

Activity Report

Training of Trainers (ToT) on Rangeland Restoration using Semi-Circular Soil Bunds in Karamoja



November, 2024

1. Introduction

The purpose of this training was to educate trainers on the design, implementation, and maintenance of semi-circular soil bunds as an effective soil conservation technique. Semi-circular bunds are used in various agro-ecological regions to reduce soil erosion, conserve water, and improve agricultural productivity, especially in areas affected by rainfall variability and soil degradation. 24 participants (11F) and 13(M) were trained including COPACSO staff.

2. Objectives of the Training

- To provide knowledge on the principles and benefits of semi-circular soil bunds.
- To train trainers on how to design and implement semi-circular bunds on agricultural land.
- To equip trainers with practical skills in the construction and maintenance of bunds.
- To enable trainers to educate farmers and communities on sustainable land management practices.

3. Training Methodology

The training consisted of both theoretical and practical components:

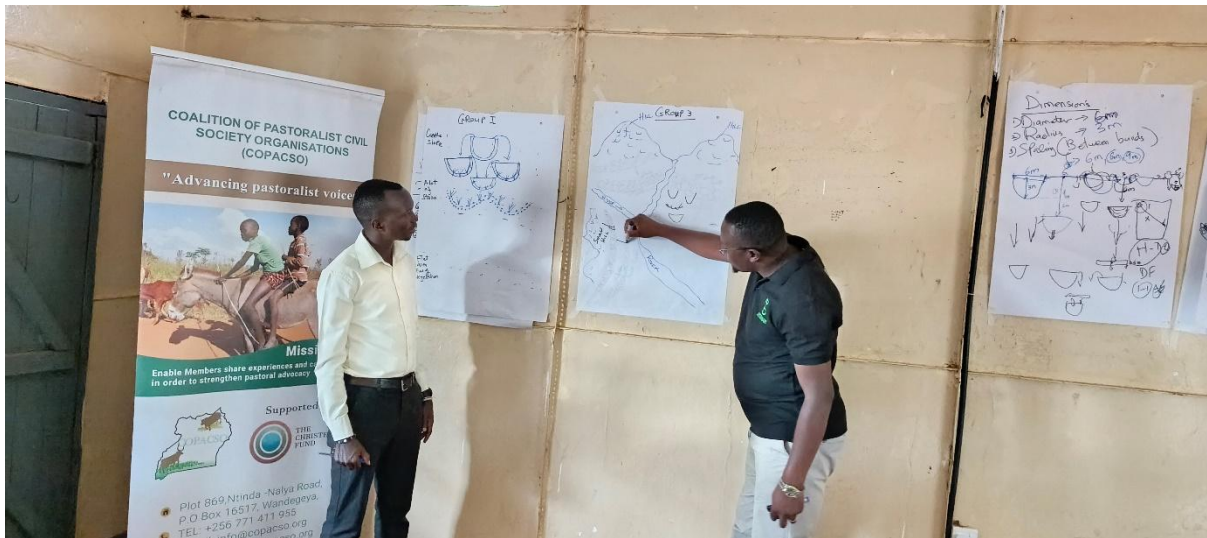


- **Theoretical Sessions:** Presentations, discussions, and videos were used to explain the importance of soil conservation, water management, and how semi-circular bunds function.



Figure 1: Theory session

- **Group discussion:** Group work was used to test the understanding of the concepts by trainers before practical sessions



- **Field Demonstration:** Participants were shown the step-by-step process of constructing semi-circular bunds, including tools, materials, and techniques.



Figure 2: Field demonstration of soil bund construction

- **Hands-on Practice:** Trainers had the opportunity to participate in the physical construction of semi-circular bunds, using materials available locally.

4. Design and Construction of Semi-Circular Soil Bunds

- **Design Principles:** Semi-circular bunds are designed to follow the contours of the land, effectively capturing water and reducing runoff. The bunds are typically constructed at regular intervals to create a pattern that allows rainwater to infiltrate into the soil, reducing surface erosion.
- **Dimensions:** The diameter and height of the bunds vary depending on the terrain, rainfall intensity, and soil type. However, typical bunds have a radius of 3 meters and a diameter of 6meters with a spacing of 6m.
- **Construction Process:**
 1. **Site Selection:** Identify sloped areas prone to erosion, preferably where water runoff is most pronounced.
 2. **Excavation and Bund Formation:** Excavate soil along the contour lines to form the semi-circular bunds. The soil is then compacted and shaped into the desired height.
 3. **Finishing:** Cover the bunds with grass or vegetation to protect them from erosion and enhance water retention.
- **Maintenance:** Regular inspection is necessary to ensure that the bunds remain effective. Over time, bunds may erode or lose their shape, requiring maintenance or reinforcement.

5. Benefits of Semi-Circular Soil Bunds

- **Erosion Control:** Bunds significantly reduce soil erosion by slowing down water runoff and allowing water to infiltrate the soil.
- **Water Conservation:** The bunds capture water during rainstorms and prevent it from running off, ensuring better water availability for crops.
- **Improved Soil Fertility:** By controlling water runoff and enhancing water retention, the bunds improve the moisture content of the soil, leading to better crop yields.
- **Enhanced Crop Growth:** With better soil moisture and reduced erosion, crops planted near bunds benefit from improved growth conditions.
- **Increased Biodiversity:** The bunds can become habitats for various plant and animal species, promoting a healthier ecosystem.

6. Challenges in Implementing Semi-Circular Bunds

- **Labor-Intensive:** Constructing bunds requires significant physical effort, which may be a barrier for communities without sufficient labor.
- **Maintenance:** Without regular maintenance, bunds can degrade and lose their effectiveness.
- **Land Size:** On very large farms or on highly uneven terrain, the construction of semi-circular bunds can be difficult.
- **Climate Factors:** In areas with erratic rainfall, the bunds might be less effective if not designed and placed correctly.

7. Role of Trainers in Promoting Soil Conservation

Trainers play a crucial role in spreading knowledge about soil conservation methods like semi-circular bunds:

- **Training Farmers:** Trainers are responsible for educating farmers about the benefits, construction, and maintenance of bunds.
- **Monitoring and Evaluation:** Trainers help in monitoring the progress of bund installation and assess their impact on soil conservation and crop yields.
- **Promoting Best Practices:** They ensure that farmers use appropriate tools and techniques, and encourage the practice of sustainable land management methods.

8. Recommendations

- **Ongoing Training:** There should be continuous training for trainers and farmers to update them on new techniques, tools, and materials.
- **Community Engagement:** Local communities should be actively involved in the planning, construction, and maintenance of bunds to ensure sustainability.

- **Monitoring and Reporting:** Regular monitoring of bund performance should be carried out to assess their effectiveness and identify areas for improvement.

9. Conclusion

The training provided trainers with valuable knowledge and practical skills in constructing and maintaining semi-circular soil bunds. By equipping trainers with these skills, it is expected that farmers will be able to implement this technique effectively in their communities, thereby improving soil fertility, reducing erosion, and boosting agricultural productivity in the long term.

The trainers were awarded certificate of completion as experts in rangeland restoration by use of semi-circular soil bunds .

