



The Advantages of Agri-processing: Transforming Agriculture for a Prosperous Future in Somalia

Agri-processing, the transformation of raw agricultural products into valuable finished goods, plays a pivotal role in Somalia's agricultural sector. This dynamic process not only enhances food security but also fuels economic growth, fosters rural development, and promotes environmental sustainability. Let's explore the myriad benefits of Agri-processing and why it is a crucial component of modern agriculture in Somalia.

1. Boosting Economic Growth

Agri-processing significantly contributes to Somalia's economic development. By adding value to agricultural products, it increases their market price and generates higher revenue for farmers. This leads to improved livelihoods and stimulates local economies.

Moreover, the Agri-processing industry creates employment opportunities across various skill levels, from production and quality control to marketing and logistics.

1. Enhancing Food Security

One of the primary advantages of Agri-processing is its ability to enhance food security in Somalia. By converting perishable agricultural products into shelf-stable goods, it reduces post-harvest losses and extends the shelf life of food. This ensures a steady supply of food throughout the year, even in regions with seasonal agricultural production.

Additionally, Agri-processing facilitates the creation of fortified and enriched food products that address nutritional deficiencies.

2. Promoting Rural Development

Agri-processing has a transformative impact on rural communities in Somalia.

It encourages the establishment of Agri-processing facilities in rural areas, bringing infrastructure development and essential services to these regions.

The growth of Agri-processing enterprises provides rural residents with diverse employment opportunities and empowers smallholder farmers by linking them to markets and value chains.

This, in turn, reduces rural-urban migration by providing sustainable livelihoods in rural areas.

3. Encouraging Innovation and Technology Adoption

The Agri-processing industry drives innovation and the adoption of modern technologies in Somalia.

To remain competitive, Agri-Processors invest in advanced machinery, automation, and quality control systems.

This fosters a culture of continuous improvement and innovation within the agricultural sector.

Additionally, Agri-processing creates a demand for skilled labor, leading to the development of training programs and educational institutions that focus on agricultural technologies and food science.

4. Supporting Environmental Sustainability

Agri-processing contributes to environmental sustainability by minimizing waste and promoting resource efficiency.

By processing agricultural by-products and residues, Agri-Processors can create valuable secondary products such as animal feed, biofuels, and organic fertilizers.

This reduces the environmental impact of agricultural waste and promotes a circular economy.

Furthermore, Agri-processing can lead to more efficient use of water and energy resources through the adoption of sustainable practices and technologies.

5. Expanding Market Opportunities

Agri-processing opens up new market opportunities for agricultural products in Somalia.

Processed goods, such as packaged foods, beverages, and bio-based products, have higher market demand and can be exported to international markets.



Figure 1



Figure 2

PARTICIPATION OF THE MINISTRY OF AGRICULTURE AND IRRIGATION AT COP29



INTRODUCTION

The Ministry of Agriculture and Irrigation of Somalia actively participated in the 29th Conference of the Parties (COP29) under the United Nations Framework Convention on Climate Change (UNFCCC).

The Ministry's delegation engaged in key negotiations, thematic discussions, and side events addressing pressing global and national issues related to Adaptation, Mitigation, Loss and Damage, and climate finance. The participation underscored Somalia's commitment to advancing climate resilience, food security, and sustainable agricultural practices in alignment with international priorities.

Objectives of Participation

- Represent Somalia in global negotiations on climate change impacts, focusing on Adaptation, Mitigation, and Loss and Damage.
- Advocate for enhanced financial and technical support for fragile and conflict-affected states such as Somalia.
- Strengthen collaboration and networks with global stakeholders in the fields of food security, climate resilience, and agriculture.



Figure 1

Gather innovative solutions and best practices to inform Somalia's national strategies on agriculture and climate resilience.

Key Negotiations and Thematic Areas

I. Adaptation

- Highlighted Somalia's vulnerability to climate change, including recurrent droughts and flooding, emphasizing the need for scaled-up global support for climate adaptation measures.
- Advocated for integrating climate-smart agriculture into global adaptation frameworks.

II. Mitigation

- Participated in discussions to emphasize the importance of balancing emission reduction goals with sustainable development in fragile states.
- Called for tailored mitigation strategies that incorporate low-carbon agricultural technologies.

III. Loss and Damage

- Actively contributed to negotiations on operationalizing the Loss and Damage Fund, ensuring Somalia and other vulnerable nations have equitable access to financial resources.
- Addressed the unique challenges faced by fragile states in accessing climate finance, advocating for streamlined processes.

