommended spacing. Planting of the Orange fleshed sweet potato seedlings and the indigenous seeds then followed, and after mulching and watering of the plot by the students. Mr. Stephen Sino, ROA's field coordinator visited the school and students' home gardens during the project duration for monitoring.

IMPACT OF ROA'SSCHOOL GARDENS PROGRAMME

Through the school gardens programme, ROA impacted positively the schools and the community at large in terms of:

Nutrition

The students and the community were able to access nutritious foods, fresh from the gardens, boosting their health and wellbeing.

Food security

In a time of food scarcity, the OFSP and the indigenous vegetables came in handy as sources of food.

Economic development

Through the sales of the extra produce, the students were able to cater to their personal needs and even pay for school fees.

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NUTRITION MONITORING IN PRIMARY SCHOOL CHILDREN

My second assignment with ROA involved taking anthropometric measurements (weight and height) of the primary school children in PP1, PP2, Grade 6 and 7 from two schools in western Kenya (Lunza and Bukolwe primary schools). This data was for the nutrition assessment of the children.

A B

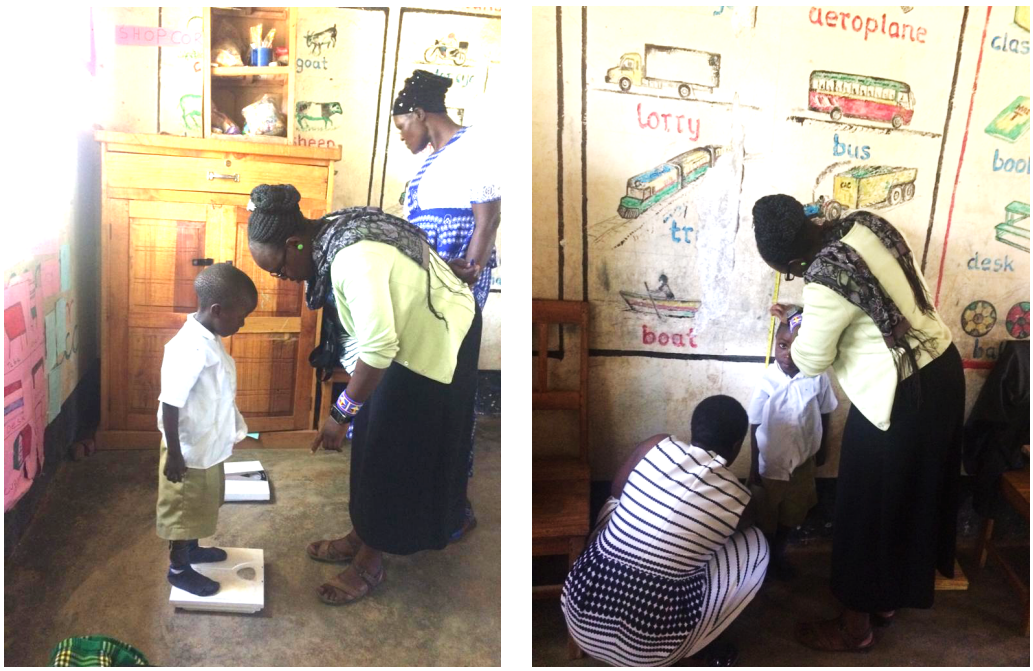

Fig. 9: A and B illustrate the weight and height measurements taken from a PP2 student

IMPACT OF THE PROJECT

Nutritional impact

The data obtained from the assessment will be used to provide nutrition advice and the next best actions to consider the nutritional benefits of the students.

THE FOOD SCIENCE AND TECHNOLOGY PLATFORM OF KENYA (FOSTEP-K)

I am also connected to ROA through the Food Science and Technology Platform of Kenya (FOSTEP-K). FOSTEP is a registered body comprising of young professionals working in the food and nutrition-related industry in Kenya and it is an adhering body to the International Union of Food Science and Technology (IUFOST) based in Canada. It was established after long deliberations in a food safety workshop held on 20th August 2010 in Nairobi, Kenya. The association's patron is Prof. Ruth Oniang'o who is also the founder of ROA. The association is anchored on five major pillars/objectives namely:

1. Encouraging the adoption of new technologies
2. Advocacy with policymakers and private sector
3. Linkages: creating a network of professionals in related fields
4. Capacity building: encourage personal growth
5. Mentorship: whether formal or informal as required to steer development

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I am the assistant organizing secretary of the association and I have successfully participated in several trainings, workshops, symposiums, and campus visits organized by the association. This has been done in collaboration with other executive members.

