



CHEF PROJECT

Business Development Services, Potato & avocado production and regenerative agriculture Orientation and Onboarding training to FHs and NMs

Training Report

Presented to:

Sustainable agriculture Foundation Africa-(SAF-A)

Submitted by:

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Glory Nkatha	SAF-A	Project coordinator	Project overview
Jane Chapia	SAF-A	M & E expert	M&E briefing
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TRAINING REPORT ON BUSINESS DEVELOPMENT SERVICES, PRODUCTION OF IRISH POTATOES, AVOCADOS, AND REGENERATIVE AGRICULTURE

About SAF-AFRICA and the Farmer Hub Model

The two-day training began with the SAF-AFRICA team providing an overview of the organization, outlining its mission and operational approach. SAF-AFRICA, formerly known as Syngenta Foundation East Africa (SFEA), is a Nairobi-based non-profit dedicated to improving the livelihoods of smallholder farmers in developing countries. The organization achieves this by fostering innovation in sustainable agriculture and strengthening agricultural value chains.

SAF-AFRICA began operations in Kenya in 2009, initially working with farmers in the arid and semi-arid regions of Laikipia. Since 2018, the organization has refined its strategy to focus on testing and scaling commercially viable business models that enhance farmers' access to essential agricultural services. These services cover the entire farming cycle, from production to market access, and include the establishment of farmer input and output hubs.

A key pillar of SAF-AFRICA's approach is promoting mechanization through affordable machinery rental services. By integrating mechanization into small-scale farming, the foundation helps farmers improve efficiency, increase productivity, and reduce the physical labor burden, enabling them to explore additional economic opportunities beyond farming. Additionally, SAF-AFRICA provides agronomic training and capacity-building programs, equipping farmers with best practices and quality compliance standards required to access premium markets.

CHEF Project Training Overview

The participants were introduced to key topics under the CHEF Project, including Business Development Services (BDS), Irish potato and avocado production, and regenerative agriculture practices. The initiative aims to enhance community livelihoods while promoting environmental sustainability through improved soil health and water conservation. By encouraging alternative income-generating activities and increasing agricultural productivity, the project seeks to reduce dependence on conventional farming practices that degrade soil quality.

A core focus of the CHEF Project is sustainable water management, achieved by raising awareness of effective conservation strategies and advocating for improved soil health. Additionally, the project empowers local communities by equipping them with the knowledge and skills needed to adopt regenerative farming methods that restore ecosystems and enhance climate resilience.

To achieve these objectives, SAF-AFRICA is expanding its Farmer Hub Model by establishing two Network Managers to oversee 25 Farmer Hubs in Nakuru and Nyandarua Counties. These hubs will engage 5,000 smallholder farmers, supporting them in transitioning to commercialized Irish potato and avocado production. Through this approach, the CHEF Project aims to increase farmers' income, improve food security, create employment opportunities, and integrate regenerative agriculture principles into mainstream farming practices.

a. Training Introduction

The specialized Business Development Services (BDS) training on Irish potato and avocado production, as well as regenerative agriculture, was conducted on March 5th and 6th, 2025, at Milele Hotel, Nakuru. The training attracted 25 participants from Nakuru and Nyandarua Counties, including two youth representatives and two persons with disabilities (PWDs). The sessions were facilitated by SAF-AFRICA officers and the LACOMP BDS coach.

The primary objective of the training was to enhance the technical and business development capacity of Farmer Hubs by equipping participants with practical skills and knowledge to improve their production efficiency, sustainability, and profitability. The training focused on key agribusiness pillars, including:

