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**Using Producer-Led Value
Chain Research to Revitalize
Indigenous Foods and Launch
Social Enterprises:
Lessons from Ghana**

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with Bernard Y. Guri, Daniel Banuoku and Elham Mumuni**

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Using Producer-Led Value Chain Research to Revitalize Indigenous Foods and Launch Social Enterprises: Lessons from Ghana

David Fletcher and Yogesh Ghore
with Bernard Y. Guri, Daniel Banuoku and Elham Mumuni

1.0 Abstract

From 2014 to 2018, the Centre for Indigenous Knowledge and Organizational Development (CIKOD), the Rural Women Farmers Association of Ghana (RUWFAG), and the Coady International Institute at St. Francis Xavier University collaborated on an action research initiative to learn how producer-led value chain analysis could support the revitalization of indigenous food, specifically, groundnuts. A deeper appreciation of the groundnut value-chain was gained from the producer-led focus of the participatory team research and the use of a triple-bottom-line approach that considered economic, equity, and environmental parameters.

The iterative planning approach that was used and the broad community ownership of the groundnut value chain knowledge enabled three different knowledge action pathways to evolve each with their own challenges and successes. CIKOD and RUWFAG developed a formal pathway to establish a groundnut storage and drying facility as a social enterprise. CIKOD used the research results in another pathway to advocate for government investments in sustainable, agro-ecological groundnut farming. Finally, a woman entrepreneur and group of RUWFAG members set up their own experiment with processing of groundnuts and local marketing.

Many lessons were learned by collaborators as a result of the evolution of these three knowledge action pathways, each catalyzed by the producer-led value chain research. For example, the combination of organization, aggregation of the supply, and integration in the value chain was an interesting way for an NGO to enter the value chain as a local trader / aggregator / wholesaler. Establishing such a social enterprise can begin to shift thinking in a non-governmental organization (NGO). Policies can provide both constraints and opportunities and an enabling or constricting environment for engagement in value-chain work. NGOs can play a role in leveraging these policies or trying to reform them. Finally, engaging in farming activities linked to value-chain research and experimenting with agro-processing can lead to changes in confidence, perceptions of self, increased income of rural women, and individual entrepreneurial drive. Risk-taking and experimentation are essential to take such activities forward.

This initiative demonstrated how endogenous food sovereignty approaches can be complemented by economic value chain analysis, and how market linkages can benefit women groundnut producers. It also demonstrated that entering the market as a woman entrepreneur or as an NGO-led social enterprise has numerous challenges and demands beyond capacity-building and investment, and full-time commitments to learning, problem solving, and change are necessary.

2.0 Background, Methodology, and Partners

2.1 Background

Food security and sustainable livelihoods are two critical issues in the world today, especially in places such as rural Ghana. Endogenous, citizen-led approaches to revitalizing indigenous food systems have demonstrated success in tackling these issues, but they are often overwhelmed by market-driven approaches, especially ones that emphasize high input production, export, modernizing agri-culture to agri-business, and promoting larger scale enterprises to create employment. Is there not a way that values inherent in, and the knowledge developed through endogenous food sovereignty practices can be combined with the learning and analysis of value chains, market linkages and the inherent strengths of business organizing principles?

To answer this question, the Centre for Indigenous Knowledge and Organizational Development (CIKOD), the Rural Women Farmers Association of Ghana (RUWFAG), and the Coady International Institute at St. Francis Xavier University collaborated from 2014 to 2018 on an action research initiative to learn how producer-led value chain analysis could support the revitalization of indigenous food, specifically, groundnuts. CIKOD and RUWFAG had been working for years from an endogenous perspective, were committed to the promotion of indigenous food systems that directly supported rural women farmers, and chose to focus on groundnuts because of their environmental suitability, socio-cultural significance, and economic potential. Collaborators chose to carry out a producer-led value chain analysis to better understand groundnut production and processing, identify linkages to markets, explore opportunities for involvement in the value chain, and use a small fund to invest and experiment in some aspect of the value chain to support women's livelihoods and well-being.

The intention of this action research initiative was that a deeper appreciation of the groundnut value-chain could be gained from participatory team research that took a producer-led focus and used a triple-bottom-line approach that considered economic, equity, and environmental parameters. This knowledge could then be used for the development of a business plan and the start-up of a small economic enterprise to support rural women. Complementary to the conventional value chain analysis, the producer-led process developed at the Coady Institute begins at the community level and the markets are explored starting with the immediate local ones. The process is highly sensitive to local circumstances,

and is, in its very essence, “producer-led,” and, therefore, the tools are adapted for each community according to its specific context and the nature of the value chain (Ghore, 2015).

2.2 Methodology and Action Research Partners

This paper is based on collaboration between educator-researchers from the Coady International Institute, staff of CIKOD and members of RUWFAG.

The ***Centre for Indigenous Knowledge and Organizational Development (CIKOD)*** is a non-profit organization registered in 2003 under the Ghana Companies Code. CIKOD works in Upper West, Upper East, and Brong Ahafo regions of Ghana. CIKOD believes that, in spite of participatory approaches, poverty reduction is still problematic because of the failure to build community development interventions that respect and include local cultures and people’s worldviews. The core of CIKOD’s work is to promote a community development approach that empowers and builds on the existing indigenous institutions and resource base of communities including their natural, social and spiritual resources—termed as *endogenous development*. In this approach, communities use the skills and knowledge already present in the community as a means to lever appropriate external resources for their development initiatives. CIKOD’s vision is that of a society, where the rural poor, the marginalized and rural women have a voice and contribute pro-actively to equitable and sustainable community development.

The ***Rural Women Farmers Association of Ghana (RUWFAG)*** is a gender and women’s rights initiative within a global campaign for food sovereignty. RUWFAG advocates for peasant-led farming alternatives that are economically viable as well as socially and environmentally sustainable. The purpose of RUWFAG is for the promotion of rural families’ food security and sovereignty among women’s associations in the Lawra and Nandom Districts of Upper West Region, Ghana through agro-ecological farming practices/methods. In the Upper West Region, women generally find it difficult to access land due to the land tenure system. However, CIKOD have been able to support RUWFAG members to access secured fertile land for groundnut farming.

The main reasons why RUWFAG women chose to farm groundnuts are the social, cultural, and spiritual values and uses, as well as the economic, gender friendliness, environmental and ecological benefits. They also chose to investigate the groundnut value chain in more detail after using a simple matrix to compare groundnuts, small grains, vegetables, and other farm produce according to economic, environmental, and equity considerations. They decided groundnuts were the best choice due to a number of factors: the ready local and national markets, and the nutritional value (economic), the cultural significance and women’s control (equity), and the appropriateness of groundnuts to the local environmental conditions, the availability of local varieties, and the value of intercropping to soil health (environmental).

This research initiative formally began in January 2016 when Coady educator-researchers joined CIKOD and RUWFAG staff for an intensive period to research and document the

groundnut value-chain. This was done in a participatory manner with interviews and focus group discussions with key stakeholders. This value chain is described in Section 3 below.

As an iterative action research initiative, CIKOD and RUWFAG then prepared a feasibility study / business plan based on the value-chain research, proposing to establish a factory that would aggregate groundnut production from rural women and process and market groundnut products. Upon reflection, this initial proposal was considered too ambitious and could not secure sufficient investment, so stakeholders revisited the knowledge generated from the value chain research and actions then evolved along three separate pathways. The three different pathways were: a groundnut storage and drying facility as a social enterprise, an advocacy campaign for government investments in sustainable, agro-ecological groundnut farming, and a woman entrepreneur's experiment with processing of groundnuts and local marketing. Each of these knowledge action pathways are described in Section 4 below. Different stakeholders took ownership for these different pathways and as educator-researchers from the Coady Institute, we observed and monitored plans and implementation as they evolved, documented lessons learned, and coached and facilitated problem-solving.

CIKOD and RUWFAG members were the key implementers and experimenters in the different pathways and the Coady role was primarily on an ad-hoc basis from a distance or through annual or semi-annual monitoring visits. Our final monitoring visit was in August 2018, and we continue to learn from this initiative through informal relationships with partners.

3.0 Producer-Led Groundnut Value Chain in Ghana

3.1. Overview: Understanding Groundnuts

Groundnuts hold significant value in Ghana as an important cash crop for small holder farmers, an essential component of Ghanaian traditional food, a traditional source of nutrition for the household, and an integral part of the Ghanaian culture. The bulk of the groundnuts (94%) are produced in the three regions of the north: Northern, Upper East (UER), and Upper West (UWR) (FAOSTAT, 2013). The soil conditions and climate of the north is particularly suited for groundnut cultivation. The country produced over 408,814 tons of groundnuts in 2013 (FAOSTAT, 2013). Most of the cultivation is rain-fed which takes place during the wet season Apr/May to Sep/Oct.

Although farmers reported about 20 plus local varieties of groundnuts, there were two dominating varieties in the UWR: "China" and other "local" varieties. China is a local variety that became popular in Ghana in the 1970s. This variety grows faster (90 days) and provides higher yield and has more market demand. China is the most popular variety in the region, preferred by the farmers and buyers alike.

3.2 Cultural and Social Significance, Equity, and Gender Considerations

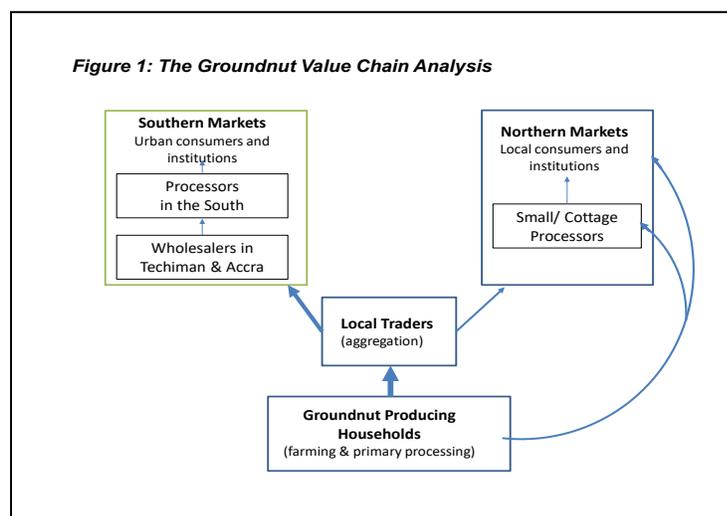
As a traditional crop that has been grown for generations, people save and store their own seed. Traditionally, new households get “mother seed” from their mother’s brother to start farming; this brother cannot refuse giving seed to other family members for planting. Groundnut is gender and generational friendly, everybody can farm groundnuts if they want to. Women, however, play an important role and often have control in groundnut cultivation, storage, processing, and sale.

Groundnuts are known to provide energy and protein. Groundnut soup is a very common nutritious dish; groundnuts can also be used as a weaning food for infants; and there are different nutritious snack foods for children. Groundnuts made into a paste can also slow down the poison of scorpion bites from spreading. Culturally, groundnuts are what a Godfather must provide when he wants to sponsor a man or woman for the Bagre spiritual initiation; being able to provide groundnuts confers respect on the Godfather. Groundnuts are also very important at funerals; they are offered to the corpse and shared with women for making soup and the staple food (TZ) for the mourners. Special dishes with groundnuts and zonko are provided at funerals.

Environmental Issues: Groundnuts can be grown with sorghum and millet and are mutually supportive. Groundnuts are nitrogen-fixing and improve the fertility of soil. Soil conditions and climate in UWR—particularly in the dry season—are well suited to groundnuts. Farmers can experiment with many different indigenous groundnut seeds for various soil and weather conditions. Yields vary in different soil conditions, but are generally good. Cow dung and compost are generally best to improve soil fertility for groundnuts; fertilizers can spoil the land for groundnuts and bring new weeds. Groundnut is used as a cover crop to revitalize the nutrients in the soil. Other inputs needed to cultivate groundnuts are land, groundnut seeds, and labour at the appropriate time.

