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Breaking Barriers to Scale Up *through* Commercial Village Model

Data Analytics & Direct Implementation Lessons Based on 461,232 Smallholder Farmers

Farm Concern International, FCI

Farmer Organization Leaders representing 400 Commercial Villages during an action planning training in Northern Tanzania held at the FCI Farmer & Enterprise Training Centre

Tanzania

Uganda

Ethiopia

Seed-Farmer-Market-Consumer [SeFaMaCo] Programme

1,242 Commercial Villages | 718 Buyers | Year 1 – 3 Sales: USD 276,019,904

Smallholder Farmer Data Report

Supported by:

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Implemented by:

Farm Concern INTERNATIONAL

Winning Markets for Africa

Winning Markets for Africa!

|FarmConcernInternational,FCI

Vision

To have commercialized smallholder Communities with increased incomes for improved, stabilized & sustainable livelihoods in Africa and beyond.

Mission

To build and implement innovative pro-poor market & business models that catalyze solutions for smallholder commercialization and competitiveness in value networks for household, economic growth and community empowerment in Africa and beyond.

2018

FCI Africa Office

Data Report

Gross Margin Analysis◆Cost Drivers◆ Profitability◆ Impact & Evidence-Based Reporting

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FCI Emerging Statistical Evidence Gathered from

3 years of SeFaMaCo Direct Implementation

through

- **Cost Benefit Analysis & SHF Data**
- **Commercialization & Food Security**
- **Commercial Villages Aggregation**
- **Monitoring & Evaluation and Impact**

Banana

Staples

Sweetpotato

Required Citation: FCI Evidence / SeFaMaCo Farmer Data Report, 2018.

Farm Concern International, FCI, is an Africa-wide Agri-market development agency specialized in; I) Value Chain Analysis, ii) Profitable Smallholder Commercialization and iii) Market Access iv) Capacity Development v) Enterprise Incubation & Graduation. Our experiential journey spans over a decade and a half, with scaling up having been rolled out in over 24 countries in Africa, impacting 18 million smallholder farmers and agro-pastoralists. We are a unique hybrid organization that blends dual dimensions of selected industry best practice from the private sector and development world.

Data, case studies, impact and lessons learnt are gathered through an action research approach during the implementation process of the Seed-Farmer-Markets-Consumer (SeFaMaCo) Integrated Value Chain programme implemented through the Commercial Village Model. SeFaMaCo is a 4-year Programme funded by the Bill & Melinda Gates Foundation implemented by FCI and SeFaMaCo consortium in Tanzania, Uganda and Ethiopia. This programme focuses on banana and sweet potatoes as the core/anchor value chains as well as the Commercial Village prioritized non-core / complementary value chains. The designations employed and the presentation of material in this report do not imply the expression of any opinion whatsoever on the part of FCI or BMGF concerning the legal constitution status of any country, territory or sea area, or concerning the delimitation of frontiers.

Commercialization, Supply Chain Efficiency for Smallholder Farmer Profitability for Income Growth.

Marketing systems are complex and dynamic; data is the most influential piece of information that FCI gathers for value chain-wide informed decision-making.

Evidenced-based value chain-wide decision-making is an emerging asset for Farm Concern International, FCI and it is increasingly becoming more valuable in engaging smallholder farmers and buyers based on statistics. Market data is one of the most influential statistics that FCI gathers through value chain analysis, market monitoring and market development. Beyond market prices and volumes traded, FCI team is learning from experience that a wider spectrum of critical data for farmers and buyers is necessary in guiding market-entry competiveness, profitability and repeat sales.

Commercial Villages Model is a last mile business model for commercialization, food security, aggregation & market access.

The SeFaMaCo programme is implemented through the Commercial Villages Model; a 12 - Year implemented, tested and upgraded innovative business Model for value chain analysis, smallholder commercialization, food security, and aggregation & market access. This last mile business model, developed and upgraded by FCI over more than a decade is a multi-value chain innovative smallholder commercialization and aggregation business model for market access. The model has experientially been applied in 8 Countries with 132 partners. FCI and partners through the model, has continued to generate statistical evidence on smallholder commercialization and market access proving its efficacy for high impact; its capacity to transform high numbers of smallholders; deliver enterprise profitability and stabilize incomes.

Additionally, we recognize that smallholder commercialization can trigger unintended outcomes that would affect food and nutrition security, financing-related risks and threat of increasing production at the expense of environmental management. Against this backdrop, FCI, which has upgraded the model to uniquely blend a multi-value chain approach that has unlocked women and youth inclusion, food security, climate resilience and income seasonality stabilization aimed at optimizing a market-led approach.

Based on evidence: To uniquely optimize a market-led approach, the model has blended a multi-value chain for food security, climate resilience and seasonal incomes stabilization.

Seed-Farmer-Market-Consumer [SeFaMaCo] Integrated Value Chain Programme implemented in Tanzania, Uganda and Ethiopia has opened an unprecedented platform for experiential data gathering through action research embedded in the implementation process. The 461,232 Smallholder Farmers in 1,242 Commercial Villages in the programme are contributing towards a wealth of data on growth pathways as they participate in markets. These emerging data sets through reports and data learning forums which are shared with the Bill & Melinda Gates Foundation, partners and farmers are aimed at increased utilization of statistics on revealing complex dynamics that smallholder farmers contend with and market unpredictability that value chain actors deal with every day for enhanced design of interventions, strategies and policies.

SeFaMaCo Integrated Value Chain in Tanzania, Uganda and Ethiopia is an unprecedented platform for experiential data through action research based on 416,232 farmers in 1,242 Commercial Villages

Staple crops for markets are the main focus for SeFaMaCo programme with banana and sweet potato as the anchor crops while complementary crops have been prioritized and differentiated per country by level of market demand.

Graduating staple crops from subsistence crops to SHF commercial commodities is one of the thrust for this programme with a focus on increased market access while guarding food security. The second thrust of the programme is building marketing systems efficiency that increasing unlocks profitability and Return on Investment (ROI) for buyers and smallholder farmers. Therefore, this report shares data and captures lessons learnt from SeFaMaCo integrated value chain programme gathered over the period 2015-2017.

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Mumbi Kimathi is a Market Analyst initially in the private sector, later transitioned into agricultural commercialization and markets & trade in the development sector in Africa. At Farm Concern International, FCI, currently Mumbi is the Director for Strategy & Innovations and the overall supervisor for the SeFaMaCo Progamme in the three countries.

Harold Mate is a specialist in value chains and markets with wide experience across Sub-Saharan countries and currently supervising SeFaMaCo market development, private sector partnership and trade facilitation. He is based at the FCI Africa Office.

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Definition of Terms

Actors/Players: Entities along the value chain involved in producing, processing, trading or consuming a particular product/service.

Broker: A value chain actor who acts on behalf of wholesalers and other market actors and does not own the product/service at any point in the chain. His/her role is to connect buyers and sellers; in some cases, negotiating prices on their behalf then paid a commission by one or both parties.

Business Support Service (BSS): A wide range of services used by entrepreneurs to help them operate and grow their business i.e. Transportation, financial, training etc.

Destination markets: Major regional markets mainly sourcing farm produce either from traditional or transitional markets and offering prime prices to suppliers.

Domestic market: All trade mechanisms within a country, excluding exports and imports.

Informal markets: Open-air or enclosed characterized by numerous commodity traders who buy commodities in bulk for resale to other business buyers including wholesalers, retailers, processors and institutions

Informal traders: Buyers and sellers who operate within the informal market systems; they include wholesaler, retailers and brokers and others.

Institutional /formal buyers: structured buyers who purchase large volumes / bulk through structured systems. They mainly purchase on credit. They include hotels, hospitals, and schools among others.

Marketing channels: These are sets of interdependent organizations/actors involved in the process of making the product available to users or consumers. Producers do not sell their products directly to consumers; between the producers and consumers stands a set of intermediaries performing various functions. The intermediaries constitute a marketing or distribution channel.

Marketing strategy: A set of decisions and actions that results in the formulation and implementation of marketing plans to achieve marketing objectives. This entails market segmentations, product development & positioning, pricing, distribution and promotions.

Retailers: A market intermediary who buy products in small quantities from wholesalers, farmers or brokers and resell to individual consumers. Retailers may include farmers, traders at roadside and market places, supermarkets and green grocery operators.

Supply Chain: A set of linkages between actors where there is no binding or sought –after formal or informal relationships except when goods, services and financial agreements are actually transacted.

Traditional markets: Local markets mainly characterized by the presence of many traders (wholesalers, retailers, brokers). The markets a have may lack a documented process or trade but operate mainly on trust between actors and transact huge volumes of goods.

Transitional markets: Markets that act as consolidation/aggregation points for commodities and links sourcing areas and destination markets. They are mainly located along major trading routes, trading hotspots and transport corridors.

Value chain strategies: This is whole system of processes (activities, organizations, structures) that are combined to create value for customers as products move from their point of origin to the end user.

Value chain: A sequence of related business activities (functions) from the provision of specific inputs for a particular product to primary production, transformation, marketing, and up to the final sale of the particular product to consumers (the functional view on a value chain).

Value Networks: An advanced market systems tools that seeks to document the various processes and networks that actually support and maintain a value chain.

Wholesaler / Wholesale Buyer: A market actor who purchases commodities in bulk and takes ownership of products. A wholesaler buys directly from farmers, brokers and sells in large volumes to other intermediaries. Wholesalers also provide downstream and upstream value chain financing by paying cash for products and providing credit to resellers.

FCI staff prepare training aids during an Agro-processing enterprise training targeting Commercial Villages youth and women. Processed products are targeted for business diversification along commercialization and market access for various staples.

1. Executive Summary

This Smallholder Farmer (SHF) data report highlights the experiences, impact, successes, challenges and lessons learnt through the direct implementation of the Seed-Farmer-market-consumer (SeFaMaCo) Integrated Value Chain programme focusing on smallholder commercialization and aggregation. The experiences shared in this report have been captured over a period of 3 years based on an action research approach embedded into the implementation. This specific report covers multiple dimensions of impact through statistical lenses and enhanced with case studies for a qualitative angle to impact. Market access is covered in a subsequent report. The report structure is based on the following summarized thematic sections;

1.1 Gross Margin Analysis

Gross Margin Analysis is an important tool used by FCI to enable smallholder farmers understand their farm enterprises. Under the SeFaMaCo Programme, gross margins for various enterprises have been applied to assess the revenue generated by each commodity in relation to specific cost drivers. Careful examination of these variables then facilitates smallholder farmers to generate the optimal enterprise-mix with maximum profitability. Through the Commercial Villages, farmers are equipped with skills on practical assessment of agri-farm enterprises with focus on net income and variable costs. For example; In Arusha, Northern Tanzania, the planting process accounted for the highest costs incurred by farmers in banana production; banana suckers (39%) and planting labour (26%) accounted for the highest production cost-driver. To ensure competitiveness; a regular repeat of this process, ensures informed decisions by smallholder farmers on whether to sell at the farm gate or at the markets gate. Whereas market gate prices are usually higher and appear more attractive to smallholder farmers, the logistical costs and risks along the supply chain are enormous and require upfront investments. Therefore, where to sell commodities with optimal profits is a decision that Smallholder Farmers [SHFs] are better placed to make based on data.

1.2 Commercial Village Aggregation

Bulking centres are key points of quality and quantity management within the supply chain enabling farmers to aggregate. Commodity aggregation reduces the cost of sourcing for wholesale buyers making Commercial Villages attractive for business

The cost of doing business for wholesale buyers is among the key considerations when making decisions on sourcing of commodities. Data collected through the implementation of the SeFaMaCo programme indicate that transport was the single highest cost incurred by buyers. Partnership with buyers then is hinged on among other things, the ability of the smallholder farmers to reduce logistics costs, provide consistency in supply, as well as providing quality commodities. Commercial Village aggregation then provides a system that allow farmers to be efficient making them more attractive to formal and informal wholesale buyers. Aggregation can be physical where there are developed supply chain systems and trading time is predetermined. Where such does not exist, FCI is applying virtual aggregation approach where farmers provide real time data on availability, quality and quantities of commodities for trade.

1.3 Commercialization, Labour Costs and Agri-Mechanization Opportunity

The process of commercialization and graduation from subsistence farming to commercial farming by smallholder has greatly increased the demand on family and hired labour subsequently increasing the overall cost of labour. Based on Cost Benefit Analysis, labour costs at production level remain high e.g. in Kagera-Tanzania the cost of labour for banana production is 59%. Managing labour costs and increasing net profits by SHF is key therefore, the adoption of appropriate technologies as an effective approach to enhancing commercialization is key. For example, over the last three years [2015-2017], there was an increase in absolute level of labour wage rates in SeFaMaCo sites in Ethiopia building urgency for agri-mechanization. Market-led production has a high farm - level labour demand as SHF seek to meet market volumes, consistency and quality requirements. SHF access to payments for market supplies therefore increases ability for SHF to actually pay for hired labour contributing towards higher farm employment and increased farm wage share.

1.4 Multi-Value Chain Approach

Buyers especially in the informal sector deal with multiple value chains, sourcing assorted commodities. This helps them to leverage on the existing resources within the integrated farming systems. This then informs the multi-value chain approach under the Commercial Villages Model enabling smallholder farmer to have enhanced market linkages and increased household income. Cost benefit analysis comparisons for various value chains are presented to SHFs, buyers and partners for expanded understanding of multiple opportunities across various value chains. Smallholder farmers contend with multiple issues and make decisions based on various considerations for risk reduction permitting SHF to navigate the unpredictable market space. When decisions are made without adequate information and support, smallholder farmers tend to find themselves in loss making enterprises or focussing only on food security crops. Using the cost benefit analysis, SHF have prioritized profitable value chains depending on market opportunities, food security and climatic conditions. This approach has expanded farmers' ability to mitigate against risk of crop failure that is apparent when only a single value chain is promoted. The approach has continued to unlock opportunities for smallholder farmers across the programme implementation sites based on commodities that are offering competitive advantage for farmers

1.5 Women and Youth Participation in Commercialization and Market Access

The SeFaMaCo programme has impacted 116,638 youth farmers representing 20% of the total smallholder farmers under the programme. Agriculture has been profiled as a non-attractive sector for the youth, with little profits and a venture for the poor leading to major rural urban migration by youths. The programme focused on engaging the youth in enterprises which have a shorter turnover period, have an assured market engagement and requires relatively lesser land. Commercial Villages market engagement and service provision is an expanding opportunity for youth particularly with evidence of increased SHFs incomes. Therefore, youth have also increasingly participated in provision of services within the Commercial Villages especially on provision of market information.

The inclusion of women in commercialization processes through increased roles in leadership and as direct suppliers for markets. Though disadvantaged in terms of access to land and other resources, women play an increasingly critical economic role within Commercial Villages. The programme has impacted 163,652 women farmers representing 40% of the programme smallholder farmers. Besides contribution to household incomes, women have been spearheading the nutritional aspects

under the programme within the target sites since they are more than often, culturally charged with household nutritional needs responsibilities and are better skilled than their male counterparts are. For women then, choosing the value chains to focus on is not only informed by the ability to generate income but also the ability to provide food and nutrition security for households.

1.6 Agri-Nutrition for Commercial Villages

Nutrition among smallholder farmers can be undermined by commercialization interventions that focus incomes generating value chains for smallholder farmers. More often than not, these interventions focus on linking smallholder farmers to market and profit maximization. FCI is therefore conscious that over time, nutrition can suffer especially where there are more urgent needs such as school fees and health care that 'compete' for the incomes generated by SHFs. FCI has embedded the agri-nutrition aspect within the Commercial Village Model to ensure that as farmers commercialize and access markets, nutrition is equally given attention by SHFs.

While FCI is a commercialization and market development focused institution, we do recognise that these can choke nutrition hence the deliberate effort to make Agri-nutrition a component under the Commercial Village Model

1.7 Food Security

Graduating communities to a healthy and food secure status within the context of an economic programme implementation is achieved through a focus on food systems, which is among the key components of programme implementation for FCI. Under SeFaMaCo, sweet potato and banana are key sources of food around the year for many households. Programme data analysis reveals that over 327,215 MT tonnes were consumed at the rural household level. In Ethiopia, over 168,491MT equivalent to 25% of sweet potato produced and valued at USD 20,803,912 was consumed at farming household level. In Tanzania, 110,492.4MT equivalent to 29.1% of sweet potato produced and valued at USD 14,931,824.2 was the consumption recorded at the farm level.

203,328.20MT
Contribution of Banana to Commercial Village food security

USD 22,322,916
Commercial
Value of banana contribution to food security

Statistics from the SeFaMaCo programme show that in Uganda, 48,232.5MT equivalent to 24.6% of sweet potato produced and valued at USD 5,486,451 was consumed by smallholder families while in Tanzania, 51,203MT of banana equivalent to 25% of the total produced by the smallholder farmers in Commercial Villages was consumed and was valued at USD 7,979,684.8. In Uganda, 152,125MT of bananas were consumed at the household level accounting for 25% of the banana produced and valued at USD 14,343,231.7.

1.8 Consumer Awareness

Alternative food sources and poor consumer image on target commodities in urban consumer segments, youth and school-going children has stagnated demand for SeFaMaCo anchor value chains; banana and sweet potato that form a major part of staple foods.

However, a multi-pronged partnership approach is being applied under SeFaMaCo aimed at influencing consumers from various dimensions. SeFaMaCo is utilizing sustainable platforms that ensure there is a perpetual mechanism for disseminating nutritional marketing messages to

consumers and the communities at large. Partnerships with 293 schools across the three countries has enabled the programme to contribute towards the nutritional component as well as partnerships with government departments as development partners. FCI has also recruited and trained Community Health Workers (CHWs) as Trainer of Trainers and conducted nutrition and utilization training forums targeting rural and urban households. The product diversification trainings focused on making alternative products from sweet potato and banana to enhance sweet potato/banana consumption. The trainings also highlighted best nutrition practices for beneficiaries at hospitals and health centres including medical staff, expectant and lactating mothers.

981
Partnerships with retail outlets
A platform for dissemination of consumer messages aimed at creating demand.

- Community health workers
- Schools and teachers
- Retailers and wholesalers

20
Health/Medical Institutions Partnerships Food-based Nutrition Solutions with key focus on women, children less than **5** years and additional info for entire family diets.

1.9 Capacity Building

Training of wholesale buyers, other value chain actors and smallholder farmers was conducted on various aspects across the 4 levels of SeFaMaCo programme implementation. At the seed level, entrepreneurs have been capacity built on sweet potato seed propagation and preservation especially during the dry periods to ensure that seed is available at the onset of planting seasons. In addition, skills on multiplication of disease free materials and quality declared seed has been a key focus for the programme to ensure that the spread of diseases and pests across sites is significantly reduced. Trainings at the seed level were facilitated in partnership with research institutions and government agricultural extension officers. At the farmer level, farmers are trained on crop production, agronomy for improved productivity, post-harvest management and farmer organization governance. Training for buyers focused on various aspects such as entrepreneurship, savings and small business management skills including the importance of record keeping, business planning and access to the right information for business growth and expansion. At the consumer level, the SeFaMaCo programme facilitated nutrition education programmes in partnership with learning institutions targeting pupils and schoolteachers. FCI also recruited and trained Community Health Workers (CHWs) as Trainer of Trainers who conduct nutrition and utilization trainings targeting rural and urban households. Additionally, the Commercial Village Trade Facilitators (CVTFs); FCI's frontline team, has been key in offering smallholder farmers technical support on various issues. The CVTFs are trained and equipped with tools & training aids ensuring quality delivery of content.

No. of Commercial Villages trainings under SeFaMaCo;

- Year 1: 12,675
- Year 2: 37,635
- Year 3: 56,277

Total: 106,587

1.10 Seed Entrepreneurship:

Establishment of seed enterprises across the three countries with 607 seed entrepreneurs being trained and linked to smallholder farmers within the Commercial Villages. This is aimed at providing clean and quality planting materials to farmers with a goal of enhancing productivity and eventually increasing the volumes traded by farmers. In the last three years, 66,041,249 banana suckers and 1,347,274,969 sweet potato vines have been sourced from seed entrepreneurs, government and other development partners by commercial villages. Seed and farm input investment forums are

conducted providing a key platform for linkage between seed entrepreneurs, farmers and service providers. The trainings were conducted in collaboration with various institutions mandated to offer technical support on seed production and certification for Quality Declared Seed. The seed entrepreneurs are envisaged to expand their seed multiplication enterprises as the programme expands and influences more farmers who are providing a ready market for the seed due to market demand for sweet potato and banana triggering a profitable market-led seed system.

1.15 Lessons Learnt

The implementation of the SeFaMaCo programme over the last three years has brought to fore pertinent issues and experiences that continue to inform the SeFaMaCo Model testing. Data collected over time is revealing key discussions under the four components below;

Strengthening Farmer Organizations

Productivity for banana and sweet potato has improved tremendously with the adoption of clean planting materials by farmers. This experience shows that smallholder farmers are able to get more from their small pieces of land and run profitable agricultural enterprises through mechanisms that improve productivity. The Commercial Village Model provides a platform for partnerships by public and private sector actors in service delivery to smallholder farmers. The model is aimed at creating sustainable trading blocs that offer smallholder farmers' opportunity to access markets and trade profitably. One key learning over the last three years especially with grantees under the SeFaMaCo Programme has been the need to provide technical capacity and training materials to facilitate the set up and evolution of the Commercial Villages without which they remain under-developed and not sustainable after the programme. Additional time and resources may then be required to ensure this process is complete for prosperity.

Partnerships for Effective Consumer Awareness

Consumer driven demand is vital in sustaining markets for agricultural commodities. Awareness for increased consumption of sweet potato and banana by consumers has been a major strategy to increase market share for these commodities. The programme has been working with schools through organizing and branding of sports festival achieved great success opening new avenues for increasing utilization. At the market level, partnership with retailers was crucial in disseminating information to consumers. Retailers provide a critical contact point between consumers and other value chain players hence the SeFaMaCo programme sought to develop and strengthen the relationship with retailers across the markets targeted.

Planting Material Pricing Key to Successful Seed Enterprises

The establishment of seed entrepreneurs has been a major focus especially for the sweet potato value chain, which is under developed and additionally, faced with a myriad of challenges including diseases and pests. Sweet potato has a traditional seed system used by smallholder farmers to acquired seeds within the local setting. In an effort to promote adoption of sweet potato by farmers, development organization have offered farmers' free seed under donor funded programmes thus reducing the amount of seed purchased by smallholder farmers considerably. This remains a major hindrance to establishment of a sustainable seed system across Ethiopia, Uganda and Tanzania. Unreliable rainfall has led to huge losses for smallholder farmers. Seed Entrepreneurs were hardest hit by water shortage hence unable to water their farms leading to total loss of seed materials.

Alternative sources of water for seed entrepreneurs is key in sustaining the seed production process as well as ensuring farmers access vines at the onset of rains. Pricing mechanisms of planting materials can offset the scale for seed accessibility by smallholder farmers where commercial seed producers specifically target institutions, which offer inflated prices closing out smallholder producers from the clean seed market. The seed market systems must be driven by demand for them to be sustainable. However, the link between consumers and seed systems need to be well understood to create a pull effect on the value chain. Under the SeFaMaCo programme, efforts have been focused on creating increased demand for quality clean planting materials by smallholder farmers through increased consumer awareness and consumption.

