



CATALYTIC GRANT CASE STUDY: MALAWI

INTEGRATED APPROACHES PILOT PROJECT

A GENDER-SENSITIVE, FOCUSED APPROACH TO BUILDING SUSTAINABLE AND RESILIENT FOOD SYSTEMS IN MALAWI THROUGH AN AFLATOXIN-FREE GROUNDNUT VALUE CHAIN



Table of Contents

Abbreviations.....	2
Introduction	3
Context.....	4
Project Approach	4
Specific Project Activities.....	8
Project Results	12
Success Story.....	13
Lessons Learned and Recommendations	14

Figures and Tables

Figure 1: Map: Project districts.....	3
Figure 2: Mapped value chain processes and stakeholders for the groundnut value chain on the SAPMart Project.....	5
Figure 3: Groundnut Inoculant Nitrofix	8
Figure 4: A) Ridging B) Double-row planting.	9
Figure 5: A) Moisture Gadget, B) AgroZ Bags	9
Figure 6: Improved aggregation and storage centre	10
Figure 7: Gender inclusion in groundnut production	11
Figure 8: Mobile groundnut shellers being transported to a cooperative aggregation centre.	14
Table 1: Key SAPMaRT stakeholders and roles.....	6

Abbreviations

AGRA	Alliance for a Green Revolution in Africa
AFAP	African Fertilizer and Agribusiness Partnership
AI SL	Agro-Input Suppliers Limited
CAA	Community Agribusiness Advisors
GAP	Good Agronomic Practices
GEF	Global Environment Facility
IAP	Integrated Approaches Pilot
MSP	Multi-Stakeholder Platform
SAPMaRT	Sustainable Agriculture Production and Marketing for Rural Transformation
SME	Small Medium Enterprise
RFS	Resilient Food Systems
UNDP	United Nations Development Programme
VBA	Village Based Advisors
VSLA	Village Saving and Loan Associations

Introduction

Under the second outcome of the [Resilient Food Systems \(RFS\) Programme](#), one of the Integrated Approach Pilots (IAP) funded by the Global Environment Facility (GEF), UNDP and AGRA co-designed three catalytic grant projects to pilot innovative approaches and model projects to showcase and develop practical methodologies of promoting *Green Value Chain Development* in East, Southern and West Africa.

In Malawi, the catalytic grant project “*Sustainable Agriculture Production and Marketing for Rural Transformation (SAPMaRT)*” aimed to showcase a market-led and greening approach in the groundnut value chain food systems transformation pathway through catalysing system change at various levels of the value chain. The green production technologies promoted on this project included planting the groundnuts in double-rows as well as the intercropping of groundnuts with other cereals such as beans and maize, the use of drought and diseases tolerant seeds, the use of inoculants such as nitrofix - an affordable technology that is context relevant to smallholder farmers and is less expensive than conventional fertilizers, and Aflasafe for suppressing the level of aflatoxins in groundnuts. Ensuring consistent extension services facilitated the uptake/adoption of the promoted technologies. Smallholder groundnut producers were also trained to employ postharvest loss-reducing management practices, including the use of Tandala and Mandela cocks that are known to reduce the occurrence of aflatoxins.

The project was implemented in Mzimba and Rumphi districts in the North, Kasungu, Mchinji, Lilongwe, and Dedza in Central and Mangochi in Southern Malawi for details refer to Figure 1.

Targeted farmers were organized into groups, clubs, and cooperatives to facilitate the dissemination of good agronomic practices and to facilitate aggregation of farm produce for the market. The groups also facilitated peer-to-peer learning that led to sustained adoption of practices. Furthermore, farmers selling their commodities in groups had higher bargaining power than those selling individually to vendors and consequently accessed competitive market prices. The use of groundnut shellers enhanced the quality of the produce and saved on labour cost and time.

This case study documents the process of the implementation of the SAPMaRT Catalytic Grant on the integration of business and greening principles to improve resilience and sustainability in food systems. It puts together key lessons, success and/or failure factors, and outlines the project results as part of the process of documenting and disseminating information that can be used by multiple stakeholders including policy and decision-makers, project developers, funding agencies, and the private sector for widescale application of greening principles in food systems particularly in response to the challenges and impacts of climate change and environmental degradation.



