



SOMALIA AGRI-TECH EXPO 2024

**BIGGEST SOMALI
AGRICULTURAL EXHIBITION IN ALL TIME
16-17 JULY 2024**

The Ministry of Agriculture and Irrigation of the Federal Government of Somalia organized first Somali Agricultural Technology Exhibition (Somali Agro-Tech Expo) in more than 35 years, in order to promote agricultural stakeholders and agri-business companies in particular to showcase and share new technologies that can be applied to improve agricultural production, hold up efficiency of irrigation, enhance storage facilities linkages to the markets. The main target of this expo was to promote agricultural innovation in Somalia, enhancing production to reduce food insecurity and malnutrition while promoting sustainable sourcing through technology to achieve comprehensive and viable value chain.

Somalia Agro-Tech Expo 2024 was a high-level event that brought together local agro-tech companies, entrepreneurs, academia, UN and international partners, farmer associations, the private sector, cooperatives, member states and federal government line ministers. This Agro-Tech Expo aimed to serve as a catalyst to drive the growth of the Somali agriculture technology industry by providing a platform for showcasing and exhibiting the latest innovations in the agriculture sector at their disposal.

As expected, it will create new investment opportunities for local businesses, attract foreign investment, and ultimately contribute to the transformation of Somalia's economy.

The Ministry of Agriculture and Irrigation with the support of some international partners, organized this Agro-Tech Expo with the aim to restoring agricultural productivity, promoting the use of agricultural mechanization technologies and agro-processing to add value and turn local agricultural commodities into a more marketable products and profitable agribusiness industry that may compete in regional markets especially after Somalia joined East African's Community Market.

This great event which took place in Mogadishu and lasted for two days 16th-17th July, attended by high profile government officials led by PM Hamza Abdi Barre who has officially opened the ceremony and delivered resonated speech that acknowledged the significance laid in the Agriculture sector for national economy and the wellbeing for the society.

Most importantly, for the first time in many years he pledged that he will revise the current ban on fertilizers due to security concerns. This has been loudly applauded by the audience which were mostly farmers who were protesting against the ban decision for quiet long time. Meanwhile, the PM pointed out at the underlying root causes of the chronic lower agricultural production:

“The reality that the Somali people suffer from hunger while living on a fertile and resource-rich land capable of feeding our population and the entire region is a reflection of our collective shortcomings, not the land incompetence or its poor properties”

Upon his opening remarks, Minister of Agriculture and Irrigation Hon. Mohamed Abdi Hayir quoted saying: ***“First, I would like to thank participants, companies that brought***

their products to the exhibition grounds, cooperatives, national farmer associations, agricultural experts, women who are always dedicated to the nation’s recovery and play a significant role in overcoming every difficult phase, national and international partners, and the governmental institutions.

Your valuable participation, knowledge, practical techniques, and experiences you shared with us to enhance production are greatly appreciated”

“This event would not be possible without the generous support and collaboration of our partners and sponsors” DG. Prof. Mohamud stated later upon the completion of the event as he named FAO, US-AID, UK International development, German cooperation, commending them for their support and collaboration.

DESERT LOCUST SITUATION

The Desert Locust (DL) situation continued to be calm during July 2024.

Surveys had been conducted in the coastal, sub-coastal and inland areas of DL breeding area in North-west (Somaliland), Scattered

mature/immature solitary adults of low densities were reported in the northwest in the west of Baki district (10.03N/43.32E), and (19.03N/43.35E).

No locusts were seen in North-east (Puntland) as well as Galmudug regions.

The rains fell during the second half of the month in the breeding areas may contribute to the creation of favourable ecological conditions for locust breeding.

Forecasting:

Ecological conditions have become favorable in some survey locations where survey operations have been conducted.

There will be a limited continuation of locust breeding that began in spring.

Solitary adults can continue to be seen in the northwest.No significant developments are likely.