1.16 Conclusion

The data, impact and lessons learnt from close to half-a-million smallholder farmers in Tanzania, Uganda and Ethiopia under the SeFaMaCo programme is expanding knowledge on various pathways followed by farmers for integrated development. The programme has over the years worked with various value chain players to re-align interventions for optimization of profits, reducing bottlenecks and inefficiencies from a private sector approach.

Commercialization:

The programme has facilitated commercialization of 95,704 Ha of land under banana production and 178,439 Ha under sweet potato production yielding 813,313MT of banana and 1,249,729MT of sweet potato respectively. This commercialization process for sweet potato and banana was triggered by identification and quantification of the potential market demand that remained under-utilized. The sharing of these opportunities with farmers and setting up strategies for input acquisition, production and marketing of commodities through the Commercial Villages have successfully enabled the programme to structure sustainable Commercial Villages. The Commercial Village Trade Facilitators (CVTFs) have been instrumental in provision of support to Commercial Villages who are equipped with training materials and aids that enable them to deliver standardized and quality content to farmers across all sites.

Consumer Awareness:

The landscape analysis identified a mismatch between what farmers were producing in terms of varieties, quality and quantities as some of the key problems that made consumers unable to uptake some of these commodities. The SeFaMaCo programme has intervened at the consumer level focusing on both rural and urban market through various strategies. To increase awareness among consumers, partnerships with retailers has been key in enhancing information dissemination on the nutritional benefits of banana and sweet potato as well as alternative utilization methods for both banana and sweet potato. On the other hand, partnership with schools in establishing demonstration gardens as well as sweet potato and banana farms has been instrumental in creating awareness on the importance of the focus value chains for nutrition and food security. Additionally, partnerships with rural and urban health centres provided an opportunity to disseminate information to women on food and nutrition security.

Seed Enterprises:

The establishment of sustainable seed systems for sweet potato and banana at the village level has been successful across the three countries. Over the period, 1.4 Billion assorted panting materials have been assessed by smallholder farmers under the programme and 607 seed entrepreneurs established. Partnership with research institutions to provide technical capacity to the seed entrepreneurs has been key in ensuring the seed entrepreneur produce quality seed meeting the minimum requirement for distribution to farmers. In addition, investment in seed production by the seed entrepreneurs has been supported through the provision of a seed entrepreneur starter kit to enable these investors to start their enterprises.

Overall Conclusion:

Smallholder Farmers are brilliant, wanting the best lives for their families and they evaluate every development intervention to assess the overall impact from their own lenses which informs the uptake level of various solutions. Economic development is a journey that must be well understood by SHF as a process and not an immediate solution to their challenges. When systematically implemented, not just through activities only but with a good understanding of the theory of change as well as the expected outcomes, SHF have demonstrated the capacity to make solid decisions and give honest feedback to FCI, informing the continued SHF sensitive interventions.

Commercial Villages Model promotes co-development and co-ownership of the interventions for sustainable development. At FCI, we are learning to ***view impact from SHF lenses,*** to understand their decision-making process and guide them with information from their own perspectives as we customize solutions.

Tom Kehoe, Deputy Director of Agriculture, BMGF and Wiston Mwombeki, Senior Programmes Manager, FCI, visit an Input Supplier's stand during a SeFaMaCo Commercial Villages Trade Fair in Tanzania. These Trade Fairs offers private sector players an interactive business negotiation with Commercial Villages and such events have unlocked sustainable business partnerships.

Figure 1: SeFaMaCo Implementation Sites & Stats.

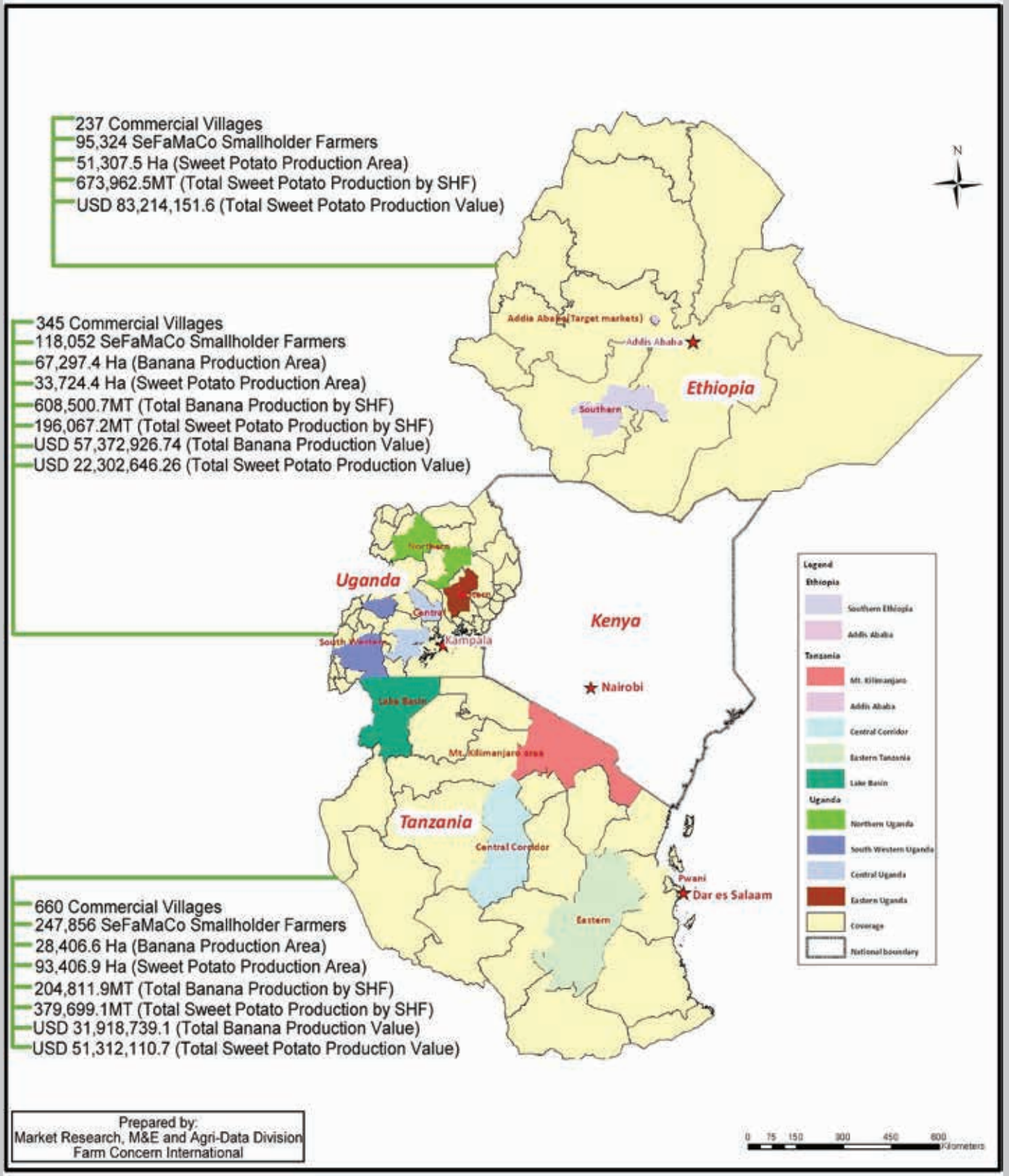
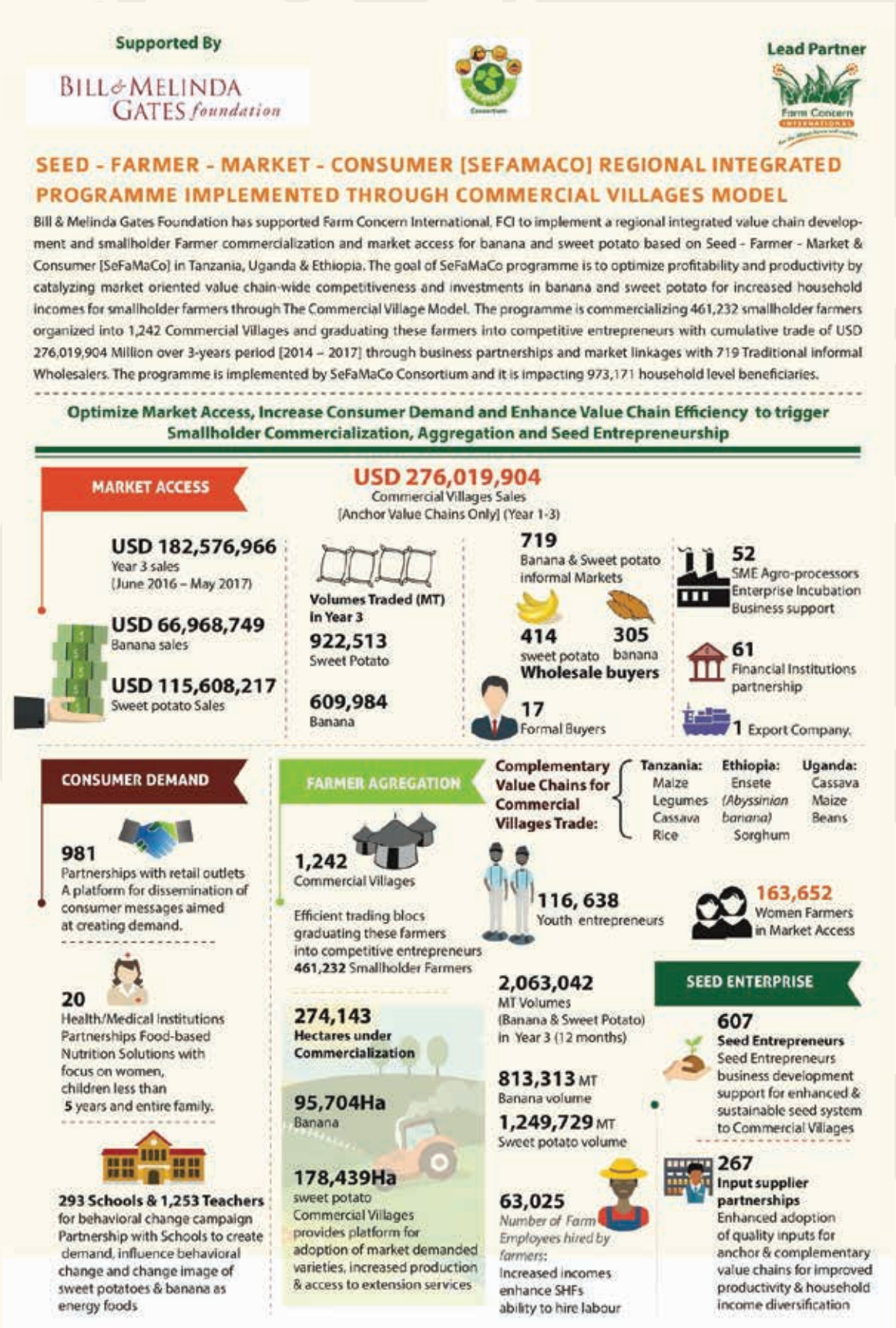
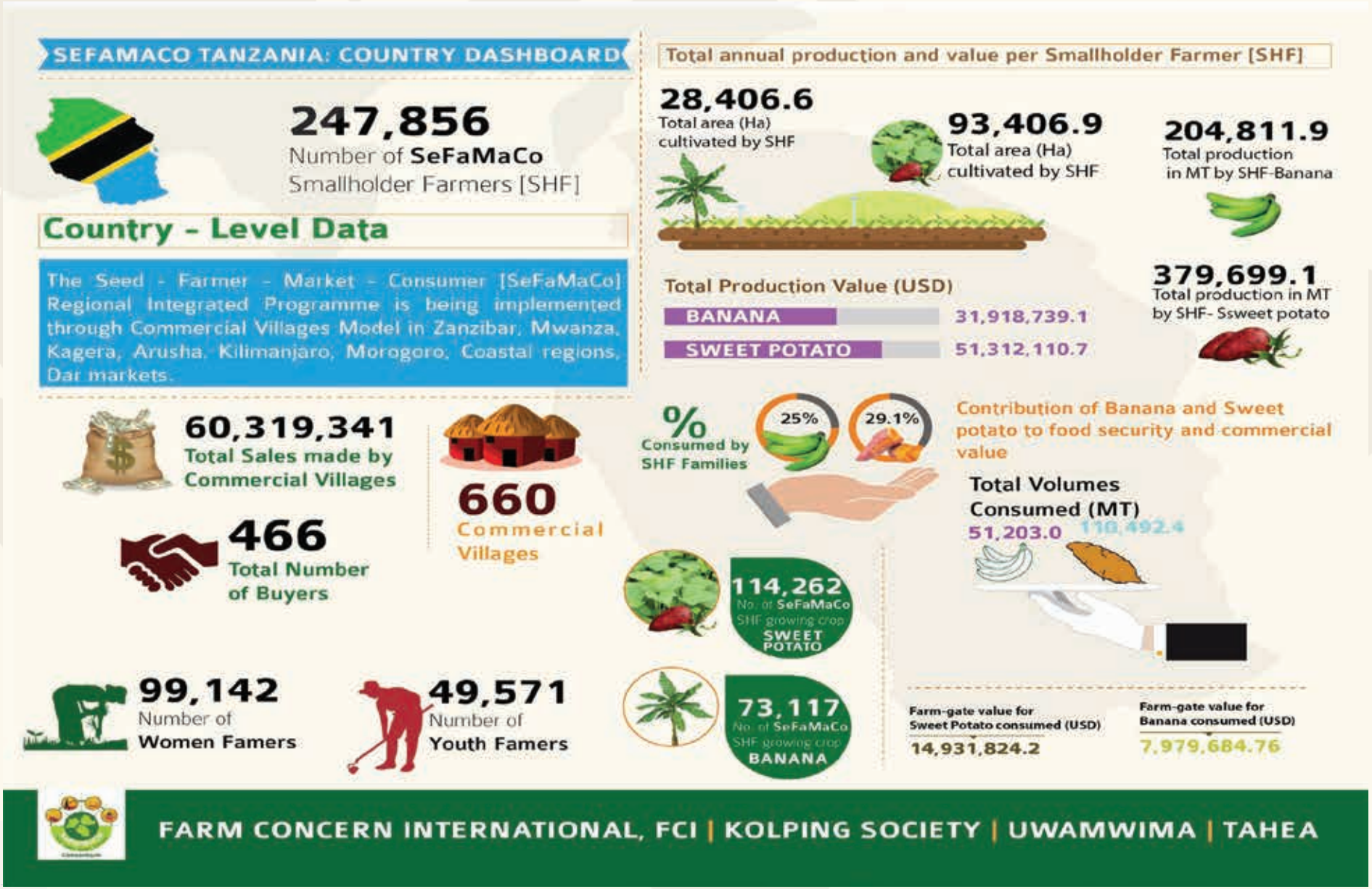
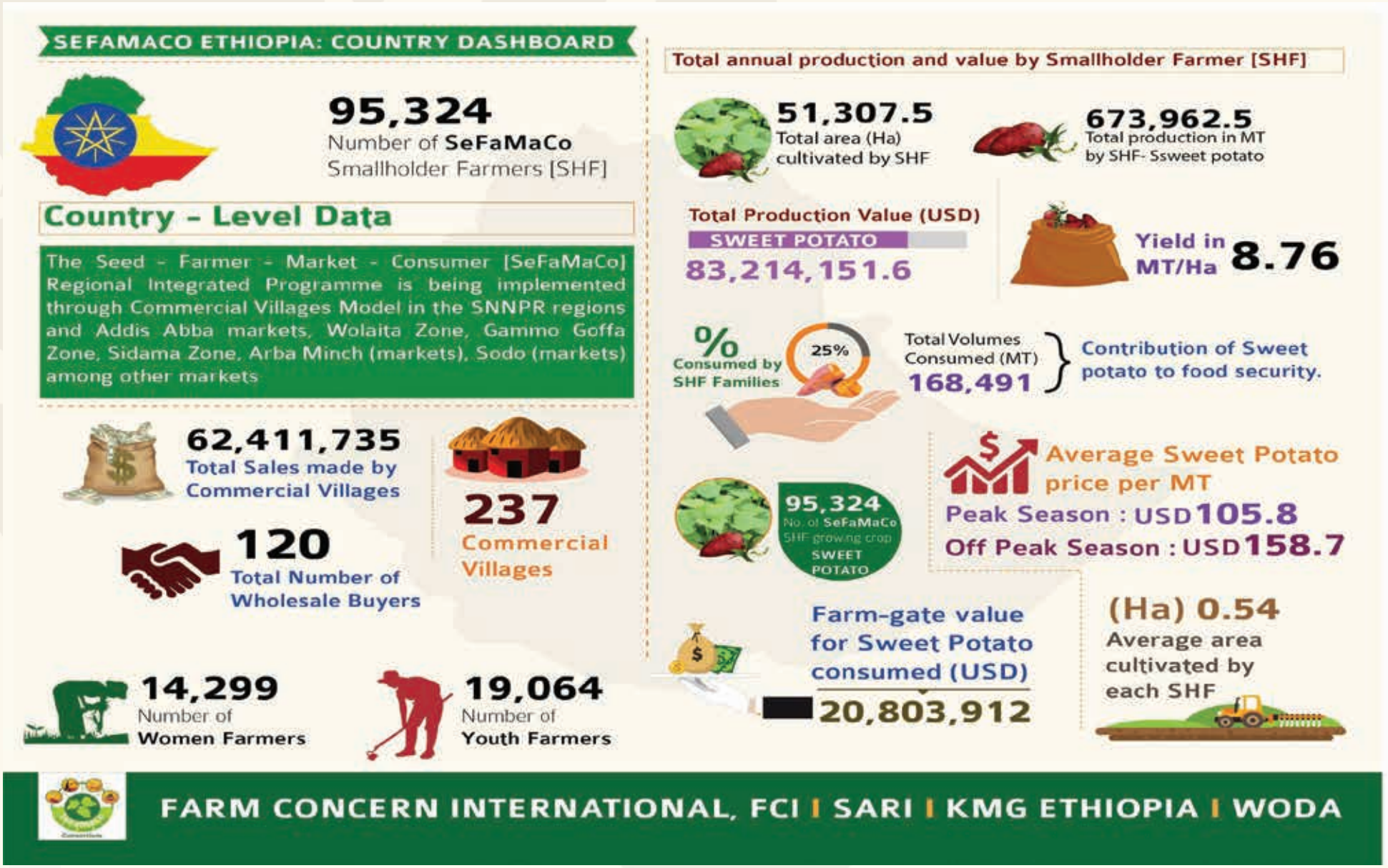
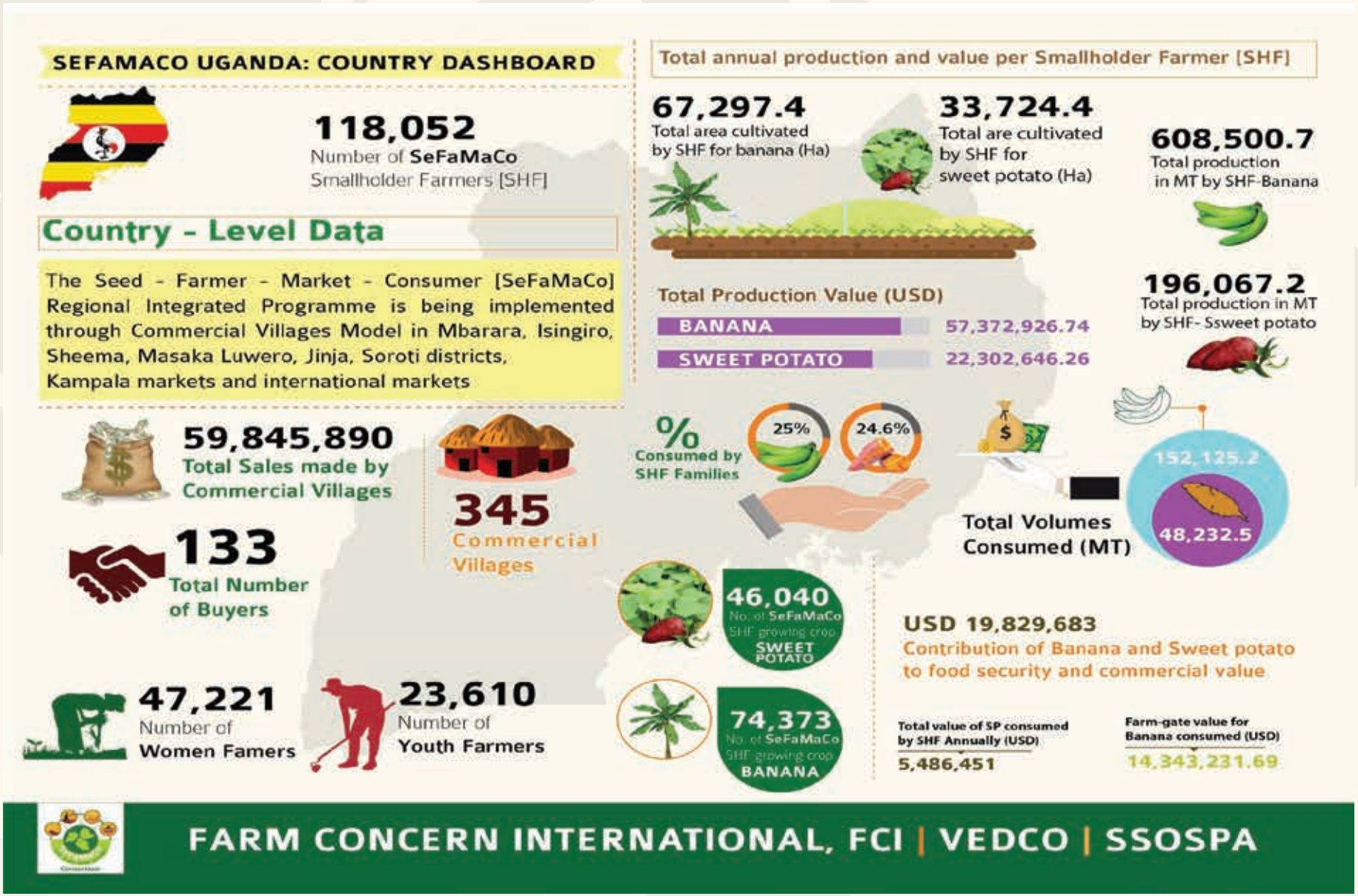


Figure 2: SeFaMaCo Programme Infographics




SEFAMACO TANZANIA: COUNTRY DASHBOARD
247,856
Number of SeFaMaCo Smallholder Farmers [SHF]
Country - Level Data
The Seed - Farmer - Market - Consumer [SeFaMaCo] Regional Integrated Programme is being implemented through Commercial Villages Model in Zanzibar, Mwanza, Kagera, Arusha, Kilimanjaro, Morogoro, Coastal regions, Dar markets.
60,319,341
Total Sales made by Commercial Villages
660
Commercial Villages
466
Total Number of Buyers
99,142
Number of Women Famers
49,571
Number of Youth Famers
Total annual production and value per Smallholder Farmer [SHF]
28,406.6
Total area (Ha) cultivated by SHF
93,406.9
Total area (Ha) cultivated by SHF
204,811.9
Total production in MT by SHF-Banana
379,699.1
Total production in MT by SHF- Ssweet potato
Total Production Value (USD)
BANANA 31,918,739.1
SWEET POTATO 51,312,110.7
% Consumed by SHF Families
25%
29.1%
Contribution of Banana and Sweet potato to food security and commercial value
Total Volumes Consumed (MT)
51,203.0
110,492.4
114,262
No. of SeFaMaCo SHF growing crop SWEET POTATO
73,117
No. of SeFaMaCo SHF growing crop BANANA
Farm-gate value for Sweet Potato consumed (USD)
14,931,824.2
Farm-gate value for Banana consumed (USD)
7,979,684.76
FARM CONCERN INTERNATIONAL, FCI | KOLPING SOCIETY | UWAMWIMA | TAHEA