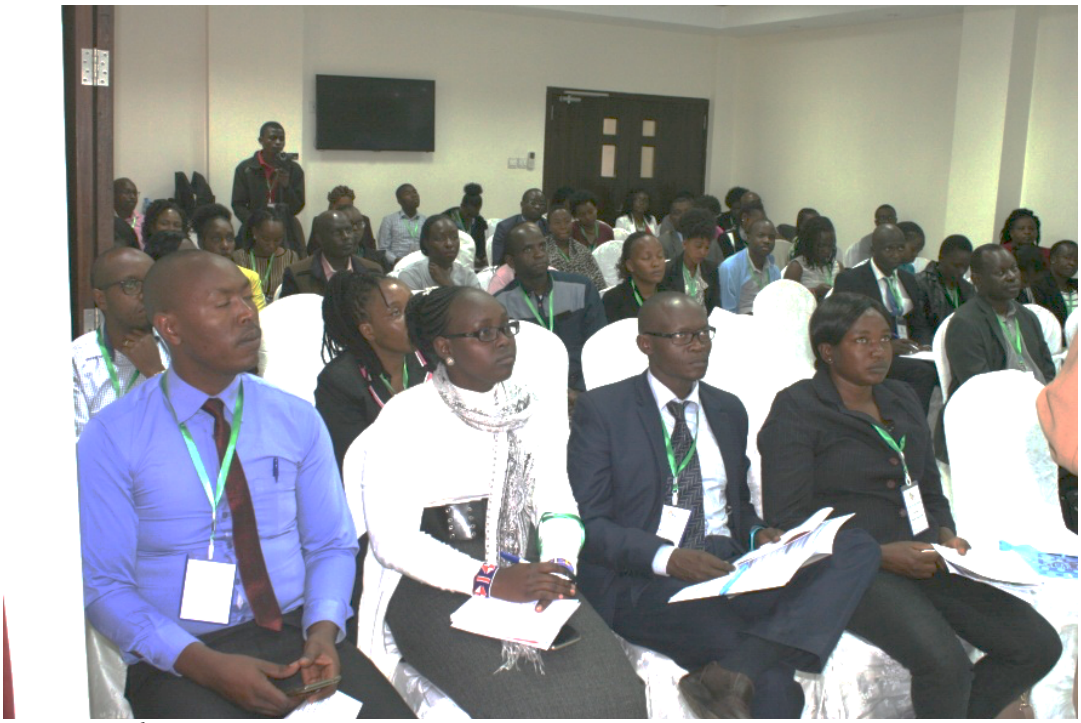

Fig.10: 2nd Food Science Conference organized by the Food Science and Technology Platform of Kenya (FOSTEP-K) at Nairobi

IMPACTS OF THE ASSOCIATION

- The association has enhanced good linkages among those in academia and those in the industries nationally and internationally
- Creation of employment opportunities as a result of the rich networks present within the association
- Sharing of information among members has been made efficient through conferences, workshops, seminars, symposiums, and social networking sites
- Mentorship programmes enhanced
- Development of Food safety laws

Acknowledgements

In conclusion, I would like to acknowledge the Hilton Grant for enabling me to be part of the program that gave me an opportunity to interact with the community through fieldwork. This has helped in sharpening my interpersonal relationships with the community members through questions and feedback mechanisms among other soft skills. My hands-on skills have also been sharpened; without forgetting my confidence in handling situations which have also been boosted. I would also like to acknowledge the following bodies for being involved in one way or the other towards the same course:

1. Rural Outreach Africa (ROA)
2. Food Science and Technology Platform of Kenya (FOSTEP-K)
3. University of California Los Angeles (UCLA)

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Work Report

Michael M. Mugendy
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Reporting Period: **July 2018 to Nov 2019**
Submittal Date: **Dec 2019**
Submitted to: Rural Outreach Africa (ROA)

Project Name:
The Hilton Grant

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My Year-long Experience Working at Rural Outreach Africa (ROA) and the African Journal of Food, Agriculture, Nutrition and Development (AJFAND)