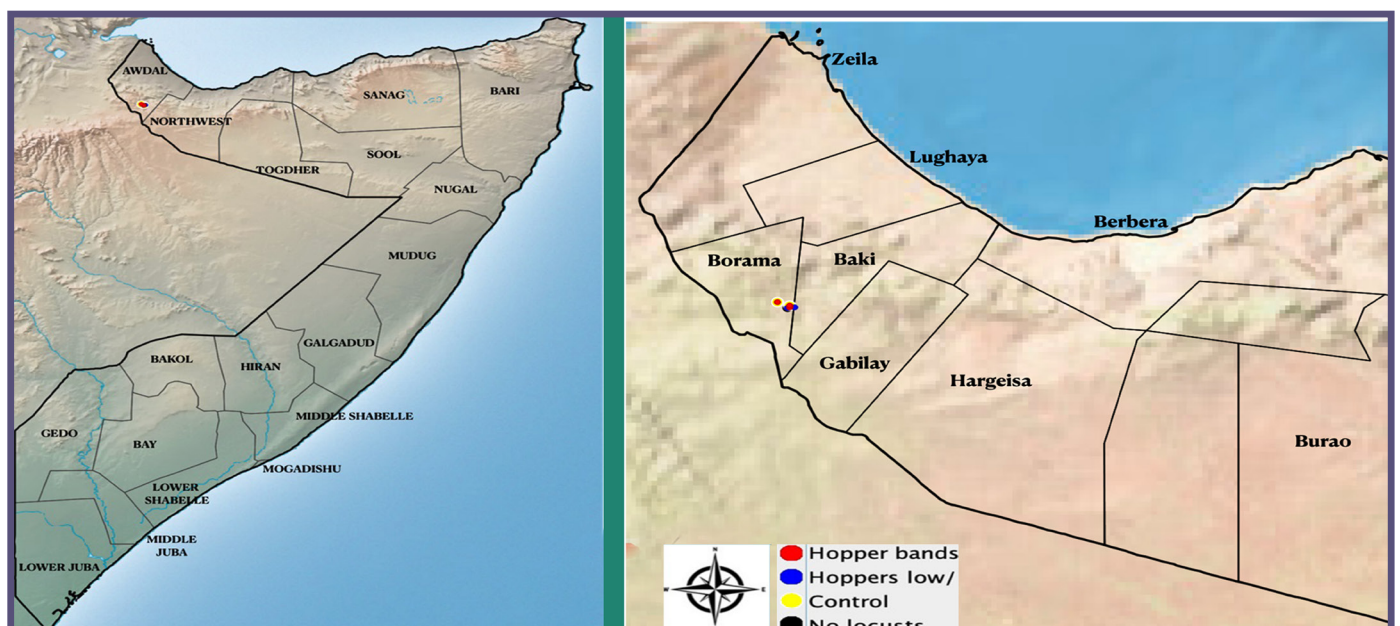


Figure : DL situation in Somalia during July 2024

Success Story:

Transforming Agriculture in Baidoa – The Journey of Aden Bulle Adan and Soog I Silaa Cooperative



Figure 1: Panicum Grass

Background and Motivation

In the heart of Baidoa, Somalia, a transformative agricultural venture is unfolding, led by a visionary Somali citizen named Aden Bulle Adan.

As the founder of Soog I Silaa Agro forestry Cooperative, Aden's journey is a testament to the power of innovative thinking, community collaboration, and a deep-seated commitment to sustainable agriculture.

His vision was rooted in addressing the critical shortage of fodder in Somalia, leveraging the region's favourable weather and landscape.

The Birth of Soog I Silaa Cooperative

The idea for Soog I Silaa Cooperative germinated from Aden's observations and countless discussions with Somali diaspora around the world, particularly about modern irrigation and farming techniques.

Inspired by these conversations and recognizing the urgent need to address the region's fodder scarcity he decided to utilize his land in Bukriye, to pioneer a new approach in agroforestry.

Living in a land blessed with favourable weather and natural resources, he was determined to harness these advantages for the benefit of his community.

Initial Successes

His journey began on a plot of land in Bukriye, about five kilometres from Baidoa.

Here, he initiated the cultivation of Super Napier and Panicum grasses, along with cash crops such as tomatoes, potatoes, and peppers.

These efforts were driven by a clear vision: to create a sustainable agricultural model that could provide consistent fodder and improve food security in the region.

The success of these crops paved the way for the introduction of livestock, including camels, goats, and cows.

This diversification not only enhanced the farm's productivity but also provided a natural source of fertilizer through cow dung, reducing the need for chemical inputs.

Community Impact and Knowledge Sharing

Aden's commitment to community development is evident in his efforts to share knowledge and resources with fellow farmers.