SEFAMACO ETHIOPIA: COUNTRY DASHBOARD
95,324
Number of SeFaMaCo Smallholder Farmers [SHF]
Country - Level Data
The Seed - Farmer - Market - Consumer [SeFaMaCo] Regional Integrated Programme is being implemented through Commercial Villages Model in the SNNPR regions and Addis Abba markets, Wolaita Zone, Gammo Goffa Zone, Sidama Zone, Arba Minch (markets), Sodo (markets) among other markets
62,411,735
Total Sales made by Commercial Villages
237
Commercial Villages
120
Total Number of Wholesale Buyers
14,299
Number of Women Farmers
19,064
Number of Youth Farmers
Total annual production and value by Smallholder Farmer [SHF]
51,307.5
Total area (Ha) cultivated by SHF
673,962.5
Total production in MT by SHF- Ssweet potato
Total Production Value (USD)
SWEET POTATO
83,214,151.6
Yield in MT/Ha 8.76
% Consumed by SHF Families
25%
Total Volumes Consumed (MT)
168,491
Contribution of Sweet potato to food security.
95,324
No. of SeFaMaCo SHF growing crop
SWEET POTATO
Average Sweet Potato price per MT
Peak Season : USD 105.8
Off Peak Season : USD 158.7
Farm-gate value for Sweet Potato consumed (USD)
20,803,912
(Ha) 0.54
Average area cultivated by each SHF
FARM CONCERN INTERNATIONAL, FCI I SARI I KMG ETHIOPIA I WODA


SEFAMACO UGANDA: COUNTRY DASHBOARD
118,052
Number of SeFaMaCo Smallholder Farmers [SHF]
Country - Level Data
The Seed - Farmer - Market - Consumer [SeFaMaCo] Regional Integrated Programme is being implemented through Commercial Villages Model in Mbarara, Isingiro, Sheema, Masaka Luwero, Jinja, Soroti districts, Kampala markets and international markets
59,845,890
Total Sales made by Commercial Villages
345
Commercial Villages
133
Total Number of Buyers
47,221
Number of Women Famers
23,610
Number of Youth Farmers
Total annual production and value per Smallholder Farmer [SHF]
67,297.4
Total area cultivated by SHF for banana (Ha)
33,724.4
Total are cultivated by SHF for sweet potato (Ha)
608,500.7
Total production in MT by SHF-Banana
196,067.2
Total production in MT by SHF- Ssweet potato
Total Production Value (USD)
BANANA 57,372,926.74
SWEET POTATO 22,302,646.26
% Consumed by SHF Families
25%
24.6%
Total Volumes Consumed (MT)
152,125.2
48,232.5
46,040
No. of SeFaMaCo SHF growing crop
SWEET POTATO
74,373
No. of SeFaMaCo SHF growing crop
BANANA
USD 19,829,683
Contribution of Banana and Sweet potato to food security and commercial value
Total value of SP consumed by SHF Annually (USD)
5,486,451
Farm-gate value for Banana consumed (USD)
14,343,231.69
FARM CONCERN INTERNATIONAL, FCI | VEDCO | SSOSPA

2. Introduction

This report highlights data generated through an action research approach embedded in the SeFaMaCo Integrated Value Chains programme implementation process. The action research under SeFaMaCo focuses on collection, processing and analysing data on the anchor and complementary value chains for wider distribution to SHFs and market players facilitating real-time decision-making. The key data includes market sizes, farm sizes, production cost, gross income, net income, prices trends, cost drivers, value chain mapping, trade routes and cost of marketing for the purpose of understanding the current and emerging economically viable opportunities for smallholder farmers, buyers, private sector partners and development organizations. Real-time and quality market information is critical in providing market signals, informing trade expansion, rural development and sustained investment to enable SHFs and agro-pastoralists to increase production, household income and improve supply of food to rural and urban consumers.

These evidence-based statistics are also important in prioritization of profitable value chains, farm planning, measurement of impact and monitoring trends. The estimation of future prospects for agricultural commodity markets enables assessment of the contribution of agriculture commodity production and trade to household incomes. Further, it is worth noting that the amount of land suitable for cultivation is diminishing, leading to food and nutrition security problems therefore, data is critical in situational analysis of food and nutrition gaps at household and commercial village level in Tanzania, Uganda and Ethiopia.

Farm Concern International is implementing Seed-Farmer-Market-Consumer (SeFaMaCo) Integrated Value Chain Development Programme through 'The Commercial Villages Model'

SeFaMaCo Goal:
"To optimize profitability and productivity by catalyzing market oriented value chain-wide competitiveness and investments in banana & SP for increased household incomes".

The 3-country programme is commercializing 461,232 smallholder farmers [SHFs] organized into 1,242 Commercial Villages, out of which 163,652 are women farmers and 116,638 are youth.

SeFaMaCo Achievements: A separate annual report that stipulates the achievements based on multiple indicators with country-level dashboards was submitted to the Bill and Melinda Gates which outlines in details the commercialization level the of 95,704 Ha for banana and 178,439 Ha for sweet potatoes with cumulative sales of USD 276 Million.

2.1. About SeFaMaCo Farmer Data Report:

This data report therefore highlights various data sets at smallholder farmer level, along the value chains and markets. Farm Concern International, FCI over the last few years has developed a robust data system that ensures that through direct implementation, data is gathered and utilized for value chain-wide decision making. Through SeFaMaCo, FCI has gathered several critical pieces of data that have been used for capacity building for smallholder farmers, Commercial Villages, buyers and partners. Some data is included in this report aimed at highlighting development players the smallholder pathways faced by growth, challenges and

opportunities in market access programmes in Africa. This data will contribute towards a growing knowledge management for informing development programming in Africa.

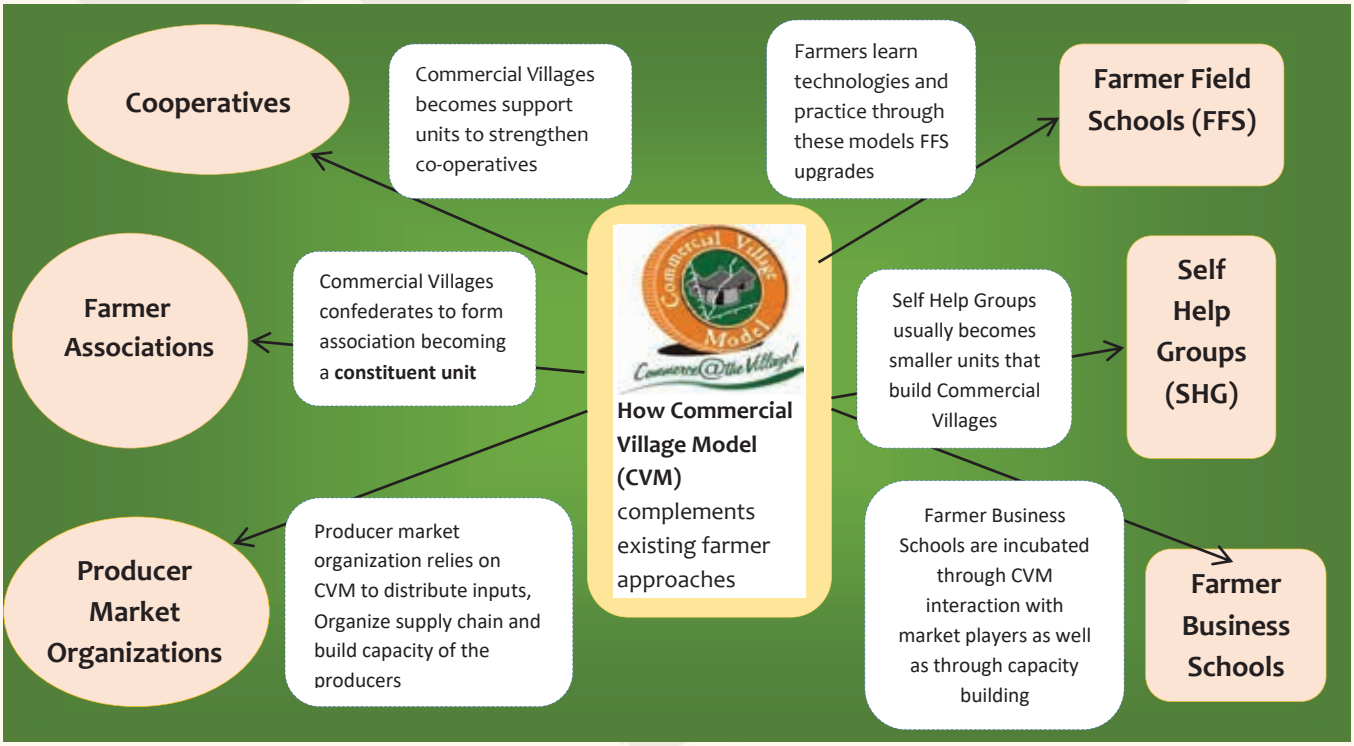
The SeFaMaCo Programme Launch held in FCI Farmer Training Centre in Moshi Tanzania attended by BMGF staff, Government delegates, partner organizations, media, Commercial Village leaders and farmers in 2015 with a total of over 600 delegates. Photo: Courtesy of FCI

A Commercial Villages Action Planning session in Tanzania with representatives from partner organizations and Government officials facilitating various sessions with farmer leaders. Photo: Courtesy FCI

2.2. Implementation Approach: The Commercial Village Model

A 12- Year tested, implemented and upgraded innovative business Model for value chain analysis smallholder commercialization, food security, aggregation & market access. The model, developed and upgraded by FCI over a decade, is a multi-value chain innovative smallholder commercialization and aggregation business model for market access. The implementation approach also includes a socioeconomic concept that delivers to the last mile. The model has experientially been applied in 8 Countries with 137 partners. It is currently being rolled out across Africa for scale-up in multiple impact investment and development initiatives. The model has further generated statistical evidence on smallholder commercialization and market access proving its efficacy for high impact; its capacity to transform high numbers of smallholder; deliver enterprise profitability and stabilize incomes.

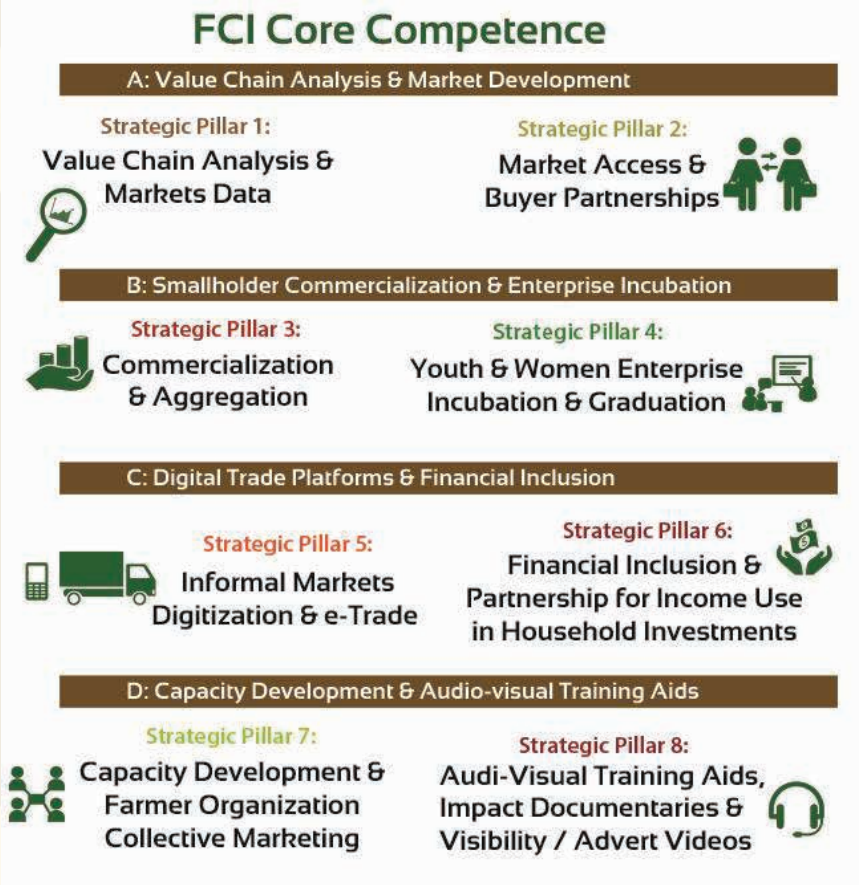
Figure 3: How Commercial Villages Model Upgrades Existing Farmer Organization



2.3. About Farm Concern International, FCI

Farm Concern International, FCI, is an Africa-wide Agri-market development agency specialized in; i) Value Chain Analysis ii) Profitable Smallholder Commercialization iii) Market Access iv) Capacity Development v) Enterprise Incubation & Graduation. Our experiential journey spans over almost a decade and a half, with scaling up having been rolled out in over 24 countries in Africa, impacting 18 million smallholder farmers and agro-pastoralists.

The Commercial Village Model is FCI's implementation approach for scale up; an innovative mass marketing system designed for high impact among large numbers of smallholder farming households through a multi-value chain focus embedded with a real-time data capture process for impact and evidence documentation.



As an African Organization, FCI provides direct implementing expertise focused on expanded strategic partnerships with 137 development partners as FCI is dedicated to consortiums, partners & programmes, contractors and international agencies. Our extensive contextual expertise guarantees a fast-tracked implementation learning curve, accelerated impact and authoritative data for national and multi-country interventions. More importantly, the FCI Team optimizes local knowledge on value chains and markets to catalyze sustainable rural economic growth. FCI is a unique hybrid organization that blends multiple dimensions of selected industry best practice from the private sector and development world. This blended approach creates opportunity for beneficial partnership between two distinctly divergent systems. This results in innovative market bridges between the formalized private sector, traditional informal markets and subsistent smallholders.

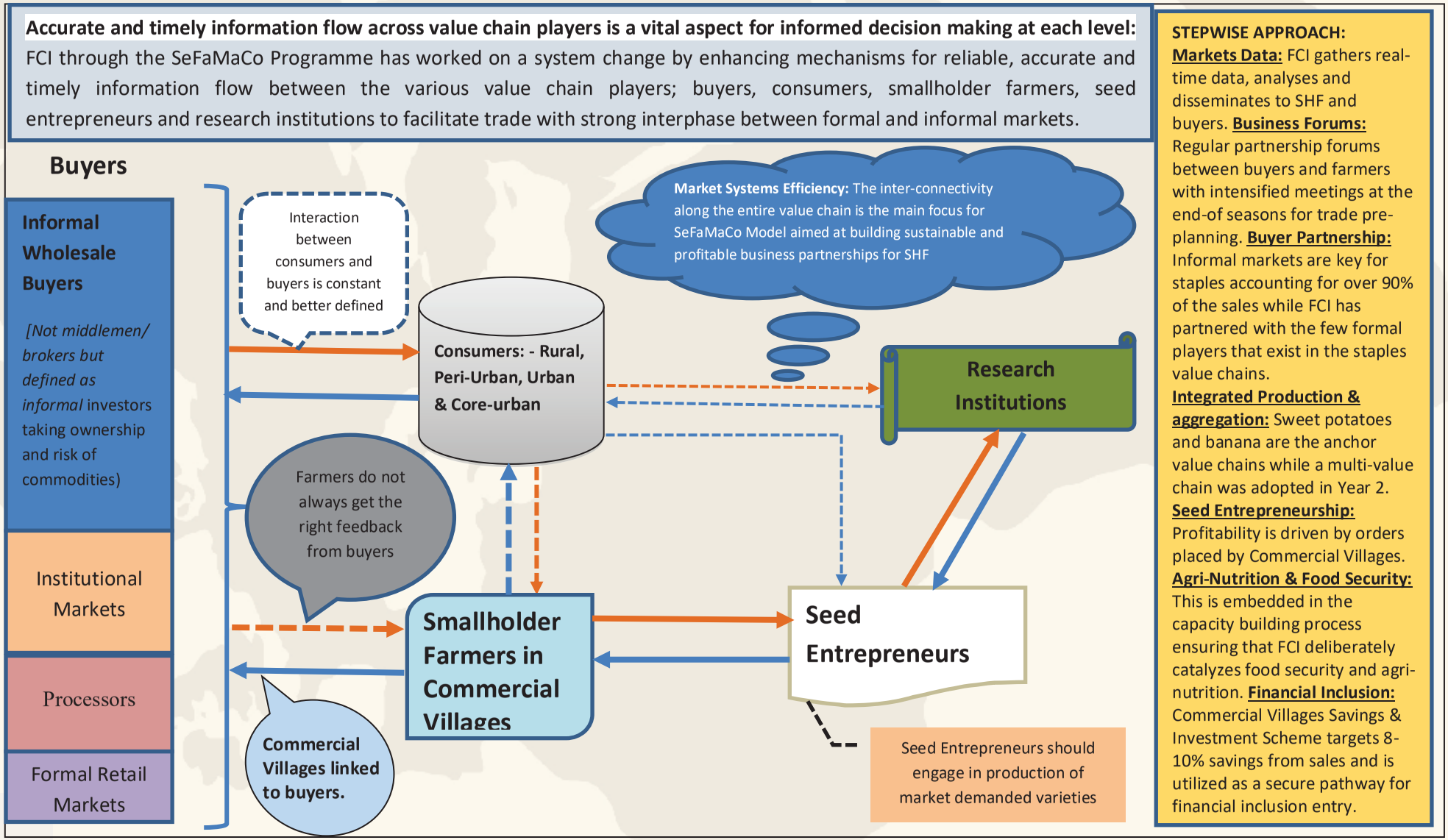
FCI Leading clients for commercialization and market access

Smallholder Farmers and Farmer Organizations

Informal Wholesale buyers and Trader Association [Not inclusive of brokers]

Private sector corporate companies and Institutional buyers

Figure 4: SeFaMaCo Theory of Change



3. Smallholder Commercialization

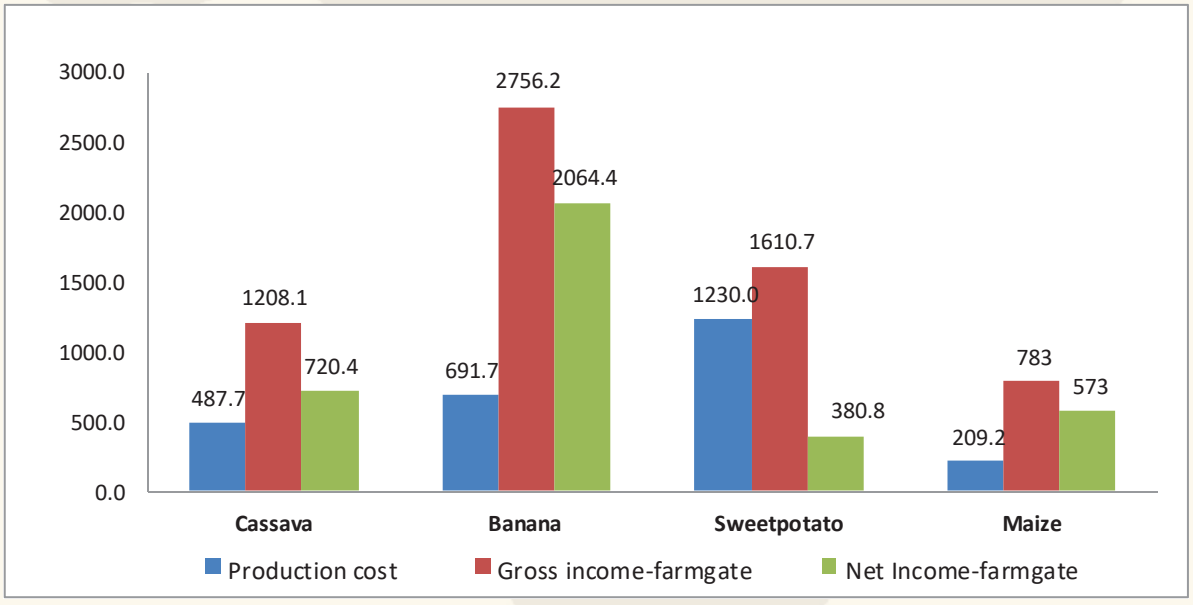
3.1. Gross Margin Analysis for SeFaMaCo Smallholder Farmers

Under the SeFaMaCo Programme, gross margins for various enterprises particularly banana and sweet potato have been applied to assess the total revenues generated by smallholder farmers (financial output), putting into account the variable costs incurred. In this context, variable costs are those costs directly attributable to an enterprise and vary in proportion its size. Gross margin analysis of an enterprise per factor of production (land, labour and capital) indicates the production and economic efficiency of that enterprise and this is useful in comparing the relative profitability of different farm enterprises, to estimate changes in enterprise profit due to changes in price, cost or yields, to identify high cost or low-income areas in the existing farm plan as well as to evaluate the optimal farm enterprise mix.

Through capacity building, FCI is equipping Commercial Villages on how to assess potential agricultural enterprises based on net income as opposed to gross income and project how profitable an enterprise is likely to be or to analyze existing enterprises. Using this information, Commercial Villages under SeFaMaCo are increasingly able to plan and select enterprises and processed products that gave them the highest returns while also putting into account the total cost of production.

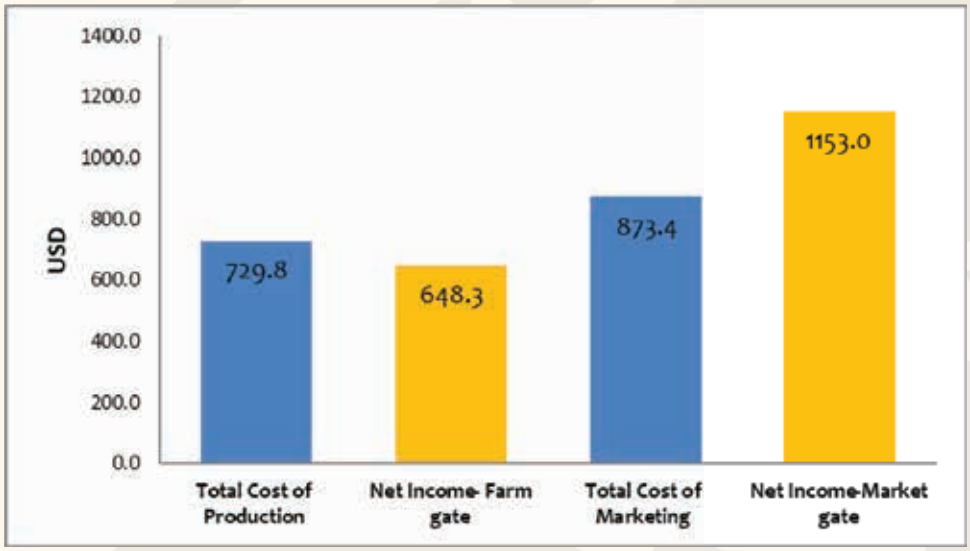
In farm partial budgeting, FCI has simplified net incomes calculations and conducting farmers' trainings with practical analysis and comparison of alternatives. Gross Incomes can mislead prioritization of commodities while in practice, profits might be low and that can only be understood through Cost Benefit Analysis [CBA].