- Marketing and Market Access – Strategies for identifying markets, improving pricing, and enhancing customer engagement.
- Access to Finance and Investment Readiness – Available financing options, investment preparedness, and business planning.
- Business Risk Management – Understanding farming risks and mitigation strategies.
- Digital Innovations in Agribusiness – Exploring the role of technology in boosting productivity and market access.
- Group Dynamics and Farmer Organizations – Strengthening collective action, leadership skills, and compliance with cooperative regulations.
- Additionally, the training provided specialized knowledge on Irish potato and avocado production, covering:
 - Crop varieties and their ecological requirements.
 - Pest and disease management.
 - Post-harvest handling.
 - Commercialization strategies.
- Participants were also introduced to regenerative agriculture principles, focusing on soil health improvement, water conservation, and environmentally sustainable farming practices.
- The training was delivered through lectures, practical demonstrations, group discussions, and case studies, equipping farmers with technical expertise and entrepreneurial skills to optimize their farming enterprises. By enhancing their ability to access finance, implement digital solutions, and navigate market dynamics, the training aimed to strengthen the competitiveness and sustainability of smallholder farming businesses in the region.

b. Training Objectives

By the end of the training, participants were expected to:

- Understand the importance of selecting the right inputs and their accessibility.
- Identify crop varieties suited for different agro-ecological zones.
- Recognize and manage pests, diseases, and disorders in avocado and Irish potato production.
- Produce safe, high-quality Irish potatoes and avocados that meet market standards.
- Achieve higher yields in avocado and Irish potato farming.
- Gain knowledge of regenerative agriculture principles and their benefits.
- Develop the capacity to transfer knowledge and skills to other farmers.

- Set clear business goals and growth strategies.
- Understand funding options (loans, grants, and investor support) and how to access them.
- Learn digital marketing strategies, including the use of social media and e-commerce platforms.
- Identify business collaboration opportunities to expand and scale operations.

c. **Participant Expectations:** this training was designed to address key concerns and expectations raised by the participants, including:

- Understanding regenerative agriculture principles.
- Identifying reliable sources for certified potato seeds.
- Learning about market requirements and pricing trends.
- Exploring organic farming techniques.
- Strategies for pest and mite control in avocado farming.
- Effective methods for preventing late blight in potatoes.
- Establishing linkages with key stakeholders in the sector.
- Exchanging ideas and best practices with other farmers.
- Discovering new market opportunities for Irish potatoes and avocados.
- Developing stronger business planning strategies.
- Enhancing financial management skills for improved business stability.
- Strengthening marketing and customer engagement capabilities.
- Achieving business growth and sustainability.
- Applying agribusiness skills in a practical setting.
- Leveraging digital innovations to enhance farming efficiency and profitability.
- Building stronger networks among farmers, stakeholders, and market players.

d. **Training Content:** The training covered several critical modules designed to equip participants with in-depth knowledge and practical skills in agribusiness, value chain development, and sustainable farming practices. Below is a breakdown of the key modules:

- Marketing & Market Access – Understanding market dynamics, pricing, digital marketing, and strategies for direct market linkages.
- Financial Access & Investment Readiness – Exploring funding options, financial planning, and investment strategies.
- Business Risk Management – Identifying risks in farming and effective mitigation strategies.
- Digital Innovations in Agribusiness – Role of digital tools, mobile apps, and e-commerce in modern agriculture.
- Group Dynamics & Farmer Organizations – Benefits of cooperatives, leadership development, and legal compliance.
- Regenerative Agriculture – Soil health improvement, biodiversity promotion, and water conservation techniques.
- Irish Potato & Avocado Production – Best agronomic practices, disease management, and post-harvest handling for enhanced market access.

- Through this comprehensive training approach, participants gained valuable skills and insights to strengthen their farming enterprises, boost productivity, and create sustainable agricultural businesses.

e. Production of Avocado

Avocado farming presents a lucrative opportunity for smallholder farmers, given its high demand both locally and internationally. The training covered the following aspects:

- **Introduction to avocado farming:** Participants were introduced to the basics of avocado farming, including its economic potential and market demand. The session emphasized the benefits of commercial avocado production, including income diversification, employment opportunities, and improved nutrition.
- **Common Varieties and Their Characteristics:** The training outlined popular avocado varieties grown in Kenya, such as Hass, Fuerte, and Puebla, highlighting their yield potential, resistance to pests and diseases, and market suitability.
- **Ecological Requirements for Optimal Production:** Farmers learned about the ideal climatic and soil conditions necessary for successful avocado cultivation, including rainfall patterns, temperature ranges, soil pH levels, and drainage requirements.
- **Production Techniques:** This section covered key steps in avocado production, including:
 - ✓ **Market Survey:** Understanding consumer preferences and demand trends to align production with market needs.
 - ✓ **Soil Testing:** Conducting soil analysis to determine fertility levels and nutrient requirements.
 - ✓ **Quality Planting Materials:** Sourcing certified seedlings from reputable nurseries to ensure high-quality produce.
 - ✓ **Land Preparation:** Best practices for clearing, plowing, and fertilizing the land before planting.
 - ✓ **Fertilization:** Proper application of organic and inorganic fertilizers to promote healthy growth.
 - ✓ **Irrigation:** Efficient water management techniques, including drip irrigation and mulching.
 - ✓ **Pest and Disease Control:** Common avocado pests and diseases, such as Persea mites and root rot, and their management through integrated pest management (IPM).
 - ✓ **Pruning and Harvesting:** Techniques for shaping trees, improving air circulation, and determining the best time for harvesting to ensure premium quality produce.
- **Post-Harvest Handling and Marketing:** Strategies to minimize post-harvest losses, including proper storage, packaging, and transportation. The training also covered value addition, such as processing avocados into oil, and linking farmers to export markets.

f. Production of Irish Potatoes

Irish potatoes are a key staple crop in Kenya, with immense commercial potential. The training covered essential aspects of potato production to enhance yield and quality.

- **Introduction to Potato Farming:** Participants gained insights into the economic importance of potato farming, market trends, and production challenges.
- **Common Potato Varieties and Their Yield Potential:** The training highlighted recommended potato varieties, such as Shangi, Unica, and Dutch Robijn, along with their yield capacities and disease resistance.
- **Ecological Requirements for Optimal Production:** Understanding the optimal altitude, soil type, and climatic conditions necessary for potato cultivation.
- **Growth Stages and Production Techniques:**
 - ✓ **Crop Planting Calendar:** Planning production cycles based on seasonal variations to maximize yields.
 - ✓ **Quality Seed Selection:** The importance of using certified seeds to improve disease resistance and productivity.
 - ✓ **Land Preparation and Planting Techniques:** Best practices for seed spacing, depth, and row arrangement.
 - ✓ **Fertilization and Soil Nutrition:** Proper application of organic manure and fertilizers to enhance soil fertility.
 - ✓ **Pest, Disease, and Disorder Management:** Identifying and controlling common potato diseases like late blight and bacterial wilt through good agricultural practices.
 - ✓ **Harvesting, Post-Harvest Handling, and Storage:** Techniques for proper harvesting, curing, and storage to extend shelf life and maintain quality for marketability.

g. Regenerative Agriculture

Regenerative agriculture promotes environmentally friendly farming practices that enhance soil health, biodiversity, and resilience to climate change. It also focuses on rebuilding soil organic matter, improving and enhancing ecosystem services.

Principles of Regenerative Agriculture:

- ✓ **Soil Cover:** Maintaining continuous ground cover through mulching and cover crops.
- ✓ **Biodiversity:** Integrating diverse plant species to enhance soil health and pest resistance.
- ✓ **Minimal Soil Disturbance:** Reducing tillage to maintain soil structure and microbial life.
- ✓ **Livestock Integration:** Incorporating livestock in crop rotations to improve soil fertility.

Regenerative Practices:

- ✓ **Agroforestry:** Incorporating trees into farming systems to improve soil health and provide additional income sources.
- ✓ **Organic Farming:** Reducing reliance on synthetic inputs and using natural fertilizers and pest control methods.

- ✓ **Conservation Tillage:** Reducing plowing to minimize soil erosion and preserve soil moisture.
- ✓ **Crop Diversification:** Growing multiple crops to enhance soil fertility and reduce pest infestations.