Figure 1: Map: Project districts

Context

Groundnut (*Arachis hypogaea* L.) is ranked thirteenth in terms of importance among food crops produced and consumed in many African countries for its nutritional value and benefits, significance to household income, and hardy nature (Monyo et al., 2012). In Malawi, groundnut is an important income earner for farmers, and is ranked as the top alternative crop to tobacco in the country as a foreign exchange earner. It also has other social and ecological benefits, such as nutrition and soil regeneration as it serves as a cover crop and provides nitrogen fixation services in soils.

Malawi's smallholder farmers are among the most vulnerable to the adverse effects of climate change. They face persistent food insecurity as a result of the changes they experience in climatic conditions due to their low capacities to adapt to these changes. It is in this regard that the project sought to demonstrate the value of a market-led approach in the input and output systems that is inclusive by focusing on mostly women and integrating soil fertility management for environmental, climate, and economic gains.

Despite its positive qualities, groundnut production in Malawi, which is mainly rain-fed and smallholder-based, is confronted by numerous challenges such as a lack of quality seeds, low yields due to poor agronomic practices and inefficient technologies, climate change-related shocks, aflatoxin contamination, low use of required agricultural inputs, limited access to extension services, limited markets and weak market linkages. These challenges have led, over time, to low yields, poor quality, and low market price. These factors have resulted in the near collapse of the value chain in areas where it was once a thriving crop.

Project Approach

To integrate greening principles in agriculture and food value chains, in particular the groundnut value chain, AGRA and UNDP and a consortium of partners—African Fertilizer and Agribusiness Partnership (AFAP), Agro-Input Suppliers Limited (AISL), Milele Agro, and Fortune Gardens implemented the SAPMaRT project targeted to reach 20,000 farmers with improved technologies through an integrated approach that involved good agronomic practices, natural resources management, private sector interventions and public sector capacity building interventions. The project managed to reach more farmers than the targeted number. 21,900 [9,184 women] farmers were engaged by the project in the groundnut value chain.

The project adopted the multi-stakeholder and value chain mapping method—"a consortium approach"—on the groundnut value chain that mapped stakeholders with varying degrees of involvement in the value chain, from input to output markets (Figure 2). Multi-stakeholder platforms (MSP) formed a substantive and critical entry point for technical assistance in greening processes, all-encompassing finance products, and partner mobilization to ensure the value chains' sustainability and resilience.