By donating seedlings and providing guidance, has empowered others to replicate his successes.

This collaborative approach has fostered a culture of mutual support and innovation among local farmers, significantly enhancing the region's agricultural resilience.

Understanding the Somali community's heavy reliance on livestock, Aden emphasized the importance of securing ample fodder reserves to ensure a stable feed supply during dry seasons.

His efforts have not only addressed immediate needs but have also laid the groundwork for long-term agricultural sustainability.

Challenges and Future Aspirations

Despite these achievements, Aden faces ongoing challenges, particularly in conserving harvested grass and producing silage due to a lack of proper equipment.

Overcoming these obstacles is crucial for ensuring the long-term viability of his initiatives. Looking ahead, he has ambitious plans to expand his agroforestry efforts.

On a 20-hectare piece of land in Geldheer, nine kilometres from Baidoa, he envisions planting maize, sorghum, and a variety of fruits such as mangoes, guavas, soursop, and pomegranates. This expansion will not only diversify the region’s agricultural output but also enhance food security and economic stability.

Conclusion

Aden Bulle Adan’s journey with Soog I Silaa Cooperative is a shining example of how visionary leadership, community collaboration, and innovative agricultural practices can drive transformative change.

His dedication not only improved his own farm’s productivity but also fostered a culture of sharing and mutual support among farmers in the region.

His story inspires hope and underscores the potential of sustainable agriculture to improve livelihoods, ensure food security, and foster economic growth in Somalia.

His unwavering dedication and the successes of Soog I Silaa Cooperative serve as a beacon of progress, illuminating the path toward a brighter future for Somali agriculture.



Figure 2 : Challenges and Future Aspirations

IMPACT OF CLIMATE CHANGE ON CROP PRODUCTION IN SOMALIA, ADAPTATION AND MITIGATION STRATEGIES

Introduction

Somalia, situated in the Horn of Africa, is highly vulnerable to the adverse impacts of climate change. The country’s agricultural sector, which forms the backbone of its economy, faces significant challenges due to shifting climatic patterns.

This article explores the multifaceted effects of climate change on crop production in Somalia and underscores the need for robust adaptation and mitigation strategies to ensure food security and sustainable agricultural development.

Climatic Variability and Its Consequences

The climate in Somalia is characterized by recurring droughts, erratic rainfall, and increasing temperatures. These climatic variations have direct and indirect impacts on crop production:

- ✦ **Drought and Water Scarcity:**

Recurrent droughts reduce water availability for irrigation, leading to decreased crop yields. The lack of reliable water sources forces farmers to rely on rain-fed agriculture, which is highly susceptible to rainfall variability.

- ✦ **Erratic Rainfall Patterns:**

Unpredictable rainfall patterns disrupt planting and harvesting schedules.

Excessive rainfall can lead to flooding, damaging crops and eroding fertile soil. Conversely, insufficient rainfall can result in crop failure, exacerbating food insecurity.

- ✦ **Rising Temperatures:** Higher temperatures increase evaporation rates, reducing soil moisture and stressing crops. Heat stress can impair plant growth and reduce yields of staple crops such as maize, sorghum, and millet.

Impact on Crop Production

The changing climate has profound effects on various aspects of crop production in Somalia:

- ✦ **Yield Reduction:** Climate-induced stresses such as drought and heat waves directly reduce crop yields. For instance, maize and sorghum, which are vital for food security, show significant yield declines under prolonged drought conditions.
- ✦ **Pest and Disease Proliferation:** Warmer temperatures and changing humidity levels create conducive environments for pests and diseases. Crops become more vulnerable to infestations by locusts, aphids, and fungal infections, further reducing agricultural productivity.
- ✦ **Soil Degradation:** Increased frequency of extreme weather events like heavy rains and droughts leads to soil erosion and degradation. Loss of topsoil diminishes soil fertility, affecting the long-term productivity of agricultural lands.

Socio-Economic Implications

The impact of climate change on crop production extends beyond the agricultural sector, affecting the socio-economic fabric of Somalia:

- ✦ **Food Insecurity:** Reduced crop yields directly translate to food shortages, escalating hunger and malnutrition rates. Vulnerable populations, particularly in rural areas, are disproportionately affected, leading to increased reliance on food aid.
- ✦ **Livelihood Disruption:** Agriculture is a primary source of livelihood for many

Somalis. Climate-induced crop failures result in loss of income and employment, pushing families into poverty and reducing their ability to cope with future climatic shocks.