Networking and Collaboration

The Ministry engaged with multiple organizations, fostering partnerships to advance food security and resilience initiatives. Key stakeholders included:

- **United Nations Agencies:** Explored funding and technical collaboration opportunities.
- **International NGOs:** Identified project concepts for scaling up climate-smart agriculture.
- **Private Sector Entities:** Discussed technological solutions for improving agricultural productivity and supply chain efficiency.

Outcomes and Recommendations Key Outcomes

- Enhanced Somalia's representation in global climate negotiations, advocating for the country's unique needs and priorities.
- Established new partnerships with international organizations for technical and financial support in agriculture and climate resilience.
- Identified actionable solutions for integrating climate-smart agriculture into national policies and programs.

Recommendations

- **Strengthen Climate Finance Access:** Develop national frameworks to secure resources from the Loss and Damage Fund and other financing mechanisms.
- **Promote Climate-Smart Agriculture:** Invest in capacity-building programs to adopt sustainable agricultural practices.
- **Expand Partnerships:** Leverage relationships established at COP29 to pilot innovative projects addressing food security and resilience.
- **Integrate Outcomes into Policy:** Align COP29 outcomes with Somalia's National Development Plan and climate adaptation strategies.

Conclusion

The Ministry of Agriculture and Irrigation's active participation at COP29 reaffirmed Somalia's commitment to addressing the challenges posed by climate change. The knowledge gained, partnerships formed, and solutions identified will play a crucial role in advancing Somalia's food security, climate

resilience, and agricultural sustainability. Immediate actions are recommended to integrate these outcomes into national policies and programs, ensuring long-term benefits for the Somali people.



Figure 2

"There is Money in Soil: Unlocking the Value beneath Our Feet"

Soil is often seen simply as the foundation of our land, but its true potential is far greater.

In the context of sustainable agriculture and irrigation, soil holds not only the key to food security but also untapped economic potential.

As we face challenges brought about by climate change, population growth, and dwindling natural resources, it's more important than ever to recognize that there is money in soil.

Soil as the Foundation of Agriculture:

At the heart of any agricultural system lies soil. It provides the nutrients, water retention, and structure needed for crops to thrive.

However, it is often taken for granted. Mismanagement of soil, whether through overuse, erosion, or neglect, leads to a loss of productivity and financial value.

Irrigation practices are critical in this regard—ensuring that the soil receives the proper amount of water to optimize crop yields.

But equally important is the health of the soil itself, which can be dramatically improved through sustainable practices like crop rotation, organic fertilization, and reduced tillage.

Irrigation's Role in Maximizing Soil Value

Effective irrigation is one of the most direct ways to unlock the economic potential of soil. In regions where water availability is scarce, proper irrigation systems can make all the difference.

Drip irrigation, for instance, ensures that water is delivered directly to the plant roots, minimizing water waste and increasing crop productivity.



Figure 1

Similarly, sprinkler systems and rainwater harvesting techniques can help to conserve soil moisture in areas where rainfall is inconsistent.

Through early warning systems that predict weather patterns and water availability, farmers are better equipped to plan irrigation cycles.

The Department of Irrigation and Early Warning plays a crucial role in providing timely data to farmers, ensuring they can make informed decisions about when and how to irrigate.

This not only conserves valuable water resources but also helps in maintaining healthy soil that will continue to support future crops.

Fertility and Organic Matter:

A Source of Wealth Beyond just water management, the fertility of the soil is another aspect of its economic value.

Soils rich in organic matter are more resilient to droughts and floods, retain nutrients better, and support healthier crops.

Practices like composting, cover cropping, and the use of organic fertilizers can significantly boost soil health, making it more productive over the long term.

The Director of the Department of Irrigation and Early Warning, Eng. Abdullahi Ahmed Mohamed, is actively exploring innovative approaches to promote soil conservation and enrichment practices, his efforts are focused on educating farmers about the significant benefits of sustainable soil management

Soil testing programs, for example, help farmers understand nutrient deficiencies, allowing them to make targeted improvements that will increase both soil health and crop profitability.

In many regions, restoring degraded soils offers significant economic opportunities. Restoring soil fertility through methods like agroforestry, reforestation, and regenerative agriculture can result in higher yields, improved water retention, and increased biodiversity.

Moreover, healthy soils can act as carbon sinks, contributing to the fight against climate change while simultaneously improving farm profitability.

By fostering partnerships between the Department of Irrigation and Early Warning, local governments, and agricultural stakeholders, we can create a framework for large-scale soil restoration projects that benefit both the environment and local economies.