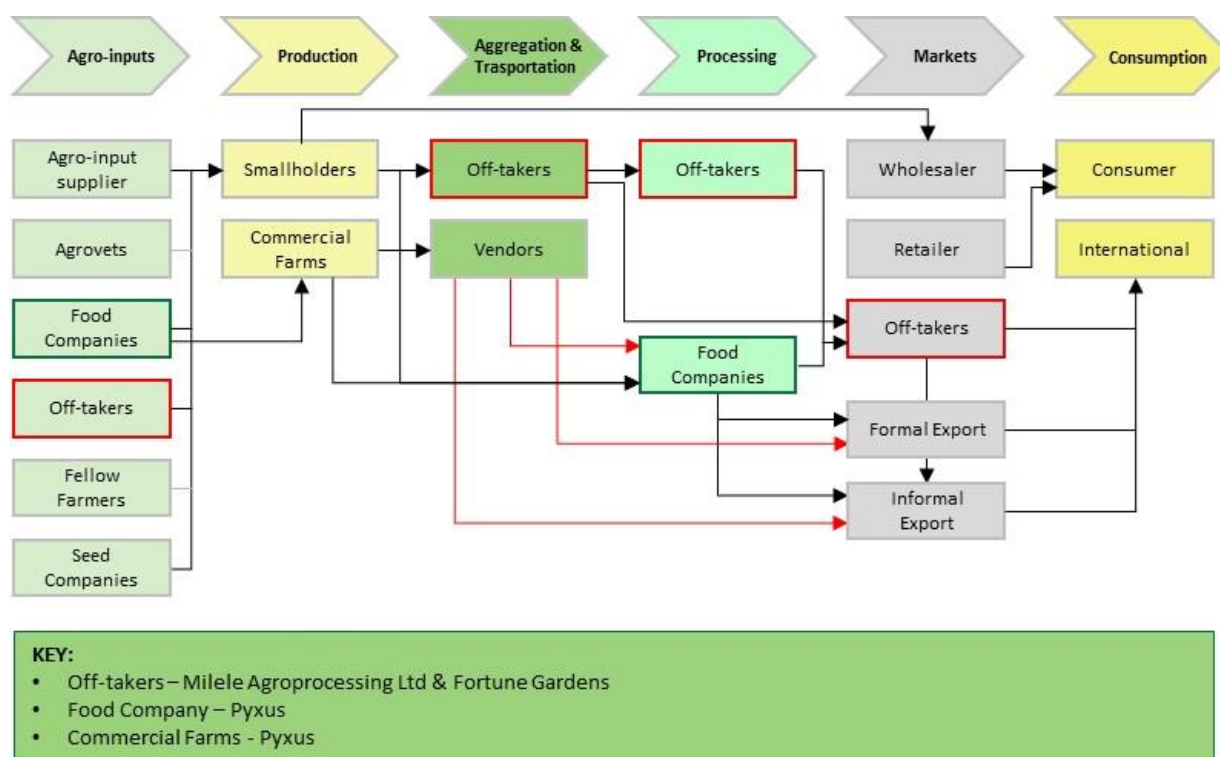


Figure 2: Mapped value chain processes and stakeholders for the groundnut value chain on the SAPMart Project

The MSP approach identified key partners (primary and secondary) and specific entry points for the different partners to participate and enhance the productivity of the value chain. Each partner brought their specialized roles and through the MSP, they integrated their specialisation to ingrain sustainability principles in the groundnut value chain. Below is some detail on the partners that were identified and the roles they played in the project:

Project partners	Key roles
AFAP	Coordinated the partners, project supervision and technical oversight. Responsible for the mobilization and support of agro-dealer services, establishing relevant agribusiness linkages, through the Multistakeholder Platform, to farmers and farmer groups for the provision of inputs and relevant farmer advisories.
Milele (off-takers)	Mobilized and organised farmers in groups, was responsible for maintaining farmer engagement, facilitated the provision of extension services, managed aggregation services and skills building

Government (Ministry of Agriculture)	Oversight on extension systems, selection and formation of community agribusiness advisors (CAAs). Policy and institutional engagement
Fortune Gardens	Facilitated local and international markets for the groundnut value chain, provided extension services, financing products, farmer mobilisation and engagement and business skills building
Agro-Input Suppliers Limited (AISL)	<p>Provided postharvest crop management services.</p> <p>Facilitated the provision of Aflasafe and inoculants for the reduction and possible elimination of aflatoxins.</p> <p>Provided an important link with government in provision of evidence and information to legislate on Aflatoxin management.</p>

Table 1: Key SAPMaRT stakeholders and roles

Through a coordinated process across multiple partners, the project worked to strengthen access to extension services and last-mile delivery services for the transfer of good agronomic practices (GAPs) that included natural resources management and facilitated the provision of linkages to input and output markets for farmers and other value chain actors.

The project promoted and engaged an innovative self-financing community-based extension services system called the Community Agribusiness Advisors (CAAs) to reinforce the consistent delivery of the last mile services—extension services such as the provision of linkages to recommended inputs and output markets as well as climate advisory services.

A CAA is an enterprising master lead farmer who is selected among lead farmers selected by the community. A CAA leads about 5 lead farmers who lead on average 20 follower farmers. A CAA mobilises lead farmers and their follower farmers to form clubs, cooperatives, and Village Saving and Loan Associations (VSLAs).

The concept and sustainability of a CAA are predicated on it being self-financing through commissions gained from transactions and linkages created with the private sector, and it provides extension services through linkages with government extension services.

To affirm impacts, the project utilized [the value chain greening manual](#) that was part of the project's technical assistance to train stakeholders and develop multistakeholder platforms.

Specific Project Activities

- **Input Supply**

Agro-Input Suppliers Limited (AISL) played a key role in access to input in the value chain strengthening and development by linking inputs producers/agro-dealers and the farmers. AISL participated in sourcing and producing agro-inputs, provision of extension services to farmers through a structured CAAs systems.



Figure 3: Groundnut Inoculant Nitrofix

AISL mainly produced biodegradable inputs, including Nitrofix, Aflasafe, and solubilizers. The inputs were environmentally friendly and socially acceptable. Notably, AISL was instrumental in greening the groundnut value chain given that it promoted environmentally friendly inputs. Using environmentally friendly inputs such as Nitrofix reduced the dependence on inorganic fertilizers. Inorganic fertilizers are generally expensive and lead to increased greenhouse gas emissions. Therefore, the use of inoculants increases productivity while reducing greenhouse gas emissions.