Economic Benefit: Groundnut provides an important safety net at the household level, both for immediate cash needs as well as a source of healthy food. The harvest time starts in September and goes on until November. The prices are very low in the market during the harvest season (6–7 GHC per bowl of 2.5 kg). Although prices are very low, the farmers (mostly women) make distressed sales in order to meet immediate family needs for food, school fee, festivals etc. Most farmers sell at least one or two bags during the peak harvest season. Once the immediate cash needs are met, the farmers hold on to the groundnuts and wait for the prices to go up. The prices go up almost by 50% within three months and almost double in six months. Production can vary significantly. A common example was a female-headed household with three children that farmed two acres and harvested 6–8 bags of groundnuts. These bags would be used in the following way: 1 or 2 for immediate sale after harvest, 1 to 3 for family consumption, 1 or 2 held to sell when prices are up, and 2 kept as seed for next season. Many people reported groundnut business is profitable and that is what is keeping their families economically safe.

Figure 1 below illustrates the groundnut value chain in Upper West Region Ghana. See Appendix B for an elaboration of this simplified value chain.



3.3 Major Findings: Constraints and Opportunities

The groundnut value chain provided a deep understanding of the value chain, and specifically identified the following constraints and opportunities.

Constraints

- *Production constraints:* Groundnut production is constrained by access to land, tractor services, rainfall, labour for harvesting, post-harvest losses, and no access to credit, or credit with very high interest rates. These constraints are particularly felt by rural women.
- *Distressed sales:* Groundnuts are used as cash. A woman can go to the market and sell one or two bowls of groundnuts and get cash. This is of great benefit; however, these distressed sales are also a key problem across the region. It was reported that in 2015, farmers sold 2 to 4 bags at prices 6 GHC per bowl (40 bowls per bag) to meet their immediate cash needs for school fees, food etc. They sold 1 or 2 bags more in December to meet Christmas expenses when the prices are slightly better at 8 GHC. The prices significantly go up after January and by the next planting season (May–June) the prices are as high as 15 GHC.
- *Quality:* Unshelled groundnuts can be stored the most easily, but one is never clear of the true quality until they are shelled and the seeds exposed. Seeds need to be dried well to preserve quality. When stored as seeds, the product then becomes vulnerable to molds, aflatoxins, and pests if they have not been dried well. Different varieties of groundnuts also provide different qualities. The local market currently offers no

incentive for better quality. This does not encourage good farmer behaviour. There is absolutely no traceability of the product. The product from different farmers gets mixed at the trader level. Buyers usually want good quality groundnuts on time, but they do not control the selection and transportation of groundnuts.

- *Measurement:* Consistency and transparency in measurement is another major issue. Almost all the measurements are done using a measuring bowl, and not by weight. How the buyer and seller “pile up” the groundnuts can influence the number of bowls by as much as 15%. Although the practices may vary slightly between the markets, the farmers feel cheated at the end of the transaction. In some markets, there were even two types of bowls (one for buying and one for selling). These same differences are found between local traders and wholesale traders who also buy and sell according to number of bowls. It is only between wholesale traders and major institutional buyers that groundnuts are sold by weight.
- *Small margins:* A further constraint is the small margins that are available between producers and local traders and between local traders and wholesale buyers. Prices are set by influential traders outside the local area and the margins are very low. These low margins force traders to look for other ways to recover their costs, add value in terms of quality control, and make some profit. This lack of transparency within the system is problematic and makes it difficult for individual actors, or actors at a particular level, to make changes.
- *Market factors:* Because market prices are determined from “above,” the problematic unit of measurement, the lack of incentive for quality at the local market, the lack of information on prices, no recordkeeping and seemingly unfair trading practices all complicate the market and set up barriers to change. Lack of trust, because of quality, measurement, and the small margins seems to be inherent in the system. Some people develop trust with family members and other relatives along the chain, or over a number of years develop trusting relationships with certain buyers and sellers. However, these relationships rarely benefit rural groundnut farmers, especially women, who are only able to sell to local aggregators.

Opportunities

- *Farm productivity:* Increasing farm level productivity could be achieved by better seed selection (use of traditional knowledge in seed selection), prioritizing timely ploughing and planting, and improving crop management and post-harvest handling practices. However, these were not seen as the greatest opportunities as women will still encounter the constraints within the value chain. Producers also spoke of irrigation systems so groundnuts can be grown during the dry season.
- *Technological improvements along the value chain:* Innovation is needed to develop an appropriate technology harvester to reduce the burden on hand-harvesting. Processors spoke of simple deshelling / decorticator machines, roasting drums,

grinding machines for groundnut paste, and cold press machine for groundnut oil. All of these machines are locally available. The capital cost, operation, maintenance and management of the machines can be complicated, however. Also, with the value-addition comes additional challenges. Deshelled, roasted, ground or pressed groundnuts are all more vulnerable to spoilage than groundnuts kept in the shell. Traders spoke of packaging—specifically for things like groundnut paste—as being important.

- *Value-added processing and product development:* Much of the groundnut produced in Upper West Region is sold as seed. There is an opportunity to produce and attractively package groundnut paste; paste flavoured with, for example, ginger or garlic; Kuli Kuli (a traditional snack); and groundnut oil.
- *Local markets:* In markets in northern Ghana there is a niche for fresh, raw groundnuts at harvest time, but it is unclear whether it would be worthwhile to transport fresh groundnuts to such a niche market in southern urban centres. There is demand for roasted groundnuts, groundnut paste, Kuli-Kuli, and oil. Unfortunately, the demand for groundnut oil is declining because of readily available vegetable oil with preservatives including inexpensive imported cooking oil. There may be a specialty market for organic groundnut oil.
- *Institutions:* Local institutions, such as the schools, provide an opportunity for RUWFAG members to supply the groundnuts and processed products like paste and Kuli-Kuli. This market could be particularly important in southern Ghana for groundnut paste for restaurants, households, and institutions.
- *Development of social enterprise:* There could specifically be an opportunity for social enterprises to engage in improving quality of groundnuts, and quality incentives in the value chain. Equity in measuring in buying and selling and within and between markets would be important. Secure storage facility from harvest to lean season would also increase profitability. Experimenting with value added products and marketing to urban centers could also improve livelihoods for rural women.

Following the value-chain research, RUWFAG identified four levels to gain more value:

- *Product holding/storage:* The seasonal price variation provides opportunities to aggregate, store, and hold the product for 5–6 months to benefit from the price gain.
- *Direct sales and incentivizing quality:* Selling directly to the Techiman wholesalers to secure the at least 20 GHC per bag margin (5% margin) and incentivizing quality by collaborating with Techiman buyers who are willing to offer a premium for quality.
- *Standardizing weighing:* Introducing weighing machines for fair and transparent measurement

- *Packaging:* To process and package groundnut paste in sachets of different sizes for bread spread and soup making. Currently there are only large containers of paste available in the market or small quantities that traders will spoon into a plastic bag. With increasing worries about hygiene from many consumers, having small quantities of paste available in sealed sachets would be innovative. Observations from the various markets also show that there is a great demand for groundnut oil.

4.0 Using Producer-Led Value Chain Research to Catalyze Knowledge Action Pathways for Revitalizing Indigenous Foods

Following the value-chain documentation and discussion with key stakeholders, the initiative moved into another phase. This iterative phase of the action research was to monitor what stakeholders had learned from the value chain research, what emerged as possibilities for follow-up, and what momentum was there for taking forward a concrete intervention. In the design, we were made aware one of the challenges of previous value chain research was that possible interventions were often constrained by a lack of resources to take the next step in a timely fashion. We tried to do something about this challenge with a small investment fund that was generously contributed by a donor. This fund could be accessed to take the next step forward. This fund had a maximum ceiling of \$15,000 CAD and was designed to be flexible to respond to the aspirations of stakeholders, specifically RUWFAG, with few stipulations attached.

4.1 Knowledge Action Pathways for Moving Forward: The First Steps

The first steps stakeholders took to move forward was to meet and brainstorm possibilities arising from their learning more deeply about the groundnut value chain. CIKOD and RUWFAG were encouraged to do this on their own and to develop a feasibility study / business plan to capture their intentions and aspirations. A small amount of funds was made available to facilitate a workshop to develop this plan, using the services of a local consultant if necessary.

The Coady Institute researcher-educators provided some suggestions of what a business plan / feasibility study might look like, but kept very much hands-off. As a result of the workshop, a business plan (CIKOD, 2016) was developed and submitted to Coady for onward forwarding to the investor in July, 2016. This initial proposal aspired to start “a factory for producing groundnut products” centred around the purchase of a packaging machine. The strengths of the proposal were the explanation of why the groundnut value chain was important and the opportunity to add value to farmed groundnuts; however, feasibility was not done in detail, there was no detailed operational plan, and the budget was far outside what investors were willing to bring forward. There was little explicit connection between what was proposed to learnings from the value chain research. The proposal submitted to Coady and to the director of CIKOD was disappointing because the investor funds were available, but had not yet been

requested, and it was unclear if there was a realistic initiative that stakeholders were willing to take forward, and if RUWFAG had the capacities to maximize an investment at that time.

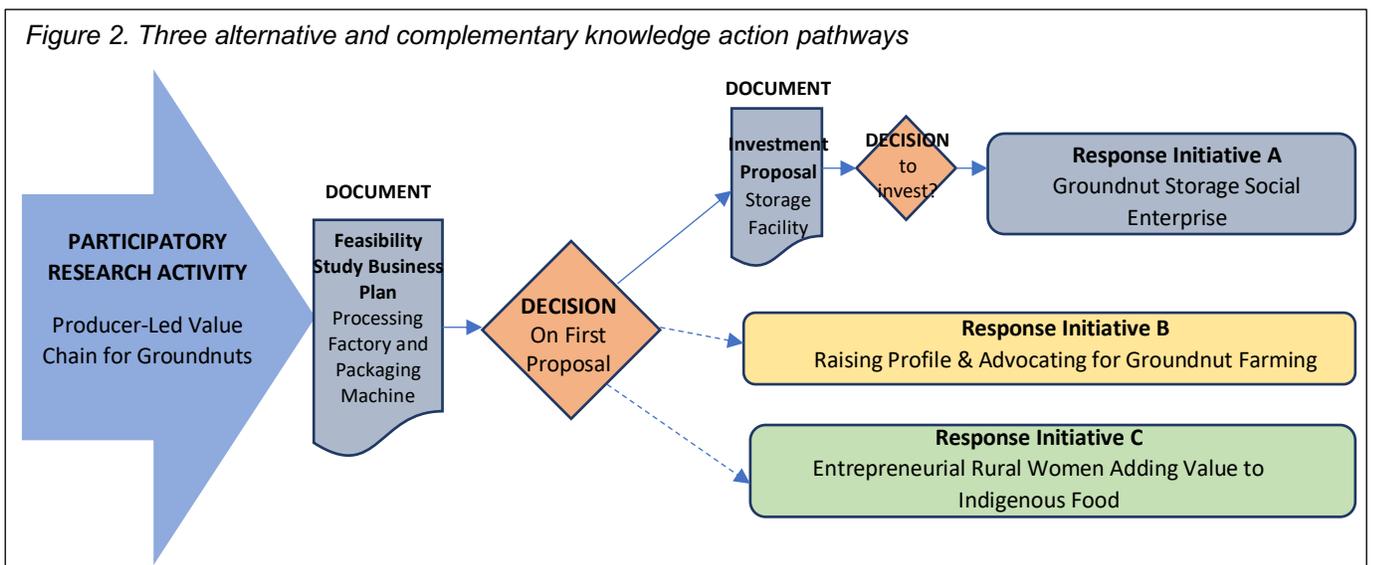
An emergency meeting was held with major stakeholders. Through dialogue it became clear the aspirations for a “factory” were more a long-term vision and there were certain ideas on a smaller scale that CIKOD and RUWFAG were willing to experiment with to take things forward. In specifically linking to the producer-led value chain analysis, the road blocks of seasonal storage, distress sales, quality, and trust in measurement were reiterated as paramount. Ideas for a new feasibility business plan were generated, and a renewed commitment put in place.