These initiatives have the potential to revitalize entire communities, creating jobs, boosting local food production, and attracting investment into sustainable



Figure 2 Above is a photo of me at Wageningen University, alongside my professor, discussing sustainable agricultural practices.

Reflection on Global Insights: My Experience at Wageningen University In 2019, I, Eng. Abdirahim Adan Abdi, had the privilege of attending a program on Contemporary Approaches to Genetic Resources Conservation and Use at Wageningen University in the Netherlands. This experience significantly expanded my understanding of the intricate relationship between soil health and sustainable agriculture.

A key takeaway was the vital role soil plays—not just in supporting crop production, but also in preserving the genetic diversity that sustains our agricultural systems for the future.

Upon returning to Somalia, I had the opportunity to meet with Prof. Mohamoud Mohamed Mohamoud, Director of the Ministry of Agriculture and Irrigation, in his office. During our conversation, Prof. Mohamoud shared a powerful and insightful proverb that perfectly encapsulated the lessons I learned abroad: "The soil is the banker of the farmer, and the harvest is its dividend.

" This saying deeply resonated with me, as it emphasizes the idea that soil is an investment—a resource that, when properly managed, yields not only financial returns but also environmental and social dividends.

Prof. Mohamoud's words reinforced what I had learned at Wageningen: that sustainable soil management is essential to ensure both agricultural productivity and the long-term resilience of our farming systems.

Healthy soil is the foundation upon which we can build a prosperous and food-secure future for our nation. By investing in our soil, we are ensuring that the dividends—be they in the form of higher yields, better resilience to climate shocks, or enhanced biodiversity—will continue to benefit generations of Somali farmers and communities.

This meeting further strengthened my commitment to advocating for sustainable soil and water management practices here in Somalia.

It is clear that by protecting and nurturing our soil, we can unlock tremendous potential for both environmental sustainability and economic growth.

Our Conclusion:

Soil is not just a natural resource; it is an economic asset.

As we look to the future, it is crucial that we recognize the importance of soil management and sustainable irrigation practices in unlocking this potential.

By protecting and enhancing soil health, we are not only ensuring the sustainability of our food systems but also securing a prosperous future for farmers and communities.

With the right knowledge, tools, and investment, there truly is money in soil.

Statement from the Minister of Agriculture and Irrigation, **HE. Mohamed Abdi Hayir Mareye Minister of Agriculture and Irrigation Federal Government of Somalia.**

"As we continue to navigate the challenges of food security in Somalia, it is clear that the key to our agricultural future lies beneath our feet—in our soils.

Healthy, fertile soil is the foundation upon which we can build resilient farming systems that withstand the effects of climate change, improve productivity, and ensure sustainable food production.

The Federal Government of Somalia, through the Ministry of Agriculture and Irrigation, is committed to promoting soil conservation, sustainable irrigation practices, and climate-smart agriculture as central components of our national food security strategy.

By investing in the health of our soils, we are not only protecting our agricultural heritage but also securing a prosperous future for all Somali farmers and ensuring that our nation's food needs are met for generations to come."

By: Eng. Abdirahim Adan Abdi

DESERT LOCUST SITUATION

The Desert Locust (DL) situation remained calm during December 2024.

Surveys conducted in the coastal, sub-coastal, and inland areas of the locust breeding zones in the northwest regions indicated the presence of solitary adults with scattered behavior.

These locusts were primarily observed in areas with varying vegetation conditions, including low-density greening and drying areas.