Benefits: Improved soil health, increased crop resilience, reduced dependency on synthetic fertilizers, and enhanced carbon sequestration.

D. Marketing and Market Access

Agri entrepreneurs need strong marketing skills to successfully sell their produce and maximize profits. The training covered:

- ✓ **Understanding Agricultural Markets:** Analyzing market trends, consumer preferences, and pricing factors.
- ✓ **Market Channels:** Direct sales, cooperatives, wholesalers, supermarkets, and export opportunities.
- ✓ **Pricing Factors:** The impact of supply and demand, production costs, and quality standards on pricing.
- ✓ **Effective Marketing Strategies:** Branding, value addition, and competitive positioning.
- ✓ **Digital Marketing:** Utilizing social media and e-commerce platforms to reach broader markets.
- ✓ **Market Penetration Strategies:** Negotiating contracts, certification requirements, and accessing export markets, meeting quality standards for local and international markets.

h. Access to Finance and Investment Readiness

financial literacy is crucial for agribusiness success. The training focused on:

- ✓ **Importance of Financial Access:** How credit, grants, and investments support farm growth.
- ✓ **Challenges in Accessing Finance:** High interest rates, collateral requirements, and lack of financial records.
- ✓ **Financing Options:** Loans, grants, microfinance institutions, and venture capital.
- ✓ **Investment Readiness:** Preparing business plans, maintaining financial records, and meeting investor requirements.

i. Business Risk Management

Farmers face numerous risks that can affect their profitability. The training covered:

- ✓ **Types of Risks:** Market risks, production risks, financial risks, and climate-related risks.
- ✓ **Risk Mitigation Strategies:** Crop insurance, diversification, contract farming, and adopting climate-smart agriculture.
- ✓ **Challenges in Implementing Risk Strategies:** Limited access to insurance, high input costs, and lack of awareness.

j. Digital Innovations in Agribusiness

Technology is transforming agriculture, offering farmers new ways to improve efficiency and profitability.

- ✓ **Role of Digital Technologies:** How mobile apps, e-commerce platforms, and precision agriculture enhance productivity.
- ✓ **Benefits:** Increased access to market information, improved record-keeping, and enhanced decision-making.
- ✓ **Challenges in Adoption:** High costs, lack of technical skills, and limited internet access.

k. Group Dynamics and Farmer Organizations

Collaboration among farmers is essential for achieving economies of scale and accessing better opportunities.

- ✓ **Benefits of Farmer Organizations:** Collective bargaining, improved market access, and shared resources.
- ✓ **Capacity Building and Leadership Development:** Strengthening governance structures for effective management.
- ✓ **Challenges and Solutions in Group Management:** Leadership conflicts, financial mismanagement, and lack of commitment.
- ✓ **Registration Process:** Steps for legally registering farmer groups and cooperatives in Kenya.
- ✓ **The Future of Farmer Organizations:** Emerging trends in cooperative farming and agribusiness partnerships.

Training Materials and Approach

Training Materials

- Notebooks and pens for note-taking.
- Overhead projector for presentations.
- Whiteboard and marker pens for interactive discussions.

Each participant received a notebook and pen, while other training aids facilitated effective delivery.

Training Approach

The training employed various methods, including:

- Lectures and PowerPoint presentations.
- Practical demonstrations and case studies.
- Group discussions and participant presentations.
- Individual assignments focusing on farmer group formation and cooperative management.

The topics were delivered through PowerPoint presentations, interactive question-and-answer sessions, and farmer discussions. Participants gained knowledge on inputs, varieties, processes, pest and disease control, and post-harvest handling. They also understood regenerative agriculture and were linked to various organizations for accessing inputs.