4.2 Knowledge Action Pathways Diverge: Different Priorities

Following the reorientation after the original business proposal, energies for taking things forward diverged into three separate pathways. Each had their own strengths and weaknesses and used the knowledge developed from the PLVCA in different ways. When the original proposal was halted, it was farming season and pressure was on stakeholders to develop an initiative that could gain momentum and make a difference in rural women’s lives following the upcoming harvest.

There was also pressure from the donor to provide an investment plan, including a cash flow, so that investment funds could be released. In addition, there were ongoing advocacy campaigns in relation to women farmers that groundnut production was related to, and bigger initiatives underway with synergies in securing land rights, promoting farmer-managed natural regeneration, agro-ecology, and water resilience.

Finally, there were those who just wanted to get on with it, use the knowledge they had gained, put it into action, and experiment with value addition and producing products they felt there was demand for in the market.



As shown in Figure 2, there were, therefore, three separate knowledge action pathways that developed, and three different responsive initiatives: the first formal and the second two quite informal. These pathways were:

- **Knowledge Action Pathway A: Groundnut Storage Social Enterprise.** Initiating a social enterprise to buy, store, dry, and sell groundnuts from rural women farmers to supplement their income and promote groundnuts as an indigenous food;
- **Knowledge Action Pathway B: Raising the Profile and Advocating for Support for Groundnut Farming.** Developing partnerships and advocating for interventions in the groundnut value chain that will make a difference for a large number of rural women in UWR; and
- **Knowledge Action Pathway C: Entrepreneurial Rural Women.** Women working together to add value to groundnut and other indigenous foods and experiment with market linkages outside the immediate production area.

Table 1 captures the key milestone events that occurred along these different knowledge action pathways. Most of the recorded events followed the more formal pathway A, where the other two pathways evolved very informally often in ways that researchers were unaware of.

Table 1: Milestone Events for the Different Knowledge Action Pathways

Date	Milestone Events	Notes
Jun 2015	• Preliminary visit, value chain selection	
Jan 2016	• PLVC-IF research	Timing delayed
Feb 2016	• Additional VC research in Accra	
Mar– May 2016	• Business plan developed	Minimal input from Coady and investor of what was expected
Jul 2016	• Emergency meeting; new pathways evolve • Groundnuts planted	Coady and CIKOD Director ask staff for reworked plan; different knowledge action pathways begin to evolve
Oct 2016	• Monitoring visit • Investment confirmed for Pathway A • Groundnuts harvested	Investor visits and approves new plan
Nov 2016– May 2017	• Storage / Drying Facility planning • Waiting on international funds to be released • New government installed (Jan 2017) • Advocacy Pathway B evolved • Entrepreneurial women begin experimenting in Pathway C	• Banking error causes delay of investment funds received in the field • Opportunities and challenges with executing plans with new government decision makers
Jun 2017	• Groundnuts planted • Groundnuts accepted in government “planting for food and jobs” program in Pathway B	• Signed release from government for renovating warehouse facility

Date	Milestone Events	Notes
Oct 2017	<ul style="list-style-type: none"> Monitoring visit Warehouse rented for Pathway A 	<ul style="list-style-type: none"> Government reneges on promise of facility; problem-solving to rent space
Nov 2017	<ul style="list-style-type: none"> Groundnuts harvested (poor year) Entrepreneurial women experimenting with groundnut paste production in Pathway C 	<ul style="list-style-type: none"> Poor harvest Media reports that groundnuts from Upper West Region contaminated with aflatoxins
Jun 2018	<ul style="list-style-type: none"> Groundnuts sold and new planting 	
Sep 2018	<ul style="list-style-type: none"> Monitoring visit Confirmed entrepreneurial efforts in Pathway C Groundnuts harvested Oct–Nov 	<ul style="list-style-type: none"> Partners continue to work on different pathways
Jan 2019	<ul style="list-style-type: none"> Final monitoring discussions 	

4.3 Pathway A: Groundnut Storage Social Enterprise

Under the auspices of CIKOD, significant energy went into the development of Local Indigenous Food Enterprises (L.I.F.E.) as a social enterprise that could support rural women farmers by initially making positive contributions in the groundnut value chain. This pathway became the primary focus of ongoing monitoring and support activities and it generated a new business plan (CIKOD, 2016b), 3-year cash flow projections, and secured a \$15,000 investment. The business plan focussed on three key issues identified in the PLVCA of groundnuts that RUWFAG felt needed to be solved:

- *Distressed sales* to meet immediate cash need for school fees, food, etc. In 2015, RUWFAG members, on average, sold 2–4 bags priced at 6 GHC per bowl (240 GHC per bag) immediately after the harvest in October. Within two months, they sold two more bags at 8 GHC per bowl (320 GHC per bag) to meet the Christmas expenses. And finally, they sold one or two bags in January–February at 10 GHC per bowl (400 GHC per bag). However, the prices are best in May–June (the planting season) where the markets can provide up to 15 GHC (600 GHC per bag).
- There is *lack of transparency and unfair practices in measurement* as almost all the groundnuts are sold by volume and not by weight. Producers always feel “cheated” at the end of every transaction.
- There is absolutely no traceability of the product. The product from different farmers gets mixed at the trader level. *The local market currently offers no incentive for better quality.* This does not encourage good farmer behaviour.

Based on these issues, the business plan contained a proposed three-pronged social enterprise innovation to benefit rural women:

1. **Setting up of a drying and storage facility as a CIKOD social enterprise.** This facility would run out of an old government building being provided to CIKOD. CIKOD will use the \$15,000 CAD grant to invest in refurbishing the building, purchasing the equipment (solar dryer, decorticators, weighing scale), and meeting some of the operational expenses for the first two years. This storage facility would be run like an enterprise, initially by CIKOD, and may charge a fee for storage and for providing services such as drying, decorticating, sorting, etc. to cover the expenses. The main objectives of this intervention include better post-harvest handling and storage of the groundnuts, improve measurement practices (as the groundnuts will be accepted by weight instead of volume).
2. **Revolving Fund.** RUWFAG members often need cash for basic and emergency needs and use groundnuts as an easily convertible asset. They are often forced to sell their produce when the price is low. Access to a small loan fund during times of need and before the stored groundnut's price appreciates would enable women to earn more income from their production. They could potentially pay some amount of interest on the loans they received and pay back the principal when they sell off their groundnuts. L.I.F.E. will attempt Setting up a revolving fund to be made available to the groups as credit to meet their immediate cash needs. The main objective of this fund is to reduce the distressed sale of groundnuts.
3. **Women producers sell at high price point not low price point.** Individual RUWFAG members farm groundnuts. Women would like to reap the benefits of the seasonal change in prices by being able to hold on to their groundnuts until the price goes up by storing them in a dry and secure place.

These plans, discussed during a joint Coady / Investor / CIKOD / RUWFAG monitoring visit in October 2016 were considered somewhat complex, and because of time, did not have full ownership from RUWFAG, but were considered solid enough for the investor to release funds and to trust in the project implementers to experiment with initiating a social enterprise—even if it only included some of the three elements envisioned. In operationalizing this plan, however, significant challenges and obstacles were encountered along the knowledge action pathway. Some of our assumptions were also found out to be incorrect.

Change in Government and Re-securing Storage Facility to Rehabilitate

In November 2016, the opposition New Patriotic Party (NPP) won presidential elections in Ghana and won the parliamentary seat in the Lawra constituency. This meant the District Chief Executive was changed in Lawra, and arrangements for the long-term lease of the storage facility had to be renegotiated. CIKOD leadership had separate meetings with the

outgoing and incoming DCE, the Coordinating Director, the District Engineer, the planning officer, and the District Director of Agriculture. As a result of these numerous meetings, the warehouse was finally released through an official letter for CIKOD to start the repair work, pending the final release of the rent of 10 years from the District Engineer.

During campaigning in the 2016 election, the new government promised Ghanaians that they will implement a “One District, One Factory” initiative, meaning that every district will have a factory and a “Planting for Food and Jobs” policy to increase production of a number of staple crops. Unfortunately, groundnuts, which is the leading crop in the Upper West Region, was excluded from the “Planting for Food and Jobs” policy, and women were not able to participate because of the conditions attached that privileged large private sector investment. However, if groundnuts could be included going forward, perhaps the proposed storage and drying facility could benefit from the “One District, One Factory” initiative. Unfortunately, this issue became politicized and the local government rescinded their offer of a warehouse in October 2017 as it was needed for fertilizer storage. CIKOD had to rent space to store groundnuts from the 2017 harvest. The dream to have a storage / drying facility that could be a focal point for L.I.F.E. and RUWFAG was further delayed.

Groundnuts were purchased in late 2017 and early 2018, but the harvest had been so poor that L.I.F.E. could not purchase as many as originally planned. RUWFAG women were also wary of the facility and reluctant to make a commitment to it until it had proven its worth. Paying for storage or beginning a revolving fund attached to an inventory system was not operationalized. Those RUWFAG members who sold to the store were making distress sales because they needed the cash. L.I.F.E. even decided to buy some groundnuts from the open market to be able to test the idea of storing and reselling at a higher price. In all, 71 bags were stored from December 2017 until June 2018. Purchase price was 120 GHC for unshelled and 320 GHC for seed. Sixty-one of these bags were stored in shell assuming this was the best way to avoid the development of aflatoxins. Ten of the bags had already been cracked and were stored in seeds.

When the price appreciated to 360 GHC, L.I.F.E. hired women to crack the unshelled groundnuts. They were paid in-kind, 1 bowl of seeds for each bag they shelled. They would have had to pay RUWFAG members’ transport to reach the facility, so they hired women from near the storage facility as day labour to dry and crack the groundnuts. Some of these women were not RUWFAG members. This created an issue for RUWFAG as their expectation was the social enterprise was designed to support RUWFAG women specifically. RUWFAG members did benefit as groundnuts were collected from their homesteads and they did not need to transport them to the marketplace for purchase. In shelling the groundnuts, however, they found some of the bags had not been dried properly, mold had started to grow and some of the produce had to be discarded. This reminded organizers that even when storing seeds still

in the shell, they need to be dried well before putting in storage. In spite of these difficulties, L.I.F.E. was able to sell the groundnuts in July for a total of 10,458 GHC, breaking even, excluding the approximately 700 GHC paid for transport, commissions, and loading. This amount was retained for reinvesting in the purchase of newly harvested groundnuts in the fall of 2018.

2018 was another relatively poor year for groundnuts. L.I.F.E. was able to purchase approximately 14 and a half bags of groundnuts at 10 GHC per bowl (40 bowls to a bag) and expects to purchase an additional 5 bags by mid-February, 2019. They are only purchasing groundnuts as seeds that have already been shelled so they are sure of quality. They will monitor the market and are hopeful they may be able to sell groundnuts in June–July, 2019 at 15 GHC per bowl.

