2024

SALAAM DEVELOPMENT CENTER

Activity Report for Greenhouse – JRP at Galdogob district.

SDC IN COLLOBORATION WITH MOAI

OCTOBER, 2024

Table of Contents

Introduction

The Salaam Development Center (SDC), in partnership with the World Food Programme (WFP), is committed to enhancing agricultural productivity and food security in Puntland through the Joint Resilience Programme (JRP). The JRP's primary goal is to provide farmers with the necessary tools and knowledge to boost crop production in challenging climatic conditions. Among the key interventions implemented is the distribution of greenhouses, which allows farmers to produce crops more efficiently in a controlled environment, increasing resilience against adverse weather patterns.

Greenhouse farming is especially beneficial in arid and semi-arid regions like Puntland, where water scarcity and unpredictable weather patterns severely limit agricultural productivity. The introduction of greenhouses addresses these challenges by providing a controlled, moisture-retaining environment conducive to crop growth. By using greenhouses, farmers can cultivate a wider variety of crops, ensuring food security and generating income throughout the year. This report outlines the greenhouse distribution process, key challenges, findings, and recommendations for future interventions.

Puntland faces considerable agricultural challenges due to its arid climate, with frequent droughts and limited rainfall. Traditional farming methods often yield minimal results, leaving local communities dependent on external food aid. Recognizing these challenges, the JRP, funded by WFP and implemented by SDC, seeks to empower local farmers by introducing climate-resilient agricultural techniques, including greenhouse farming. These greenhouses allow farmers to grow crops year-round, protect against pests, and conserve water.

The JRP intervention in Galdogob District aims to transform traditional agriculture by providing modern farming technologies that increase productivity. As part of the broader initiative to promote self-sustenance, the greenhouses offer a solution to many of the environmental challenges faced by local farmers, such as extreme heat and unreliable rainfall. This shift from dependency on rain-fed agriculture to greenhouse-based farming marks a critical step toward achieving long-term food security and improving livelihoods in the region.

By utilizing greenhouses, farmers in Puntland can diversify their crops beyond drought-tolerant varieties like sorghum and maize. High-value crops such as tomatoes, cucumbers, and peppers are now viable options, providing local farmers with a higher return on investment. In addition to improving food availability, this diversification enables farmers to increase their incomes, contributing to economic growth and community resilience.

Specific Objectives

The main objectives of the greenhouse distribution are as follows:

- **Enhance Agricultural Productivity**: Improve crop yield through greenhouse farming technologies.
- **Increase Resilience to Climate Change**: Enable farmers to produce crops regardless of harsh climatic conditions.
- **Promote Sustainable Agricultural Practices**: Provide long-term solutions to food insecurity by integrating modern farming methods.
- **Support Economic Growth**: Empower local farmers to produce high-value crops and boost their incomes.
- **Strengthen Food Security**: Reduce dependency on food aid by enabling communities to produce their own food year-round.

Methodology

The greenhouse distribution process followed a systematic methodology that included:

- **Needs Assessment**: Identifying farms that would benefit from greenhouse installations based on key factors such as water availability and land suitability.
- **Community Involvement**: Engaging local farmers, committees, and authorities in the selection process.
- **Training and Technical Support**: Providing farmers with the necessary skills to maintain and operate the greenhouses.
- **Monitoring and Evaluation**: Ongoing supervision to ensure the effectiveness of the greenhouses and track progress.

Community Consultation and Involvement

Community engagement was central to the greenhouse distribution process. The SDC, in collaboration with MOAI, ensured that local farmers, farmers' committees, and community leaders were involved in the decision-making process. Regular meetings were held to explain the benefits of greenhouse farming and gather input on farm selection criteria.

Local authorities and community leaders played a key role in identifying the most suitable farms for greenhouse installation. Their involvement ensured transparency and fairness in the selection process, increasing community ownership of the project. Furthermore, farmers participated in training sessions where they learned how to optimize greenhouse conditions, manage irrigation, and rotate crops for maximum yield. This collaborative approach has strengthened the capacity of local communities to manage their agricultural resources more effectively.

By ensuring that local farmers were actively involved from the start, the JRP fostered a sense of shared responsibility for the success of the project. The training sessions also ensured that farmers could continue to benefit from the greenhouses long after the project concludes.

Developing Selection Criteria

Selection criteria were developed to ensure that the greenhouses were distributed to farms with the highest potential for success. Key criteria included:

- **Farm Size**: A minimum land area of 500 square meters.
- **Water Source**: Farms needed reliable access to water, such as boreholes or solar-powered irrigation systems.
- **Land Topography**: Farms with suitable land for greenhouse installation, particularly flat or gently sloping land.
- **Farm Ownership and Commitment**: Preference was given to farmers committed to using the greenhouses for food production.
- **Community Impact**: Farms serving larger groups or communities were prioritized.