- **Production**

The project engaged multiple actors in the production stage to ensure a sustainability-oriented approach and was central to enhancing access to climate-smart practices.

Partner organizations including UNDP, AGRA, AFAP, Fortune Gardens, and Milele Limited played a key role in promoting sustainable practices. The main technologies promoted for use by smallholders were double row, agroforestry, Nitrofix, inoculants, solubilizers, and Aflasafe, among others. Key results included:

- The technologies increased yields and were environmentally friendly, gender-sensitive, and pro-poor farmers.
- Double-row planting doubled crop yields without any new land expansion since it covers the soil, reducing water runoff and erosion and saving labour, especially for weeding.



Figure 4: A) Ridging B) Double-row planting.

- **Postharvest Management**

Proper harvesting timing and postharvest management are key to restoring the gains made during production. Concerted efforts were put in to enhance aflatoxin-free production. Smallholders had been trained on the determination of the maturity stage. Upon harvest, smallholders were trained on improved drying methods to prevent aflatoxin, such as the use of Mandela cock and Tandala. The smallholders were discouraged from drying the produce on iron sheets to avoid germination failures.

Moisture determination and proper storage are key in managing aflatoxin. The aggregators, Milele Ltd, had moisture-determination gadgets and used them when purchasing groundnuts. They trained and encouraged farmers to dry the groundnuts to 10% for increased income returns. Milele also provided shelling machines which reduce the addition of water, thus lowering aflatoxin levels. AISL manufactures biodegradable hermetic bags (AgroZ) that reduce the need for chemicals in the storage process of crops. The bags enhance environmental conservation due to the reduced use of agrochemicals. Additionally, smallholders were able to access the local warehouses for storage.

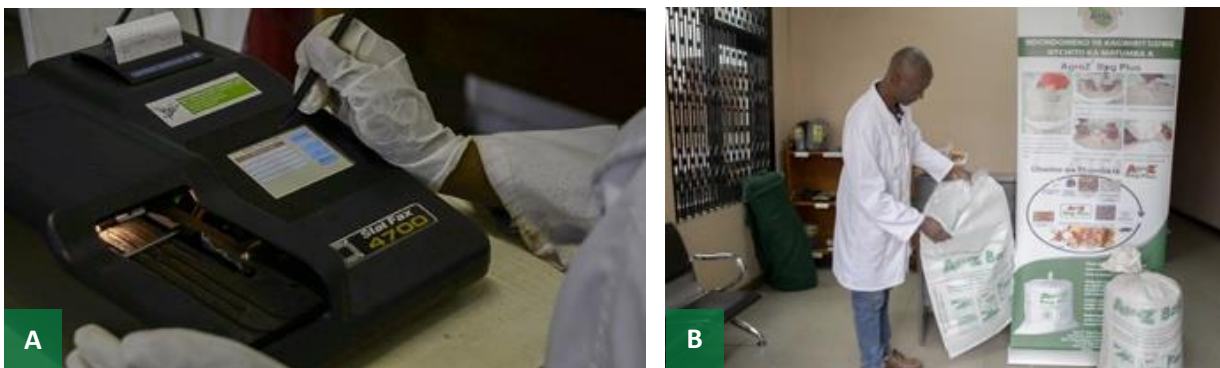


Figure 5: A) Moisture Gadget, B) AgroZ Bags

- **Aggregation and Processing**

The Government, AFAP, and AGRA widely invested in establishing cooperatives, farmers' groups, and clubs. These organizations play a key role in aggregating the groundnuts and increasing the bargaining power. Milele Limited supported smallholders to establish aggregation centres to enhance the quality of groundnuts. More so, poor storage could have led increased levels of infection by aflatoxins. Therefore, Milele Limited and Fortune Garden, who were the main aggregators and enhanced the quality of produced groundnuts.



Figure 6: Improved aggregation and storage centre

The processing stage in the groundnuts value chain encompasses primary activities such as shelling, sorting, and grading. Milele played a key role in processing by sensitizing and ensuring good practises are applied by the farmers. Most smallholders, before the project came into play, were adding/soaking their produce in water to ease the shelling process which is counter-productive in Aflatoxin management.