Equipment for Drying and Storage: Costs and Timelines

Equipment for drying groundnuts also became an issue. During the extended value-chain research in Accra in February 2016, the research team was joined by a Coady staff and the investor to visit companies that were promoting solar dryer fabrications. The team was guided through one particular facility and expressed interest in getting a solar dryer and decorticator. The feeling was a simple solar dryer would be maintenance-free and be appropriate technology to enhance the quality of groundnuts. Quotations were then collected for the equipment from three different companies and L.I.F.E. settled on a local company because they are the only company that manufactured with stainless steel. However, there was miscommunication from the company, and the team realized later they had been given quotes for electric or diesel dryers. The company recommended installing solar panels at the facility to power electric dryers. Not only was this exorbitantly expensive, but it was inappropriate and defeated one of the principles of endogenous development—to start with local indigenous knowledge and technology (in this case for solar drying of groundnuts) before looking at external technology. It was at a CIKOD / RUWFAG team meeting in July 2017 that the CIKOD Executive Director recommended an alternative indigenous low carbon technology of drying: making high concrete floors with plastic covers, which can be used even when it is raining. These learnings delayed the installation of drying racks at any permanent storage facility site, although they are still in the plan.

RUWFAG Women's Experience with 2017 Harvest

RUWFAG women were disappointed no storage facility was available to store their harvest from 2016. Most women stored their produce at home which comes with its own challenges. The challenges of home storage were exacerbated when the media reported that groundnuts from UWR exported to the UK were found to contain pesticides and had to be destroyed. People speculate the pesticides were from a malaria control program in the Upper West

Region. This affected the upwards trend of groundnut prices. Nkatie Bogger, a food processing company in Ghana that is the highest purchaser of groundnuts in the Upper West Region, did not purchase groundnuts from the Region because of the contamination. This reaffirms the need for a proper storage drying facility, but as yet no permanent facility has been operationalized.

Outcome of Pathway A

Table 2 below contains data on the growth of groundnut farming by RUWFAG members over the years 2015 to 2018 and the use of the storage facility. As women farmers, RUWFAG was successful in securing land to farm and producing groundnuts. For the most part, women stored their groundnuts in their own homes and used them as food and to supplement their own livelihoods. Individuals sold groundnuts to local traders according to market rates at the time of sale. The research project was not able to follow-up on the successes and difficulties with these sales. The storage facility was not established as envisioned. L.I.F.E., the joint CIKOD / RUWFAG social enterprise that was started to coordinate the storage and drying facility did experiment with things along the value chain and learned significant lessons. These are analyzed and articulated in Section 4 below.

Table 2. RUWFAG Growth and Use of Storage Facility 2015 to 2018

Calendar Year	RUWFAG Membership		# Acres Planted	Harvest Reported (Unshelled)	# Sacks Stored in Facility (unshelled)	# Sacks Stored in Facility (as seeds)	Price of Unshelled Put in Storage in Dec	Price of Seeds put in Storage in Dec	Price of Seeds the Following June (when sold)
	Groups	Women							
2015	12	484	34.5	141.5	0	0	0	0	480 GHC
2016	12	484	35.5	193.5	0	0	0	0	320 GHC
2017	12	484	40.0	139.5	61	10	120 GHC	320 GHC	360 GHC
2018	12	484	47.0	276.0	0	14.5	0	400 GHC	unknown

Notes:

*Three sacks unshelled equals approximately one sack of seeds depending on quality of harvest.
The number of RUWFAG groups in Lawra includes those who farmed collectively and individually.
Numbers of women involved fluctuated slightly from year to year but data is not available.*

4.4 Pathway B: Raising the Profile and Advocating for Support for Groundnut Farming

CIKOD plays a major role in rural development in the UWR and has a voice that is listened to. CIKOD supports the work of rural farmers directly through interventions such as on water, farmer-managed natural regeneration, and promotion of agro-ecological methods. CIKOD advocates for the use of endogenous development and indigenous knowledge and these

approaches in the broader context of change across Ghana. CIKOD's long term intention is not simply to encourage women to farm groundnuts or to establish a social enterprise, but to influence policy and practice regarding to indigenous food promotion in Ghana and beyond. One of CIKODs strategies to do this kind of influencing and advocacy work is in building partnerships with other organizations.

One of the major potential partners in UWR is the local government authorities. District assemblies have discretionary funding and are theoretically able to make their own decisions about investments for change. Line ministries are also represented at local level, and although in practice they often only implement what they are told from regional and national ministries, they have access to resources to make a difference at the local level.

With these relationships and strengths in mind, CIKOD pursued partnerships and attempted to influence policy that could have a long-lasting impact on the groundnut sector. The partnership with the local government to rehabilitate a warehouse space was not only for the physical space, but to provide an opportunity to leverage a small investment to have a bigger impact and to share knowledge from the groundnut research of groundnuts value socially, economically, and culturally as a women's crop.

The partnership took some twists and turns because the change in government in early 2017 instituted a reframing of priorities. Renewing and renegotiating relationships with a new administration did provide the opportunity for CIKOD and RUWFAG staff to speak with authorities at many forums, however, and groundnut farming, markets, and women's roles became part of everyday conversation.

On the national policy level there was also a significant impact made. In late 2016, a new NPP government was elected in Ghana. In campaign speeches, this new government used slogans to communicate their policy platform. Two of these slogans were, "One district, one factory" and "one village, one dam". Unfortunately, the desired scale and centrally-controlled mandate left little room for creativity and uniqueness for the contextual realities and dynamics of individual districts. For example, in UWR, dams can be useful in some villages and could encourage better harvests and a dry season crop of groundnuts, but in other areas, river diversions and other water harvesting and distribution are more relevant. Even with the construction of dams, often the access to water for women becomes problematic. No one could tell people what flexibility there would be in the "One village, one dam" policy implementation.

Factories to add value to products, like groundnuts, could also be beneficial, but without a vibrant private sector at scale in some districts, local engagement and control over resources could be compromised. Questions asking who benefits and who decides about factories, what is women's access and control, who negotiates and controls licenses, and will there be

an export orientation or an openness to working with local markets were unanswered. In a government media report in September 2017, President Nana Akufo-Addo launched the “one district, one factory” by saying the purpose was to “create jobs for the teeming youth... transform the structure of the economy from one dependent on production and export of raw materials to a value-added industrialized economy, driven primarily by the private sector.” The opening of a fruit and juice company that would process 25,600 tonnes of fruit annually and employ 250 persons at the factory was celebrated (GOG, 2017a). However, there was no mention of women and the scale of operations would exclude many from getting involved. CIKOD realized that these policies could both be an opportunity and a danger for the work that was being done with RUWFAG and the groundnut value-chain, but that they would have to get involved in the policy-level discussions.

To complicate matters, the Ministry of Agriculture announced a third policy, “Planting for Food and Jobs” that promoted investment in a limited number of crops across the country. The initial list included maize, rice, soybean, sorghum, and vegetables, and the investments would be to support “the provision of seeds, supply of fertilizers, provision of dedicated extension services, marketing and electronic platform to capture and monitor activities of participating farmers” (GOG, 2017b). Again, CIKOD saw danger and opportunity in this policy and decided to advocate for groundnuts to be included in the list to ensure the release of some government funding to support initiatives that could support women farmers and also to encourage the government to broaden the policy to support what farmers were already doing rather than imposing a high input approach that could cause more dependency. CIKOD was able to use the PLVCA research and power point presentation the research team developed (PLVC-IF Research Team, 2016) as a small part of their advocacy work.

In May 2017, the Coalition of the Savannah Accelerated Development Authority (SADA, now the Northern Development Authority (NDA)) Civil Society Organizations, of which CIKOD is part) identified groundnuts as one of the major cash crops with export potential, explained the growth of groundnut production required minimal capital injection and had certain environmental benefits on soil quality (groundnut fixes nitrogen in the soil). SADA argued groundnuts could be cropped 4 times per year and potentially make a great contribution to poverty reduction, especially for women, and therefore encouraged the government to add groundnuts to the list of crops supported through the “Planting for Food and Jobs” policy (GhanaWeb, 2017). CIKOD played a significant role in developing this strategy which was ultimately successful as groundnuts were added to the policy.

CIKOD continued to monitor the implementation of the “Planting for Foods and Jobs” policy and encountered other problematic issues. The push of the policy was a “modernization” of agriculture away from an indigenous food system and its inherent social and cultural benefits and towards agri-business with a primary focus on large private sector owners and the

employment of “the teeming youth”. Such a derogatory description of youth does not identify them as agents of change and leaders of endogenous development for the future. Rural women and small-scale family farms owned and controlled by people at the grassroots could be marginalized from the “modernization” process. These policy orientations were not in line with the triple-bottom-line criteria that had been discussed as part of the PLVCA research and were externally driven. Other research has demonstrated the “modernization” approach often has better short-term than long-term sustainable benefits, creates a dependency on external inputs, and ultimately is damaging to the environment (AFSA, 2017). CIKOD was again motivated to keep up the pressure in their advocacy work to show a revitalization of indigenous foods and food systems was another way, an African alternative, to the “modernization” agenda.

Other NGOs took up the cause. The Centre for Sustainability Education and Economic Development critiqued the planting for food and jobs program as “not only unsustainable but also an obstruction to the adoption of sustainable agricultural methods ... intensify farmers addiction to chemical fertilizers ... affect on groundwater (Modern Ghana, 2018). The Peasant Farmers Association of Ghana (PFAG) and CIKOD then specifically launched a campaign to reform the government’s Farm Input Subsidy Program (FISPs). They have argued that the subsidy program does not benefit rural farmers as much as the profits of the foreign companies who supply the inputs. In their press statements, they stated they want to help reduce farmers dependence on external agrochemicals and shift to application of sustainable ecological processes and the use of sustainable farm inputs to address soil fertility. They have made the point that FISPs’ contributions to increased production and yields are limited at best and advocate for increased support for small scale family farmers (including women farmers) in making a transition (back) to a more productive, climate resilient, sustainable, nutrition and gender sensitive system, based on agro-ecological principles (Nyavor, 2018).

CIKOD and others continue with their commitment to pursue their advocacy work in the promotion of a revitalization of indigenous foods and food systems, and the PLVCA research findings contributed in a small way to strengthening that work. Successful social enterprises that consider a triple-bottom-line support rural women’s livelihoods and also promote indigenous foods will be an additional impetus to their ongoing policy influence work.

Outcome of Pathway B

Knowledge Action Pathway B was not an intended outcome of the value-chain research and was not directly part of this research initiative. It evolved organically and was influenced by many internal and external factors and cannot be attributed to the value chain research. Some of the same actors, like CIKOD and RUWFAG, were involved, however, and there were

synergies and trade-offs between the advocacy work and the more direct initiation of L.I.F.E. as a social enterprise.

The advocacy work was certainly supported by the report of the PLVC-IF research documentation and it was helpful to CIKOD's credibility to also say they were working to develop a social enterprise related to groundnuts in collaboration with RUWFAG. Those involved in the social enterprise would have received increased visibility from the discussions and media attention on "one district, one factory" and the having groundnuts added to the "planting for food and jobs" policies. These were obvious synergies.

The trade-offs were real. CIKOD, RUWFAG and the new L.I.F.E. enterprises were only a small group of people and, in many cases, the social enterprise versus the advocacy work could have been seen as competing priorities. There is only so much time and energy in a day and if investments are made in advocacy rather than consistent communication with RUWFAG, nurturing a government partnership rather than ensuring RUWFAG members are hired to crack groundnuts, or developing a large-scale initiative rather than ensuring the envisioned facility is using appropriate technology, one side of the equation will suffer. Similarly, if a very small-scale enterprise within the confines of a few women takes all of one's energy, the systemic issues are going to remain the same and the momentum of the "modernization" agenda will overtake any alternatives.