Observations

- Farmers lacked proper farm record-keeping.
- Potato farmers had average yields of 6 tons per acre, significantly lower than the potential 16 tons.
- Farmers applied low fertilizer amounts and encouraged volunteer crops, reducing efficiency.
- Difficulty in determining avocado yields as sales were recorded in kilograms (companies) and pieces (brokers).
- Inadequate fertilizer application in avocado farming.
- Misconceptions about organic farming due to incomplete adoption of organic practices.
- Increased prevalence of *Persea* mites affecting avocado yields.
- Many farmers hired untrained individuals to apply pesticides.
- Farmers understood regenerative agriculture but practiced only a few aspects.

Recommendations

Based on the training sessions and participant feedback, the following recommendations are proposed to enhance future training programs and ensure the effective implementation of acquired knowledge:

1.Strengthening Input Accessibility and Quality

- Facilitate linkages between farmers and certified input suppliers to ensure access to high-quality seeds, fertilizers, and pest control products.
- Establish demonstration plots to showcase best agricultural practices and input efficacy.
- Promote bulk purchasing among farmer groups to reduce costs and increase affordability.

2. Enhancing Pest and Disease Management

- Provide continued capacity-building sessions on integrated pest and disease management (IPM) to improve farmers' ability to identify and control threats to avocado and potato crops.
- Facilitate access to organic and environmentally friendly pest control solutions.
- Encourage collaboration with agricultural extension officers and researchers for updated pest control strategies.

3. Market Linkages and Value Addition

- Support farmer groups in developing direct market linkages with buyers, processors, and exporters to enhance profitability.
- Promote value addition initiatives, such as avocado oil processing and potato crisps production, to increase income streams.
- Organize business-to-business (B2B) networking sessions to enhance supply chain coordination.

4. Adoption of Regenerative Agriculture Practices

- Conduct follow-up training on regenerative agriculture to reinforce best practices in soil health improvement, agroforestry, and organic farming.
- Encourage farmers to adopt conservation tillage and crop diversification for long-term sustainability.
- Partner with institutions promoting climate-smart agriculture to provide technical support.

5. Strengthening Financial Literacy and Access to Finance

- Train farmers on financial planning, record-keeping, and investment readiness to improve loan and grant accessibility.
- Establish partnerships with financial institutions to create tailor-made credit facilities for smallholder farmers.
- Encourage the formation of farmer savings and credit groups to enhance financial inclusion.

6. Leveraging Digital Innovations in Agribusiness

- Promote the use of digital platforms for marketing, record-keeping, and farm management to enhance efficiency.
- Train farmers on the use of social media and e-commerce platforms for product promotion and sales.
- Support the adoption of mobile-based financial services to improve transaction security and convenience.

7. Strengthening Farmer Organizations and Collaboration

- Provide leadership and governance training to enhance the efficiency of farmer cooperatives and groups.
- Facilitate cooperative registration and access to government or donor support programs.
- Promote knowledge-sharing forums and exchange programs to foster learning and innovation among farmers.

8. Continued Capacity Building and Support

- Establish mentorship programs where experienced farmers provide guidance to new entrants.
- Conduct periodic refresher training to reinforce knowledge and address emerging challenges.
- Develop resource materials, such as manuals and videos, to support continuous learning.

By implementing these recommendations, farmer productivity, market access, and sustainability in avocado and potato farming will be significantly improved, leading to better livelihoods and agribusiness growth.

Conclusion

The training successfully equipped farmers with essential skills and knowledge for improving avocado and Irish potato production and adopting regenerative agriculture. Continued support and mentorship will be crucial in ensuring the implementation of best practices for sustainable farming and enhanced profitability.

Training photos



Figure a:



Figure b:



Figure c:



Figure d:

Figures a, b, c, & d: An attentive class at Milele Hotel on 5th and 6th March 2025 being trained on BDS, production of Irish potatoes, avocado, and regenerative agriculture.