- ✦ **Conflict and Migration:** Resource scarcity, driven by declining agricultural productivity, can exacerbate conflicts over land and water resources. Additionally, deteriorating living conditions may force rural populations to migrate to urban areas or other regions, straining existing infrastructure and resources.

Adaptation and Mitigation Strategies

To address the challenges posed by climate change, Somalia must implement comprehensive adaptation and mitigation strategies:

- ✦ **Climate-Smart Agriculture:** Promoting climate-smart agricultural practices, such as drought-resistant crop varieties, efficient irrigation techniques, and soil conservation methods, can enhance resilience and productivity.
- ✦ **Early Warning Systems:** Establishing robust early warning systems for weather-related events can help farmers make informed decisions about planting and harvesting, reducing crop losses.
- ✦ **Capacity Building:** Strengthening the capacity of farmers through training and extension services on sustainable farming practices is crucial. Empowering communities with knowledge and resources to adapt to climate change is essential for long-term resilience.
- ✦ **Policy and Institutional Support:** Developing and implementing policies that support climate adaptation and sustainable agriculture is vital. Collaboration between government, NGOs, and international organizations can facilitate resource mobilization and effective implementation of climate action plans.

Conclusion

The impact of climate change on crop production in Somalia is profound and multifaceted, posing significant challenges to food security and sustainable development. Addressing these challenges requires a coordinated effort to implement adaptive strategies and mitigate the adverse effects of climate change. By adopting climate-smart practices, strengthening early warning systems, and fostering policy support, Somalia can enhance its agricultural resilience and secure a sustainable future for its people.



ENHANCING VEGETABLE PRODUCTION OF SOMALIA THROUGH DRIP IRRIGATION SYSTEMS

Somalia, a country known for its arid and semi-arid climate, faces significant challenges in agricultural production, particularly in the cultivation of vegetables.

Erratic rainfall and water scarcity have historically hindered crop yields and food security.

However, advancements in irrigation technology, particularly drip irrigation systems, offer promising solutions to these challenges by optimizing water use efficiency and enhancing crop productivity.

This article explores the pivotal role that drip irrigation systems play in revolutionizing vegetable production in Somalia.

Vegetables are essential components of the Somali diet, providing crucial vitamins, minerals, and dietary diversity.

Moreover, vegetable cultivation represents a vital economic opportunity for local farmers, contributing to both household incomes and national agricultural output.

However, traditional irrigation methods, such as flood irrigation and furrow irrigation, are inefficient in water use and of ten inadequate to sustain crop growth in arid regions.

Definition and Functionality

Drip irrigation is a precise irrigation method that delivers water directly to the roots of plants through a network of pipes and emitters.

Unlike conventional methods that flood entire fields, drip irrigation reduces water wastage significantly by delivering water precisely where it is needed, near the plant roots.

This technology not only conserves water but also enhances nutrient uptake and minimizes soil erosion, making it ideal for regions with limited water resources like Somalia.

Benefits of Drip Irrigation Systems in Vegetable Production

1. Drip irrigation systems can achieve water savings of up to 50% compared to traditional methods.

In Somalia's arid and semi-arid regions, where every drop of water counts, this efficiency is crucial for sustaining vegetable production throughout the year.

2. Delivering water and nutrients directly to the plants' root zones, drip irrigation promotes healthier and more robust growth.

This results in higher yields and better-quality vegetables, meeting both local consumption needs and enhancing market opportunities for farmers.

3. Drip irrigation systems are adaptable to diverse terrains and can be customized to fit varying farm sizes and crop types.

This flexibility allows farmers in Somalia to cultivate vegetables even in remote and previously inhospitable areas, thereby expanding agricultural productivity.

Case Studies and Examples from Somalia

Several initiatives have successfully implemented drip irrigation systems in Somalia, showcasing their transformative impact on local agriculture:

- In Banadir region there are many greenhouse farming and open fields with drip irrigation system which introduce vegetable production of Mogadishu city.

Around 2018 until now the rate of vegetable production increases for the sake of using drip irrigation system

- In the Lower Shabelle region, farmers have adopted drip irrigation to grow tomatoes and peppers, significantly increasing their yield per hectare while conserving precious water resources.