Figure 5: Comparison between production cost and net incomes (USD) for banana, sweet potatoes, maize and cassava in Arusha, Tanzania.



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Figure 6: Comparison between production cost, net income at farm-gate and net income at market-gate [USD] for banana per acre in Kagera, Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Farm-gate sales or market-gate sales for SHF? This is a frequently asked question in most market access initiatives. The net income at market gate is almost double the farm gate; very attractive. However, the main challenge is the upfront marketing cost of USD 873 that a farmer requires besides the logistics co-ordination with road taxes. Collective marketing through Commercial Villages unlock markets but each market is assessed to ensure that point of sale is profitable.

Dr. Mbwana, an expert in banana propagation and production offer training during the FCI Kijiji Biashara Trade Fair in Moshi, Tanzania. SeFaMaCo through commercialization and market access focus has integrated a market-led seed system.

In this Kijiji Biashara and such forums, are used for dissemination of critical information to farmers and further create various partnerships focusing on opportunities for smallholders as well as providing solutions in crop production, logistics, finance, technology access and marketing. FCI regularly organizes trade fairs for SHFs in all target countries.

CASE STUDY

TANZANIA | Collective Action Bears Fruits for Farmers at Market Place

Ilunda and Nyalwambu Commercial Villages are in Sengerema district, Mwanza Region of Tanzania where market access has been among the major bottlenecks for sweet potato farming communities. The introduction of SeFaMaCo Programme intervention brought about strategies for improving market access for their commodities through the Commercial Village Model. Collective action for Commercial Villages is a platform through which they get training on various aspects including use of clean and improved planting materials, production scheduling, crop husbandry, disease identification & management among others.

Market linkages facilitation that is beyond training includes systematically guiding farmers on how they can benefit through collective action embedded within negotiation with buyers in Mwaloni market on pricing, transport costs as well as payment schedules. The demand for the Orange Sweet Potato varieties is gradually increasing in specialized markets though a slow growth over time and hence farmers were offered competitive prices of up to USD 0.214 per Kg. Previously, farmers could only manage to sell their produce at half the price (USD 0.1 per Kg) due to lack of bargaining power and high cost of bulking and transport accrued by trader when they are sourcing in the region. The Commercial Village Model has come in handy in providing farmers with strategies of producing and collective marketing of their commodities with clear understanding of market dynamics along the value chain.

Mrs. Selina Enock, a Commercial Village Trade Facilitator discussing transactions with a Sweet Potato buyer in Mwaloni market who buys commodities from Ilunda and Nywalwandu Commercial Villages, Tanzania. *Photo: Courtesy of FCI*

3.2. Commercial Villages Aggregation

Quality control and efficiency in building bulk by SHFs for supply to markets is achieved through Commercial Villages aggregation centres through which supply routes are mapped with several buyers for multiple villages. FCI is applying 2 types of aggregation:

i) Physical commodity aggregation: This is applicable for physical structures for supply chain systems where days and time is predetermined. The critical success factor for this process has been when consistent supply is maintained and optimization of the centre is for SHFs meetings.

ii) Virtual aggregation: Farm gate sales remain significant with buyers meeting all logistics costs, which is preferred by SHFs for bulky commodities. The virtual aggregation is therefore through real time data on volumes planted and harvested which allows forward market negotiations.

Bulking centres are key points of quality and quantity management within the supply chain-enabling farmers to aggregate. Aggregation of commodities reduces the cost of sourcing for wholesale buyers making Commercial Villages attractive for business linkages. Effective co-ordination to ensure that bulking is not a new cost burden for SHFs is required for profitability at farm level. The Commercial Villages Marketing Sub-committees play a critical role on communication between buyers and farmers while Finance Sub-committee oversees the payment processes that is a delicate component of collective marketing. *Photo: Courtesy of FCI*

UGANDA | QUALITY CONTROL

Beyond market linkages is quality management by smallholder farmers which is a key focus aimed at reducing losses particularly during harvesting and transportation.

Photo: A Sweet Potato trader (Ms Acham Grace) from Iganga wholesale market Namabwere Commercial Villages, Iganga district with SeFaMaCo staff as they inspect quality as part of practical training.

Aggregation CRITICAL SUCCESS FACTORS (CSFs) |

The convergence of commodity at the aggregation centres puts to a test the level of cohesion of a farmer organization. Based on the aggregation experiences whilst there are three top aspects highlighted below that determine the success-level of any aggregation.

The leadership component is mainly focused on the following aspects as per SHFs highlights; 1) Accountability 2) Integrity 3) Free Fair & Elections 4) Succession plan

Source: Farm Concern International, FCI, 2017.

Informal wholesaler's aggregation systems:
Partnership with wholesale buyers and not brokers are playing a major role on reducing the aggregation burden for Commercial Villages whilst offering competitive prices since SHF collective action replaces brokerage services. These aggregation centres are in the rural areas and wholesale buyers purchase at the wholesale prices, repacking and redistribution to other leading buyers.

TANZANIA | Wholesale aggregation point where several Commercial Villages supply directly to wholesale buyers.

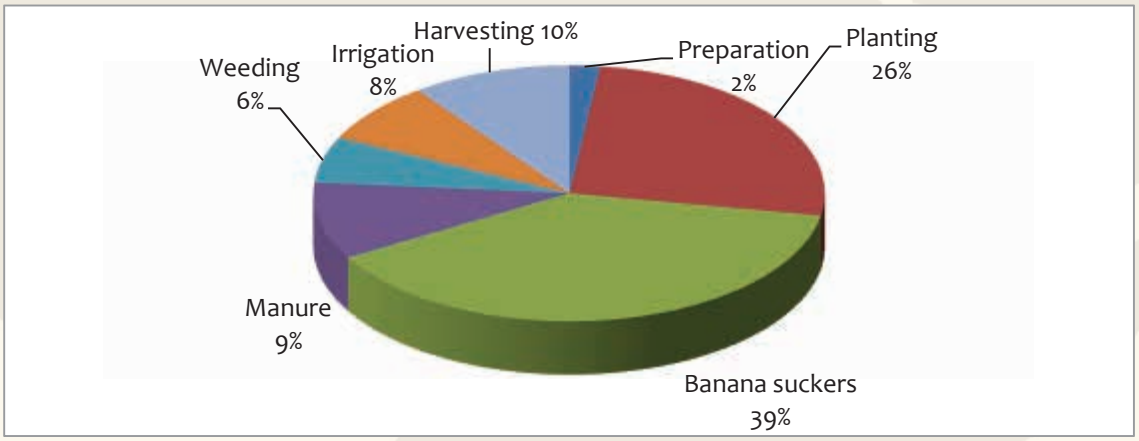
3.3. Cost Drivers Influencing Net Income for Smallholder Farmer Enterprises

Cost Drivers is a major discussion that FCI has introduced along all SHFs where Value Chain Forums are aimed at ensuring that buyer/seller negotiations are data-informed. In this context, these are the variable costs associated with the production processes of an enterprise. Variable costs are directly attributable to an enterprise, which vary in proportion to the size of an enterprise, for example, cost of seed, chemicals fertilisers, ploughing, weed control and harvesting costs.

Development and adoption of gross margin analysis by Commercial Villages as the basis of determining profitable enterprises has reduced the risks faced by smallholder farmers in agricultural production. Understanding the cost drivers has unlocked farmers' ability to optimize application of labour and energy saving technologies to maximize net income for each enterprise.

Participatory cost benefit analysis in Arusha, Northern Tanzania, resulted in the following data for planting process accounting for the highest costs incurred by farmers in banana production; banana suckers (39%) and planting labour (26%) accounted for the highest production cost drivers.

Figure 7: Banana production cost drivers in Arusha, Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

To reduce the percentage share for planting materials, the SeFaMaCo team is continuously working with seed entrepreneurs and researchers to device affordable ways of propagating suckers and reducing the cost of production. The cost of banana tissue culture (TC) plantlets (USD 0.68 per plantlet) in Uganda was relatively higher than the macro propagated plantlets (USD 0.41 per plantlet) a 20% difference that was a huge impediment to adoption of clean planting materials. Practical experience in the field has shown that the yield of macro-propagated plantlets was relatively good and has gained attraction among farmers particularly in Mbarara Commercial Villages in Western Uganda.

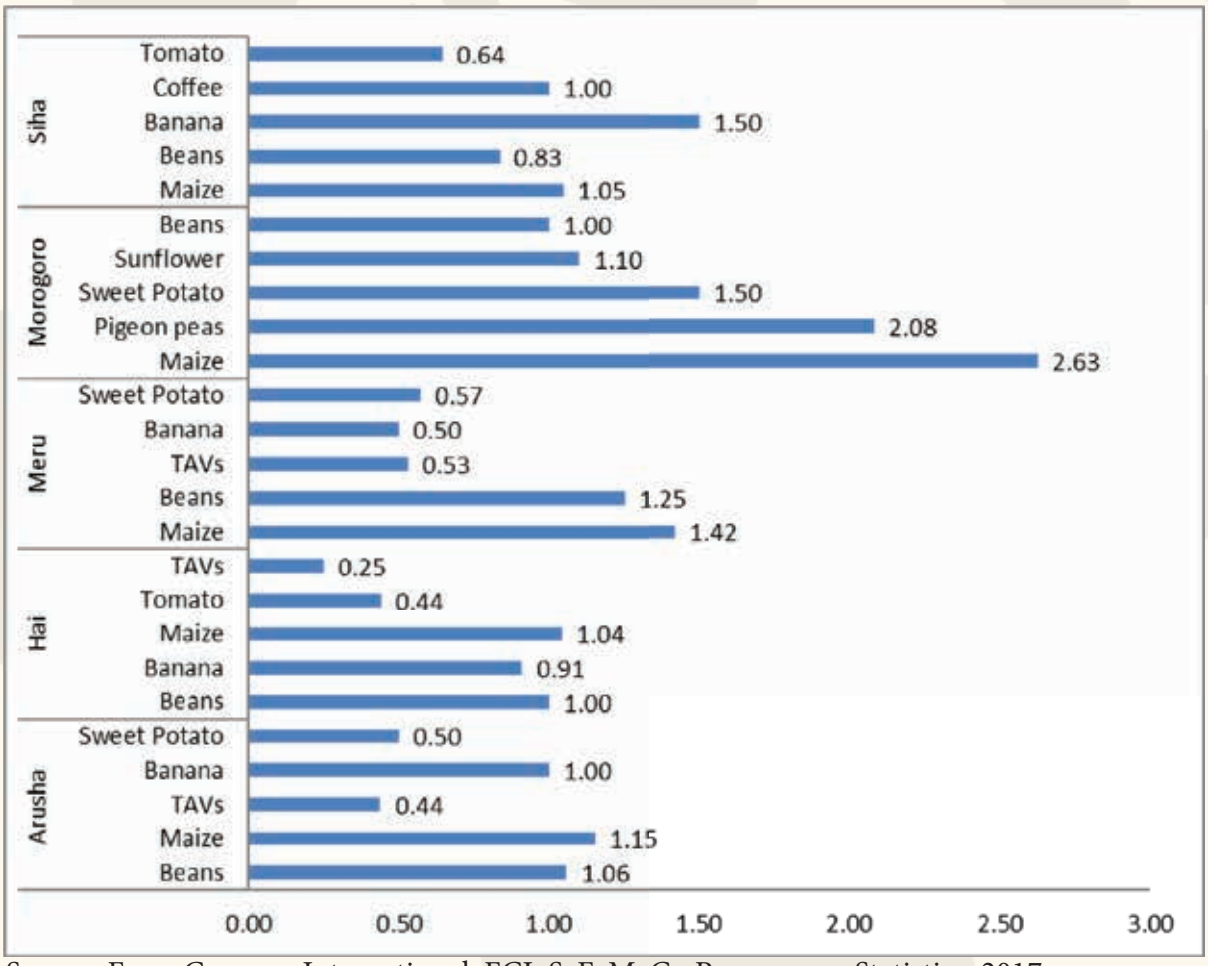
SHFs must Link Cost Drivers to Gross Income and net profits: Profitability measurement is not common practice but FCI is working along SHF for adoption. Training is therefore simplified and farmers present their cost drivers for practical case studies. Market linkages determine investments and profitability of farm enterprises.

3.4. Multi-Value Chain Approach

The SeFaMaCo programmes focused on diversification of smallholder farmers' production choices as a means to increasing incomes and reduce risk. The programme is continually providing market support for the anchor value chains and the supporting value chains through partnership with buyers across the sites.

The programme is facilitating commercialization of 461,232 smallholder farmers in 1,242 Commercial Villages in Tanzania, Uganda and Ethiopia with cumulative sales of **USD 276,019,904** by the end of Year 3 for anchor value chains.

Figure 8: Land allocation in Acres for various crops in Tanzania

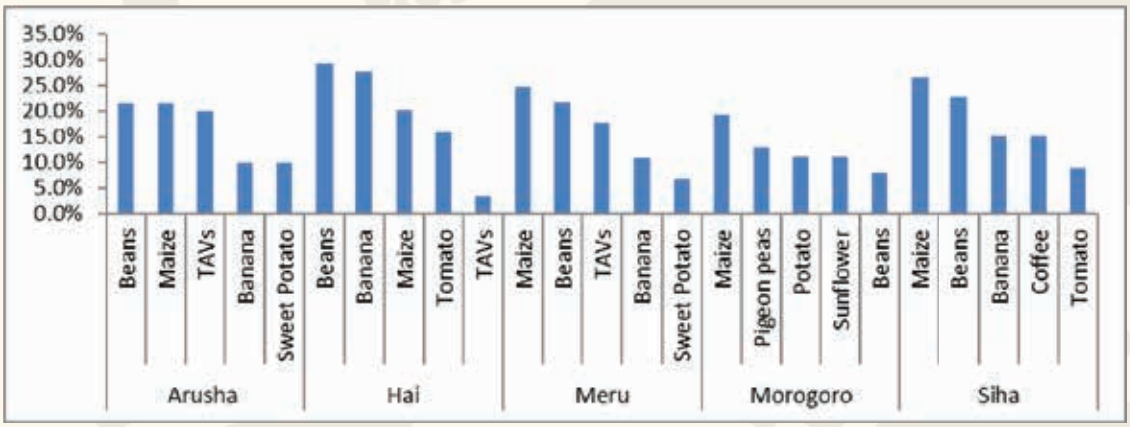


Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Commercial Villages in Tanzania have 28,406 Ha under banana and 93,406.9 Ha under sweet potato in the Commercial Villages recorded production of 204,811.9 MT for banana and 379,699 MT for sweet potatoes [SP], respectively. While in Uganda, 67,297.4 Ha and 33,724 Ha of land are under banana and sweet potato commercialization with estimated yield levels of 0.9MT/Ha and 0.73MT/Ha for banana and SP, respectively. As a result, a total of 608,500.7 MT and 196,067.2 MT of bananas and sweet potatoes were produced by Commercial Villages annually valued at USD 79,675,573 in Uganda. In Ethiopia, 51,307.5Ha of land were under sweet potato commercialization with a total production of 673,962 MT representing average yield of 8.76MT/Ha. Commercial Villages consume 25% of the sweet potatoes produced while annual sales are valued at USD 62,411,735.

274,143 Ha:
Area under Sweet potato & banana

Figure 9: Prioritization of profitable crops by Smallholder farmers in Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

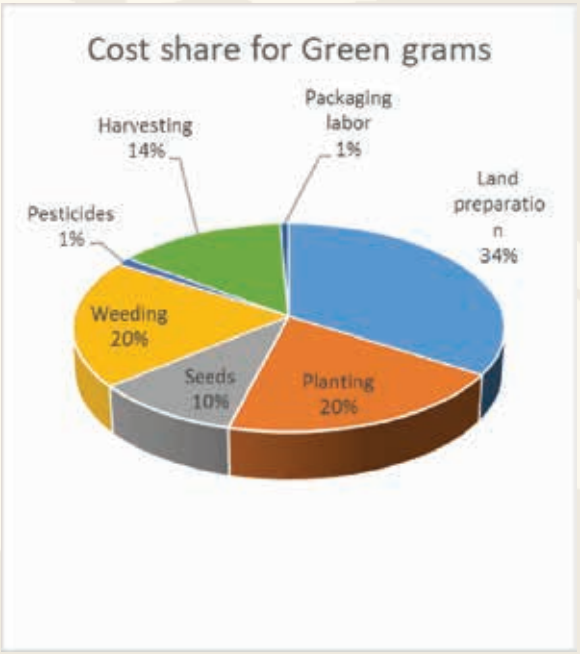
The multi-value chain approach under the SeFaMaCo programme has unlocked opportunities for smallholder farmers across the programme implementation sites. Smallholder farmers contend with multiple issues and make decision based on various considerations of risk reduction enabling them to navigate the unpredictable agri-commodity market space. When decisions are made without adequate information and support, smallholder farmers always find themselves in loss making enterprises or focussing only on food security crops. Using the cost benefit analysis, Commercial Villages have been able to prioritize profitable value chains depending on market opportunities and climatic conditions as shown on the graph above. The multi-value chain approach has expanded the ability of farmers to mitigate against crop failure risk that is apparent when only one value chain is promoted. [N/B: TAVs graph above is Traditional African Vegetables]

Private Sector Partnerships for multiple value chain partnerships through a wide range of inputs and output markets has drastically increased village/trade activity resulting into increased cash flow, cohesion and collective action for either input purchase or output marketing. Above photo reflects the interactive sessions between farmers and input companies that has increased access to information on pest and disease management, which has been top ranked challenge by farmers in the region. *Photo: Courtesy of FCI*

Multi- Value Chain Approach: Like private sector with core brands and secondary brands, FCI has ensured that smallholder farmers have a commodity mix. Diversification beyond the anchor value chains is a key approach to reducing SHFs risks associated with over-reliance on single value chains. The priority anchor value chains are determined through market research while complementary value chains per site is based on products with highest acreages.

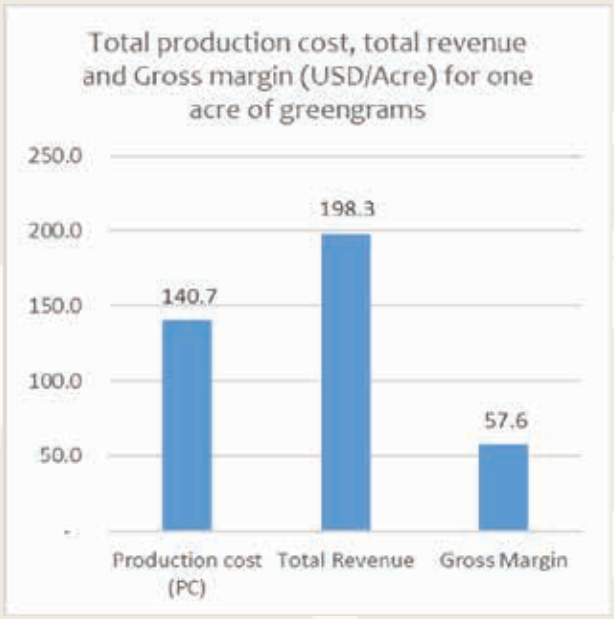
Green grams production costs and gross margin analysis in Uganda

Figure 10: Main production cost drivers for one acre of green grams in Uganda



Source: Farm Concern International, FCI, 2018

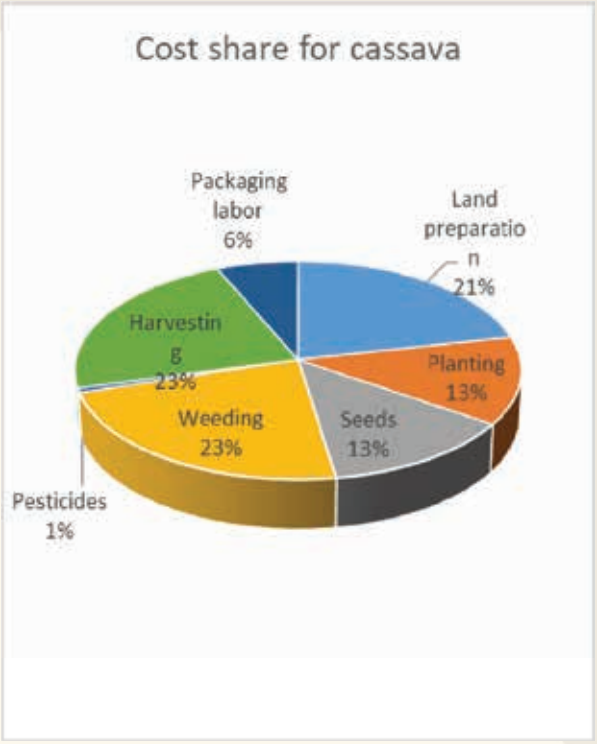
Figure 11: Cost of production, total revenue and gross margin (USD/acre) for one acre of green grams in Uganda



Source: Farm Concern International, FCI, 2018

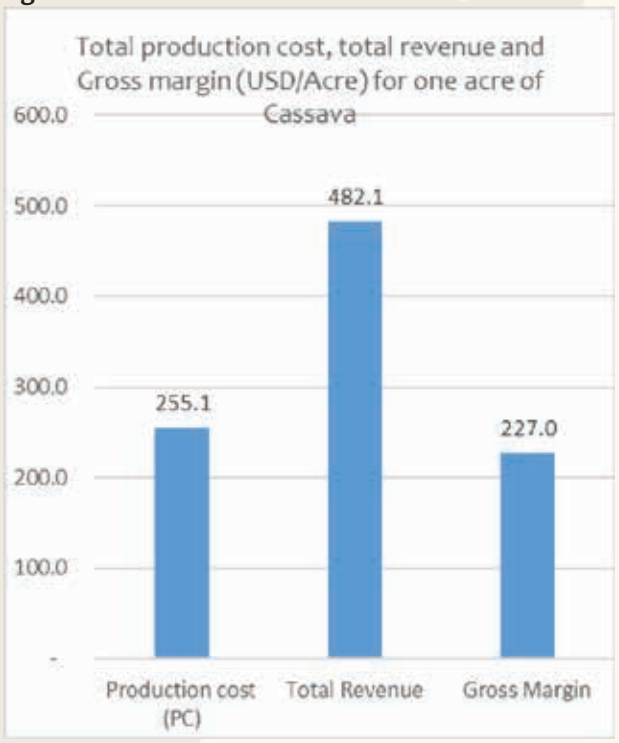
Cassava production costs and gross margin analysis in Uganda

Figure 12: Main production cost drivers for one acre of cassava in Uganda



Source: Farm Concern International, FCI, 2018

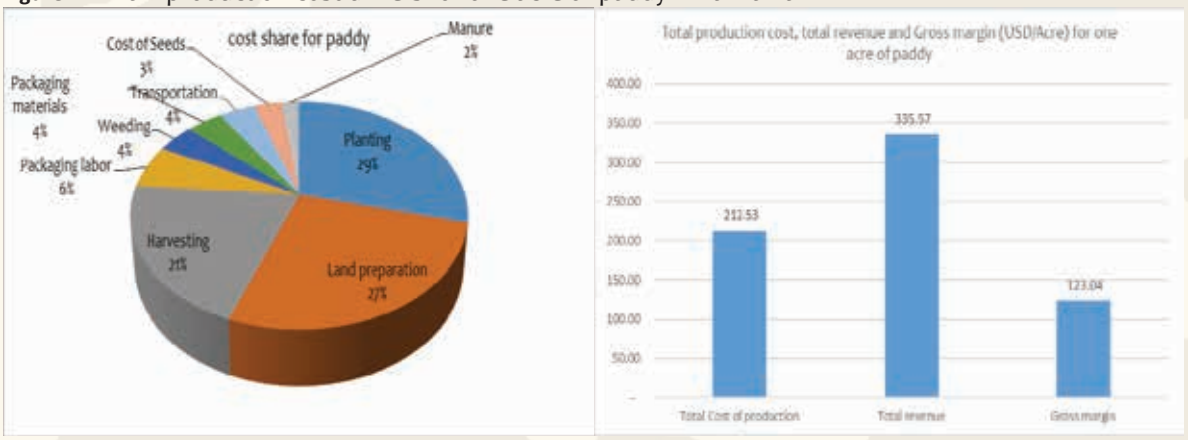
Figure 13: Cost of production, total revenue and gross margin (USD/acre) for one acre of cassava in Uganda



Source: Farm Concern International, FCI, 2018

Paddy production costs and gross margin analysis in Tanzania – Dodoma

Figure 14: Main production cost drivers for one acre of paddy in Tanzania

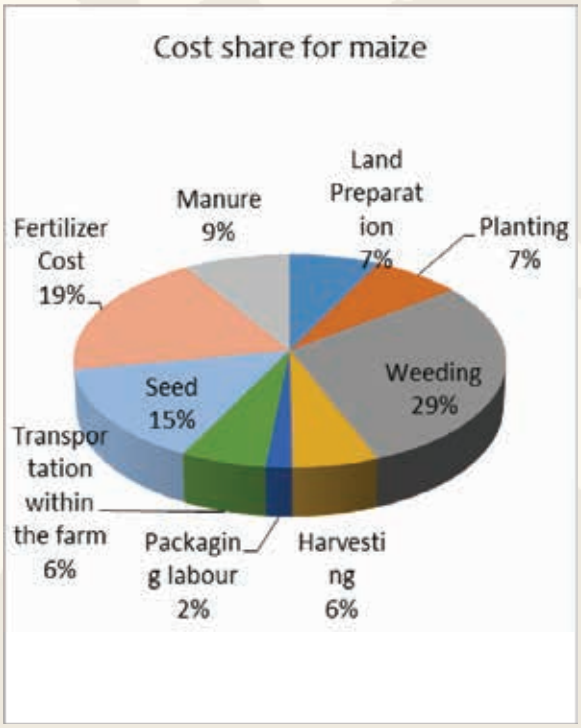


Source: Farm Concern International, 2018

FCI Staff interacting with a rice wholesaler: Wholesale buyers are major players in the value chain moving huge volumes of commodities and providing commodities to a wide spectrum of traders including retailers, processors, processors and institutional buyers.

