SALAAM DEVELOPMENT CENTER

# TRAINING OF TRAINERS (TOT) REPORT ON CLIMATE – SMART PRODUCTION AND GOOD AGRICULTURAL PRACTICES (GAP)

**TRAINING ORGANISED BY: SDC**

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**DURATION: 24RD AUGUST- 13TH SEPTEMBER.**

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## 1. Introduction

Salaam development center (SDC) is an independent, nonprofit and non-government organization providing project management services and research & development solutions, in the thematic focus area of livelihoods, economic inclusivity, climate change, social development, protection and good governance.

SDC is formed by multi-disciplinary Somali experts, whose objective is about providing insightful and objective analysis on a broad range of social issues, including conflict dynamics, peace building, droughts and other environmental and climate changes and resilience mechanisms safe-nets mainly for the youth, women, IDPs and poor rural communities. SDC is motivated to manage development and humanitarian projects and programmes supporting remote rural communities and vulnerable groups in urban settlements.

SDC has a fully-fledged research department that tackles a broad range of social issues and studies. Dedicating our focus mainly on good governance and democracy, economic and social development, project monitoring and evaluation (M&E), best agricultural practices, climate change, innovative farming practices and water technology.

As a corporate partner of WFP, SDC in now implementing The Joint Resilience Programme (JRP) project which has been formulated under the food systems lens, which aims to enhance food security, mitigate climate shocks, and improve livelihoods and income-generating activities for youth and small-scale farmers. The project will particularly focus on internally displaced persons, women, and youth. The project targets 9 sites including villages of Galdogob, Qansahleh, Isqambuus, Xero-jaalle, Daarusalaam, Bursalah, Kuweyt, Laan-madow and Tuulo Xanan-Dudun.

## 2. Background

Good agricultural practices (GAP) are a set of standards for the safe and sustainable production of crops and livestock. It aims to help farm owners maximize yields and optimize business operations while also minimizing production costs and environmental impact. Following good agricultural practices makes it easier for producers to supply products with the quality retailers demand and consumers want.

Good agricultural practices are important because they reinforce responsible farming methods from site selection, land preparation to harvesting and handling. According to the food and agriculture organization of the United Nations (FAO), GAP applies available knowledge to address environmental, economic, and social sustainability for on-farm production and postproduction

processes, resulting in safe and healthy agricultural products. Implementing good agricultural practices can improve the livelihood of producers and the local economy as a whole, contributing to fulfill national development objectives or sustainable development goals.

Between august 24rd and September 13th of the year 2024, a comprehensive 20-day training course was conducted with the purpose of advancing the abilities of smallholder cooperative farmers. The training, titled **"training of trainers, on good agricultural practice"** has been specifically designed to equip participants with the necessary skills to become effective trainers in the field of agriculture. The training was conducted across two different locations, namely Galdogob and Bursalah with the aim of reaching as many smallholder farmers as possible. The course aimed to enhance the capacity of these coop-farmers to develop their agricultural practices and impart their knowledge to others.

## 3. Training objectives

The overall objective of the training is to develop and improves the capacity of the cooperative farmers through good agricultural practices.

- To help farmers to understand the concept of good agricultural practices.
- To equip farmers with the skills and knowledge necessary for seed selection, land preparation, establishment and management of nurseries as well as different methods of cropping system.
- To enhance farmers' ability to recognize the advantages of crop rotation methods and how to implement them effectively.
- To identify the primary challenges faced by farmers during farm management and crop production activities.
- To help farmers to gain comprehensive knowledge about every crop they cultivate.

## 4. PARTICIPANTS PROFILE

A total of 40 participants benefitted from the training. Participants were from 9 sites namely; galdogob, Qansahleh, Isqambuus, Xero-jaalle, Daarusalaam, Bursalah, Kuweyt, laan-madow, Tuulo xanan-Dudun.