Drip irrigation systems represent a game-changer for vegetable production in Somalia, offering sustainable solutions to water scarcity and enhancing agricultural resilience in the face of climate change. By harnessing this technology, Somali farmers can improve food security, increase incomes, and contribute to economic development at both local and national levels. Continued support from ministry of agriculture and irrigation of Somalia MOAI is essential to scale up the adoption of drip irrigation systems and unlock their full potential in transforming Somalia's agricultural landscape.

ENHANCING AGRICULTURAL CAPACITY: WORKSHOP ON RAIN GAUGE INSTALLATION AND MAINTENANCE



Figure 1

The Ministry of Agriculture and Irrigation recently concluded a two-day workshop aimed at bolstering the expertise of civil servants involved in agrometeorology within various districts of Lower Shebelle, South-West State.

Organised by the Department of Irrigation and Early Warning, this training forms a crucial component of the ministry's strategic plan to fortify capabilities in data collection and analysis of river water levels.

Under the auspices of the Ministry's Director General, Prof. Mohamoud Mohamed Mohamoud, and with the dedicated support of the FAO SWALIM programme covering travel expenses, participants hailing from Awdheghe, Marko, and Afgoye, some employee staff of different departments of the MoAI, and agronomists from different university districts were equipped with essential skills in the installation and repair of rain gauges.

These instruments are pivotal in accurately measuring precipitation, vital for informed agricultural planning and decision-making.

The workshop commenced with opening remarks emphasising the significance of precise meteorological data in agriculture, delivered by Prof. Mohamoud and Abdullahi, Director of the Department of Irrigation and Early Warning.

Mr. Abdirahim Adan Abdi, Head Section and Project Manager, provided detailed insights into the operational nuances of standard rain gauges, ensuring thorough comprehension among attendees.

A pivotal session on agrometeorology, led by Eng. Ibrahim, delved into the interplay between weather patterns and crop development.

Eng. Isse Ibrahim, Head Section of Metrology at MOAI, supplemented this theoretical foundation with practical guidance by supervising hands-on sessions with the NYLEX '1000' rain gauge.

Participants actively engaged in installing and maintaining these gauges, cementing their learning through direct application.

In his closing remarks, Mr. Abdulahi Ahmed Mohamed, Director of Irrigation and Early Warning, commended participants for their dedication and stressed the pivotal role of accurate data in enhancing agricultural productivity.

He underscored the ministry's commitment to furthering the capabilities of its personnel to better serve Somali farmers.

This workshop not only equipped participants with tangible skills but also underscored the ministry's proactive stance in harnessing modern technologies for sustainable agricultural development.

By empowering civil servants with expertise in meteorological data collection, the Ministry of Agriculture and Irrigation paves the way for informed decision-making and resilient agricultural practices across Somalia.

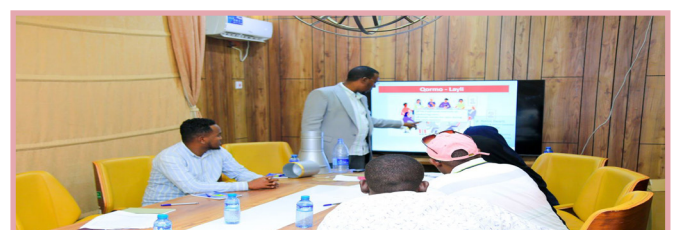


Figure 2

CITRUS LEAF MINER GRACILLARIIDAE



Identification

Citrus leafminer is a very small, light-colored moth, less than 1/4 inch long. It has silvery and white iridescent forewings with brown and white markings and a distinct black spot on each wing tip.

The hind wings and body are white, with long fringe scales extending from the hindwing margins.

The larval stage is found only inside mines of citrus leaves and other closely related plants. As it feeds and develops, the larva leaves a frass (feces) trail, observed as a thin dark line, inside the meandering serpentine mine just under the surface of the leaf.

This visual characteristic is used to help identify the pest. In its last stage, the larva emerges from the mine and moves to the edge of the leaf. It rolls the leaf around itself and pupates in preparation for adulthood, creating a rolled and distorted leaf.

Damage

This insect attacks all citrus varieties.

Larvae infest the young flushing foliage, producing a snake-like 'mine' as they feed.