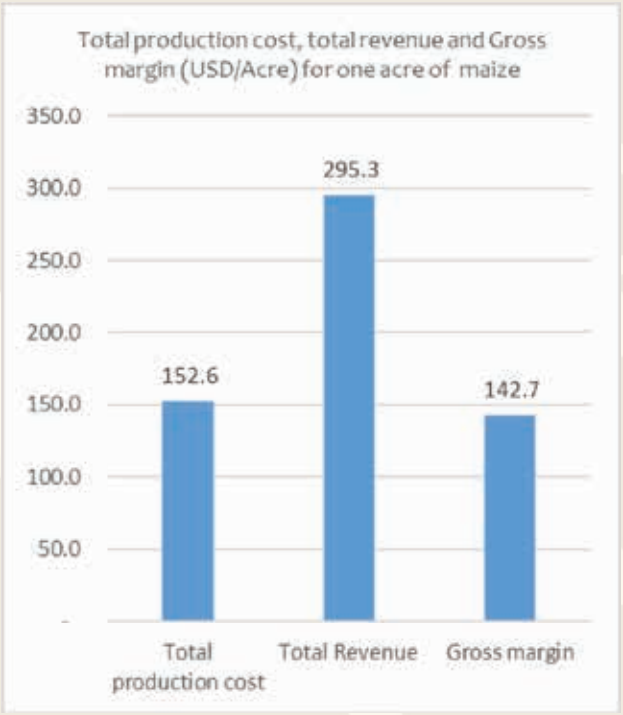
Maize production costs and gross margin analysis in Tanzania - Mwanza

Figure 15: Main production cost drivers for one acre for maize Tanzania



Source: Farm Concern International, 2018

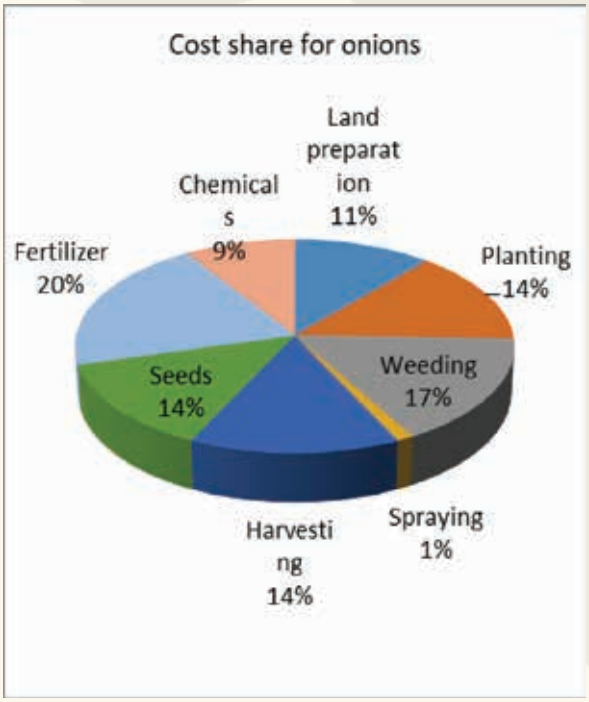
Figure 16:Cost of production, total revenue and gross margin (USD/acre) for one acre of maize in Tanzania



Source: Farm Concern International, 2018

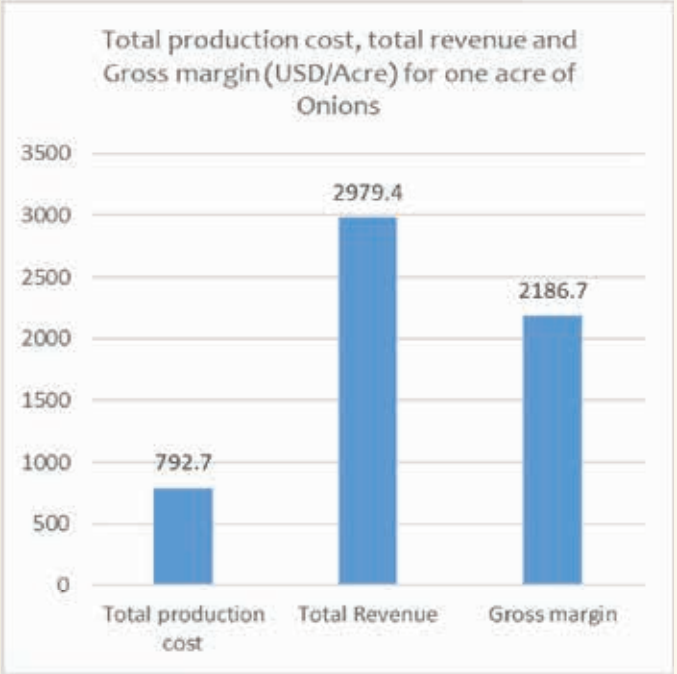
Onions production costs and gross margin analysis in Tanzania

Figure 17: Main production cost drivers for one acre for onions in Tanzania



Source: Farm Concern International, 2018

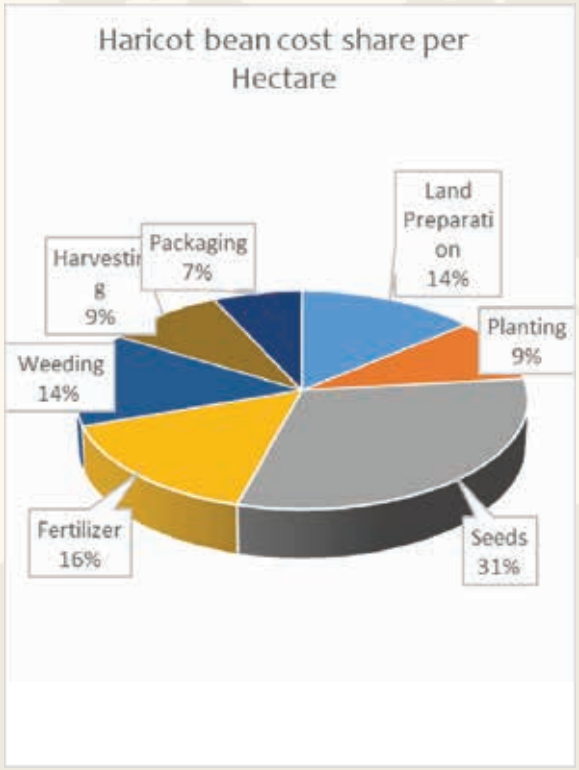
Figure 18: Cost of production, total revenue and gross margin (USD/acre) for one acre of maize in Tanzania



Source: Farm Concern International, 2018

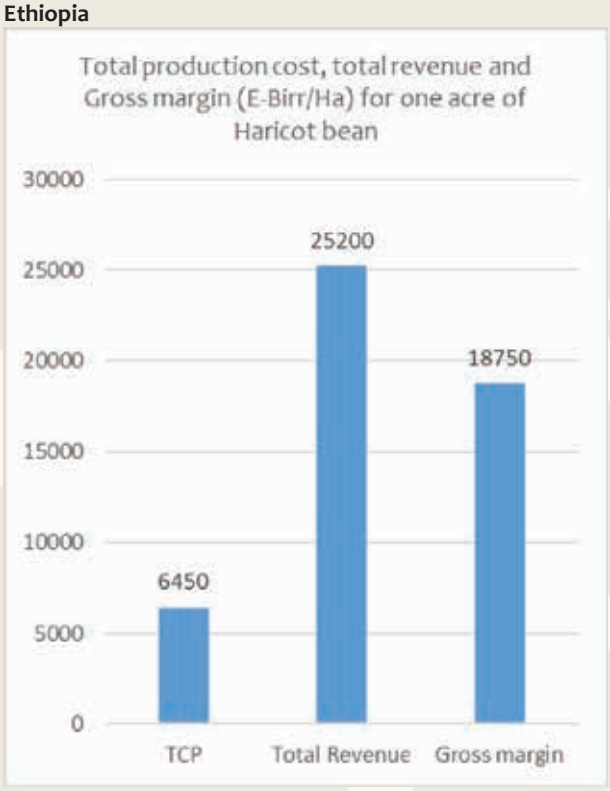
Haricot beans production costs and gross margin analysis in Ethiopia

Figure 19: Haricot bean production cost drivers for one hectare in Ethiopia



Source: Farm Concern International, 2018

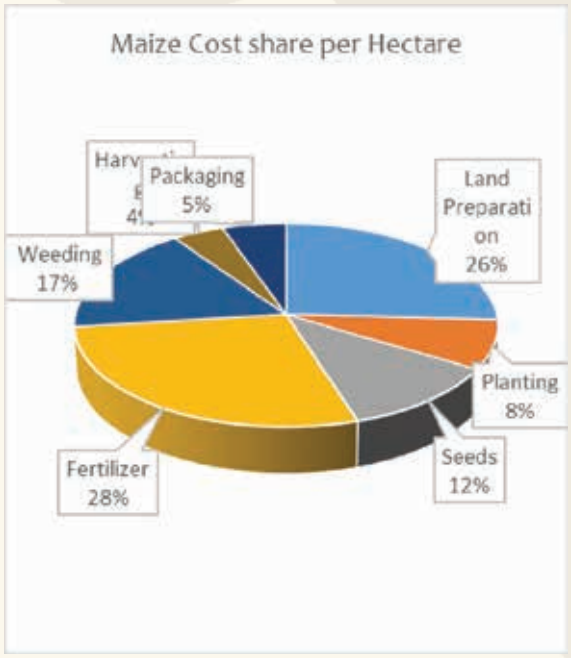
Figure 20: Cost of production, total revenue and gross margin (E-Birr/Ha) for one hectare of haricot bean in Ethiopia



Source: Farm Concern International, 2018

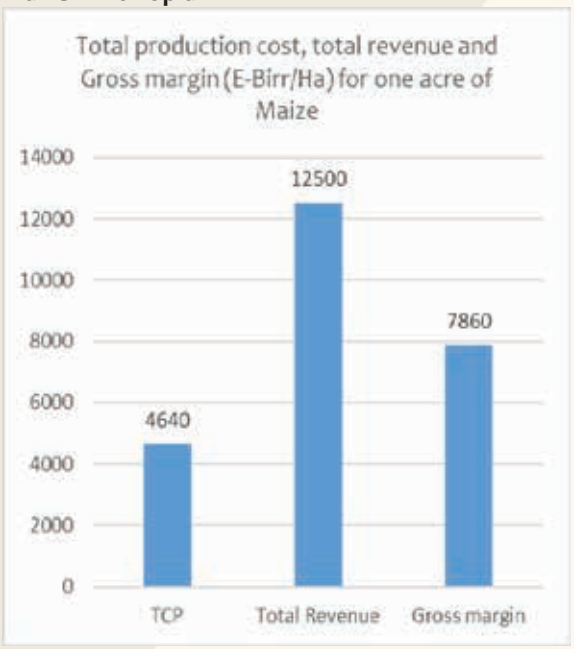
Maize production costs and gross margin analysis in Ethiopia

Figure 21: Main production cost drivers for one hectare of maize in Ethiopia



Source: Farm Concern International, 2018

Figure 22: Cost of production, total revenue and gross margin (E-Birr/Ha) for one hectare of maize in Ethiopia



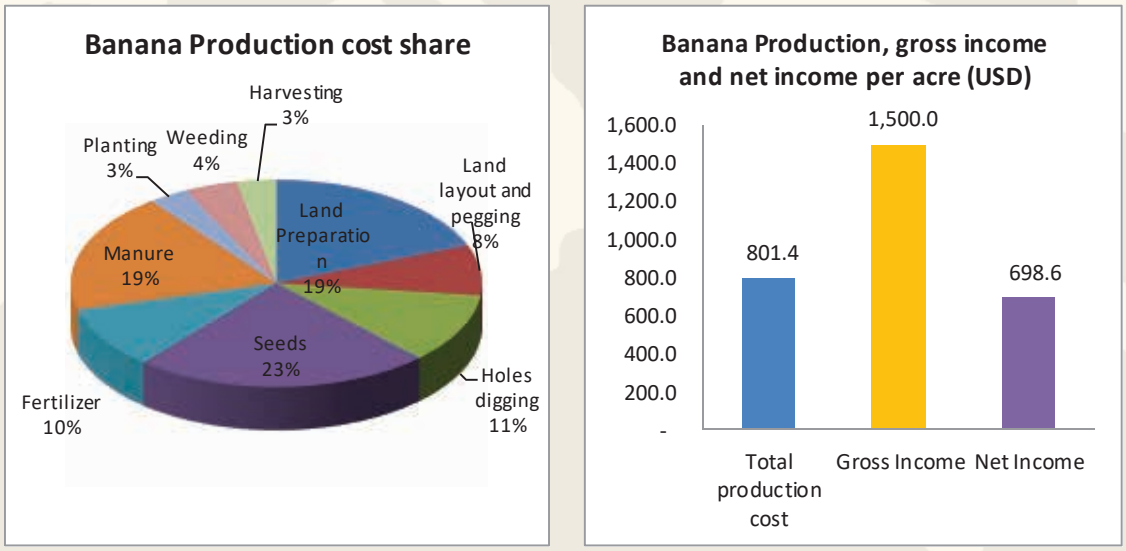
Source: Farm Concern International, 2018

3.5. SHFs Profitability for Decision Making

The profitability measurement has received a positive response by farmers as the connectivity created between their cost of production, gross income and net incomes becomes clearer through participatory - practical sessions. For example, the findings reveal that the highest costs for banana production in Uganda is seed, land preparation and planting labour.

Not a training exercise but a decision-making exercise is the mind-set change farmers are going through under the SeFaMaCo Programme due to their previous involvement in non-commercial farming. They are using such data to develop major decisions or make enterprise changes.

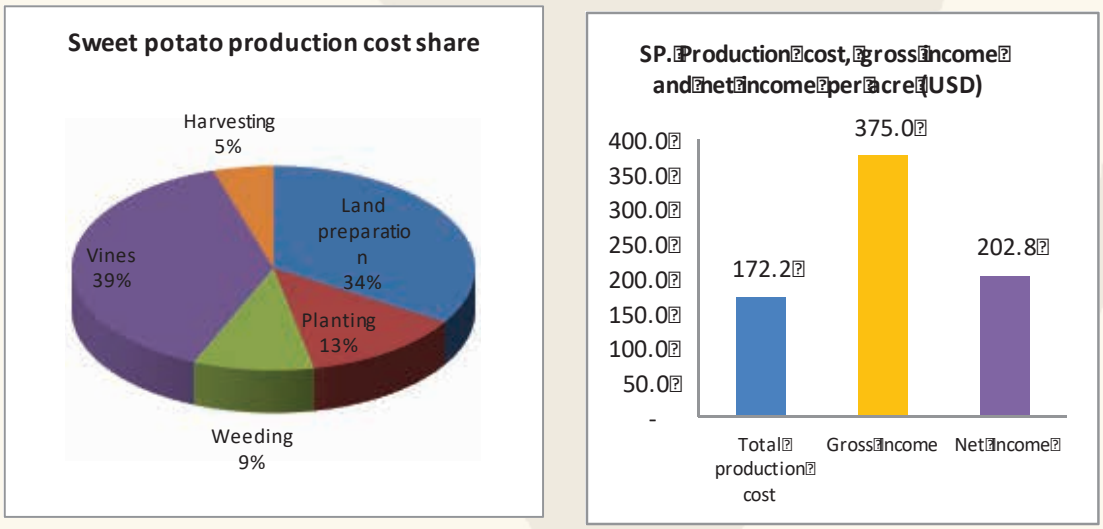
Figure 23: Banana Production cost share and profitability



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Sweet potato production had land preparation, vines and planting as the three highest cost drivers in Uganda. The upgrading of seed multipliers into seed entrepreneurs by the SeFaMaCo programme is gradually enhancing seed availability but free seed by several organizations has resulted in consistent high pricing as seed multipliers are paid premium prices by NGOs, which SHFs cannot afford.

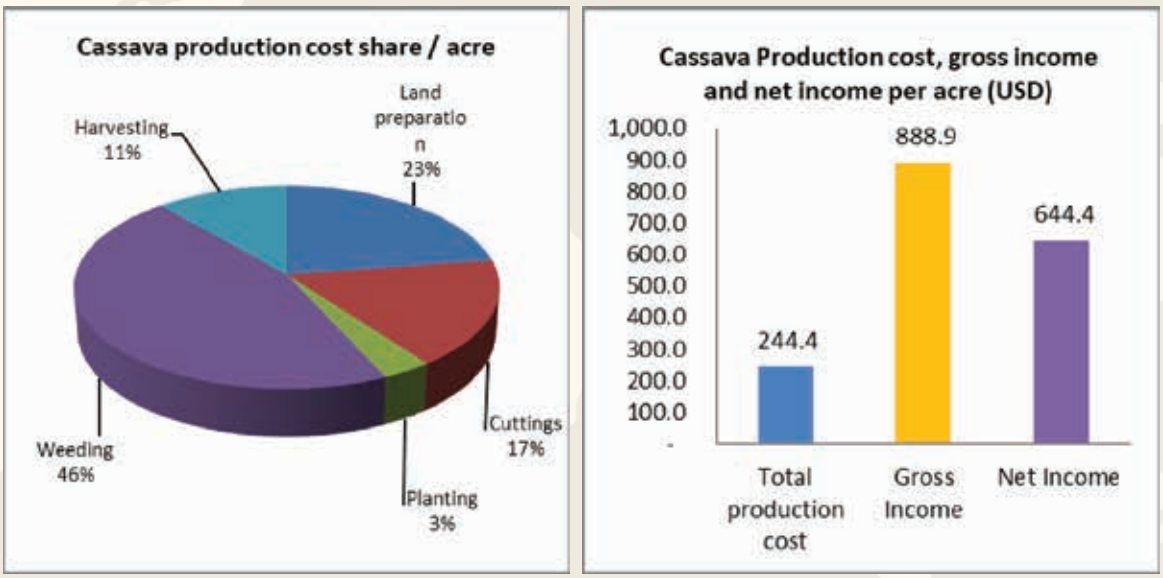
Figure 24: Sweet potato production costs and profitability



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Complementary Value chain data: Cassava is a complementary value chain in Tanzania and Uganda with the highest cost being weeding but this is due to intercropping during the first season while the second season allows root development without intercrop thus enhancing increased productivity.

Figure 25: Cassava Production costs and revenue share



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

A woman farmer from Shambari-Burka Commercial Village seeks clarification during a private sector partnership session. The **consistent inclusion of women in the business dialogues has drastically increased their confidence** to equally participate in what has previously been a male-dominated platform for market engagement. The meetings are not always smooth, but FCI facilitates lots of 'hard-business' talks which is a reflection of enhanced ability of smallholder farmers to apply skills trained on business negotiations, pricing and costing resulting in buyers not just offering prices but negotiating prices, payment procedures and aggregation processes.

3.6. Labour & Employment

Over the last three years [2015-2017], there has been an increase in the absolute level of agricultural labour wage rates in SeFaMaCo sites for example in Ethiopia and Uganda though growing at different rates.

Market-led production has a high farm – level labour demand as SHFs seeks to meet market volumes and quality requirements. The increased disposable incomes for SHFs from sales enhances their ability to pay for hired labour that is contributing significantly to the growing farm employment.

Growth in technology for service provision especially in communication along the value chain has integrated off-farm and non-farm labour markets widening the range of related off-farm work opportunities. For instance, penetration of motorcycles in rural Ethiopia and Uganda has offered youth an alternative employment thus limited availability of youth for direct farm enterprises.