The use of the fabricated shelling machine from Milele led to aflatoxin reduction and quality improvement because of the significant reduction or total elimination of the use of water in the shelling process of the groundnuts. Besides supplying the shelling machines, Milele trained farmers and SMEs that the best sorting and grading requires human power (manual sorting and grading). Many women were employed to sort and grade groundnuts, thus promoting employment opportunities for gender and youth in the value chain development. To further enhance the quality of the groundnuts, AISL is establishing a portable aflatoxin-determining gadget that are now being used on-site with ease.

- **Marketing**

Groundnuts off-takers in Malawi have a dynamic role including supplying farmers with the inputs, and in turn, purchasing groundnuts produced by farmers, as well as training farmers and other stakeholders on sustainable production and postharvest management of crops. The main off-takers established in the SAPMaRT project were Milele Limited, Fortune Gardens, and AISL.

Groundnuts have a broad market both locally and internationally. For instance, most groundnuts from Malawi are consumed in country and across Southern Africa. For example, Milele Limited exports groundnuts to several countries, including India, Mozambique, Tanzania, and Kenya.

As part of the process of accessing markets in a more competitive manner, farmers are organized into groups to promote aggregation and selling as groups for better prices and protecting farmers from opportunistic buyers who tend to buy grounds from individual farmers at low prices.

- **Gender Inclusivity**

To enhance groundnut production in Malawi, gender-positive interventions were developed and incorporated in the project design. AFAP ensured that the project targeted 60% women, 20% youth, and 20% male. On the other hand, Milele Agro, reached 4,500 farmers; 65% were women and youth. The technologies promoted, such as double row planting and intercropping, were categorized as gender friendly. Thus, women with multiple household responsibilities were able to save time in their farming activities for other duties. Many women were employed to sort and grade groundnuts by the off-taking companies. This provided them alternative incomes in addition to what they earned from their own farms.

The project also connected women and young groundnut farmers with markets within Malawi and in neighbouring countries.



Figure 7: Gender inclusion in groundnut production

Project Results

The project results are summarised as follows:

- The project reached 21,900 smallholder farmers composed of 9,052 women trained in double-row planting techniques to increase yields.
- Increased use of certified seed. An integrated approach that is market-driven has increased crop productivity levels due to improved inputs and access to markets. In the project areas, there was a substantial increase in yield per hectare of 36%, from an average of 0.955 MT/ha to 1.3 MT/ha. 4,380ha were planted under groundnuts.
- Extension services are a key last-mile technology transfer mechanism, particularly for natural resources management, resulting in increased productivity and the transfer of sustainability practices to farmers.
- Implemented the project in partnership with 292 Community Agribusiness Advisors (CAAs), of whom 135 were women to complement public extension services. The CAA were linked to agro-dealers and off-takers, easing farmers' access to improved inputs, extension messages, and markets.
- Increased market access as a result of improved post-harvest management established 14 stores and 388 farmers were linked to markets selling 5,694 metric tons of groundnuts aggregated and sold to competitive markets.
- Increased adoption of resilient technologies including use of drought resilience varieties, use of double planting rows, shelling equipment, etc.
- Switching from monocropping to intercropping groundnuts resulted in improved productivity and food and income from the other crops like maize and improved soil nutrients.
- Increased women's voice and participation in the groundnut value chain.

Key innovations that led to project success

1. The project developed and operationalized a multi-stakeholder platform (MSP) in the form of a project consortium to build a responsive and inclusive groundnut value chain. This led to enhanced communication and collaboration in the value chain, thereby increasing complementarity of stakeholders and efficiency of the value chain from production to market.
2. Strengthening last mile delivery services via a public-private-community partnership on extension service provision—the village-based advisor (VBA) model. This model provides for a partnership between model farmers or selected community members and public extension services for quality control and training, as well as input and output market stakeholders, where they earn their incomes from commissions from the different stakeholders via the facilitation of market access and transactions. Through these VBAs, the project managed to strengthen the transfer of knowledge on natural resource management in production systems for resilience building as well as facilitated private sector integration into the value chain for business sustainability. It was also

through extension services that the project managed to achieve a high rate of adoption of climate-smart agricultural technologies, including the use of improved seeds, inoculants, Aflasafe (to reduce aflatoxin), double-row planting/farming, integrated pest management practices, and labour-saving agricultural inputs and services.