This causes the leaves to twist and curl. Larvae can also attack fruit and stems, though this is rarer.

Severe infestations can retard growth of young trees. Infestations on older trees (more than five years) can cause unsightly damage, but do not normally cause significant yield losses



Figure 1

Cultural Control

Citrus leafminer moths are attracted to the new flush of citrus trees. Avoid pruning live branches more than once a year, so that the cycles of flushing are uniform and short. Once the leaves harden, the pest will not be able to mine the leaves. Do not prune off leaves damaged by citrus leafminer since undamaged areas of leaves continue to produce food for the tree. Do not apply nitrogen fertilizer at times of the year when leafminer

populations are high and flush growth will be severely damaged, such as in the summer and fall. Traps baited with a pheromone (insect sex attractant) are a useful tool for detecting leafminers, determining when moths are flying and depositing eggs, and timing insecticide appli-

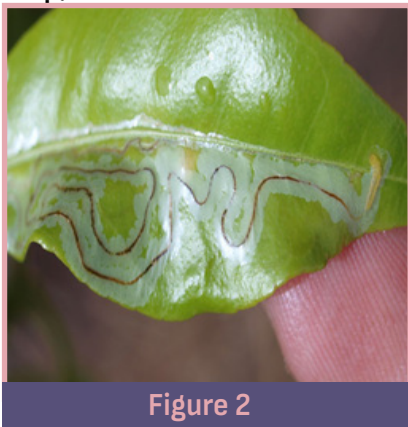


Figure 2

However, they do not catch enough of the population to be used for control.

Only male moths are drawn to the pheromone and become caught in the trap's sticky coating. Hang pheromone traps about shoulder height on a citrus tree.

Follow the manufacturer's recommendations for maintaining the trap,

such as how often the pheromone dispenser should be replaced.

Commercial traps specific to citrus leafminer will attract only citrus leafminer, but other insects may accidentally be caught in the trap.

Identify trapped moths before you decide to take a control action. Check traps every week for moths.

Biological Control

Citrus leafminers are killed by various parasites and predators, including tiny nonstinging, naturally occurring wasps such as *Cirrospilus* and *Pnigalio* species.

The parasites lay their eggs inside the mine, inside or on top of the leaf miner larva.

When the parasite egg hatches the parasite larva consumes the leafminer larva.

These parasites are very important for reducing citrus leafminer levels.

Avoid other practices that disrupt natural enemies whenever possible

Chemical Control

Many insecticides are effective against *P. citrella*, but they are

always liable also to reduce numbers of natural enemies which may control the pest to within acceptable thresholds.

The location of larvae inside the mine protects the insects from most topical sprays.

Systemic insecticides are only effective in young trees.

Natural enemies can be effective if management practices allow

Do not spray citrus with broad-spectrum insecti-

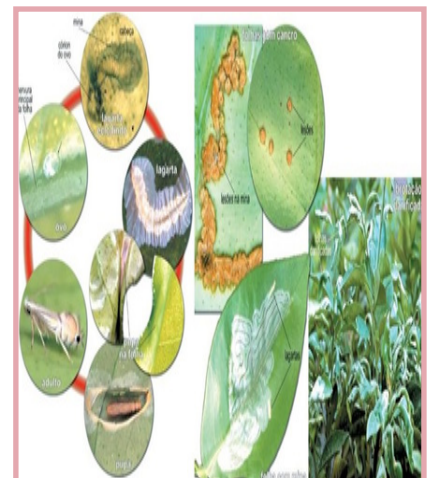


Figure 3

CULTIVATING SUCCESS

Agricultural Cooperatives Boost Yields Despite Challenges

Introduction

Somalia's agricultural sector is crucial for economic stability and livelihoods, contributing significantly to the national GDP.

However, challenges like droughts, limited technology access, and restricted market access persist. Strengthening the sector is essential for food security, cultural preservation, stable employment, and poverty reduction, necessitating targeted development strategies to improve resilience and modernize practices.

Agricultural cooperatives are vital for the economy and population sustenance. They enable farmers to share resources, reduce costs, and access broader markets, boosting export potential. Cooperatives facilitate knowledge transfer, improve practices, and offer financial services for farming inputs.