63,025 No. of Farm Workers

Employed by SeFaMaCo SHFs in Commercial Villages

Market-led production and commercialization has a high labour demand and triggers increased wages due to: -

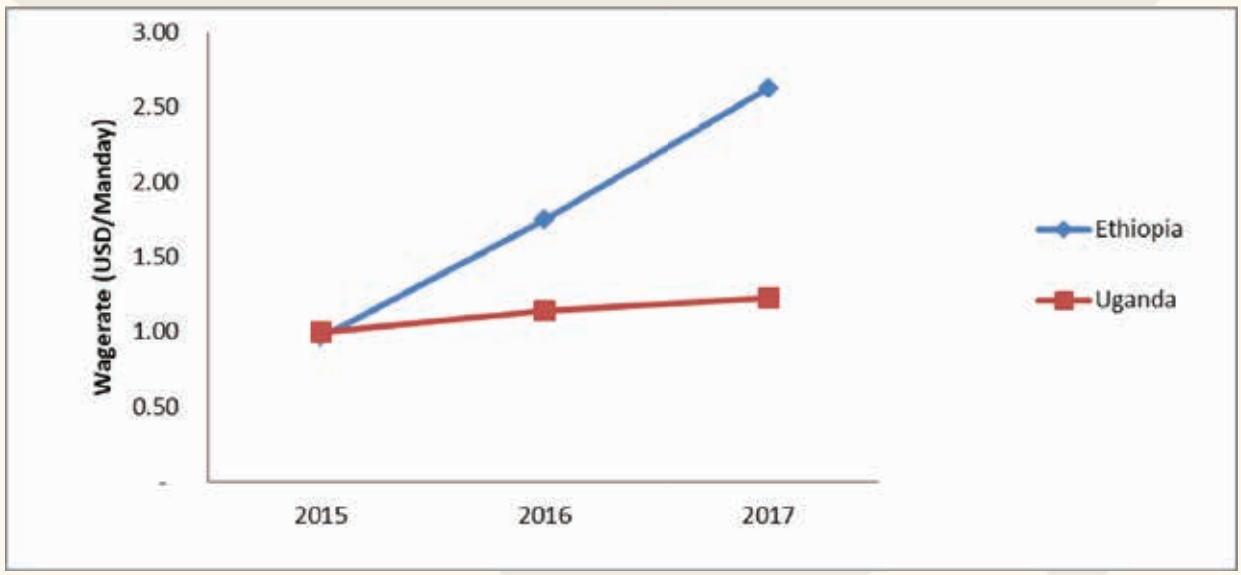
- Increased disposable incomes & ability to pay by SHFs
- Market-led production that demand consistent supplies thus demanding consistent labour at farms.
- Increased volumes requiring consistent labour
- Quality requirements by buyers' demands more specialized labour to ensure minimized rejects due to poor quality.

Other causes:

- Reduce labour availability due to rural-urban immigration as reported by SHFs during survey
- Alternative competing youth opportunities particularly in service provision e.g. transport, ICT

Daily Wage rate increased by 172% in Ethiopia and in Uganda by 23%.

Figure 26: Changes in daily manual labour wage rate in Ethiopia and Uganda

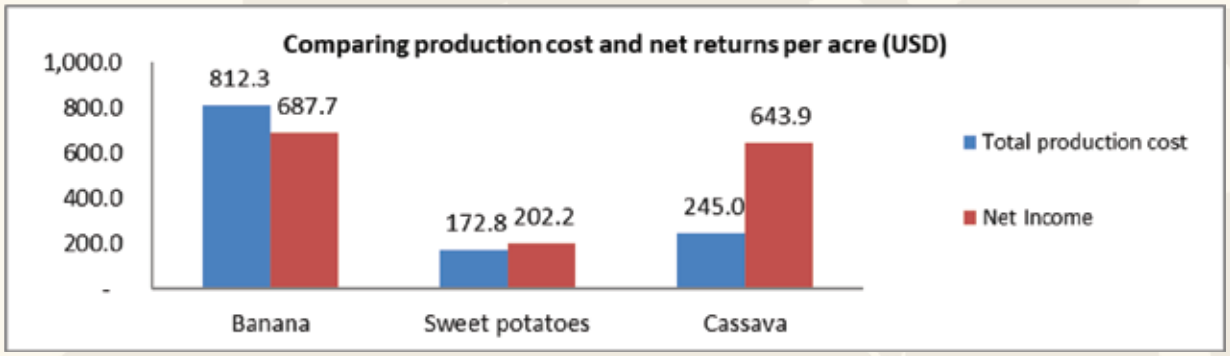


Source: SeFaMaCo Uganda & Ethiopia, Farm Concern International, 2017

3.7. Value Chain comparisons for net returns and cost-benefit ratio for SHFs

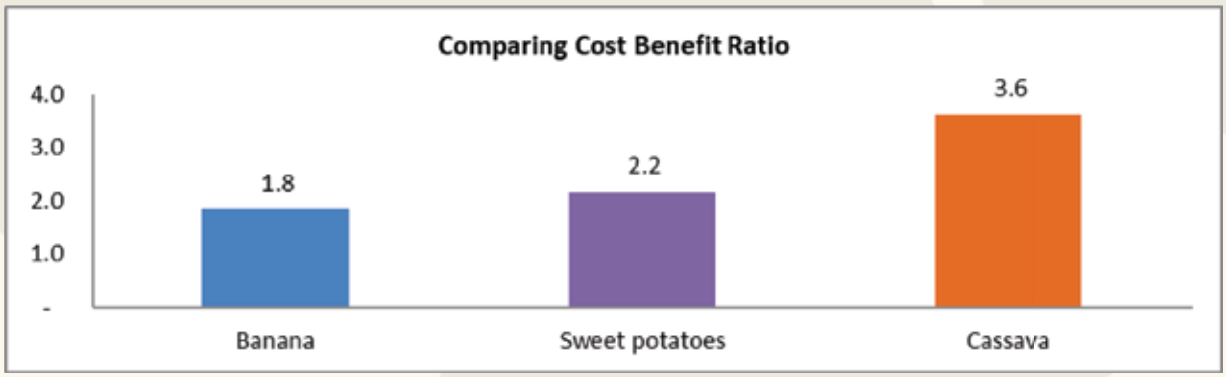
A comparison of net incomes may not reveal additional critical factors of the level of investment required by SHFs, which the SeFaMaCo partnership is addressing. To ensure that working capital per acre of each commodity is well calculated so that farmers make decisions with information. The cost ratio further reflects the cost benefit ratio which farmers are keen to learn and compare various crops.

Figure 27: Cost and revenue comparison for various value chains in Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Figure 28: Cost Benefit Ratio Comparison for banana, sweet potato & cassava



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

FCI has developed several partnerships to unlock multiple SHFs opportunities.

East Africa Grain Council staff presenting to Commercial Villages Trade Facilitators in an FCI business forum on maize procurement and standards requirements for various EAGC buyers.

Complimentary value chains diversification for Commercial Villages focuses on three top produced commodities are aimed at optimizing the marketing subcommittees and stabilize SHFs seasonal incomes.

3.8. Youth: Value Chain prioritization by Commercial Villages Youth

The participation of youth in commercial agriculture has been a major focus for the SeFaMaCo programme. In total, 116,638 youth farmers are participating in the programme across the three countries by end of year 3 representing over 20% of the smallholder farmers impacted by the programme. Agriculture has been profiled as an unglamorous sub sector entrenched with negative perception with little income and preserve of the poor. Participation of youth in agricultural production has continually been a challenge with rural-urban migration in search for jobs being rampant in the three countries where the SeFaMaCo programme is being implemented. Farm Concern International, FCI has deliberately promoted youth friendly enterprises, which have a short lifecycle and can generate income within a short period of time. Data collected from the programme indicate that youth have mainly focused on value chains, which are highly market-led. The seed enterprises have also attracted youth since it requires lesser space compared to the other crop production and with limited access to land. Youth have increasingly leaned towards commercialization for enterprises where they are assured of market engagement.

116,638 No. of youth farmers participating in SeFaMaCo Commercial Villages

Africa has over 370 million youth aged between 15 -35 years and growing. Over 60% of Africa's unemployed are young adults

In Africa, agriculture drives most economies employing over 60% of the work force but only contributes 25% to the continents gross domestic product (GDP). - *Africa Economic Outlook Report 2013, published jointly by the African Development Bank, the Organisation for Economic Co-operation and Development and the UN Development Programme.*

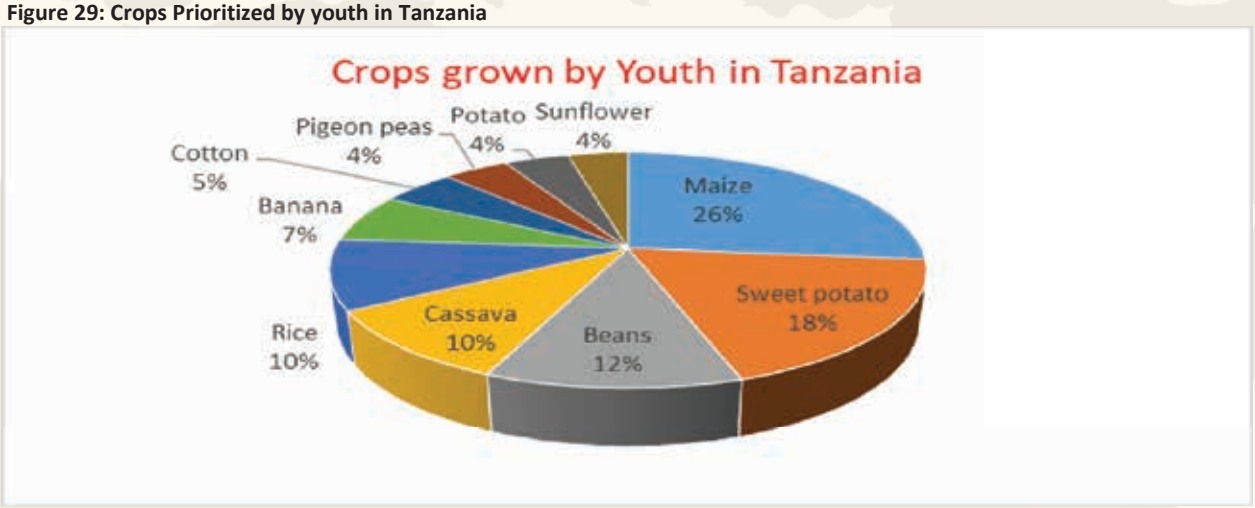
Trade requires travelling to far-flung places for sourcing and working beyond ordinary hours and youth are well suited for these circumstances. Youth provide essential services especially at the market level where there is massive scale of loading, off-loading and movement of commodities.

Commercial Villages market engagement and service provision is an expanding opportunity for youth particularly with evidence of increased SHFs incomes. Therefore, youth have also increasingly participated in provision of services within the Commercial Villages especially on

provision of market information. Within the Commercial Village leadership, youth farmers have been allocated leadership roles as an approach to empowering them as well as an unspoken succession plan at village-level.

Crops prioritized by youth in SeFaMaCo Commercial Villages in Tanzania: Sweet potato and banana were promoted and commercialized in the SeFaMaCo sites in Tanzania; data reveals that maize is at the top while sweet potato has an increasing importance among the youth whereas banana showed low interest from the youth. The dynamics that have resulted into the sweet potato and banana ranking are not scientifically measured but some of the emerging feedback is that sweet potato is in drier areas and is allocated bigger pieces of land. Banana is predominant in regions with smaller pieces of land resulting in limited capacity of families to allocate land to youth, however, there is increased youth focus on livestock such as poultry which demands less of land than crop production.

Figure 29: Crops Prioritized by youth in Tanzania

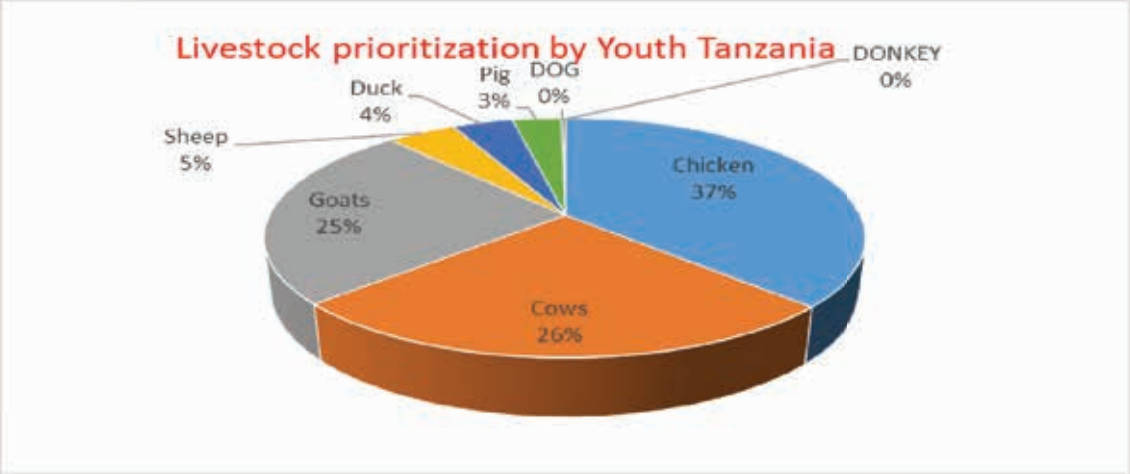


Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Commercial Villages women and youth farmers during a training aimed at increasing a multi-value chain approach based enterprise prioritization through viability assessment.

Increased integrated value chain investments and livestock prioritization: Interconnectivity of multiple value chains is clarified by the Commercial Villages youth data that is statistically revealing priority value chains based on multiple responses in SeFaMaCo sites. Chicken is the top ranked value chain where youth are directing investments largely from crop income

Figure 30: Livestock Prioritized by youth in Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

After a youth ago-processing training a section of the participating youth pause for a photo followed a series of 'selfie' session. Commercial Villages Youth Committees are a major avenue for youth integration in farming, processing and value chain participation for enterprises and employment.

3.9. Women: Prioritized value chains by Commercial Villages Women Farmers

Inclusive commercialization for women at the household level and subsequently at Commercial Villages is a key focus for the SeFaMaCo programme as FCI continually works with farming families. Increased roles for women in leadership and direct suppliers for markets is unlocking the market participation for both young and older women. Though disadvantaged in terms of access to land and other resources, women play an increasingly critical economic role within the Commercial Villages.

163,652 No. women

farmers representing 40% of Commercial Villages total SHF

Female labour input in crop production in Uganda, Tanzania and Ethiopia stood at 56%, 52% and 29% respectively - *World Bank Report on Women, Agriculture and Work in Africa.*

Research shows that women's role in agriculture supported past development but that the failure to recognise or enhance their activities is contributing to current problems with the food supply, which can be overcome most effectively by working with women and customizing interventions to work for them.

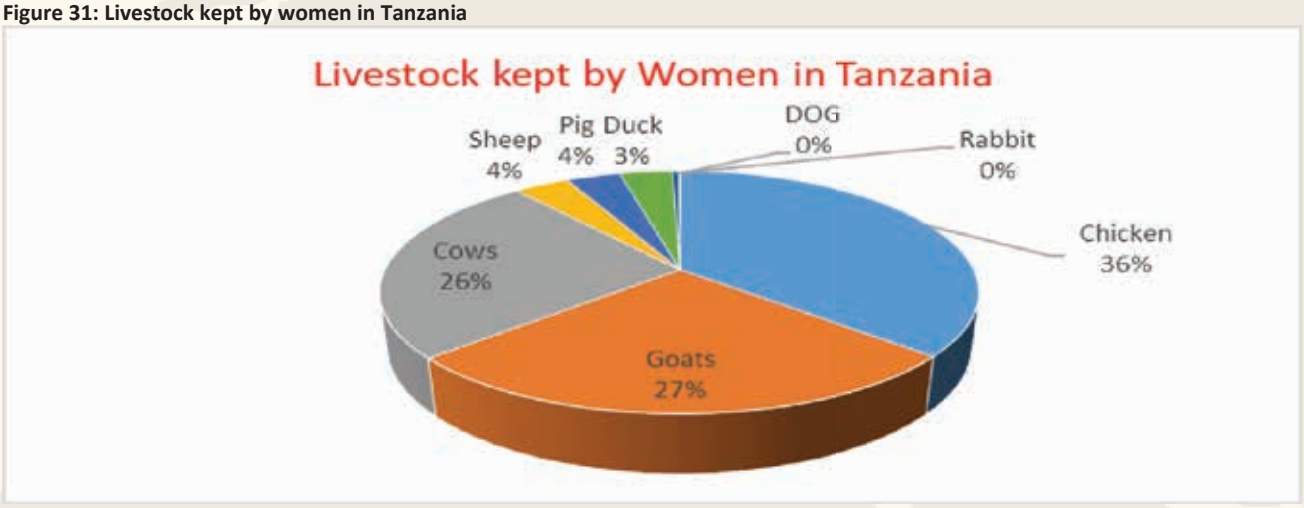
Under SeFaMaCo 163,652 are women farmers representing 40% of women participation in this programme. Beside increased contribution towards household incomes, the Commercial Village women have also been spearheading the nutritional aspects under the programme within the target sites since they are more than often, culturally charged with household nutritional needs responsibilities and are better skilled than their male counterparts are. To ensure full appreciation of food and nutrition as a cost and for land allocation, FCI trains the entire community to have enhanced appreciation resulting in increased land allocation. For women then, choosing the value chains to focus on is not only informed by the ability to generate income but also the ability to provide food and nutrition security for households. Whereas the SeFaMaCo programme was mainly driven by market access and participation of women in income generating enterprises, there is concerted efforts to ensure the roles of women within households and Commercial Villages is not neglected but rather enhanced through profiling of opportunities and enhancing their skills in making informed decisions and choices. Leadership within the community is also a critical role that women play with smallholder farmers trained and equipped on

Women Participation

Critical number of smallholder farmers attracts buyers, therefore FCI does not isolate women to link to makes rather links markets to Commercial Villages and build competitiveness of women to participate. *No sympathetic buyer engagement is an FCI theory trained to SHF.*

gender inclusion for sustainable Commercial Villages. For instance, SeFaMaCo programme data reveals that on savings and investment schemes, women are increasingly elected in Commercial Village Finance and Investment sub-committee since they are more trusted than their counterpart male adult farmers.

Figure 31: Livestock kept by women in Tanzania

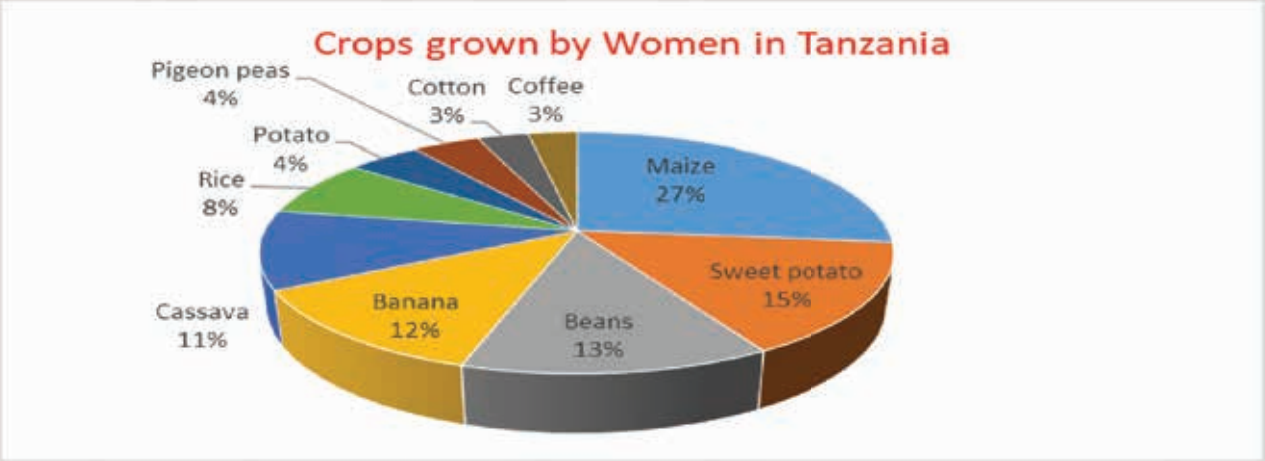


Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Top prioritized food crops by Women farmers: Data for Commercial Villages gathered across the villages has offered FCI an in-depth understanding of how women are prioritizing value chains with increased evidence of food crops as their priority focus. Commercialization paths for women have been achieved through inclusion in direct value chain participation and interaction with buyers, a process that was previously a challenge.

FCI staff facilitating a Commercial Villages woman processing training

Figure 32: Crops grown by women in Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Investments in livestock through crop incomes: Increasingly emerging data is revealing the interconnectedness of value chains particularly between crops and livestock with crops incomes playing a major seed capital for livestock enterprises. Indigenous chicken, goats and cows in that order of importance and both require limited spaces are recording high focus by women.

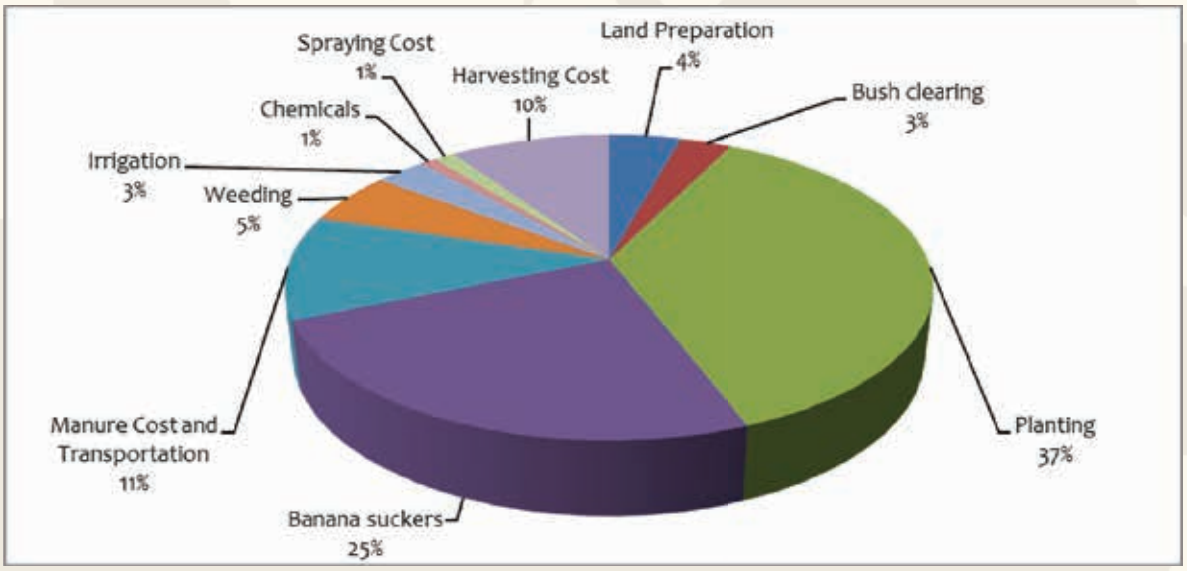
A Commercial Village woman entrepreneur demonstrates various products processed during an agro-processing training.

3.10. Agri-mechanization in response to commercialization

Labour burden on women and youth in addition to child labour are risks that can potentially occur when graduating SHFs from subsistence farming to commercialization due to demand to increase production capacity. The cost of labour remains high as revealed by multiple Cost-Benefit-Analysis (CBAs) conducted with Commercial Villages across the regions e.g. in Kagera, the labour cost for banana production is at 59%.

Labour demand for family or hired manual labour is triggered through smallholder commercialization creating an agri-mechanization urgency if SHFs are to sustain the market supplies as well as quality-quantity requirements.

