Training Course on Rainwater Harvesting and Storage for Farm Resilience

Professional Development Training Course Outline

Category	Agriculture	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

As climate change continues to intensify, rainwater harvesting and storage have become essential strategies for ensuring sustainable agriculture and enhancing farm resilience. Training Course on Rainwater Harvesting and Storage for Farm Resilience equips farmers, agribusinesses, and agricultural stakeholders with the knowledge and tools necessary to capture, store, and efficiently utilize rainwater. With erratic rainfall patterns and increasing water scarcity, this training aims to reduce dependence on unreliable water sources and promote climate-smart farming. Participants will learn best practices for designing and implementing rainwater harvesting systems tailored to different agro-ecological zones.

The course emphasizes hands-on skills, technological innovations, and cost-effective solutions to maximize rainwater use for irrigation, livestock, and domestic needs. Trainees will also explore water conservation techniques, soil-water management, and integrated water resource planning. Using practical case studies and real-life scenarios, participants will develop action plans to implement rainwater harvesting systems that enhance productivity, conserve ecosystems, and build climate resilience on farms and within communities.

Programme Curriculum

Training Course on Rainwater Harvesting and Storage for Farm Resilience

Introduction

As climate change continues to intensify, rainwater harvesting and storage have become essential strategies for ensuring sustainable agriculture and enhancing farm resilience. Training Course on Rainwater Harvesting and Storage for Farm Resilience equips farmers, agribusinesses, and agricultural stakeholders with the knowledge and tools necessary to capture, store, and efficiently utilize rainwater. With erratic rainfall patterns and increasing water scarcity, this training aims to reduce dependence on unreliable water sources and promote climate-smart farming. Participants will learn best practices for designing and implementing rainwater harvesting systems tailored to different agro-ecological zones.

The course emphasizes hands-on skills, technological innovations, and cost-effective solutions to maximize rainwater use for irrigation, livestock, and domestic needs. Trainees will also explore water conservation techniques, soil-water management, and integrated water resource planning. Using practical case studies and real-life scenarios, participants will develop action plans to implement rainwater harvesting systems that enhance productivity, conserve ecosystems, and build climate resilience on farms and within communities.

Course Objectives

1. Understand the principles of rainwater harvesting systems.
2. Analyze the impact of climate change on water security.
3. Identify suitable rainwater collection methods for rural and urban farms.
4. Evaluate the benefits of sustainable water storage techniques.
5. Design and construct low-cost rainwater harvesting structures.
6. Promote water conservation and efficient water use in agriculture.
7. Implement soil moisture management for enhanced productivity.
8. Integrate smart irrigation technologies with rainwater harvesting.
9. Monitor and maintain harvesting and storage systems for longevity.
10. Explore government policies and incentives for water harvesting.
11. Encourage community-based water resource management.
12. Conduct cost-benefit analysis of rainwater systems.
13. Develop action plans for climate-resilient farming.

Target Audiences

1. Smallholder farmers
2. Agribusiness owners
3. Agricultural extension officers
4. Farm input suppliers
5. Environmental conservation NGOs
6. Government water and irrigation officers
7. Agriculture and water engineering students
8. Community development practitioners

Course Duration: 5 days

Course Modules

Module 1: Introduction to Rainwater Harvesting

- Basics and significance of rainwater harvesting
- Overview of global water scarcity challenges
- Traditional vs modern harvesting systems
- Rainfall pattern analysis
- Site suitability assessment
- **Case Study**: Traditional roof catchment system in rural Kenya

Module 2: Designing Rainwater Harvesting Systems

- Components of an effective system
- Rooftop and surface runoff collection design
- Materials and cost estimation
- Calculating catchment yield
- Risk assessment and mitigation
- **Case Study**: School-based rooftop collection project in India

Module 3: Water Storage Techniques

- Types of storage tanks (underground/above ground)
- Tank materials and maintenance
- Preventing evaporation and contamination
- Calculating tank size based on demand
- Rainwater quality control
- **Case Study**: Community ferrocement tanks in Ethiopia

Module 4: Rainwater Use in Crop Irrigation

- Drip and sprinkler irrigation systems
- Linking rainwater storage to irrigation
- Seasonal cropping and water demand
- Efficient irrigation scheduling
- Reducing irrigation losses
- **Case Study**: Drip irrigation using harvested rainwater in Uganda

Module 5: Livestock and Domestic Applications

- Water needs for livestock
- Safe storage for drinking purposes
- Filtration and disinfection methods
- Domestic use integration
- Gender considerations in access and use
- **Case Study**: Rainwater tanks for pastoralists in Tanzania

Module 6: Soil and Water Conservation

- Water retention and soil cover
- Contour farming and bunds
- Mulching and organic matter use
- Reducing runoff and erosion
- Integrating water harvesting with conservation
- **Case Study**: Conservation agriculture with rainwater use in Malawi

Module 7: Community Engagement and Policy

- Mobilizing community participation
- Advocacy for supportive policies
- Water user associations
- Linking to subsidies and support programs
- Role of NGOs and local leaders
- **Case Study**: Policy-driven rainwater projects in South Africa

Module 8: System Maintenance and Monitoring

- Routine checks and maintenance schedules
- Troubleshooting leaks and blockages
- Monitoring water quality and quantity
- Training users for sustainability
- Scaling up successful models
- **Case Study**: Farmer-led maintenance models in Nigeria

Training Methodology

- Participatory lectures and group discussions

- Practical field demonstrations
- Case study analysis
- Interactive mapping and design exercises
- Peer learning and knowledge sharing
- Use of local and digital learning resources

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
09 Nov 2026	13 Nov 2026	Online	$1,000
09 Nov 2026	13 Nov 2026	Physical	$1,500
09 Nov 2026	13 Nov 2026	Physical	$3,000
09 Nov 2026	13 Nov 2026	Physical	$3,000
09 Nov 2026	13 Nov 2026	Physical	$6,000
09 Nov 2026	13 Nov 2026	Physical	$4,500

Start Date	End Date	Location	Price
09 Nov 2026	13 Nov 2026	Physical	$6,000
09 Nov 2026	13 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com