However, Somalia's agricultural cooperatives face challenges due to unstable political and economic conditions, including lack of capital, management issues, and poor infrastructure such as inadequate roads and storage facilities further limits market access and increase post-harvest losses.

With these challenges in mind, the Department of Agribusiness, Cooperative Development, and Food Reserve in the Ministry of Agriculture and Irrigation aims to create a supportive network that enables agricultural cooperatives to thrive, thereby contributing to food security, employment, and economic development in Somalia.

These initiatives are crucial for empowering local communities and fostering a sustainable agricultural sector that can support the nation's needs and development goals. Therefore, we have established a monthly report to analyze the accomplishments and obstacles faced by agricultural cooperative groups in Somalia.

This monthly report enlightens the current state of agricultural cooperative groups in the Beledweyne region of Central Somalia.

The Agricultural Cooperatives in Beledweyne have shown remarkable resilience and determination in enhancing agricultural productivity despite facing numerous challenges.

This report delves into the data collected from these cooperatives, highlighting their efforts, achievements, and the areas that require further support and development.

Objectives of the Study

The primary objective of this study was to gather comprehensive data on the agricultural cooperatives in Beletweyne to understand their current state, identify their needs, and develop strategies to enhance their productivity.

The specific objectives included:

- Assessing the agricultural practices and productivity levels of the cooperatives.
- Identifying the challenges faced by the cooperatives.
- Evaluating the support needed in terms of training, resources, and infrastructure.

Methodology

The data was collected using Kobo Collect, a useful mobile data collection tool.

We designed survey forms to gather data on various aspects, such as the cultivated area,

major crops, harvested yield, and market access. participants included cooperative leaders, farmers, and agricultural experts, ensuring a comprehensive perspective on cooperative dynamics. Over two months, we distributed the surveys to over 14 agricultural cooperative groups in the Beledweyne region, each comprising 208 farmers, for a total of 2912 farmers.

Findings

Despite frequent droughts and floods throughout the country, particularly in the Beledweyne region, the agricultural cooperative groups (ACG) have collaborated to boost the country's production to address the current food shortage. The ACG in Beledweyne has a total of 15827 ha of cultivable area (Figure 1). The cultivable land in the Beledweyne region was greater than the cultivated area last season, but the ACG faced many challenges, including environmental, economic, technical, and security issues. ACG (G8) planted the largest cultivated area (5535 ha), while ACG (G1) cultivated the smallest area (40 ha).

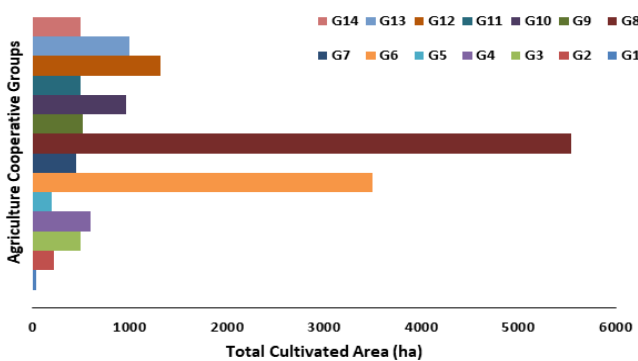


Figure 1. Total Cultivable Area of Agricultural Cooperative Groups in Beledweyne

During the last season, the ACG in the Beledweyne region planted a variety of crops, including cereals, fruits, vegetables, and fodder (Figure 2). Different areas totalling 8680 ha sown all ACG as cereal, while 6770.4 ha and 1822.8 ha cultivated vegetables and fruits, respectively. This indicates that cereal crops are the major crop of ACG in the Beledweyne region.

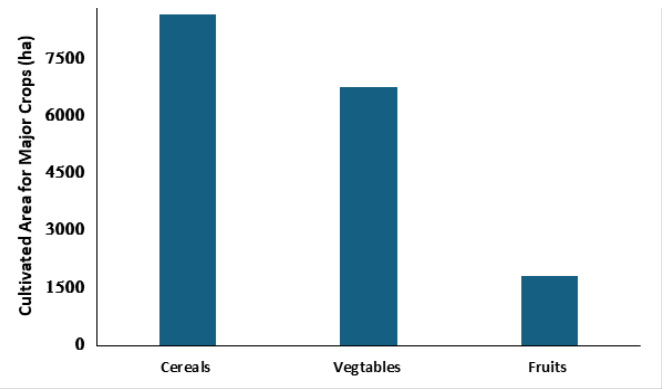


Figure 2. Cultivated Area of Major Crops in Beledweyne

The harvested yields for ACG varied depending on technical competence, financial capability, and technology applied. The total yields of the major crops, cereals, vegetables, and fruits were 3369.8 tons, 2392.6 tons, and 70707 tons, respectively (Figure 3).