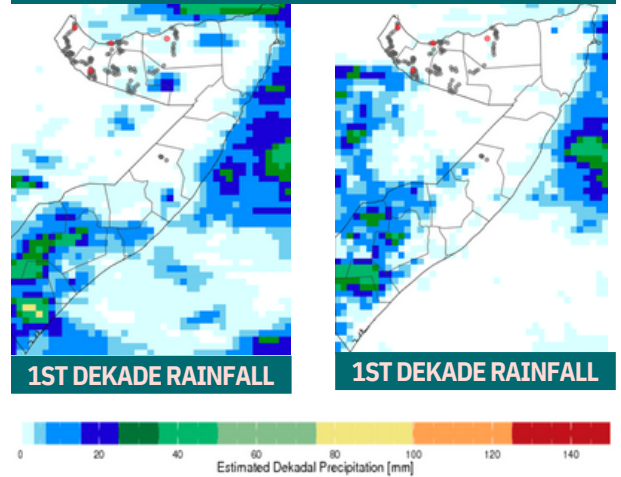
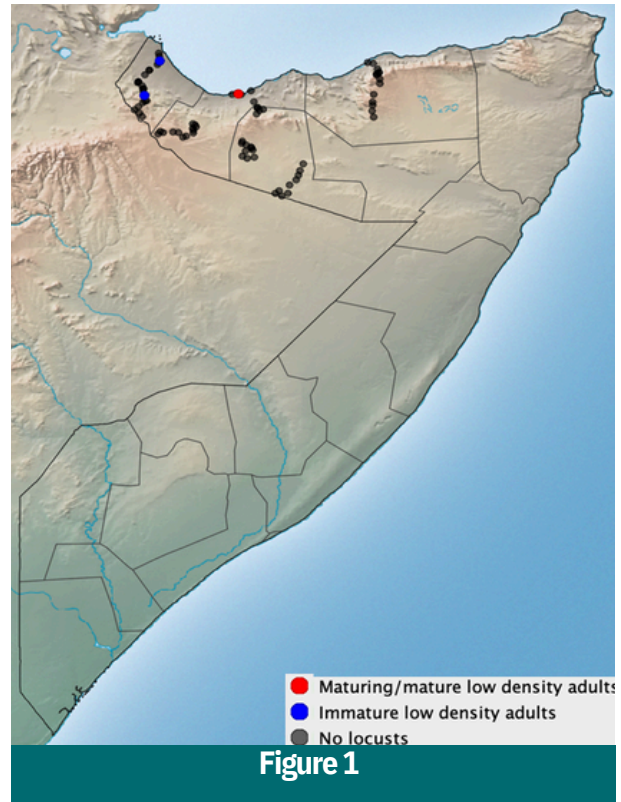
Monitoring and surveillance efforts continue to ensure early detection of any potential changes in locust behavior or density.

The light to medium rains that fell in the breeding areas which may create favorable ecological conditions especially during the winter breeding season.

Environmental Conditions

Environmental conditions in northwest and northeast regions continued to improve due to light to moderate rainfall, especially during the last decade of December.

This rainfall led to greening vegetation and increased soil moisture levels.



Forecasting

Ecological conditions may become favorable for locust breeding, particularly in the northern coastal and sub-coastal areas such as Zaila, Lughaya, and Berbera districts. If abundant rainfall continues, especially in these primary Desert Locust breeding areas, the ongoing Deyr rainy season, with its light to moderate rains, will support high soil moisture and greening vegetation.

CAPACITY BUILDING OF TRAINING PROGRAM

FOR

MOAI STATE LEVEL AND SOMREP CONSORTIUM STAFF IN DOLOW DISTRICT ON GOOD AGRICULTURAL PRACTICES (GAP)

AUGUST 2024



1.0 Introduction:

1.1 Background

The training took place at the COOPI headquarters in the Dolow district, encompassing theoretical sessions as well as practical exercises.

Additionally, specific practical sessions were conducted in the Dayah village to provide participants with a diverse hands-on learning experience implemented by MoAI and SomRep funded by EU under EU Riverine & pastoral system strengthening (RFSS) Project. The Training was about Good Agricultural Practices for MoAI staff from Jubbaland, Southwest & Hirshabelle states and NGOs staff from SomRep consortium (DRC, World Vision, CARE, OXFORD) held in Dolow focuses on enhancing sustainable food production and resilience of food systems in Somalia.

In the face of reducing food insecurity and hunger by ensuring a consistent food supply, boosting agricultural productivity, promoting sustainable practices, improving market access for Somali agricultural products, and implementing policies for food security.

1.2 Training Opening Remarks

He thereafter invited Mr. Mohamed Hassan Mohamed, Head section of agricultural extension at Ministry of Agriculture and Irrigation of Federal Republic of Somalia (MoAI), to open and give an overview of the training program. He highlighted that these Federal Member States and NGOs staff are very important to train the farmers live in rural area.

1.3 Training Objectives

The training program in Somalia aims to improve knowledge of Good Agricultural Practices (GAP) among MoAI state level and SomRep consortium staff through workshops, seminars, and interactive sessions, focusing on improving productivity and market access.

1.4 Training Outcomes

Participants gained knowledge of GAP principles in Dolow's agricultural context, leading to enhanced staff knowledge and potential for increased productivity, crop yields, and overall output.

1.5 Training Expectations

Participants were expected to gain a deeper understanding of Good Agricultural Practices (GAP) through workshops, seminars, and interactive sessions, enabling them to apply theoretical knowledge to real-world agricultural scenarios effectively.