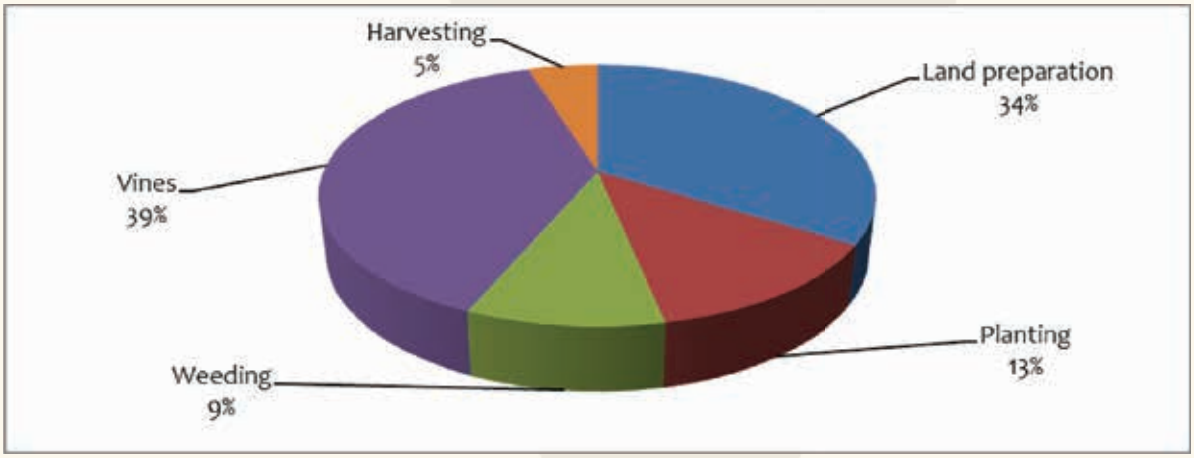
Figure 33: Cost drivers for banana production in Kagera, Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

Sweet potato vines and labour account for 73% of the costs associated with sweet potato root production by small-scale farmers in Tanzania. Thus, investment in labour saving technologies is being introduced as an approach to reduce the cost of production for smallholder farmers.

Figure 34: Sweet potato production cost drivers in Kagera, Tanzania



Source: Farm Concern International, FCI, SeFaMaCo Programme Statistics, 2017

3.11. Agri-Nutrition for Commercial Villages

Profit maximization and commercialization interventions can threaten nutrition among smallholder farmers as production of income generating commodities draw smallholder farmers' focus on nutrition issues. More often than not, market development interventions focus on linking smallholder farmers to market for prioritized commodities. Over time, nutrition is neglected especially where SHFs' have more urgent needs such as school fees and health care to be financed by the income being generated. FCI has embedded agri-nutrition aspects within the Commercial Village Model aimed at ensuring that as farmers commercialize and access markets, nutrition is given as much attention to reduce under nourishment. Through the Commercial Village production and social sub committees, farmers are trained to establish kitchen gardens with simple technologies such as vertical gardens, now becoming popular among farmers since it takes up smaller space and are easy to maintain.

While FCI is a commercialization and market development focused institution, we do recognise that these can choke nutrition hence the deliberate effort to make agri-nutrition a priority under the Commercial Village Model

FOOD-BASED MICRO NUTRIENTS | Agri-Nutrition integration is focusing on food-based micronutrients through establishment of kitchen gardens for smallholder farmer alongside the anchor value chains; that is banana and sweet potato. Traditional African Vegetables (TAVs) is promoted by FCI as some of the leading main sources for affordable and accessible multi-nutrient with focus on; Vitamins, Iron, Zinc, Magnesium among others while protein sources are promoted based o suitability to ecological zones. Development of simple recipes and alternative preparation methods for nutritious foods and vegetables is a key intervention under the Nutri-Dense Food basket model

Training on proper preparation of meals is offered to women at the Commercial Village level ensuring increased uptake of the skills and subsequent benefit to the communities.

3.12. Food Security:

Information gathered during the landscape analysis, which as a precursor to the SeFaMaCo programme, confirmed that sweet potato is a key value chain in food security for many smallholder farmers even when producing it for income generation purposes. Analysis of the SeFaMaCo programme data reveals that over 327,215 MT tonnes were consumed at the household level. In Ethiopia, over 168,491MT equivalent to 25% of sweet potato produced and valued at USD 20,803,912 were consumed. In Tanzania, 110,492.4MT equivalent to 29.1% of sweet potato produced and valued at USD 14,931,824.2 were consumed at the farm gate level. In Uganda, 48,232.5MT equivalent to 24.6% of sweet potato produced and valued at USD 5,486,451 was consumed.

FCI guides Commercial Villages to plan for markets, food security and nutrition considering that all these categories are met through different value chains. Various strategies were used to encourage the consumption and training on processing sweet potato to make it part of household diets. There is increasing use of sweet potato as an ingredient in various traditional dishes, which is an indication of adoption of sweet potato by rural and urban consumers.

Food Security is a deliberate commercial decision farmer make:

To sell or not to sell amidst competing financial needs means that SHF are making delicate balance between food and incomes for staples value chains.

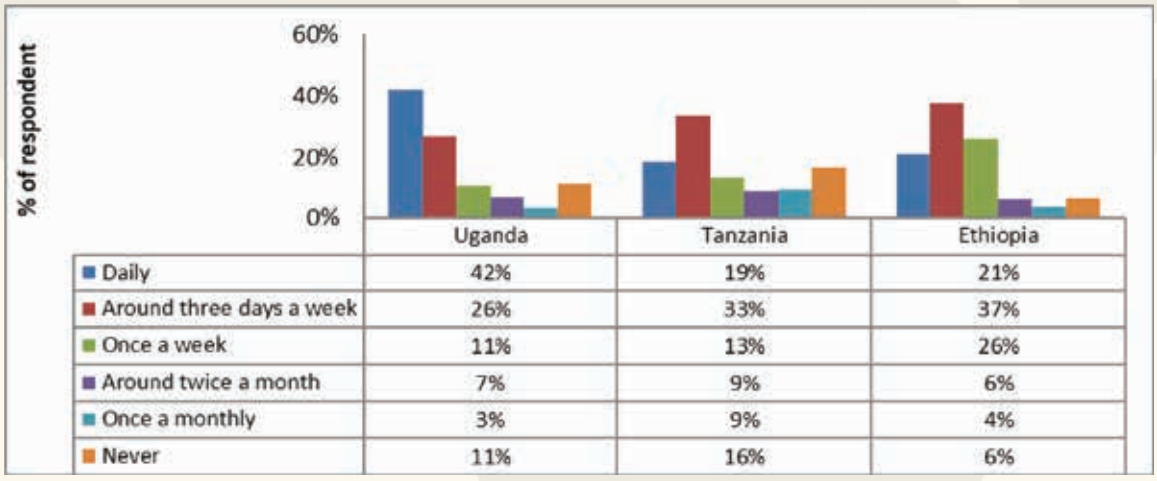
327,215.9MT

Contribution of Sweet potato to food security

USD 41,222,187

Commercial value of Sweet potatoes that families consumed. It is a deliberate not to sell and forgo monetary benefits therefore its quantified as the value contribution to food security for SHF.

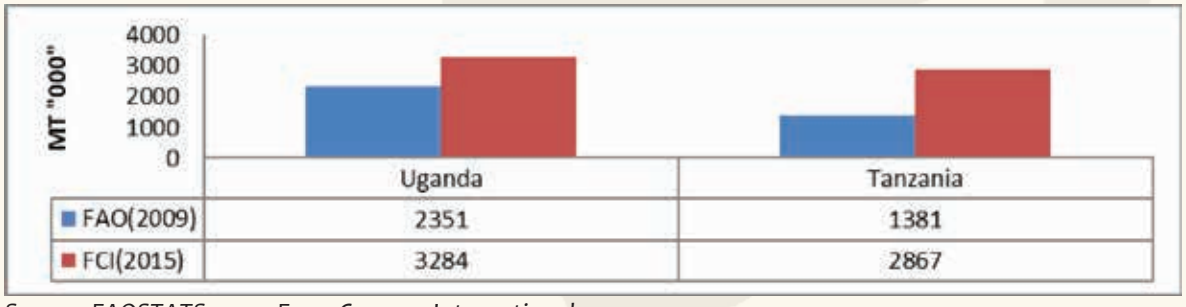
Figure 35: Consumption frequency of sweet potato per household



	Uganda	Tanzania	Ethiopia
Daily	42%	19%	21%
Around three days a week	26%	33%	37%
Once a week	11%	13%	26%
Around twice a month	7%	9%	6%
Once a monthly	3%	9%	4%
Never	11%	16%	6%

Source: Farm Concern International, 2015

Figure 36: National Annual Sweet Potato Consumption in 2009 & 2015



	Uganda	Tanzania
FAO(2009)	2351	1381
FCI(2015)	3284	2867

Source: FAOSTATS 2009; Farm Concern International, 2015

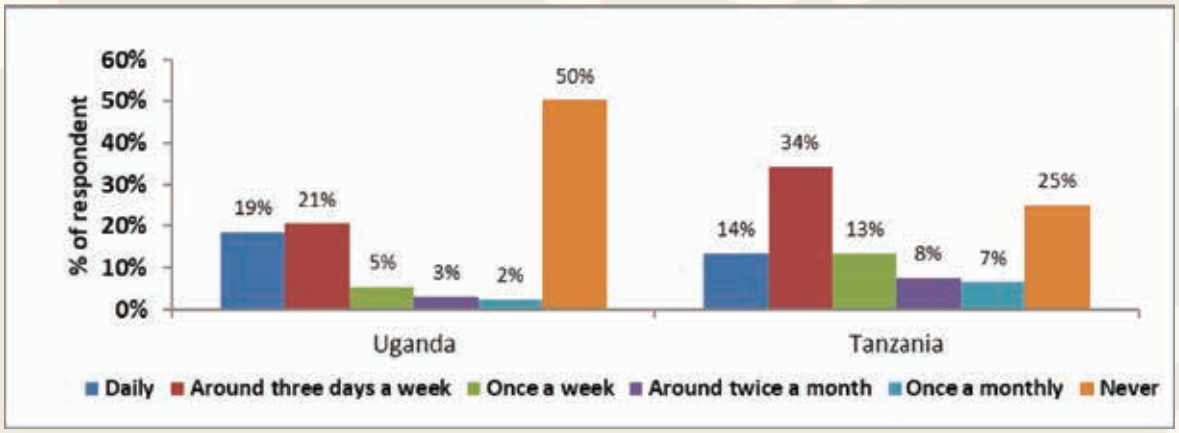
Consumption of banana and sweet potato continue to be enhanced through training, partnership with community health workers, schools and retailers that has created sustainable platforms that ensure there is a perpetual mechanism for disseminating nutritional marketing messages to consumers and the communities at large.

203,328.2MT
Contribution of Banana to Commercial Village food security

USD 22,322,916
Commercial Value of banana contribution to food security

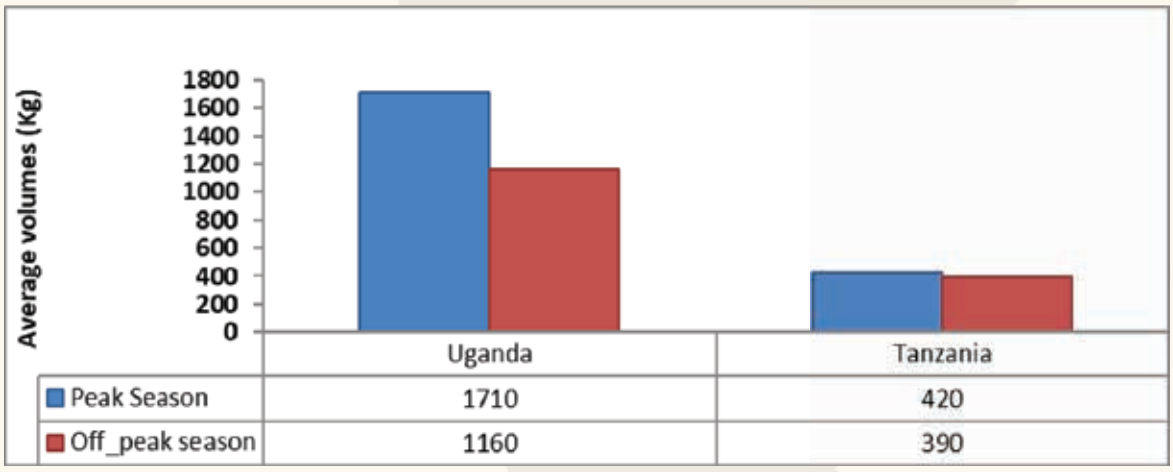
Banana is a leading food security crop in Tanzania and Uganda with majority of farmers in the banana producing zones depending on it. Statistics from the SeFaMaCo programme shows that in Tanzania, households consumed 51,203MT of bananas equivalent to 25% of the total production by the smallholder farmers with a farm gate value of USD 7,979,684.8. In Uganda, 152,125MT of bananas were consumed at the household level accounting for 25% % of the banana production with farm-gate value of USD 14,343,231.7.

Figure 37: Frequency of banana consumption in Uganda and Tanzania



Source: Farm Concern International, 2015

Figure 38 : Average Banana consumption per household in different seasons



Source: Farm Concern International, 2015

3.13. Consumer Education Partnerships

SeFaMaCo anchor value chains; banana and sweet potato form the major staple foods but over time, demand has stagnated due to alternative or complementary sources and poor consumer image in urban consumer segments, youth and school going children.

A multi-tonged partnership approach has been applied under SeFaMaCo aimed at influencing consumers from various angles through the following players;

- Community health workers
- Schools and teachers
- Retailers and wholesalers

981: Retail outlets in partnership with SeFaMaCo. A platform for dissemination of consumer messages aimed at creating demand and building product image.

SeFaMaCo is therefore utilizing sustainable platforms that ensure there is a perpetual mechanism for disseminating nutritional marketing messages to consumers and the communities at large. Partnerships with 293 schools across the three countries has enabled the programme to contribute to the nutritional component towards government department as development partners. In Tanzania, 14 primary schools were trained on various nutritional aspect as well as establishing 14 sweet potato seed multiplication gardens as a source of seed for distribution to pupils. The SeFaMaCo programme facilitated nutrition education programmes in partnership with 14 learning institutions in Uganda.

A football match in Gamo Gofa Region, Ethiopia, organized by FCI, SeFaMaCo grantees and schools. The SeFaMaCo Programme has adopted various strategies to create awareness on sweet potato and banana consumption in different country and programmes site contexts.

Additionally, the 'Eat Banana & Sweet potato campaigns' in Uganda reached out to 140 school teachers. FCI also recruited and trained Community Health Workers (CHWs) as Trainer of Trainers and conducted nutrition and utilization trainings reaching 87,505 rural and urban households. These product diversification trainings focused on making alternative products from sweet potato and banana to enhance sweet potato/banana consumption among consumers. The trainings also highlighted best nutrition practices for beneficiaries at hospitals and health centres including medical staff, expectant and lactating mothers. The trainings underscored among other things the steps of making nutritious porridge from sweet potato composite flour mixed with soya and millet.

In Ethiopia, the demand for the sweet potato in the total consumption bundle of rural and urban consumers is growing, although rural households still have higher consumption per capita than urban dwellers. The low consumption is in a larger way attributed to lack of knowledge to prepare different recipes and dishes. The consumer level interventions focused on promotion of sweet potato utilization through demonstration of different ways of preparation as ways of inducing higher demand.

20
Health/Medical Institutions in Partnerships for Food-based Nutrition Solutions with focus on women, children under **5** years and entire family.

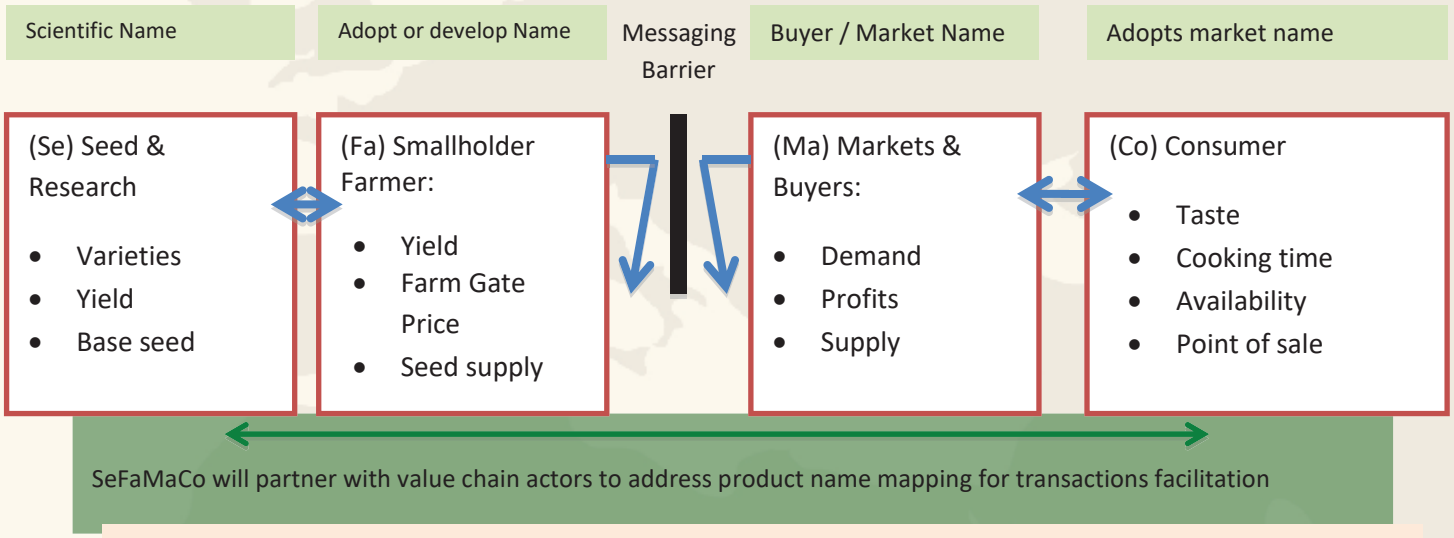
SIMPLIFIED CONSUMER EDUCATION |

Rural and urban consumers fail to link nutrition information to day-to-day life since it's too technical therefore FCI partnerships with authorities in charge of nutrition information dissemination through agri-nutrition sensitive approaches that ensure understanding regardless of the level of literacy particularly for women.

20 Rural Health Centres linkages to Commercial Villages targeting mother and baby for clinic visits and joint training for SHF women.

3.14. Barriers to market entry for improved varieties due to lack of interconnected naming:

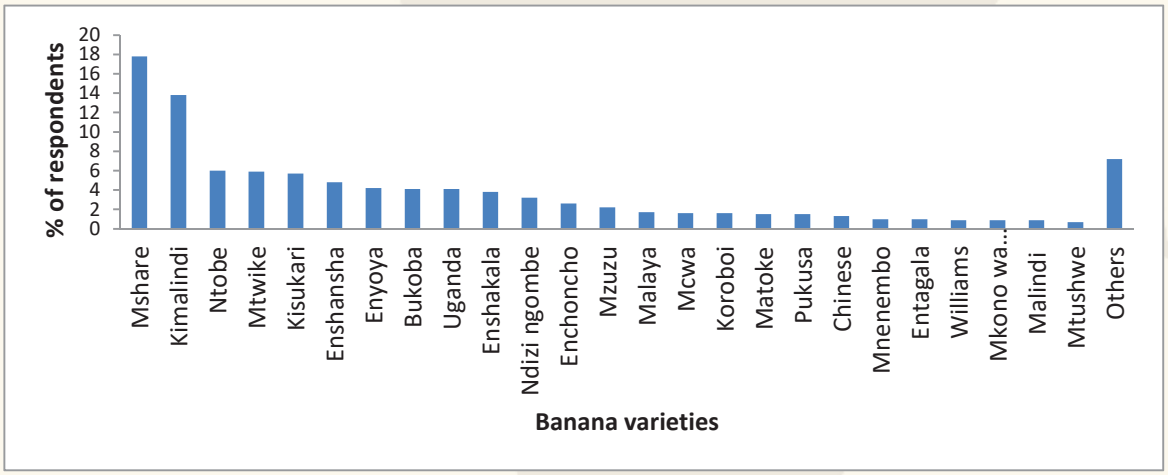
SeFaMaCo is working closely with partners to create a messaging that would ensure critical messages relevant at each level and information that allows interconnectivity between levels.



Messaging on varieties to be customized with value chain level sensitivity for relevance to trigger connectivity across all levels and ensure transactions between buyers and smallholders can happen while researchers can effectively review varieties in markets.

Product naming at market and consumer level: Most varieties had differing names used by researchers, farmers, buyers and consumers creating a major transactional and supply chain management draw back. During various business forums, the names differed to the extent that banana and sweet potato samples were physically brought to understand which variety was in discussion. In several cases in different countries, the names at different levels differed and physical samples are used to place orders to minimize confusion between value chain actors. Researchers and farmers mainly used variety production characteristics while the consumption characteristics tend to be used in market and consumer levels resulting into a broken complex communication and poor ways of measuring demand growth based on variety.

Figure 39: Preferred banana varieties consumed in Tanzania based on SeFaMaCo buyer data



Source: Farm Concern International, 2015

Missing Links between Consumer markets and Production

UNRESOLVED:

The disconnect between local names for market supply and scientific names for seed systems in response to market-led production

Understanding preferred varieties as highlighted in the above graph is enabling enhanced market-led supply but most sensitive in this process is matching local names to scientific names for seed enterprises. Variety names used for trade are different from local names for seed systems. Attempted joint forums between buyers, seed entrepreneurs and researchers reveal that this will be a complex task and a time consuming exercise but needs to be undertaken to resolve this mismatch.

Going forward:

FCI recommends research programmes to increasingly connect with markets on naming varieties to assess if a local name exists for improved variety for market entry of either new or existing but improved varieties.

Proposed Naming Approach:

- Building on past name e.g. if Mshare variety is improved, then it can be with word 'New' which would then in Swahili be called 'Mshare Mpya'.
- Closest variety to already existing variety can also be referred to as point of Ref e.g. Mshare2017
- Two varieties combined-like characteristic can join two names.

SWEET POTATOES ON DISPLAY / SALE | Consumers depend on retailers to guide them on varieties. *Photo Courtesy of FCI*

4. Last-mile Delivery of Training and Capacity Development

Various styles of capacity development are applied to enhance the capacity of farmers, wholesale buyers, seed entrepreneurs, teachers, pupils and the communities where implementation is ongoing through various trainings conducted along the four (4) levels of implementation; in total over 157,121 trainings have been conducted through various forums.

Table 1: Number of Frontline training sessions conducted by the SeFaMaCo programme

Frontline Trainings for Smallholder Farmers (SHF)			
Training parameters	**Year 1**	**Year 2**	**Year 3**
Number of Commercial Villages (CVs)	325	965	1242
Number of Commercial Villages Trade Facilitators for SeFaMaCo	108	322	481
Trainings conducted per week	3	3	3
Number of weeks trained (70%)	39	39	39
Total Number of trainings	12,675	37,635	56,277
Collaborative training with strategic partners [Private & public partners]	325 CVs* 1/month*10 months =3,250	965 CVs* 1/month*10 months =9,650	1,242 CVs* 1/month*10 months =12,410
Specialized training e.g. processing, leadership, seed enterprise mgt,	325CVs*2/qrt*4 qrt = 2,600	965CVs*2/qrt*4qrt = 7,720	1242CVs*3/qrt *4qrt =14,904
Total Number of Trainings	18,525	55,005	83,591

157,121
No. of Direct Trainings for Commercial Villages
[This does not include the interactive practical sessions held during trade fairs, input fairs, equipment fairs among others, which does offer SHF a hands-on experience with industry players on relevant aspects.]
N/B: Training for informal traders is not included in this section.

Source: SeFaMaCo Progress Report, 2017.