There were benefits to this second knowledge action pathway that were informally linked to the PLVC-IF research. A number of lessons have been learned that are captured in Section 5 below.

4.5 Pathway C: Entrepreneurial Rural Women

In July 2016, when the first business plan proposal was submitted for a groundnut processing factory, RUWFAG was a young organization still being midwived by CIKOD. CIKOD itself was in a growing stage with new projects in farmer-managed natural regeneration and promoting agroecology with RUWFAG and other community groups. At the same time, the EMPOWER Project, a joint initiative of Coady-CIKOD and the University for Development Studies (UDS) in Ghana on women's economic empowerment and food security was moving into an active phase. These different initiatives had different objectives and timelines, and sometimes competed for rural women's time and resources. For the most part, there were synergies between the various capacity building activities and initiatives.

The RUWFAG women of one village, however, under the voluntary leadership of one entrepreneurial woman, made the most use of the opportunities, took risks, and generated significant success. The entrepreneurial woman, a full-time school teacher, was able to attend livelihoods and markets courses facilitated by the Coady Institute. As an executive member of RUWFAG, she was actively involved in many capacity-building efforts such as soap making,

shea butter production, marketing, and women's leadership. She had the opportunity to network with other women in international fora as well. She was a member of the research team in conducting the initial groundnut value chain work, documenting it, and was involved in the business plan development that resulted. She and the women of her village were aware of the storage facility social enterprise that was being developed and knew of the larger advocacy efforts of CIKOD to raise the profile of groundnuts as an important crop. They did not sit idly by as these other initiatives evolved; instead, they got actively involved in experimenting with the new knowledge they were learning about economic empowerment, including the groundnut research.

Initially this dynamic, entrepreneurial woman and the village women got inspired by the myriad possibilities of what could be done to supplement their incomes as rural farmers. They jumped in and got things started. Attending workshops encouraged them to try shea butter production and soap making, but the conversations about revitalizing indigenous foods inspired them to think about working in that sector. Groundnuts had been researched, but an easy win was in the harvesting, processing, and selling of dawa dawa (locust bean) to urban markets in the south of Ghana.

Dawa dawa, a nutritional locust bean paste, is an ingredient in many traditional northern recipes, but is hard to get in southern Ghana. Women realized that whenever relatives from the south came to visit, they were always looking for dawa dawa to take home to their kitchens. The women seized on this market and started harvesting, processing, and packaging dawa dawa for sale to the south. The market was originally to relatives at cost, but through word-of-mouth, the women were able to expand markets and sell at a profit to more people. Now there is a regular harvesting, aggregation, and delivery system from the area to southern Ghana. Dawa dawa sales is now a supplemental source of income to a few women.

This group of women also did some work with traditional small grains, drying and packaging mixes for porridge. Recently, they got a contract for doing this for the school feeding program with World Food Program. Individual and women's groups had produced such porridge mixes in the past and received contracts, but this was a reaffirmation of the importance of these local food stuffs for the local market.

Value-added groundnut products were also experimented with by the woman entrepreneur and her small group of women. This included the processing, packaging, and marketing of groundnut snacks (roasted groundnuts in plastic bags and glass bottles), various flavors of groundnut paste (plain, pepper -and honey-flavoured in two sizes of containers) and groundnut oil (in glass bottles). Processing was done by women on an ad-hoc basis, sometimes as volunteers and sometimes as day labourers. Different packaging options were developed on an ad-hoc basis based on what was available in small quantities in the local marketing. Labelling went through different iterations guided by the women themselves and

feedback they heard from others. Oil was the most problematic product as it can be prone to quick spoilage. The scale of this production was on a small ad-hoc basis and quality control varied from batch to batch. Marketing was primarily at workshops or conferences or through friends on a word-of-mouth basis. Customer feedback was generally positive as people knew they were buying something experimental and when there were problems, people could just speak to their friends they bought from and have the item replaced.

The woman entrepreneur invested her own money in a small building as a processing facility and decided to register the enterprise as Tietaa Enterprises, an experimental start-up. As they aspired to increase production and marketing, they ran into the road block of government regulations that limits many small businesses from entering the market place. Seven different licenses were needed to legally begin a production facility.

On a small scale, what this woman entrepreneur and these women actually operated was a micro-factory producing indigenous foods: dawa dawa, small grains, and groundnuts based on their own investment and reinvestment and with little support from outside sources.

These developments were open and transparent to the larger RUWFAG, CIKOD / L.I.F.E., and local government, but operated under the radar in many ways as a small start-up group that was doing something on their own. The power, passion, and momentum of their initiative achieved as much in a short period of time as the other knowledge action pathways achieved with much more human and material resources involved. A preliminary analysis of this enterprise is captured in Section 5 below and some lessons learned in Section 6.

5.0 Aspiring to Establish Social Enterprises: Applying the 5-I Framework

Two of the knowledge action pathways evolved into the initiation of social enterprises. Both the formal Groundnut Storage Social Enterprise initiated by CIKOD and RUWFAG and the informal social enterprise started by a woman entrepreneur can be described and assessed according to five key parameters of Innovation, Investments, Incentives, Impact and individuals (Ghore & Jiwa, 2018).

5.1 The 5-I Framework

Under **innovation** we look at new ideas, processes, products, and partnerships that the social enterprise came up with to solve an issue. Once finding a solution, what types of **investments** were required to make the innovation a reality? What type of personal contribution/ grants were received, were there investments from government, commercial investment etc., and how were these used? Social enterprises work in an ecosystem of actors with various interests. How does the social enterprise come up with **incentives** to interest and work with different actors? A key differentiator in a social enterprise is the social value it seeks to create. What is that social value, often described as **impact**, and how do you measure

it? Finally, it is the ideas, vision, and the leadership of the social entrepreneur that makes it all happen. It is that **individual(s)** that connect different dots to make social enterprise a reality.

The tables below are a breakdown of the various groundnut social enterprise in terms of the 5-I Framework (Ghore & Jiwa, 2018).

Table 3. Groundnut Storage Social Enterprise in terms of the 5-I Framework	
Innovation (in product, packaging, partnerships & processes)	<ul style="list-style-type: none"> • Innovative partnership between a local NGO, RUWFAG an association of rural farmers and individual women farmers; attempted to also involve the local government authority in order to increase scale and reach • Evolved into an innovative project to deal with consistency and transparency in measuring and storage issues by establishing a storage facility as a point of aggregation and a social enterprise to hold produce to sell after a seasonal increase in prices; improved access of collection centres and post-harvest handling; • Created an alternative market to rural women to address distress sale • Neither packaging or processes put in place to add value to the product; special sacks to store, package and maintain quality of groundnuts discussed, but never implemented
Investments	<ul style="list-style-type: none"> • Action research investments made for planning, monitoring and documenting evolution of project • Cash investment made available as grant to support establishment of storage facility; used for rental of facility in Cycle 1 and 2 • Savings from CIKOD staff team (promotors of social enterprise) used for initial purchase of groundnuts from women; intention was this would revolve back into the social enterprise; member contribution not started
Incentives	<ul style="list-style-type: none"> • Intention was to find alignment between incentives for different stakeholders, but little evidence that this happened. • Individual rural women farmers (created an alternative market; option to buy back groundnuts) • RUWFAG, CIKOD / L.I.F.E. Social Enterprise; Local Government (social capital increased supporting rural women) • Local / Techiman Traders: (quality of stored groundnuts)
Impact	<ul style="list-style-type: none"> • Individual rural women farmers: for 3 years have planted groundnuts and generated a small amount of supplementary income; aspired to increase income and production even more, but that has not happened • Hiring non-RUWFAG members to crack groundnuts had a negative impact • RUWFAG: as an organization wanted to be a catalyst for groundnuts production, processing, and marketing so members could enhance incomes, self-esteem and confidence. As a young organization stretched in many directions with many projects this has not yet materialized. • CIKOD / L.I.F.E. Social Enterprise: lessons learned in terms of the focus → \$ and time commitment needed to establish a social enterprise and how it cannot happen without flexibility and timely problem-solving
Individuals / Leadership	<ul style="list-style-type: none"> • Idea was that CIKOD / RUWFAG would lead the process of experimentation, but expectations fell on one project officer who was then constrained in what she was actually able to do. • CIKOD was growing and changing at the time and senior management had other priorities and gave mixed messages to what was expected in this small side project.

- Role of RUWFAG and women farmers themselves changed and CIKOD vacillated between wanting to use an endogenous approach led by women or to establish an NGO-run social enterprise. Communications with / from Coady researchers were also scattered and not always timely.

Table 4. Teitaa Social Enterprise started by a Woman Entrepreneur in terms of the 5-I Framework

Innovation	<ul style="list-style-type: none"> • Value chain analysis: the value chain analysis was done as an ongoing process rather than one-time activity. Using the producer-led methodology, it was done with people who were going to use the results themselves, and who had deep understanding of the local context and realities. • New products: Although value added products like groundnut paste, <i>Dawa dawa</i> (locust bean balls), <i>Kuli Kuli</i> (chips), roasted/fried groundnuts were sold in the local markets, doing this with the adolescent girls (single mothers, victims of sexual assaults and other women and girls at risk) and producing quality products was innovative. It was innovative because the entrepreneur created conditions so that it was easier for the women and girls to get involved. For instance, she provided raw material free of cost and they were paid for labour as they produced different products. Another innovation was the creation of their own brand and packaging. While further improvements could still be made, the women understood the value of quality, packaging, branding, customer retention etc. and the use of social media, radio for marketing. • Improving processes: The entrepreneur introduced many small improvements in various processes related to seed procurement, quality control, value addition and product improvement through customer feedback. The women entrepreneur invested in a centralized processing/production facility that was energy efficient and first of its kind in the area. She designed the facility by herself, using the available resources on the Internet.
Investments	<ul style="list-style-type: none"> • The individual women entrepreneur invested her personal savings to start the business. Given that she was a teacher and had a stable source of income, she decided to take the risk. • In 2018, she got a loan of 6000 GHC on a payment plan, interest only, of 160 GHC per month for one year (a 32% annual interest rate) to invest in the processing infrastructure and working capital. • EMPOWER project made investments in capacity-building of the entrepreneur by bringing her to Coady/StFX and also through exposure visits to other places/markets in Ghana as well as to other countries. • The entrepreneur had been part of other donor projects in the past, such the VSLA, which also contributed to her experience and confidence.
Incentives	<p>Key stakeholders involved:</p> <ul style="list-style-type: none"> • Women and girls: The Tietaa Enterprise employed 22 women and girls. The biggest incentive for them was that they were getting employment close to home. They were given raw material to make different products, and they were paid on time for their labour. • Private Sector: Tietaa offered reliability in terms of consistent quality, quantity, and timeliness to its buyers, both for the local markets in the north as well as to the few buyers in the southern market. • Donors: WFP provided a contract to Tietaa for making Winimix (groundnut-based food mix) for the school feeding program. Such partnerships worked as a win-win for

	donors as they are supporting a local women-run enterprise, and for Tietaa.
Impact	<ul style="list-style-type: none"> • Individual women and girls: The impact group for Tietaa are single mothers, and/or victims of harassment and sexual assault that they face when they migrate to the south. The biggest impact in their life was the creation of local livelihood, thereby stopping their migration to the south. • Tietaa: recognition as a local brand and enterprise. Because it was registered as an enterprise, it was able to secure government and donor contracts.
Individuals	<ul style="list-style-type: none"> • The individual women entrepreneur: The entrepreneur (who was also in the RUWFAG Executive) was inspired by what she was learning and frustrated waiting for directions from CIKOD or RUWFAG so she started something on her own. She was a risk taker, an explorer and innovator in her own right. After going through the value chain learning, she went to the capital Accra with CIKOD staff and used Google maps to find vendors for bottles, stickers, and other packaging materials. She designed the company stickers by herself then improved it. She went and talked to customers directly to improve the final products. All these are qualities of a successful entrepreneur. While she enjoyed doing this, she also had the women and girls in mind for whom she wanted to create the opportunities. • Women and girls: Women are at the center of Tietaa Enterprises. Although still an evolving story, the women's hard work and desire to stay local and to succeed is what will keep Tietaa going.