2.0 Methodology

The training on GAP in Dolow methodology aimed to transfer knowledge and skill development through practical sessions on land preparation, manure application, and crop planting, as well as theoretical sessions on climate smart agricultural practices, soil conservation, and pest management.

2.1 Training Content and Exercises

Day one: 25-08-2024

On August 25th, 2024, a training session on Good Agricultural Practices was held at COOPI headquarters in Dolow district, Gedo region, Somalia. The session covered existing farming systems, constraints and opportunities, climate smart agricultural practices, land preparation, soil conservation, soil fertility, and tillage and bush clearing.



Figure 1

Day two: 26-08-2024

On the following day, August 26, 2024, training commenced promptly at 8:50 AM. Staff members from World Vision participated in a comprehensive review of the previous day's session. Subsequently, the facilitator resumed and concluded the unfinished training from the prior day. During the afternoon session, another facilitator delivered a presentation on best agricultural practices related to maize and sorghum.

Day three: 27-08-2024

On the third day, the participants were taken to Dayah village for a practical session in the primary field. The activities included marking out a demonstration plot measuring 5m by 5m. The participants diligently prepared the land by effectively tilling the soil with hoes for optimal cultivation.

Field Practical

Demonstrations/Illustrations, land preparation (tillage, bush clearing), laying out sunken bed and zai pits, manure application, laying out demo plot and measuring land area.



Figure 2

Day four: 28-08-2024

On the fourth day of August 28, 2024, a group discussion was conducted regarding the demonstration plot, focusing on its definition, significance, and procedural steps.

Sessions

Farmer groups organizations, Introduction, Technical discussions, Implementation of Integrated Pest Management and Safeguards



Figure 3

Day five: 29-08-2024

On the fifth day of the training, the training was both practical and theory sessions. The facilitator commenced the morning session by instructing on the implementation of integrated pest management.

Following the break, the facilitator transitioned to a presentation on postharvest losses. After lunch and the prayer break, a practical session was conducted where the facilitator and participants engaged in the preparation of compost manure, meticulously following each step.

Additionally, they worked on establishing a demonstration garden during this practical session.

Session

Grain storage and insect pest control, demonstration on making liquid manure, demonstration on making suck garden and documenting performance of agric activities

3.0 Conclusion

The training on Good Agricultural Practices (GAP) in Dolow was designed to provide knowledge transfer and skill development among participants.

It included practical sessions on land preparation, manure application, and planting procedures.

The theoretical sessions covered topics like climate smart farming, soil and water conservation, and GAP for maize, sorghum, and cowpeas.

The training was conducted using various instructional techniques, including lectures, demonstration slides, interactive Q&A sessions, and visual aids.

The final day focused on integrated pest management and compost manure creation.

The program successfully equipped participants with essential knowledge and skills in sustainable farming techniques.

HORTICULTURE AND METEOROLGY (CLIMATE AND WEATHER)

PLANNING A SUCCESSFUL PAPAYA CULTIVATION
REQUIRES CAREFUL CONSIDERATION OF
SEVERAL KEY FACTORS AND CONDITIONS



Before Planting, it is important to carefully examine the field's:

1. soil type,
2. water absorption and drainage,
3. Sunlight duration
4. frost risk and frequency,
5. temperature range,
5. irrigation water availability,
6. wind and airflow patterns
7. Site selection – Where to plant papaya

The three major environmental factors to consider in selecting a site to grow papayas are temperature, moisture (rainfall and soil drainage), and wind.

In general, papaya trees should be planted in fully sunny places for best growth and fruit production.

It is better to choose the warmest area of the landscape that will not flood after typical rainfall.

Additionally, choose a part of the landscape away from other trees, buildings, and other structures.

Climate and Location:

Papayas thrive in tropical and subtropical climates with temperatures between 68°F to 90°F (20°C to 32°C). Ensure your location has a low risk frost risk, as papaya plants are sensitive.

Additionally, consider the altitude, as papayas generally grow best at elevations below 6,000 feet (1,800 meters). Before Planting, it is important to carefully examine the field's:



Figure1

Papayas prefer well-draining soils with good fertility.

Plants will do well with care in sands, loams, and rocky soils with a pH of 4.5 to 8.0.

However, the ideal pH level is 6.0 to 6.5. Incorporate organic matter like compost or well-rotted manure to improve soil structure and fertility.

Soil Preparation for Planting Papayas

To prepare a site for planting papaya trees, a farmer should take into account many factors.