Success Story

The Multistakeholders Platform (MSP) and inclusive business model unlocks private sector investment: The Case of Milele Agro and Engucwini Cooperative

Access to premium prices of groundnuts remains one of the major challenges facing Malawian smallholder farmers. Most of the farmers do not add value to their groundnuts; they don't shell and grade their groundnuts, mostly because of the high labour costs required. Additionally, most of the cooperatives do not have operating capital because the quantities of crops sold are not enough to provide capital. As such, members of cooperatives sell their produce to vendors. In so doing, cooperatives fail to meet their targets and fail to satisfy their customers.

Until April 2022, the Engucwini cooperative was no exception to this setback. Located in Mzimba District, Engucwini is one of the cooperatives that the SAPMaRT project supported in partnership with Milele Agro Processing. Selling unshelled groundnuts has been a missed opportunity for increased incomes for farmers, as there was no grading to add value to their groundnuts to fetch premium prices as observed by Malumbo Chumia, Chairwoman of the cooperative.

"It was a challenge for me and my fellow farmers to shell groundnuts and grade them. We would only sell groundnuts as harvested because the labour requirement for shelling groundnuts is very high."

Milele Agro Processing addressed the challenge of selling unshelled products by investing in mobile groundnut shellers that were used on demand basis among the cooperatives shelling groundnuts as reflected by Edith Chipeta of the Kapiri cooperative.

"We are grateful to Milele Agro Processing for the shelling machine, which has allowed us to shell and grade our groundnuts at premium prices."

Commenting on the lack of capital John Mlowoka, marketing officer of Engucwini cooperative, has the following sentiments:

"We did not have enough capital to continue buying from our farmers as such members were side selling to other vendors on the open market. This was affecting our annual targets."

Most cooperatives lack adequate capital to purchase from farmers or aggregate input demand and provide the inputs to the farmers.

Milele Agro Processing provided the much need capital to the cooperatives by advancing it with \$10,000 during the period of the project at a minimal interest rate to allow for increased off-taking of the groundnut produce from farmers.

The SAPMaRT project provided the much-needed interventions to address bottlenecks smallholder farmers are facing in the groundnut value chain. Apart from the labour-saving machine, the project also

supported farmers with access to extension, which led to the increase productivity. Due to the growth in the groundnut value chain, there is an expected benefit in increased soil health, which has both climate change adaptation and mitigation benefits. It is also expected that, in the long run, there will be an overall reduction in the cost of inputs for farmers and increased nutrition and incomes at the household level.

Lessons Learned and Recommendations

Having demonstrated the viability of integrating both greening principles and business sustainability in the groundnut value chain, the following lessons can be drawn:

- A private sector-led approach that targets women to strengthen value chains is a viable option for promoting crop diversification and building social and ecological resilience. The project demonstrated that private sector investment is key in ensuring increased and blended financing that is key for the sustainability of project initiatives. The project was also able to demonstrate the value of ensuring inclusivity, particularly of women on issues increased productivity, increased social benefits as they were able to extend the benefits from the project to their homes. Inclusivity also showed a convincing pathway towards sustainability.
- There is a need for increased market linkage for the farmers to ensure market access for the produce and proper postharvest management practices. The project showed increased interest of market actors when postharvest processes were improved in the project areas. This is key element that should be proactively considered in future similar projects.
- Inclusiveness, especially gender inclusion is a best-fit and context-specific approach for building resilience in groundnut production systems in Malawi. Through women groups, the project was able to show increased adoption of practices that building resilience climate change. Women were there recognised powerful agents of change on the ground.
- Promotion of partnerships in value chain actors e.g., off-taker is a recommended model to sustain climate financing to finance adaptation practises among the smallholder farmers that result into sustainable and resilient food systems.
- Public-private partnerships are essential for the implementation of sustainable and resilient food systems. To scale up the pilot project and practices, there is a need to engage policymakers for more public investments in promoting the target value chains and to link such initiatives with climate and environmental management targets;



Figure 8: Mobile groundnut shellers being transported to a cooperative aggregation centre.

For more information, contact:



Partners: UNDP, AGRA, AFAP, AISL, FORTUNE GARDENS, MILELE AGROPROCESSORS LIMITED, FARMERS