ANNEX: Participants attendance sheets

SUSTAINABLE AGRICULTURE FOUNDATION-AFRICA
CENTRAL HIGHLAND ECOREGION FOODSCAPE (CHEF)
BDS, GAP and REGENERATIVE AGRICULTURE TRAINING PROGRAM

County:	NAKURU
Date:	5th and 6th MARCH 2025
Venue:	Milele hotel Nakuru

DAY 1:

Time	Activity	Responsibility	Remarks/Outcome
Target Participants: Network Manager, farmer hubs and Youths			
8:00-8: 30	Arrival and Registration		
08:30 - 9:00	-Introductions & Program -Objectives Setting -Training overview and expectation -SAF-A Farmer Hub Model	LACOMP/SAF-AFRICA	Workshop participants understand workshop agenda and introduce themselves and their organization
9:00 - 10:30	Potato GAP -potato Agronomic Practices-Growing Calendar Seed Selection, Land preparation, Planting, weeding, Pest and Disease Control -harvesting and Post harvest management -Marketing	Ward Agriculture Officer/SAF-Agronomist	Understanding of the potato Growing Calendar, the right seed selection and land Preparation and Planting practices -potato GAP and effectiveness in improving yields.
10.30 -11:00	Health Break		
11:00-1:00	Avocado farming -introduction to avocado farming -avocado varieties -soil management practices -planting techniques -nutrient management	Ward Agriculture Officer/SAF-Agronomist	To acquire knowledge and skills necessary to effectively cultivate, manage, harvest and market avocados.
13:00 - 14:00	Lunch Break		
14:00 - 15:30	Avocado farming -pest and disease management -pruning and training- -harvesting techniques -marketing opportunities -sustainable avocado practices -legal and regulatory consideration	Ward Agriculture Officer/SAF-AFRICA Agronomist	
15:30- 16:00	Introduction to regenerative agriculture -definition -objectives	Ward Agriculture Officer/SAF-AFRICA	Understanding sustainable practices that enhance ecosystem health and farm

	-benefits -difference between conventional and regenerative agriculture -soil health and biodiversity -holistic land management -water conservation and management -composting and organic matter management	Agronomist	productivity.
16; 00-16.10	-Action planning -Closing Remarks and Departure	LACOMP/SAF-AFRICA	
	End of Day 1.		

DAY 2:

Time	Activity	Responsibility	Remarks/Outcome
Target Participants: Network Manager, farmer hubs			
08:00 - 08:45	RECAP:		
08:45 - 09:15	BDS training introduction		Understand agricultural food markets and their dynamics
09:15 - 9:30	Marketing and Market Access -Market channels for farm produce. -Factors affecting pricing in the agricultural market. -Effective marketing strategies. -Digital marketing via social media and e-commerce platforms. -Improving market access and penetration. -Meeting quality standards for local and international markets.	LACOMP/ BDS Facilitator	Understand benefits of collective marketing, contracting and the required structures Develop seasonal plans
9:30 - 10:00	Access to Finance and Investment Readiness -Importance of financial access in farming. -Common challenges farmers face in accessing finance. -Available financing options for farmers (loans, grants, and investments). -Steps to becoming investment-ready.	BDS Facilitator	
10:00 -11:00	Business Risk Management -Types of risks in farming and agribusiness. -Strategies for mitigating risks. -Common challenges in implementing risk management strategies.	BDS Facilitator	
11.00 -11:30	Health Break		
11:30 - 13:00	Digital Innovations in Agribusiness -Role of digital technologies in agribusiness. -Benefits of mobile apps and e-commerce platforms in farming. -Challenges and recommendations for digital adoption	BDS Facilitator and BDS Coach	Understand essentials of financial management Practice use of various source documents for their business

13:00 - 14:00	Lunch Break		
14:00 - 16:00	Group Dynamics and Farmer Organizations -Benefits of forming farmer groups, cooperatives, and associations. -Capacity building and leadership development in farmer organizations. -Challenges and solutions in group management. -Registration process for farmer organizations in Kenya. -The future of farmer organizations in Kenya	Ward Agriculture Officer/SAF Agronomist	Understanding sustainable practices that enhance ecosystem health and farm productivity.
16:00	-Action planning -Closing Remarks and Departure -closing prayer		