Of these, 32 were male, and 8 were female. The participants were selected based on their involvement in small-scale farming activities and their interest in enhancing their good agricultural practice knowledge. The gender composition reflects the active participation of both male and female farmers in the program.

## 5. TRAINING TOPICS

**The module of training was divided into 10 sessions as follows:**

| Venue | Duration | Sessions | Who | Number |
|---|---|---|---|---|
| Galdogob and Bursalah | **24rd August to 13th September, 2024** | • **Session 1:** Introduction To Good Agricultural Practice<br>• **Session 2:** Important On Good on Agricultural Practice<br>• **Session 3:** Different Types on Land Cropping System<br>• **Session 4:** Different Types of Land Preparation<br>• **Session 5:** Tomato Production and Management<br>• **Session 6:** Sweet Paper Production and Management<br>• **Session 7:** Hot Paper Production and Management<br>• **Session 8:** Water Melon Production and Management<br>• **Session 9:** Onion Production and Management<br>• **Session 10:** Sweet Melon Production and Management | 40 qualified participants including lead farmers and other members from the beneficiaries' cooperative sites. | 40 |

## 6. TRAINING METHODOLOGIES:

***Training methodologies used during the training sessions include;***

- **Lectures and presentations:** To provide foundational knowledge and introduce key concepts.
- **Field visits and practical demonstrations:** To give participants hands-on experience in implementing GAP lessons.
- **Group discussions and case studies:** To encourage knowledge sharing and problem-solving among participants.
- **Workshops and interactive sessions:** To engage participants in active learning and skill-building activities.
- **Experience sharing:** Coop-farmers will share their experiences and best practices with their peers.

## 7. TRAINING SESSIONS

Each district i.e. Galdogob and Bursalah, hosted 10 days of training. Below is a detailed explanation and impact of the sessions:

### 7.1. Introduction on good agricultural practice

During the session, participants gained a deep understanding of the true meaning of good agricultural practices (GAP). They learned about:

- **Key principles of GAP:** Participants explored the fundamental concepts of sustainable farming, including soil health, water management, and crop rotation.
- **Practical applications:** Through hands-on activities and demonstrations, they understood how to implement these practices in their own farming operations.
- **Quality assurance:** Participants learned how adhering to these practices can lead to higher-quality produce that meets the market demands.

### 7.2. Importance of good on agricultural practice (GAP)

During this session, participants actively discussed and noted the importance of good agricultural practices (GAP) to enhance their interest in training. Key points from the discussion included:

- **Increased yields:** Participants recognized that implementing GAP can lead to improved crop yields and better income for farmers.

- **Sustainability:** They acknowledged that sustainable practices contribute to long-term soil health and environmental protection, ensuring that farming can continue for future generations.
- **Market access:** Understanding these practices, it increases their competitiveness in the market, allowing them to meet consumer demands for quality and safety.
- **Community impact:** Participants saw the potential for their training to positively influence their communities, promoting better agricultural practices among fellow farmers.
- **Personal development:** Many expressed enthusiasms about developing their skills and knowledge, which would empower them to become effective trainers themselves.

## 7.3. Different types on land cropping system

During the session, participants engaged deeply with the different types of land cropping systems. They learned to distinguish between each method and understood the importance of each one. Key points discussed included:

- **Crop rotation:** The participants gained a deep understanding of crop rotation and its importance in sustainable agriculture. They explored the key principles behind this practice, such as improving soil health, preventing pest buildup, and enhancing crop yields. Through discussions and examples, they recognized how implementing crop rotation can lead to more productive and resilient farming systems
- **Intercropping:** The participants gained valuable knowledge about intercropping, they learned how this method can benefit small-scale farm owners and cooperatives by maximizing limited to vast land resources and improving overall productivity.
  Additionally, they recognized that intercropping can help them diversify their income sources, as growing multiple crops can reduce the risk associated with relying on a single crop.
- **Mixed cropping:** The participants gained a comprehensive understanding of mixed cropping, they explored the key principles and practices that define this method, focusing on how it can enhance agricultural productivity and sustainability, through discussions and hands-on activities, participants learned about the benefits of mixed cropping, such as improved soil health, reduced pest and disease incidence, and efficient use of resources like water and nutrients.