These include alleviating soil compaction, enhancing soil fertility, adjusting the soil pH, and managing weeds, pests, and diseases.

Attention to these details can help reduce weed and disease problems, resulting in a healthy plantation.

The specific requirements for site preparation will vary depending on the land’s previous use, including the crop history, current vegetation, and the presence of diseases and pests.



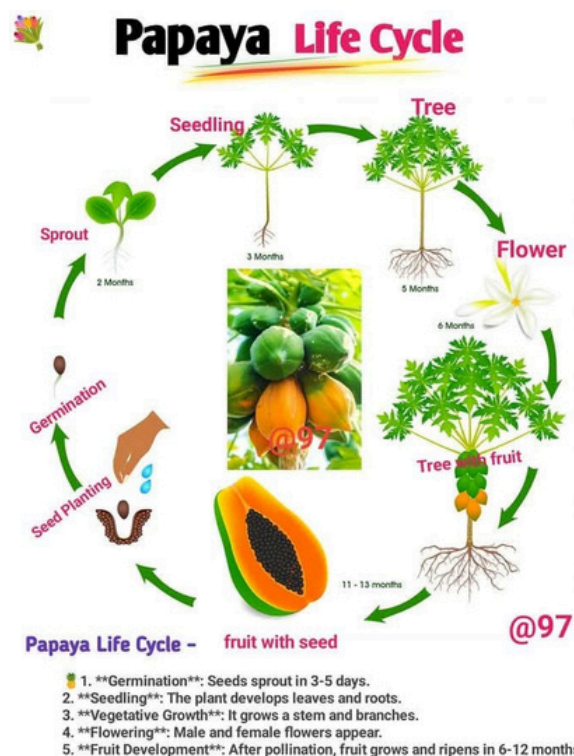
Figure 2



Figure 3



Figure 4



BUSINESS OPPORTUNITY OF LEMON FRUIT IN SOMALIA



Overview

Somalia offers significant business opportunities in the agricultural sector, particularly in the production and export of lemon fruits. Lemons are a valuable commodity due to their high vitamin C content, culinary uses, and health benefits. This article explores the potential business opportunities, production areas, and relevant data for lemon farming in Somalia.

Production Areas

Lemon farming in Somalia is concentrated in several key regions:

- **Lower Shabelle:** Known for its fertile soil and favorable climate for citrus cultivation.
- **Middle Shabelle:** Another major area for lemon production, benefiting from irrigation systems.
- **Hiran:** This region has seen an increase in lemon farming due to improved agricultural practices.
- **Western Gedo:** Despite being traditionally focused on pastoralism, this region has potential for commercial lemon farming.

Production Data of 2013 -2023



Source of data FAOSTAT

Year	yield (kilotons)
2023	
2022	16.3 kilotons
2021	16.0 kilotons
2020	17.0 kilotons
2019	19.0 kilotons
2018	18.5 kilotons
2017	20.0 kilotons
2016	16.5 kilotons
2015	16.0 kilotons
2014	15.5 kilotons
2013	15.0 kilotons

External Markets

- Somalia has established trade routes with several countries for lemon exports:
- **Turkey:** Somali lemons are exported to Turkey, providing a new market opportunity.
- **Oman and Saudi Arabia:** These countries are among Somalia's top export destinations for agricultural products, including lemons.
- **United Arab Emirates (UAE):** Historically, the UAE has been a significant market for Somali lemons. However, market conditions have fluctuated over the years.
- **Other Markets:** There are opportunities to explore new markets in Europe and North America, where there is a growing demand for organic and sustainably produced lemons.

Business Opportunities

- **Export Markets:** Expanding export markets to countries like Turkey and exploring new markets in Europe and North America.
- **Value Addition:** Farmers can explore value addition by producing dried lemons, lemon juice, and other lemon-based products to cater to different market segments.
- **Local Markets:** There is a growing demand for fresh lemons in local markets, especially in urban areas where consumers are becoming more health-conscious.

- **Agricultural Investment:** With over 8.9 million hectares of arable land, Somalia presents a promising environment for agricultural investment, including lemon farming.
- **Agricultural Technology:** Investing in modern agricultural technologies and practices to increase yield and improve the quality of lemons.
- **Argo-processing Industries:** Establishing Agr o-processing industries to produce lemon- based products such as essential oils, cosmetics, and perfumes.
- **Sustainable Farming Practices:** Promoting sustainable farming practices to meet the growing demand for organic and eco-friendly products.



Figure 1



Figure 2