OFF GRID TRAINING KIT & AUDIO VISUAL MULTI-DIALECT CONTENT: Last mile delivery of training is a challenge but FCI through its Capacity Development Division and FCI Studio have developed multi-dialect e-content delivered in places with no electricity connection. The kits therefore comprise of e-content for multiple topics and off-grid gadgets that allow up to 8-hours of training with no power connection. *Photo courtesy of FCI*

At the farmer level, various trainings have been offered to farmers to enhance their understanding of trade. The use of Gross Margin Analysis at the Commercial Villages level brings to fore the various costs of production and the comparison of various gross incomes vis-a-vis the net income for different crop has enabled farmers to have the most profitable crops yet understanding the production costs and market opportunities. At the market level, training on financial management and analysis of cost drivers has been key in developing buyers' ability to manage their businesses with focus on informal buyers. In addition, partnerships with various financial institutions enabled buyers to access financial capital for sourcing commodities and expanding their business. The SeFaMaCo programme has supported consumer awareness and training interventions at various consumer segment; schools, markets, urban and rural health facilities and Commercial Villages for banana and sweet potato.

COMMERCIAL VILLAGE LEADERS TRAINING:

Leadership is a delicate process and continues to feature as a major key to sustainability of a Farmer Organization, against this backdrop, FCI SeFaMaCo team continues to enhance leadership training as one of the main components for the FCI's last mile deliver. Buyers increasingly determine reliability of a farmer organization based on leadership.

Photo courtesy of FCI

Buyer Role in Smallholder Farmer Capacity Development through On-site Interactions

The SeFaMaCo programme has embraced a multi-dimensional capacity development approach that offers farmers interaction with other actors to enhance skill and knowledge retention.

The partnerships and linkages between Commercial Village Model and buyers provides an important learning platform for smallholder farmers. Buyers provide training on quality management, handling techniques, bulking and other market sensitive issues that farmers may not be aware of. The frequent interactions between smallholder farmers and buyers then become a key aspect of enhancing the relationship between the parties not only through transactions but through understanding each party's requirements. Through this process, farmers are better placed to fulfil market requirements and become active value players within the value chain.

Photo Courtesy;
Farm Concern International, 2018

5. Market-led Seed Entrepreneurship

Across the three countries, 607 seed enterprises were established, trained and linked to smallholder farmers in Commercial Villages across the project sites. This component is aimed at providing clean and quality planting materials to farmers with a goal of enhancing productivity and eventually increasing the volumes being traded by farmers. In the last three years 66,041,249 banana suckers and 1,347,274,969 sweet potato vines have been sourced from seed entrepreneurs, government and other development partners for planting by commercial villages. Seed and farm input investment forum are conducted and provide a key platform for linkages between seed entrepreneurs, farmers and service providers.

607 Number of Seed Entrepreneurs

ETHIOPIA | Youth Seed Entrepreneurs preparing sweet potato vines for sale

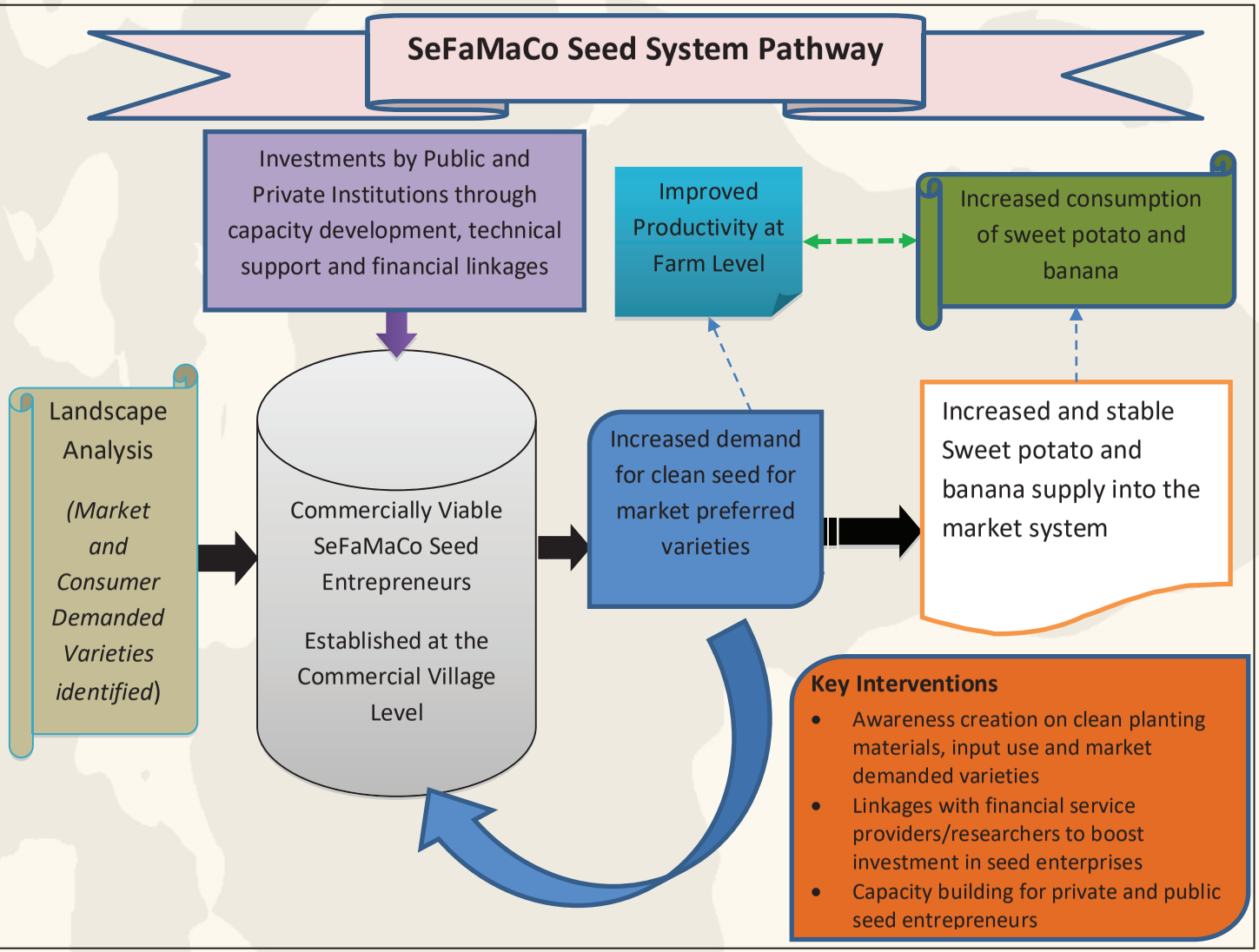
7 No. Research Centres supporting graduation of seed multipliers into seed entrepreneurs through capacity development.

Capacity building forums have been used to equip smallholder farmers and enhance the adoption of various technologies such as the use of improved planting materials to increase productivity. FCI has developed strategic partnerships with key seed sector stakeholders to ensure availability of improved planting materials for smallholder farmers. For instance, seed stakeholders learning forums have been conducted by FCI in various programme sites and 255 seed enterprises established in Tanzania. Capacity building forums and trade fairs are further used to link Commercial Villages to seed entrepreneurs and other input providers. In Uganda, FCI conducted partnership learning network and information sharing meetings with Bio Crops Uganda Ltd - a private company that specializes in tissue culture development for bananas, sweet potatoes, cassava and other commodities. In addition, FCI partnered with Agro-Genetic Technologies (AGT) Uganda, which focuses on tissue culture of bananas to offer technical training in seed multiplication. Moreover, learning demonstration plots have been set up in various schools and Commercial Villages to enhance the capacity of pupils, teachers and farmers on the use of clean banana and sweet potato planting materials. In Ethiopia, 276 seed entrepreneurs were established in partnership with the Southern Agricultural Research Institute.

SEED LEVEL TRAINING | At the seed level, the programme has facilitated the trainings and establishment of 607 seed entrepreneurs as an effort to increase and stabilize the production, access and affordability of clean planting materials. The trainings were conducted through partnerships with various institution mandated to offer technical support on seed production and certification for Quality Declared Seed. The seed entrepreneurs are envisaged to expand their seed multiplication enterprises as the programme expands and impact more farmers who are providing a ready market for the seed

Figure 40: SeFaMaCo Seed Entrepreneurship Pathway Process Map

The Landscape Analysis identified inaccessibility of clean planting materials for market-preferred varieties as one of the major barrier to improving productivity at the farm level leading to diminished incomes for smallholder farmers. The SeFaMaCo programme has over the period sought to create sustainable seed system through establishment of seed entrepreneurs. Over the period, 607 seed entrepreneurs in Uganda, Tanzania and Ethiopia have been established to build sustainable seed systems and facilitated the access of 1,413,316,360 clean planting materials. The increasing demand for the clean planting materials is driven by expanding markets for sweet potato and banana as consumers create a pull effect along the value chain.



6. Lessons Learnt

The implementation of the SeFaMaCo programme over the last 3 years has brought to the fore pertinent issues and experiences that continue to inform the SeFaMaCo Model testing. Data collected over time is revealing

Strengthening Farmer Organization for Enhanced Commercialization

i) Productivity Enhancement: Productivity for banana and sweet potato has improved tremendously with the adoption of clean planting materials by farmers. In Tanzania, data show that farmers were able to improve the weight of banana bunches by up to 20Kgs through adoption of good agricultural practices and adoption of clean planting materials. This experience shows that smallholder farmers are able to get more from their small pieces of land and run profitable agricultural enterprises through mechanisms that improve productivity.

137.5% - Productivity improvement in Ethiopia through adoption of clean planting materials

ii) Commercial Village Establishment: The Commercial Village Model provides a platform for partnerships by public and private sector actors in service delivery to smallholder farmers. The model is aimed at creating sustainable trading blocs that offer smallholder farmers' opportunity to access markets and trade profitably, the set up and structuring of these blocs requires constant supervision and capacity development in the initial stages to ensure they are capable of delivering services to members. One key learning over the last three years especially with grantees under the SeFaMaCo Programme has been the need to provide technical capacity and training materials to facilitate the set up and evolution of the Commercial Villages without which they remain under-developed and not ready for exiting the programme for sustainability. Additional time and resources may then be required to ensure this process is completed for prosperity.

Partnerships for Effective Consumer Awareness

Demand Expansion: The ability of smallholder farmers to link with markets and increase sales is by ability of markets to demand and absorb commodities. Awareness for increased consumption of sweet potato and banana by consumers has been am major strategy to increase market share for these commodities. In Ethiopia, working with schools through organizing and branding of sport festival achieved great success opening new avenues for increasing was a great success as well as training women within commercial villages on alternative utilization. Creating a pull mechanism through consumer awareness has been one of the effective strategies for increasing consumer awareness and market demand for sweet potato and banana.

Planting Materials Pricing Key to Successful Seed Enterprises

The establishment of seed entrepreneurs has been a major focus especially for the sweet potato value chain that is under-developed and in addition and faced with a myriad of problems including diseases and pests.

i) Cultural Practices: Sweet potato has a traditional seed system that is used by smallholder farmers to acquired seeds within the local setting. Farmers borrow planting materials from each other over the years. This has been one of the challenges faced by seed entrepreneurs especially in Ethiopia where the first batch of sweet potato vines harvested by seed entrepreneurs were distributed to farmers within the Commercial

Village without making any sales. Behaviour change among communities on commercialization of sweet potatoes seed systems is an area that still requires persistent training and awareness creation for success.

ii) Free Seed Distribution: Over the years, development organizations have offered farmers' free seed under donor funded programmes. This has reduced the amount of seed purchased by smallholder farmers considerably and remains a major hindrance to establishment of a sustainable seed system across Ethiopia, Uganda and Tanzania.

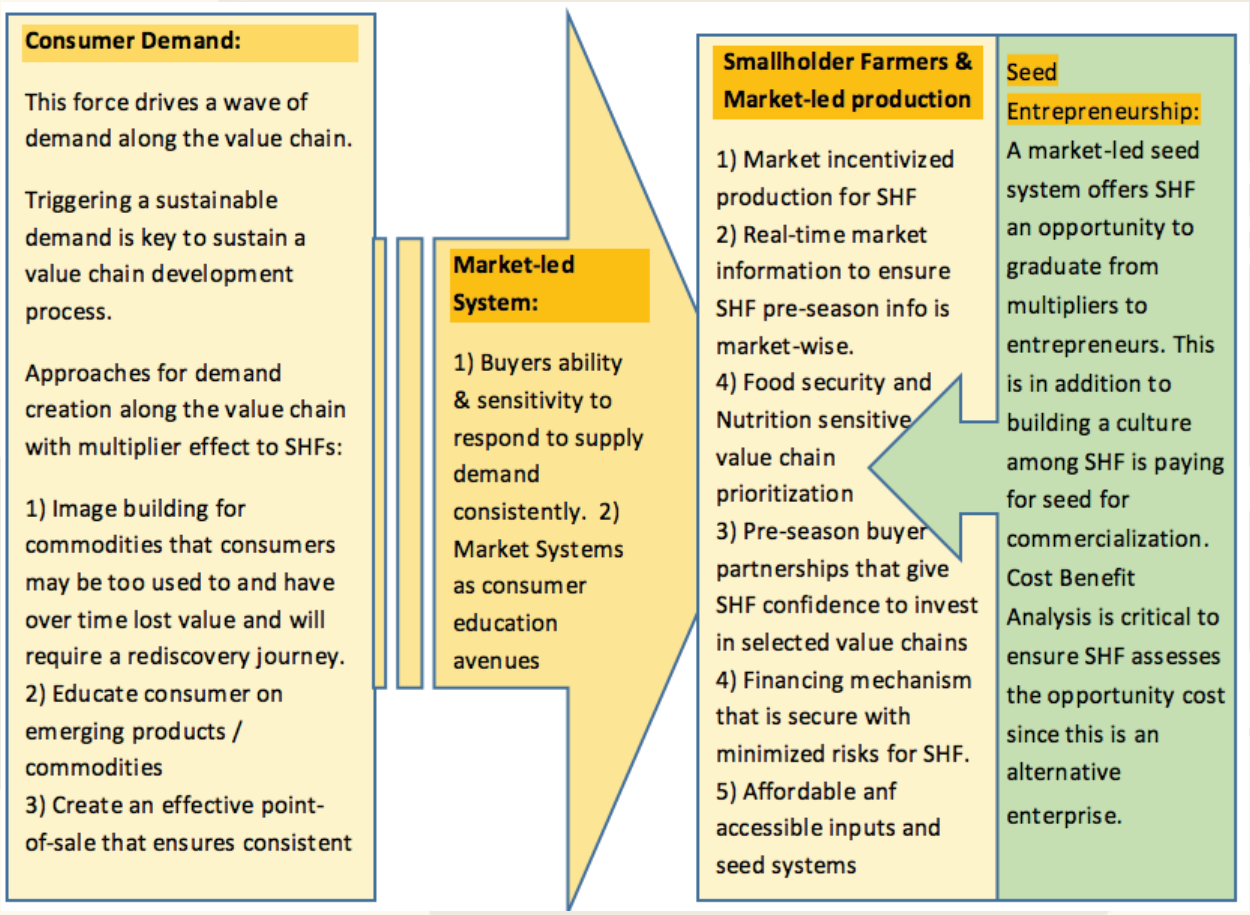
iii) Erratic Weather: Over the last two years, the Eastern Africa region has experienced erratic unreliable rains leading to hug losses for smallholder farmers. Seed Entrepreneurs were hardest hit with no water available to water their farms leading to total loss of seed materials. Availability of alternative sources of water for seed entrepreneurs is key in sustaining the seed production process as well as ensuring farmers access vines at the onset of rains.

iv) Price Distortion: The pricing of seed is important in enabling farmer's access clean planting materials. Commercial seed multipliers target Non-Governmental Organization as the key markets thus distorting market prices beyond the reach of common farmers. For example, in Ethiopia, commercial seed entrepreneurs sell a vine between of 0.005 US cents and 0.016 US cents, which is beyond the reach of smallholder farmers. Commercial seed multipliers have an average of 3 to 5 ha of land dedicated to sweet potato vines multiplication, however, smallholder farmers cannot access these materials due the high prices pegged on the sweet potato vines targeted at development organizations that buy the vines.

v) Consumer-driven Seed Demand: The seed market systems must be driven by demand for them to be sustainable. However, the link between consumers and seed systems need to be well understood to create a pull effect on the value chain. Consumers need to be the drivers of seed systems by linking the banana and sweet potato varieties being demanded and consumed for commercialized by the seed entrepreneurs. Under the SeFaMaCo programme, efforts have been focused on creating increased demand for quality clean planting materials by smallholder farmers through increased consumer awareness and consumption.

7. Conclusion

The implementation of the SeFaMaCo programme over the last 3 years has impacted nearly half a million smallholder farmers in Tanzania, Uganda and Ethiopia. Data gathered over the implementation period in the three countries among the close half a million farmers is a critical piece of evidence revealing the farmers landscape and growth pathways at various value chain levels.



Seed Enterprises

The establishment of sustainable seed systems for sweet potato and banana at the village level has been successful across the three countries albeit with challenges which will be addressed in the final year of the programme. Over the period, 1.4 Billion assorted planting materials have been assessed by smallholder farmers under the programme and 607 seed entrepreneurs established. Smallholder farmers have culturally been exchanging planting materials with their neighbours presenting a big challenge to disease control and productivity. Planting materials lose their vigour over time hence the re-use of these materials by farmers, continually undermine the effort to increase productivity and reduce the spread of diseases and pests. Awareness creation and linkages to seed entrepreneurs has alleviated this problem but there remain areas to be addressed as the programme ends.

Partnership with research institutions to provide technical capacity to the seed entrepreneurs has been key in ensuring the seed entrepreneur produce quality seed meeting the minimum requirement for distribution to farmers. Investment in seed production by the seed entrepreneurs has been supported through the provision of a seed entrepreneur starter kit to enable these investors to start their enterprises. Availability of water for seed production during

the off-season period is important. Seed entrepreneurs were selected based on availability of water for irrigation especially near swamps or other forms of water sources are available enabling them to provide planting materials to smallholder farmers across the implementation sites.

Commercialization

Over the last 3 years 95,704 Ha of land were put under banana and 178,439 Ha under sweet potato producing 813,313MT of banana and 1,249,729MT of sweet potato respectively. This commercialization process for sweet potato and banana was triggered by identification and quantification of the potential market demand that remained under-utilized. The sharing of these opportunities with farmers and setting up strategies for input acquisition, production and marketing of commodities through the Commercial Villages. To create sustainable Commercial Villages, the SeFaMaCo programme has continually developed the capacity of leaders within these Commercial Villages through various approaches.

FCI through the programme has developed the capacity of 414 Commercial Village Trade Facilitators (CVTFs) who are instrumental in provision of support to Commercial Villages. The CVTFs are equipped with training materials and aids that enable them to deliver standardized and quality content to farmers across all sites. Production data indicate that farmers are recording improving productivity although unfavourable weather has eroded profitability. Commercial Village data show that farmers lost over USD 277,974,767 in incomes due to drought related effects. Building resilience for smallholder farmers has been critical to enable them move back to profitability. Farmers were able to acquire inputs through access to credit from the Commercial Village Savings Scheme.

Consumer Awareness

Market demand for any commodity is triggered by consumer behaviour and preferences hence the ability to understand and align market offering towards their needs is key in achieving market expansion and increased sales. The landscape analysis identified am mismatch between what farmers were producing in terms of varieties, quality and quantities as some of the key problems that made consumers be unable to uptake some of these commodities. From a farmers' perspective, buyers are the 'consumers' of their products and not much attention was given to consumers, subsequently, the push mechanism was employed in linking farm commodities to market which could not work due to inability of the buyers to sell the commodities to consumers based on a commodity that is available in the market.

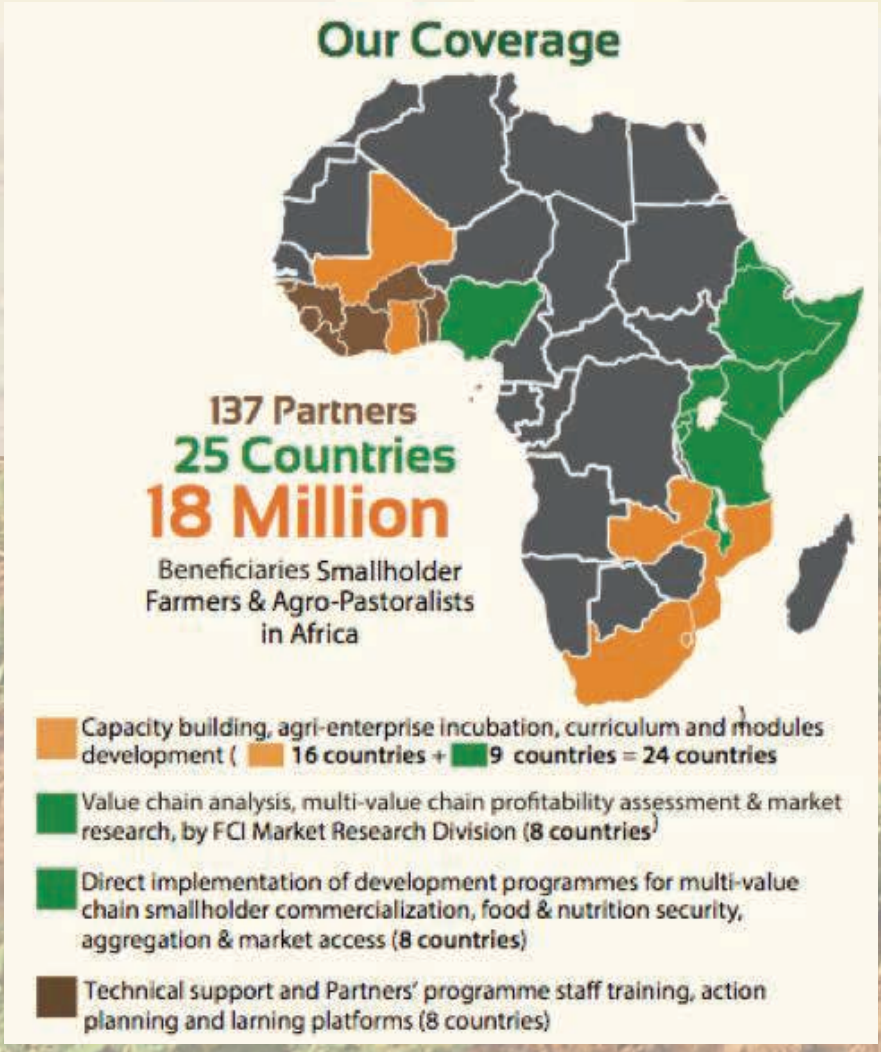
The SeFaMaCo programme has intervened at the consumer level focussing on both rural and urban market through various strategies. To increase awareness among consumers, partnerships with retailers has been key in enhancing information dissemination on the nutritional benefits of banana and sweet potato as well as alternative utilization methods for both banana and sweet potato. On the other hand, partnership with schools in establishing demonstration gardens as well as sweet potato and banana farms has been instrumental in creating awareness on the importance of sweet potato and banana for nutrition and food security. School going children have embraced the consumption of sweet potato and banana products as snacks and meals both in schools and at home. The programme disseminated vines to school going children to establish kitchen gardens as agents of change at the household level.

Additionally, partnerships with rural and urban health centres provided an opportunity to disseminate information to women on food and nutrition security. Community Health Workers were identified, trained and engaged.

FCI Rebrands in 2018

FCI Rebrands to reflect on coverage and specialization

From To



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