Introduction

Rural Outreach Africa (ROA) is an NGO that was founded in 1992 to help resource-poor rural communities in Kenya attain food and nutrition security and economic empowerment. The NGO's mission statement is to build on local strengths and mobilize resources to empower rural communities for the realization of good health, improved family income, environmental protection, and enhanced literacy levels in an equitable, just, sustainable and gender sensitive manner. ROA plays a vital role in rural development in western Kenya with its unique trust relationships built with the rural communities. I chose to volunteer with the organization because I was moved by the tremendous work they had accomplished over the years with limited resources, bridging the gap between research and the community. I was also able to volunteer for the African Journal of Food, Agriculture, Nutrition and Development (AJFAND).

My initial roles at ROA was first to evaluate the digital presence, identify how the platforms could be optimized as a valued channel of communication, create meaningful content for the social media, monitor engagements and manage the audience. Additionally, I would assist in any accounting work, on need basis, since I have taken classes in professional accounting. I worked directly with the program officers, technical manager and reported to them, sometimes the CEO.

The Editor-In-Chief, Prof. Ruth Oniang'o, established AJFAND in the year 2001 with the goal of bringing research form the global south to a global audience. I learnt about the Journal and was immediately interested because Agriculture is not only my field but also an area that I am very passionate about. In the following sections, I will make explanations about my main tasks and what I was able to accomplish for the journal and the NGO.

Digital Strategy

I successfully led the establishment and maintenance of social media platforms for ROA and AJFAND on Twitter and LinkedIn in order to reach a larger online audience, to share information, provide personalized interactions with those seeking information, allow feedback, and grow the online audience. Previously, ROA did not have a Twitter handle but they had done so much on the ground that needed to be publicized. Just like any business or academic institute, NGOs can also take advantage of social media to create awareness amongst relevant stakeholders about their activities.

During my working experience with ROA, I have been able to develop an active social media interaction with twitter account (@ROP_Africa) growing from zero to over 600 followers. The Facebook page has over a hundred, and LinkedIn is making progress.

Regarding AJFAND, millions of people across the globe constantly share a wide range of fascinating, funny, quirky, sometimes non-important and important information.

Scientists are increasingly aligning with the trend. Social media users who log onto the platforms can be targeted for research dissemination in a quick and efficient manner. "Papers can only get cited if scientists know about them," according to Tom Finch, an ecologist at the University of Cambridge in the UK, in his study about how online mentions predict future citations. Studies have shown that promoting research on Twitter seems like a good way of getting it in the back of people's minds, it is likely that this could have a 'cause and effect' and increase the citation rate of your paper in the future. In this regard, scientists and scientific journals must communicate their research through such channels.

I have been able to share AJFAND's publications by creating short messages for the social media platforms; this was a move to share agricultural and nutritional knowledge as well as online marketing of the journal. The journal has had a good visibility on the social platforms that provided a feedback and enquiry channels for those who were interested in publishing with the journal. I was able to keep an interactive media through the three popular accounts on social media; namely Twitter, Facebook and LinkedIn (@AJFANDOnline). The audience keeps on growing by day. I respond to some of the concerns while others I would refer or fact check before giving a response. It has been a wonderful experience.

Rebranding of ROA

During my initial days at ROA, I saw that the organization had had enormous impact on thousands of households for over three decades, and that information was not publicized. A couple of months later, we began a rebranding exercise in which I was involved. Rural Outreach Programme (ROP) became RURAL OUTREACH AFRICA (ROA). The process led to re-constructing the organization's website https://ruraloutreachafrica.org/. This exercise provided us the opportunity to look at past programs that ROA had conducted over the years, to evaluate successful interventions, methods of engagement, and more importantly, the impact of ROA in rural development. ROA staff was able to reflect on what ROA means. We pondered on the question "who is ROA?" This led to development of the ROA's three primary strategic pillars:

1. **Engaging Communities**: engaging rural communities to make the right choices for a sustainable future
2. **Securing Partnerships**: fostering responsible partnerships, human dignity and mutual respect
3. **Promoting Value Driven Innovation**: securing a holistic development impact, beyond per acre profits alone

Since re-branding, I have been involved in updating resources for the website (news, events, program information, etc.), the whole process exposed me to a number of project reports, work plans and accountability reports. It was a valuable experience in project reporting skills. I read and analyzed a wide range of reports from the field to come up with summaries and understand to the core, the purpose of ROA's existence.