This 5-I analysis shows that efforts were made successfully to launch two social enterprises as a result of the knowledge gained from the produce-led value chain analysis. The time since launching these enterprises has been very short and they have encountered numerous obstacles. Their futures are far from certain. Much has been learned from them, however, and the 5-I analysis demonstrates how, in very different ways, both enterprises attempted to consider innovation, investments, incentives, impact and individuals / leadership.

The hope is these learnings are not only useful for the social enterprises going forward, but also for others who read this report and take the risk to engage in a value chain for indigenous foods, thereby supporting food sovereignty in Africa and around the world.

6.0 Reflections, Insights and Lessons Learned

This action research initiative, one that evolved from a producer-led value chain analysis to three complementary knowledge action pathways, was designed to forefront triple-bottom-line criteria and to illuminate possible synergies between market-led and endogenous food sovereignty approaches. Considering the triple-bottom-line contributes to success and exposing difficult trade-offs, a number of lessons were learned.

6.1 Equity Considerations

The strong commitment to their founding values and the well-being of women farmers ensured the CIKOD initiative maintained a focus on issues of equity. Working on enhancing sustainable livelihoods for women and helping them deeply understand the groundnut value

chain also had an equity payoff. Women's involvement and control over the farming and encouraging them to become actors in the value chain was empowering and emphasized the dignity of women and a recognition and respect for them in the community.

Securing land rights for women to farm groundnuts was a major accomplishment spearheaded by CIKOD. It was not directly an initiative of this action research, but was a synergistic action that had great benefit.

In a context where many food security initiatives are focused on large scale, high input production of externally-identified and produced seeds that are inaccessible and outside the control of marginalized women, this initiative also demonstrated equity by starting with a product that was traditionally accessible and controlled by women. Also, the emphasis on indigenous, nutritious, culturally significant food stuff may also have helped to (re)balance the inequities sometimes found in the promotion of external "modern" diets increasingly dominated by imported foods.

Actions lead to empowerment. Engaging in farming activities linked to value-chain research and experimenting with agro-processing can lead to changes in confidence, perceptions of self, and increased income. The process led to people, particularly women, to discover themselves and re-awaken their sense of self-worth and sense of fulfilment. It also bought out the collective efforts of women groups and reminded them there is power in setting and achieving common goals. It is important to note that different aspects of group dynamics were exhibited and most women were able to align themselves with people they can flow and work with. This, in itself, was empowering for them.

Maintain social safety net. One area the research did not pay much attention to was the women's connection with their social safety net, that is, economic gains versus social wellbeing in their communities. While the women wanted to be economically empowered, they did not want to trade it off with the communal support they give each other. One concern that was raised was that they needed to keep some of the groundnuts home, to be used as gifts to visitors or food for children, particularly orphans. It came out strongly that, while there are efforts to facilitate economic empowerment, this should be done alongside social empowerment.

Government support can compete with women's empowerment. Successful lobbying can lead to government support, but may weaken the access and control women experience when they work on very small scales "under the radar". In some cases, even if government offers to support or contribute to women's empowerment, the challenge is the process and procedures that these women will have to navigate to get this support. In the end, they lose interest and withdraw. Government can support women's empowerment, but should be mindful in allowing these women to own their space and go at their own pace by making processes and procedures easier for them to understand and appreciate. There is potential to scale up and commercialize groundnut production with government support, but then a bad farming season due to climatic conditions can put women at greater risk. Scale and

modernization motivated by outside forces versus women's access, control, and sustainable livelihoods still needs to be contested.

Good intentions for a storage drying facility are not enough to maintain a sense of ownership and control. Establishing a storage drying facility is complicated, and still untested. It may still prove to be an important innovation for rural women, but some of the ideas brought forward, such as discussing with women paying for the storage, challenged women's sense of ownership and control. The good intentions of L.I.F.E. to serve women with this kind of social enterprise, and to establish it in a sustainable way was questioned. If decisions about innovations are made without women, or women are made to feel marginalized from decision-making in some way, they lose ownership and control, and it loses its sense of equity. This also created a perception amongst the women that the storage facility is the sole responsibility of the NGO staff. Paying for storage, while on paper can reap benefits of seasonal sale increases, was a real disincentive to rural women accustomed to storing in their own home and being able to control and have the security net of their own stocks. It would have been ideal to hold separate meetings with smaller women's groups with similar interest rather than assuming that everybody wanted to be part of the storage facility. It would have also helped if some of these women voluntarily said they did not want to be part of the storage facility but would want to be part of another aspect of the value chain. The lesson here is that facilitators of such interventions should be very observant and watch out for the group dynamics and individual interest.

Policies may need to be leveraged or may need to be reformed. Policies can provide both constraints and opportunities, an enabling or constricting environment. Ghana's government policies like "one village, one dam," "one district, one factory," and "planting for food and jobs" can reduce the vulnerability of people engaging in rain-fed agriculture and agro-processing, but communities and their advocates also need to be vigilant in the details of how these policies are implemented and who actually benefits. Strategic analysis of other policies, such as the Fertilizer Input Subsidy Program (FISP), and being willing to organize and confront the government to reform such policies is also necessary, and an important right to exercise in a democratic nation. These kinds of activities help to create the kind of enabling environment that can make value-chain work effective for the benefit of producers and not just those who can take advantage of specific entry points along the chain. CIKOD has played a major role in the policy reform process. The tools, research, analysis, and knowledge gained through the community-led VCA process added legitimacy to CIKOD's efforts.

6.2 Economic Considerations

From an economic viewpoint, much was learned. Marginalized women's incomes can be increased by the harvesting and processing of groundnuts. Value addition can further enhance the income of women, and can theoretically provide the foundation for a sustainable social enterprise. The initiation, development, and operation of a social enterprise

is challenging, however, and without significant commitment and in-kind and material investments, it is very difficult to start such an enterprise in the context of rural northern Ghana. Many lessons were learned about the economics of entering the groundnut value chain.

It is challenging for producers to switch livelihoods. It is challenging for producers to switch livelihoods to value-added products for local markets and institutions. Many of the RUWFAG women identify as farmers—their ancestors have been farmers for generations. They farm and process groundnuts for their own household consumption, occasionally selling in the market when they need cash, but are still first and foremost farmers. “Other” people sell in the market place and process groundnuts and other food stuffs along the value chain. It is difficult for people to think of switching their livelihoods to something else, so trading and processing remains a small sideline activity, which makes it challenging to grow and progress. It may take a generation for people to see their identity shift to being different kinds of actors in the value chain. To change this, interventions should be looking at packaging and marketing of products for sale outside local communities. If products are not packaged well and do not sell, it does not encourage women to take advantage of the opportunities that exist in the chain. For example, there is market for groundnut oil, but people do not patronise them because they are stored in used bottles.

Groundnuts convertible to cash are a blessing and a curse. In the economic environment of Upper West Region of Ghana, groundnuts are both a blessing and a curse. Groundnut farming is environmental appropriate and accessible to women who can have control over their harvest and can easily sell small quantities of groundnuts in the local market for cash. Yet these kind of distressed sales for immediate cash mean farmers cannot hold their harvest until prices go up or think of investing in value-added processing. Women sell when in great need at the going market price and do not have the opportunity to make potentially greater profits. This is because groundnuts are harvested around a period when their children are going back to school, during festivals and Christmas. Outsiders (non-producers) take the greatest benefit and producers only get what they are offered.

Holding on to harvests until crop prices increase is easier said than done. The PLVCA research confirmed that farmers can benefit from a seasonal increase in prices if they hold on to their produce. This has been known by farmers for generations. To collectively try and operationalize a system to take advantage of this is challenging, however. Trust is needed at many levels, and project organizers need to be sensitive to what will be lost to women farmers if their “liquid” stocks of groundnuts are taken away from them. The convertibility to cash, the safety-net provided by having those resources under their own eyes and care, and the feeling of ownership and control is important. In the original research women talked about the benefit of having a place where family members and even their husbands could not take from their groundnut stock, but trying to operationalize such a system is difficult.

Social enterprises have potential. The CIKOD / RUWFAG L.I.F.E. Social Enterprise stored and made some profit from groundnuts. Indeed, the combination of organizing, aggregation of the supply, and the integration in the value chain was an interesting way for an NGO to enter the value chain as a local trader / aggregator / wholesaler.

Establishing a social enterprise can begin to shift thinking in an NGO. Taking steps to establish a social enterprise can begin to shift thinking within an NGO. A different kind of orientation is required to become a market actor which may be different than what has been done in the past in carrying out projects and programs. It requires actively engaging in the market processes and learning from the challenges, mistakes, and successes in a dynamic system. For NGOs committed to facilitating women's economic empowerment, it is worth establishing social enterprises to practically learn from them. If it works well, it can become a source of funding for the NGO.

Compliance policies need to be streamlined. Government policies for licencing and regulating agro-processing enterprises can be a major obstacle. Obtaining all the required registrations and certificates was a challenge (such as certificate of incorporation, certificate to commence business, Food and Drug Authority (FDA) registration, etc.). While these are necessary from compliance standpoint, it was the process for obtaining them that was a challenge. Obtaining credit, paying taxes, enforcing contracts, and labour market regulation was also problematic.

Entrepreneurial drive, risk taking and experimentation are essential to take an economic initiative forward. Having the courage and taking the risk to "just do it," as demonstrated by the woman entrepreneur and her small group, was inspiring to many. As a first adopter of new knowledge from the PLVCA analysis, there were many positive benefits and has great potential for the future. It is also important to recognize that self-confidence and empowerment is generated by just trying things; it fosters nimbleness and creativity even if it is not clear what the next step will be in the process. For example, producing small quantities without a "marketing plan" and simply using networks of relatives to market can work, but one must also recognize the limitations of such an approach for scaling up. For most communities where this research took place, their entrepreneurial drive is a result of their socialisation process. Most of them grew up doing business without any formal systems; putting in structures, research, and systems were seen as limiting factors. It is important to note that to support women's economic empowerment, there needs to be a hybrid system in place, between what they know and what is being brought on board.

Innovative groundnut products can be produced and marketed by rural women. Cottage production and processing of groundnuts can be improved by rural women, introduced into the market place, and supplementary income earned. This is a different starting point than trying to improve inherent constraints in the value chain such as measurement, quality incentives, and dealing with the price setting and small margins that are available to traders. Some farmer / producers are ready to experiment as processors, and they should be

encouraged. The research also showed that it is much easier to start with what people are already comfortable at doing and improve on that. In the end, they naturally find themselves doing much more. If starting with something they cannot imagine and understand, then they begin to resist the support.

Personal investments are a major factor leading to the success of small enterprises.

Entrepreneurs are independent decision-makers and risk-takers. Such an entrepreneur who invests her own money and creativity and works with a small group of women as day labourers, can have great success. Because she had a job elsewhere, she was able to make these investments, but it was the spirit as a local philanthropist / entrepreneur that really led to success. She felt the sense of responsibility and ownership, thereby ensuring it worked. The enterprise will still need support in terms of knowledge and resources when they begin to expand.