- **Cover cropping:** During this segment, the participants learned all the essential principles of cover cropping, including its benefits for soil health, erosion control, and pest management.
- **Monocropping:** During this part of the training, the participants learned the advantages and disadvantages of monocropping, along with its key principles and practices.

## 7.4. Different types of land preparation

During this session of training, participants learned about the different types of land preparation to effectively prepare their farms. They understood the importance of land preparation and explored various methods, including:

- **Primary tillage:** In this segment of training, participants learned about primary tillage, the initial process of breaking down and loosening the soil to create a seedbed. They discovered that primary tillage helps remove weeds, incorporate organic matter, and improve soil aeration and drainage, all of which are essential for healthy crop growth.
- **Secondary tillage:** In this segment of training participants gained the knowledge needed both primary and secondary tillage and they will prepare their farms effectively. This preparation leads to healthier soil and improved crop yields, ensuring successful planting and promoting sustainable agricultural practices.

## 7.4. Tomato production and management

During the session, participants engaged deeply in every activity involved in planting tomatoes, from land preparation to harvest. The key activities covered included:

- **Site selection**: Participants learned the criteria for selecting the best site for tomato cultivation.
- **Land preparation**: Participants learned the best practices for preparing land for tomato planting, also they learned the correct spacing on plant to plant and row to row spacing.
- **Seed selection:** In this segment, participants leaned the importance of selecting the right seeds for their local climate. They learned the identification of suitable seed varieties and symptoms that can be recognized and become well-adapted local environmental conditions.
- **Planting:** Participants learned about the correct techniques for planting tomatoes including:
- **Depth and technique**: Gaining hands-on experience in planting seeds or seedlings at the right depth, typically burying the root ball while ensuring the top leaves are above the soil.
- **Soil amendments**: This part of the training focused on improving soil health before planting:
- **Organic matter:** Learned how to incorporate compost or well-rotted manure to enhance soil fertility.
- **Nutrient management:** Discussing the benefits of applying balanced fertilizers based on soil tests to ensure plants receive adequate nutrients**.**

- **Irrigation:** Participants gained knowledge on effective irrigation techniques for tomatoes and were include: irrigation methods such as drip irrigation, and furrow irrigation and also, they learned learning how to establish a watering schedule, including the frequency and amount of water needed, especially during critical growth stages.
- **Crop management:** During this training segment, participants learned essential tomato management techniques such as, weed control. Strategies, including mulching and mechanical removal, to reduce competition for nutrients and water.
- **Support structures:** Participants explored the importance of support structures for healthy tomato growth which includes: staking they learned on how to make correct staking and how to use cages to support plants, which helps prevent disease by improving air circulation also they learned pruning techniques to understand the benefits of pruning and how to remove suckers to enhance fruit production.
- **Harvesting of tomato:** Finally, participants learned about the appropriate timing and techniques for harvesting tomatoes included ripeness indicators and harvesting methods.

## 7.5. Sweet paper production and management

During the session, participants engaged deeply in every activity involved in planting sweet paper, from land preparation to harvest. The key activities covered included:

- **Land preparation**: Participants learned the best practices for preparing land for sweet paper planting, also they learned the correct spacing on plant to plant and row to row spacing.
- **Seed selection:** In this segment, participants leaned the importance of selecting the right seeds for their local climate. They learned to: identification of suitable varieties and symptoms can be recognized varieties can become well-adapted local environmental conditions.
- **Planting:** Participants learned about the correct techniques for planting tomatoes including:
- **Depth and technique:** Gaining hands-on experience in planting seeds or seedlings at the right depth, typically burying the root ball while ensuring the top leaves are above the soil.
- **Irrigation:** Participants gained knowledge on effective irrigation techniques for tomatoes and were include: irrigation methods such as drip irrigation, and furrow irrigation and also, they learned learning how to establish a watering schedule, including the frequency and amount of water needed, especially during critical growth stages.