Identification of Successful Farms

Target Greenhouse Farms.											
Farm Information			**Assessment criteria**							**Status**	
S/N	**Name of Farm Owner**	**Phone number**	**site**	**Requested**	**water source**	**land topography**	**water availability**	**solar pump**	**flood protection**	**Wind protection**	
1	**Mahamed Dhalawayn**	**7749753**	**Galdogob**	√	**Shallow well**	√	√	√	√	√	**Accepted**
2	**Abdijaliil Mo'alin ahmed**	**7718461**	**Galdogob**	√	**shallow well**	√	√	√	√	√	**Accepted**
3	**Abdirsack mahamed mahamud**	**7478905**	**Galdogob**	√	**shallow well**	√	√		√	√	**Accepted**
4	**Baarliin Said Shire**	**5600612**	**Bursalah**	√	**shallow well**	√	√	√	√	√	**Accepted**
5	**Ali Sh osman**	**6901590**	**Bursalah**	√	**Borehole**	√	√	√	√	√	**Accepted**

Five farms were selected based on the criteria developed in collaboration with local authorities and farmers' committees:

- **Galdogob**: 3 farms.
- **Bursalah**: 2 farms.

The distributed greenhouses measure **24 meters by 8 meters**, providing ample space for diverse crop production. This large size allows farmers to grow a variety of crops simultaneously, ensuring

continuous production cycles and better profitability. The selected farms were evaluated not only on their land and water access but also on their ability to manage and sustain greenhouse farming in the long term. Installation of the greenhouses was accompanied by detailed training to ensure proper use and maintenance.

Distribution Overview

A total of 5 greenhouses, each measuring 24x8 meters, were distributed across the selected farms:

- **Galdogob**: 3 greenhouses.
- **Bursalah**: 2 greenhouses.

The distribution process involved the delivery of pre-fabricated greenhouse kits, which were assembled on-site with the help of technical teams. In addition, farmers were trained in crop management, pest control, and irrigation techniques to maximize the productivity of their greenhouses.

Challenges

Despite the success of the greenhouse distribution, several challenges emerged during the process:

- **High Demand vs. Limited Resources**: While there was significant interest in greenhouses from all 35 farms in the project area, the limited number of greenhouses (5) meant that many farms could not be accommodated. This led to some dissatisfaction among farmers who were not selected.
- **Installation in Remote Areas**: Transporting the greenhouse materials to remote areas, particularly in Bursalah, proved challenging. Poor infrastructure and road conditions delayed delivery and installation. A new logistical strategy was developed to ensure timely delivery of future supplies.
- **Water Management Issues**: Although all selected farms had water sources, some experienced intermittent supply problems, particularly those relying on diesel-powered pumps. Farms without solar irrigation systems struggled with the high cost of fuel, affecting their ability to maintain consistent irrigation.

- **Structural Vulnerability**: Greenhouses, while designed to protect crops from extreme heat and pests, are still vulnerable to strong winds and storms. In areas like Bursalah, where wind speeds are higher, there were concerns about the long-term durability of the structures, requiring extra reinforcements.

Findings

The greenhouse distribution revealed several key findings:

- **Improved Agricultural Productivity**: Farms using greenhouses reported a 40% increase in crop yields. This was primarily due to the controlled growing environment that prevented crop losses from pests and extreme weather. Farmers were able to harvest more frequently and produce healthier crops.
- **Water Efficiency**: Farms with access to solar-powered irrigation systems reported more efficient water use and lower operational costs compared to those relying on diesel-powered systems. This highlights the importance of integrating solar technology with greenhouse farming to maximize sustainability.
- **Diversification of Crops**: Greenhouse farming has allowed farmers to grow high-value crops like tomatoes, cucumbers, and bell peppers, which were previously difficult to cultivate in open fields. This crop diversification has increased both food security and income generation for farmers.
- **Farmer Engagement**: The demand for greenhouses far exceeded supply, showing strong farmer engagement and interest in modern agricultural techniques. Many farmers expressed a desire for further training and expansion of the greenhouse initiative to additional farms.
- **Environmental Benefits**: Greenhouses provided protection from environmental stressors, reducing the impact of extreme temperatures and pests. However, farmers in windy areas faced challenges in maintaining the structural integrity of their greenhouses, highlighting the need for additional support in these regions.

Recommendations

To build on the success of the greenhouse distribution, the following recommendations are made:

- **Expand Greenhouse Distribution**: Given the high demand and clear benefits, it is recommended that future projects aim to distribute additional greenhouses. Expanding the program to more farms will enhance food security and economic resilience in the region.
- **Integrate Solar Irrigation**: To address water management challenges, future greenhouse distributions should prioritize farms that can integrate solar-powered irrigation systems. This will reduce dependency on costly diesel-powered pumps and improve water use efficiency.
- **Reinforce Greenhouse Structures**: In areas prone to strong winds, additional structural reinforcements should be provided to ensure that greenhouses remain durable. This will help mitigate the risks of damage from extreme weather conditions.
- **Provide Continuous Training**: Ongoing technical support and training for farmers are essential to maximize the productivity of greenhouses. Future projects should include follow-up training sessions to address any challenges that arise after initial installation.
- **Expand Community Engagement**: Continuing to involve local farmers and committees in decision-making processes will foster greater ownership of the project. Expanding community engagement initiatives will ensure the long-term sustainability of the program.