Impact can be much greater when it is focussed on a small group. One entrepreneurial woman working with a small group showed great leadership, and much was accomplished. These sisters were able to develop a close network of trust, even though one person was clearly the leader. In contrast, CIKOD and the large association of women in RUWFAG who tried to have broad representation, struggled with making decisions and moving forward. It is much easier for a dreamer to run with her dreams than participating in spaces where all ideas and voices are not being heard. Most of the women who were part of the process took their time to learn from the research and other initiatives, and they have done well for themselves and other women in these communities. For support to facilitate women's economic empowerment, the research shows that, it is advisable to work with smaller women groups based on their interest and experience.

6.3 Environmental Considerations

Groundnuts are well suited to the Upper West Region ecosystems, and are beneficial to soil health because of their nitrogen-fixing properties. Groundnut production is vulnerable because of the unpredictability of rain-fed agriculture, and could benefit from appropriate technology watering / irrigation investments.

As the RUWFAG farmers argued, however, groundnuts can grow best with compost fertilizers and do not need a lot of other inputs. There is an environmental risk with high input, irrigated, commercial groundnut farming. Experimenting with inter-cropping groundnuts with other crops and maintaining a focus on small family farms can be more environmentally sustainable.

6.4 Market and Food Sovereignty Synergies

This initiative began with choosing an indigenous food to revitalize (groundnuts), completing and documenting a producer-led value chain analysis, and then supporting the evolution of three knowledge action pathways. Certainly, by choosing indigenous products and maintaining their access and control in the hands of local women and actors met some of the criteria of food sovereignty. Using a triple-bottom-line approach throughout the value chain analysis and the entire initiative also maintained some of the principles of endogenous development. Knowledge Action Pathway B, the active advocacy work on groundnuts and leveraging and reforming government policies, definitely adhered to food sovereignty principles. In the other two knowledge pathways, the L.I.F.E. social enterprise and the cottage production of groundnut products, attempts were made to ensure the ventures were economically viable and would benefit the livelihoods of rural women. It was this commitment to both social and economic considerations that was strongest in the evolution of this initiative, and it was demonstrated that there are ways to pursue both the benefits of market linkages and food sovereignty considerations for the benefit of all.

Seek synergies between enterprises and advocacy. There can be unintended synergies and benefits between advocacy / research programs and establishing small enterprises that support rural farmers. Entering the value chain as cottage processors or as aggregators / wholesalers *and* working on advocacy to create an appropriate enabling environment are both necessary.

Debates in the broader development context influence local decision making. In the context of indigenous food revitalization and food sovereignty, a knowledge action pathway that shares knowledge and helps people understand the advantages and disadvantages of government policies is important. Rural farmers are citizens and actors and need knowledge to make informed decisions. They should not just be recipients of decisions made by others.

External influences like weather and crop contamination will impact plans. Weather and media about UWR aflatoxins and contamination from malaria control spraying can impact best laid plans. Farmers and their support organizations need to be resilient to maintain commitment and keep moving forward.

Production constraints are only the beginning. There are production constraints in the groundnut value chain, but they are only the beginning point of understanding how the value chain works and how it can be used to enhance the livelihoods of rural women (while maintaining the triple-bottom-line). Interventions that only focus on production issues will immediately encounter challenges when the groundnut producers enter the market, and unless producers are aware of, and willing to work to navigate these constraints, real benefits may only be realized by others.

Enhancing farm production and technology is only the beginning. Technological solutions alone are not going to make the difference people are seeking. Organizations need to be vigilant about their endogenous development values and consider appropriate (indigenous) technology first. In the discussions of entering the value-chain and the extensive research

done looking for opportunities, both in local markets and in Accra, there was great appeal of the shiny stainless-steel processing and packaging machines that were available. There was also the added pressure of “investment resources” being available for a big purchase. Technology only works if it is appropriate in how it interfaces with human systems.

It takes time and commitments to get real impact. The time to see real impact was very short. Especially for farming related enterprises where there is only one crop a year, seasonality is a major factor. One bad farming season because of external factors can really slow things down. Commitments need to be made to accompany farmers for multiple seasons.

There is great benefit to participatory value-chain analysis. Developing local ownership in the process of value-chain analysis means findings can be updated on an ongoing basis and used for multiple purposes. Ongoing study and process is great if practitioners do it.

Producer-led value chain research can inspire different knowledge action pathways. Knowledge is power. Knowledge in the hands of producers and organizations committed to supporting them can be powerful in helping people analyze their situation, understand it more deeply, and plan actions for change. These knowledge action pathways can evolve in different directions and much can be learned from each of them.

Investing in research and knowledge can have great success. Many projects would choose a pathway first and then do research / assessment to fit that objective. Here, certain benefits were gained because the idea was to learn first and work together to create the knowledge. Then, partners had the flexibility to let things evolve along different pathways.

The existing market practices do not reward good behaviour. Although there were few checks and balances for the quality of groundnuts in the local markets, there was no incentive for superior quality. The traders (as the main market interface with the producers) preferred status quo for measurement which was done in bowls that could be manipulated in the buyer’s favor and this caused mistrust between sellers and buyers. Market prices, and therefore margins, are set outside the local markets, and margins are so small they encourage buyers to use measurement manipulation and other strategies to increase their own profits. This leads to a lack of transparency and creates dissatisfaction and mistrust in the market place. This environment of distrust discourages people from investing.

Hopefully these general reflections and lessons learned will be useful for others working to implement a triple-bottom-line framework focusing on aspects of equity, economic and environmental considerations, and to find synergies between market-led and food sovereignty considerations.

There were also specific reflections and lessons learned for key stakeholder groups: CIKOD and RUWFAG, individuals such as the woman social entrepreneur and the rural women members of RUWFAG, and finally for the Coady-based educator-researchers.

6.5 For CIKOD and RUWFAG

Balancing social and economic objectives in the social enterprise. The initial thinking was that the social enterprise will generate enough financial resources to go back into the NGO; but in reality, the profit was very little. In fact, the NGO covered the cost of a project officer who devoted almost half of his time towards L.I.F.E. Rather than looking at the social enterprise as a standalone organization creating economic and social value, what we have learned in this study is that we need to look at the complementing roles the NGO and the social enterprise play. CIKOD and the social enterprise was designed to support women in their income generating activities, but it did not reach its full potential. Similarly, there are certain advocacy issues that social enterprises cannot handle alone.

How do you uphold the values on which you were formed? For CIKOD, the value of the social enterprise is beyond profit-making. But there were some aspects of social empowerment that NGO was lacking: keeping money in women's pocket as well as giving them that recognition in the community. So, a key learning here is that the changing context and market system may pull the organization in different directions but by defining its impact group and purpose clearly will help it sustain its mission.

Establishing a revolving fund / inventory system can be very complicated. Setting up a revolving fund / inventory system, especially one that is sensitive to the local cultural context, can be very complicated. The intention of this innovation was good: to help women avoid distress sale of their production and benefit from the seasonal increase in prices. But as a new innovation it could also take away their sense of ownership and control. A system was never implemented, but if partners wanted to experiment with this idea it would be very important to ensure users of the system were involved in its design every step of the way.

Government partners can be helpful, but they also have political agendas. Governments can help to scale up and provide long-term stability to an initiative, but will always be political in terms of priorities and who success gets attributed to. They can take momentum away from both NGOs and rural women who have their own priorities.

Small organizations need to have the absorptive capacity for capacity building. Too much training from different projects with the same partners can stretch staff and limit their focus on one particular initiative. Organizational capacity can get stretched thin with too many responsibilities, at the same time as capacities are being built. Partners offering capacity-building need to be better at coordination.

Giving management responsibility to a project officer without management authority can lead to frustration. For an iteratively designed initiative with many components, the responsible project officer needs to have the authority to make decisions at opportune times and to move forward. Advice and direction from management is valuable, but if this is not timely and definitive, it can become an obstacle. There were competing priorities for many of the actors involved in this project and management, coordination, and communication could

have been improved on all sides. Gender dynamics in these relationships need to be recognized.

6.6 For Individual Entrepreneur's Enterprise

Innovators have the first mover advantage. *Tietaa Enterprise* was a pioneer in setting up food processing and marketing of indigenous food. Rather than merely staying on a micro scale, *Tietaa* also created its own brand and entered the retail market. As a first mover, it was able to set some norms in the value chain. For instance, by working with adolescent girls as processors for a daily wage, it was able to give them more control and power. Further, the creation of the *Tietaa* brand and social enterprise raised the profile of both the social enterprise and RUWFAG.

6.7 For Women Groundnut Farmers

What has changed for women? The intangibles are more significant than the tangibles. While the knowledge action pathways impacted women in different ways and in a few circumstances gave women some financial leverage in the form of additional cash, what women valued the most, was the recognition, respect, and power in the community.

6.8 For Action Researchers / Educators

Objectivity versus engagement. It is difficult to be completely objective in the research when one is also involved in the capacity building/mentoring of the partner organization. The authors were engaged with CIKOD / RUWFAG both as researchers and educators/mentors. Given that the producer-led approach was introduced by Coady, the initial analysis, thinking, and decisions were influenced by the presence of the Coady facilitators, as were some of the major decisions as the initiative progressed. Therefore, a key lesson is to fully trust the process and go where the (community) energy is.

Written plans may be obstacles. Given the context, an over-emphasis on a comprehensive business plan can hinder people's innovation. Insisting that a business / feasibility study be written, and offering little direct support to do that, can hamper the creative momentum of a program and set up power dynamics between those who write and those who receive the proposal. Innovative ways need to be developed to capture the ideas, risks, and programmatic possibilities of enterprise development without defaulting to standards set from outside contexts. Even for people experienced with NGO proposal writing, it is different to write a feasibility study and business plan. One partner assuming it can be done is problematic, and even encouraging another partner to work with a local consultant is risky.

Real-life stories are powerful for teaching. Most of the Coady classrooms consist of practitioners and community leaders operating in contexts not very different from that of CIKOD / RUWFAG. The CIKOD / RUWFAG experience has been presented to the Coady participants as an evolving story in the form of short videos and short cases/real life scenarios

of the challenges connecting small producers to markets and revitalizing indigenous food systems. The participants found it easy to connect with these practical real-life scenarios. Therefore, the learnings from such action research projects not only benefit the partnering organization but many more through educational programs and sharing.

7.0 Conclusions

In Upper West Region Ghana, groundnuts are an important indigenous crop that has social and cultural significance, nutritional value, and is appropriate for the environmental conditions. Women traditionally farm groundnuts and have some access and control over production and management of the resource. This study found that doing a producer-led value chain analysis can identify market opportunities related to groundnuts, specifically along three different, but complementary, knowledge action pathways.

As the value-chain analysis map shows (see Figure 1), actors can enter the value chain at different points. Rural women members of RUWFAG are already involved as producers as the foundation of the value chain. Women can also get involved as entrepreneurs, adding value beyond production, as small cottage processors, as was demonstrated by one of the knowledge action pathways. Many lessons can be learned by just jumping into this role and experimenting. Actors can also enter as local traders (aggregators) and wholesalers; this is what the L.I.F.E. social enterprise attempted to do—not just to take profit from the value chain, but to improve the functioning of the system to accrue profit and also benefit rural women and further equity considerations. This was another knowledge action pathway which provided insights on what happens when a new player (social enterprise promoted by NGO) tries to enter the value chain. Finally, the whole value-chain operates within the enabling environment, a big part of which is government policies. The final knowledge action pathway was to use the knowledge generated from the PLVCA research to inform and further the advocacy work CIKOD was doing on leveraging and reforming government policies and promoting food sovereignty practices. While NGOs working in value chain and market development find it hard to influence policies, this study shows that with its long-standing relationship with local communities and understanding the value chain from their perspective, it is indeed possible to influence policies.

This study showed that producer-led value chain research can catalyze knowledge action pathways that can help to revitalize indigenous foods and launch social enterprises in the groundnut value chain in Ghana. Further work needs to be done, but much was learned by the commitment and dedicated work of partners in this effort.