### 7.6. Hot paper production and management

During the session, participants engaged deeply in every activity involved in planting hot peppers, from land preparation to harvest.

### 7.7. Water melon production and management

During this session of training, participants gained a deep understanding of the correct way to plant watermelons, covering everything from site selection to harvesting. They learned about land preparation, suitable irrigation methods, and essential management practices, while also reflecting on the challenges they faced in previous watermelon harvests to fully understand the problems surrounding their production.

### 7.8. 0nion production and management

During this session of training, participants delved into all aspects of onion production, covering everything from site selection to harvest, as well as essential practices like irrigation and plant spacing. Their enthusiasm was evident as they sought guidance on successfully cultivating onions, with some participants planting onions for the first time during the training. This hands-on experience allowed them to apply their newly acquired knowledge and gain confidence in establishing their own onion farms.

### 7.9. Sweet melon production and management

During this session, participants gained comprehensive knowledge on planting sweet melons, which are particularly popular among farmers in the Mudug region. The training covered essential topics such as soil preparation, planting techniques, irrigation methods, pest management, and harvesting practices.

By engaging in hands-on activities, participants were able to apply what they learned, fostering a deeper understanding of the cultivation process. As a result of this training, the participants significantly increased their understanding of sweet melon agriculture, equipping them with the skills necessary to improve their crop yields and enhance their overall farming practice

## 8. CHALLENGES

Many farmers from the surrounding community and the cooperative lack training in good agricultural practices, as their previous experience primarily revolved around livestock rearing. This background presents unique challenges when introducing them to crop cultivation techniques. Since these farmers are not familiar with the principles of crop production, they often require additional explanations and demonstrations to grasp the necessary concepts.

## 9. RECOMMENDATION

As an agronomist expert, I recommend to establishing agricultural marketplaces where farmers can easily sell and purchase their produce. These marketplaces would create a direct link between farmers and consumers, allowing for fair pricing and increased visibility for local products. Also, to establish farmer field schools

which would greatly enhance farmers' skills and knowledge in crop production and management. These schools provide hands-on training and practical lessons, helping farmers learn about the latest agricultural practices and technologies. By participating in these schools, farmers can exchange ideas, solve problems together, and improve their overall farming techniques.

Together, these initiatives would support the growth and sustainability of the agricultural sector. They would empower farmers, strengthen local economies, and promote better agricultural practices, ultimately benefiting communities as a whole.

## 10. CONCLUSION

The training has been successfully completed with great results, as each participant demonstrated significant improvement in their skills and knowledge. Throughout the training, there was a close collaboration between all participants, ensuring that their personal objectives were achieved. We implemented various training methods, including hands-on activities, group discussions, and individual coaching sessions, to ensure that every participant had the opportunity to learn in a way that was most effective for them.

Furthermore, we provided regular feedback and assessments to each participant, highlighting their strengths and areas for improvement. This approach enabled everyone to receive tailored coaching, which led to significant progress in their skill development. By the end of the training, all participants had developed a deep understanding of the subject matter and were equipped with practical skills that they could apply in real-world situations.

## 11. ANNEX

**Figure 2: Facilitator explaining goldogob participant's general topics of the training during theory session.**

**Figure 3: Facilitator explaining Bursalah participant's management**

**Figure 3: Facilitator explaining Galdogob participant's management needed by onions.**


**Figure 4: Facilitator explaining Galdogob participant's the important of drip irrigation and management needed by hot paper crop.**

**Figure 5: Facilitator explaining Galdogob participant's how make added value of red paper.**