The yield per hectare of the major crops was relatively the same as predicted standard values (Figure 4).

However, ACG faced many challenges such as a lack of technical knowledge, unimproved seeds, uncontrollable diseases, and a financial gap for pumping irrigation at the right time.

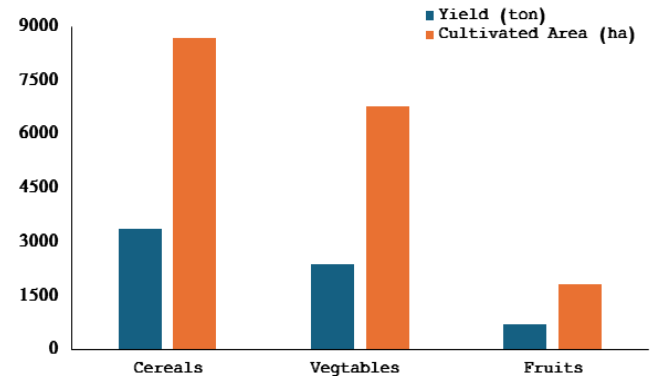


Figure 3. Yield of Major Crops in Beledweyne

The ACG markets their harvest yield to the Beledweyne regional market. Proximately 70% of the production was marketed and 30% was stored using conventional methods specifically cereal crops (Figure 4). The biggest challenge facing the cooperatives in the market is the unstable price of the product and poor infrastructure.

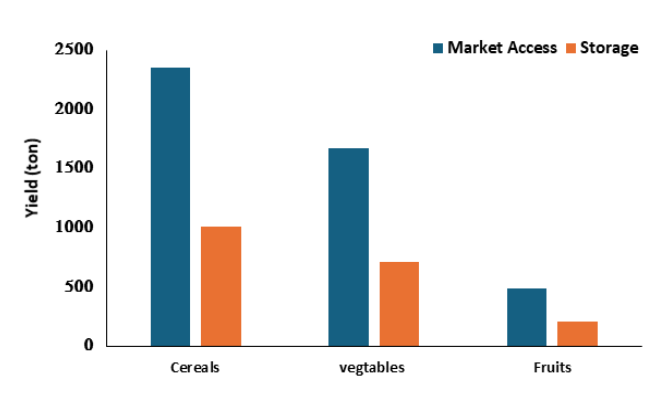


Figure 4. Marketed and Stored Yield of major crops in Beledweyne

Agricultural Cooperative Challenges

- Limited access to capital and financial management
- High initial investments and operating expenses lead to financial instability.
- Seasonal changes and market instability complicate agricultural revenue.
- Lack of modern technology
- High upfront costs, unreliable power supplies, and inadequate technical knowledge hinder modern technology adoption.
- Inefficiency of supply chain management
- Poor road conditions, poor post-harvest storage facilities, and inadequate packing methods lead to losses.
- Market access and pricing instability
- Environmental and Climate Challenges
- Droughts and floods pose significant threats to agricultural output and resource accessibility.

Recommendations

- Improve management and access to finance through alliances with financial institutions. Enhance risk management, financial planning, and budgeting through training for cooperative leaders and members.
- Utilize contemporary agricultural technology through training and capacity-building initiatives.
- Upgrade facilities in collaboration with regional and federal governments.
- Increase market access through food hubs, online marketplaces, and cooperative alliances.
- Develop a resilient climate through soil conservation measures, crop diversification, climate-smart agricultural practices, and sustainable water management.

Conclusion

The agricultural cooperatives in Beledweyne have shown commendable efforts in enhancing agricultural productivity despite facing significant challenges. With the right support and interventions, these cooperatives have the potential to transform the agricultural landscape of the region, ensuring food security and improving the livelihoods of the farming communities.

The Ministry of Agriculture and Irrigation remains committed to supporting these cooperatives and implementing the recommendations outlined in this report to achieve sustainable agricultural development.