Conclusion

The distribution of greenhouses under the Joint Resilience Programme has had a significant positive impact on agricultural productivity and food security in Galdogob and Bursalah. By providing farmers with modern farming technologies, the project has enabled them to overcome some of the environmental challenges that have long hindered agricultural success in the region. The greenhouses have not only increased crop yields but also improved water efficiency and allowed for the cultivation of high-value crops.

Despite these successes, challenges such as the high demand for greenhouses, water management issues, and structural vulnerabilities in certain areas have been identified. Addressing these challenges through expanded distribution, the integration of solar-powered irrigation, and

additional structural reinforcements will be critical to the long-term success of the initiative. Ongoing training and community engagement will further strengthen the program's sustainability and ensure that it continues to benefit local farmers in the years to come.

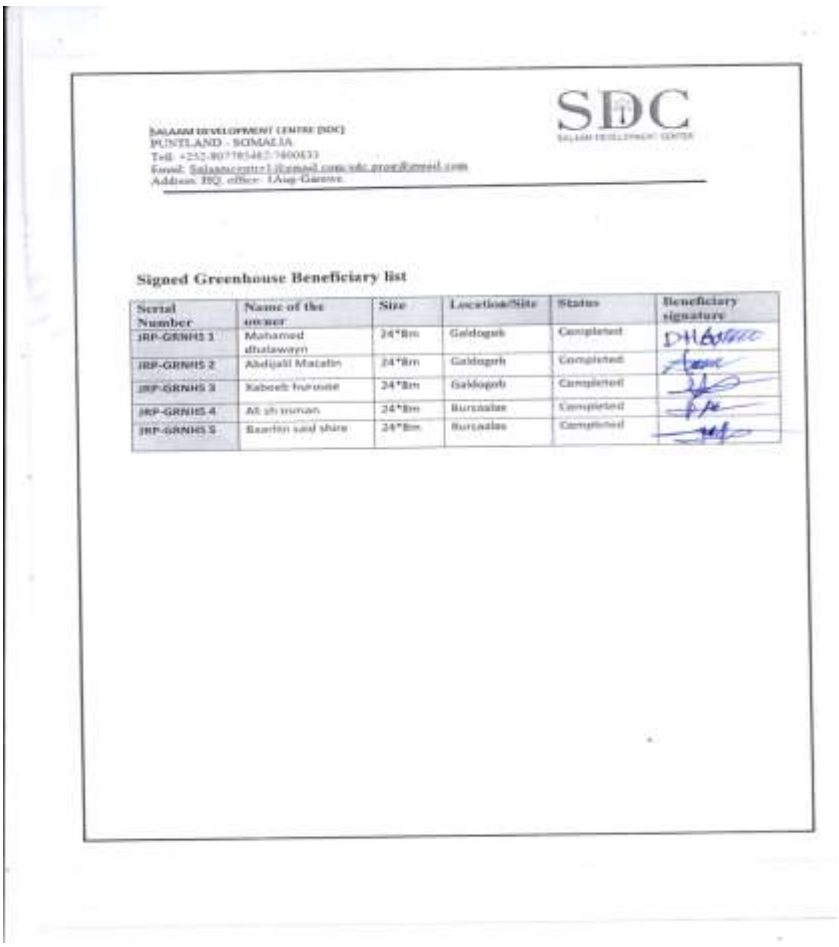
In conclusion, the greenhouse initiative represents a promising step toward achieving food security and economic resilience in Puntland. With continued support and strategic improvements, this intervention has the potential to transform agriculture in the region, enabling farmers to build more sustainable livelihoods and secure their future in an increasingly challenging climate.

ANNEXES; Pictures of Established greenhouses.

Figure 1; Completed greenhouse in bursaalax site.

Figure 2; SDC agronomist planting and preparing nursery bed in one of completed greenhouse in Galdogob site.

Figure 3; WFP staff monitoring completed greenhouse.



SALAAM DEVELOPMENT CENTRE [SDC]
PUNTLAND - SOMALIA
Tell: +252-907785487/7400833
Email: Salaamcentre1@gmail.com/sdc.garoe@gmail.com
Address: HQ office: 1Aug-Garoowe

SDC
SALAAM DEVELOPMENT CENTRE

Signed Greenhouse Beneficiary list

Serial Number	Name of the owner	Size	Location/Site	Status	Beneficiary signature
JRP-GRNHS 1	Mohamed dhalawayn	24*8m	Galdogob	Completed	
JRP-GRNHS 2	Abdijalil Macalin	24*8m	Galdogob	Completed	
JRP-GRNHS 3	Kaboob hurmuse	24*8m	Galdogob	Completed	
JRP-GRNHS 4	Ali sh osman	24*8m	Burtaalax	Completed	
JRP-GRNHS 5	Baarlin said shire	24*8m	Burtaalax	Completed	

Figure 4; signed beneficiary list