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Grant Proposals

The NGO thrives through building synergies, pooling resources and establishing long lasting partnerships. In a move to promote that goal, I was involved in writing over seven grant proposals that were sent to potential donors for consideration; work that was continuous throughout my stay. I learnt how to conceptualize new ideas, and present them in an attractive manner to the donor. Another concept I leaned through this exercise is aligning my ideas to the donors' strategy.

Editorial assistance

My work as an editorial assistant at AJFAND included checking through manuscripts undergoing the review process once they are submitted to ascertain conformity to AJFAND standards and whether authors have adequately addressed reviewer comments. Throughout this exercise, I was able to read and widen my knowledge in agricultural economics, and other fields like nutrition, fisheries, rural development, etc. I was able to familiarize myself with qualities of a good paper (conforming to publisher standards), I believe that moving forward, along my academic career, it should be much easier writing a research paper for publication. Additionally, my English grammar has significantly improved; we keep on improving every day.

Field Work

My initial engagement with ROA was to publicize a ROA field day and trade fair. ROA collaborated with the AGRA to plan for an open value-addition and nutrition exhibition day for farmers, stakeholders and partners to display their products and services, share knowledge, network and explore market opportunities. The function took place in Vihiga–Mbale Municipal grounds on July 20, 2018. Over 750 farmers attended the Trade Fair with 40 farmer groups exhibiting various ISFM farming techniques and resultant products trained on. I wrote a detailed report found in the link below;
http://ajfand.net/Volume18/No3/Mugendy-Field day report.pdf

I was able to receive plenty of attention on the social media platforms, with a number of attendees confirming their attendance through engagements we had on the social platforms.

Meetings and Conventions

I participated in conventions, training and workshops recommended by ROA and presented reports. I attended the third Community of Practice event on Food Control Systems on 25 September 2018 and webinar in May 29, 2019 on Driving Transformational Change in Agri-Food System: A Multi-stakeholder Approach. The event pricked our thoughts on matters eradication of food insecurity and economic empowerment. I learnt how different stakeholders could build synergies to spearhead progressive agricultural policy research in way to influence political will in optimal allocation resources.

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Reports published

1. Webinar report

Published a REPORT "Driving Transnational Change in Agri-Food System: A Multi-stakeholder Approach"- 86th Issue, Volume 19 No. 3 (2019) [Report]. The 45-minute's webinar presented the major challenges facing smallholders, mainly stemming from lack of forethought or means to caution against agricultural shocks. The threats of hunger, changing tastes and demand, population, climate change, natural calamities, pests and diseases continue to put more pressure on global food security. The need for transformational change informed world leaders' convention that yielded sustainable development goals (SDGs) 2, 13, and 14 to drive the agenda. Detailed report can be found in the link below:
[http://ajfand.net/Volume19/No3/Webinar_Report_Mugendy.pdf]

2. Addressing the plight of smallholder farmer in Kenya

One of the articles I wrote on how to reclaim food sovereignty in Kenya was published by a top media house in Kenya; the Standard Media Group. The article addresses the plight of Kenyan smallholder farmers whose interests seemingly are neglected; while the cost of production escalates, the country's borders are porous resulting in uncontrolled influx of cheaper agricultural produce from the neighboring countries. In the article, I suggest ways of improving agricultural productivity in Kenya, especially targeting smallholder farmer. The details can be accessed via the linked below.
[https://www.standardmedia.co.ke/farmers/article/2001332726/why-onions-from-tanzania-eggs-from-uganda-are-a-hot-cake-in-kenya]

Conclusion

My experience with ROA and AJFAND gave me hands-on scientific research, creative and writing skills that I am positive will give me a boost in my academic and professional career. I hold on to the hope that I will be able to save enough to pursue my Master of Science degree in Agricultural Economics. I would wish to sincerely thank ROA and AJFAND through Prof. Ruth Oniang'o for the lifetime opportunity to work for the two organizations.

In conclusion, my experience with AJFAND and ROA was crucial in my development as an early career Agricultural Economist. I will take the lessons and skills I learned and apply them to my next phase of career ladder.