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9.0 Appendices

Appendix A: List of Acronyms

AFSA:	Alliance for Food Sovereignty in Africa (AFSA).
CAD:	Canadian Dollars
CIKOD:	The Centre for Organizational Development and Indigenous Knowledge
Coady:	Coady International Institute
EMPOWER:	Women’s Leadership for Economic Empowerment & Food Security in Ethiopia, Ghana Zambia
FDA:	Food and Drug Administration
FISP:	Farm Input Subsidy Program
GHC:	Ghana Cedis (approximately 4 GHC = 1 USD during time of the project)
GOG:	Government of Ghana
L.I.F.E.:	Local Indigenous Food Enterprises, a social enterprise started by CIKOD and RUWFAG
NGOs:	Non-Governmental Organisations
PLVCA:	Producer-led Value Chain Analysis
PLVC-IF:	Producer-Led Value Chain – Indigenous Food action research project
RUWFAG:	Rural Women’s Farmers Association of Ghana
Tietaa Enterprise:	A cottage processor and social enterprise started by an entrepreneurial woman
TZ:	Tuwon zafi, local staple food stuff
UDS:	University of Development Studies
USD:	United States Dollars
UWR:	Upper West Region, Ghana
VCA:	Value Chain Analysis
WFP:	World Food Program of the United Nations

Appendix B: Understanding the Groundnut Value Chain in Ghana

This appendix provides some details of the findings of the PLVC research for understanding the Groundnut Value Chain in Ghana. (See Figure 1).

Groundnut Producing Households

Almost all farming households in the UWR grow groundnut on a portion of their land. Two factors influence how much area one household will use to cultivate groundnuts: availability of seed and availability of labour. Labour is particularly needed at the time of harvesting. The popular, China variety of seed takes about 3 months to grow, whereas other local varieties (for example, the Red variety) take 3.5 months. The productivity depends on the rainfall and the cropping time. An early sowing yields better result. Productivity can range from 75 kg (1 maxi bag) to 400 kg (8 cocoa bags) per acre.

The gender norms are very clearly laid out. Although an important cash crop, women prefer this crop more than men. Women are familiar with it, know its food value (gives them some surety that there is food in the house), and know its cash value (in order to get other food and HH items).

Both women and men clear the land, but then men exclusively do ploughing and women do sowing. Weeding is then done by both and both engage in harvesting. Drying and sorting is done by women while storage, decision-making on selling, and visits to market to sell are usually shared. The issue of women's involvement in decision-making is a difficult one and it can vary depending on the land user. If the groundnut is cultivated "as family" on the family land, then women and men do the work as explained above; however, it's the men who decides how much to sell. Women, when specifically allocated land to use, make all the decisions on selling, and will employ men or their relative men (son) as needed. It's a common practice for men (husband) to allocate a portion of the land to women (wife) for a season. It's up to the woman to decide what she wants to do with it. In many incidences, the land given to women is not the best in quality. Most women prefer to grow groundnuts in the allocated land.

Some of the production bottlenecks are access to land, tractor services, rainfall, labour and harvesting, post-harvest losses, and no access to credit and high interest rates.

Primary Processing

Primary processing is usually completed on producers' own farms and involves the following key functions: Cleaning the groundnut shells, drying in the sunlight, packing in the maxi/cocoa bags, storage in the bags within the house, and then shelling to take the seed out. Most of the groundnut is stored in the shell which is a good practice to control aflatoxin. Women do most of the primary processing functions. Some prefer to sell as whole groundnut in the market (commonly observed during the peak harvest season), but the majority of the groundnut is sold as seed (after shelling). Shelling is done by women by hand or using a shelling machine.

Most farmers store their own seed for the next season. Some also use the seed to pay for the labour they deploy. Groundnut is a common and important ingredient and most of the households use their own production for consumption. Most of the processing for household consumption (i.e., into paste, roasting, oil) happens at the household level. Women attach significant importance to the groundnut storage as it gives them enough food security for the household, both for groundnut as food, and as cash crop for buying other food items.

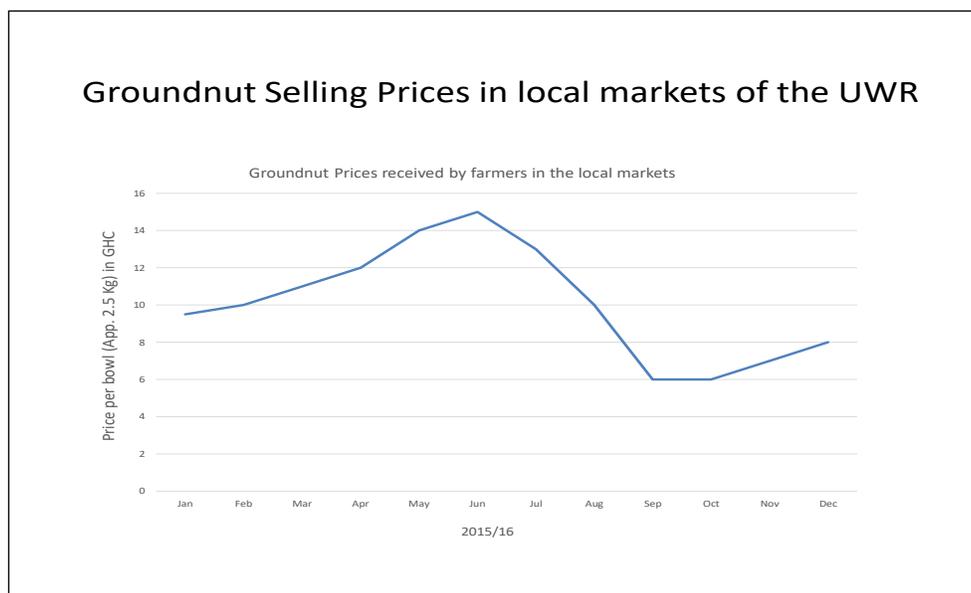
Local Markets and Small Traders

The bulk of the groundnuts are sold by the farmers in the local weekly village markets. Most of the groundnuts are sold as seeds, although some are sold as groundnut in the shell immediately after the harvest. The prices are usually uniform across the buyers/traders within one market. The prices are usually set from the big market centers such as Accra and Kumasi. There is a price variation for different variety, but usually no price variation as per the quality of the seeds. Poor quality seeds are simply not purchased.

Most of the trading takes place individually at the marketplace and there are no contractual (formal or informal) trading relationships between the farmers and the buyers. All the payments were made on the spot and there were no transactions in credit. Farmers like the fact that when they bring their groundnuts to the markets, they are sure of selling and getting money on the spot.

Almost all the measurements were done using a measuring bowl, and not by weight. How the buyer and seller “pile up” the groundnuts can influence the number of bowls by as much as 15%. Although the practices may vary slightly between the markets, the farmers feel cheated at the end of the transaction. In some markets, there were even two types of bowls (one for buying and one for selling).

Figure 1. Seasonal fluctuations in groundnut selling price



Prices vary significantly from seasons to season, as shown in Figure 3 above. At harvest time, a 2.5 kg bowl of groundnuts can sell for 8 GHC. During the rainy season when a new crop has been planted but the supply of groundnuts is getting scarce in the market, a bowl can cost 15 GHC.

Most of the small traders and aggregators are women. In one particularly market, researchers learned of the real challenges of entering the market as an aggregator. Groundnuts must be purchased in cash at a price usually set from outside, so depending on the capacity, a small woman trader may buy anywhere from 5 to 10 bags (of 40 bowls each) per day. The groundnuts are purchased in bowls of approximately 2.5 kg each, and they may only purchase 2 to 10 bowls from an individual farmer who wants that amount of cash. It can be a long day to purchase 5 to 10 bags worth. Storage is problematic and risky, so the trader usually tries to sell on to a larger market outside the local area as soon as possible. In January 2016, the price for a 40-bowl bag was 360 GHC. The wholesale price that the trader gets in Techiman, a large trading market 400 km to the south, is only 380 GHC, a 20 GHC markup. However, the cost of transport and loading and unloading that bag of groundnuts is 14.50 GHC, leaving 5.50 GHC profit per bag. The trader will need to pay 70 GHC for her own transport, and this cost eats into the possibility of profit. If she only has 10 bags to sell, it is not economically viable to travel to Techiman and sell, but she has 3,600 GHC tied up in the stock. Sending the bags to Techiman without escorting them is risky. She needs to have 20 bags to realize even a modest profit of 40 GHC after all costs. A big trader, with cash resources can buy as much as 40 bags per day and aggregate large volumes before going to Techiman and receive some economies of scale in transport and other costs.

Some of the market related constraints at this level are distress selling, prices determined from above, unfair trade, unit of measurement, no incentive for quality at the local market, lack of info on prices, no record keeping at the farmer / trader level.

Wholesale Markets in Southern Ghana

Most of the local traders/buyers bulk their purchase and sell it in the wholesale market at Techiman. Techiman is the biggest wholesale market for the groundnuts where the bulk (almost 90%) of the volume goes. Small traders come together (collaborate) to sell in the Techiman market. Some traders use mobile money to receive payments from buyers in Techiman. There are relationships of trust between the local traders and the wholesalers in Techiman.

People from other parts of the country such as Accra, Kumasi, Sempa, Takroradi and even the Ivory Coast buy from traders in Techiman. Techiman is primarily a transit point where regular buyers come weekly. Techiman traders usually ensure that the groundnuts are not broken or moldy and are properly dried.

They mostly sell on cash but also on credit for their trusted customers; they have done business with some of their customers for almost 20 years. They receive the groundnuts on

credit every week and pays the following week from Wa. Prices keep changing during the different seasons. Measurement can also be a problem at this level; for example, a bag that is supposed to be 40 bowls is 37 bowls. This leads to a perception of cheating by the middle women. The same issue was raised in Lawra and Nandom markets. For example, in all these markets, they all complained about the measurement.

In Accra markets, many traders will say groundnuts from the Upper West Region have the best quality and taste and have more oil. They also have higher market demand than the other groundnuts from other parts of the country and customers are willing to pay a little more for that. Traders in Accra may buy from many different small traders from the three northern regions to meet demand because they are unable to buy direct from farmers. Transactions are usually in cash because of bad experiences with credit payments.

Groundnuts are usually sorted and aggregated before selling them at the market; broken and rotten ones are sold to groundnuts paste processors. Buyers usually want good quality groundnuts on time, but do not control the selections and transportation of groundnuts. The challenges experienced were: poor quality, broken, delay in stock arrival, heat, aflatoxins, mold. Major reasons groundnuts paste fails the standards test are because of molds, yeast, and/or aflatoxins.

Value Added Processing / Cottage Production

The value chain described to this point, from a producer's perspective, focussed on the production and drying of raw groundnuts. There are also certain value-added products in demand by consumers such as: roasted (and flavored/salted) groundnuts, groundnut paste, flavored groundnut paste, groundnut oil, and Kuli-Kuli (a traditional snack). The processing takes place in two very distinct channels:

Processing in the North: Mostly small-scale cottage processing for primarily supplying to the Northern markets. The demand for groundnut oil is declining due to the cheap foreign vegetable oil available in the local markets. But there is some demand for paste and Kuli Kuli. Just like the markets in the south, there are institutional buyers such as school and hospitals in the north as well.

Processing in the South: Medium to large scale processors buy the raw groundnuts from the wholesale market in Techiman. Most of the processors in the South concentrate on the end consumers in the southern markets and on institutional buyers including universities, hospitals, government programs.

There is a niche market in larger centres for fresh groundnuts at harvest time, but more important is the market in southern Ghana for groundnut paste for restaurants, households, and institutions.

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