Training Course on Waste-to-Resource and Circular Economy in Agriculture

Professional Development Training Course Outline

Category	Agriculture	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global agricultural sector faces unprecedented pressure from climate change, resource scarcity, and environmental degradation. As traditional linear systems become unsustainable, the circular economy in agriculture offers a transformative approach—turning agricultural waste into valuable resources. Training Course on Waste-to-Resource and Circular Economy in Agriculture empowers stakeholders to transition toward regenerative, low-waste systems that increase profitability, improve soil health, and reduce ecological footprints.

This comprehensive course explores innovative waste-to-resource technologies, biowaste valorization, and circular strategies in agri-food chains. With a focus on sustainable practices, participants will gain practical skills to implement resource-efficient farming, bioeconomy integration, and zero-waste agri-solutions in real-world settings. Interactive modules, case studies, and toolkits will help embed circular principles in diverse agricultural landscapes.

Programme Curriculum

Training Course on Waste-to-Resource and Circular Economy in Agriculture

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Course Objectives

1. Understand the principles of circular economy in agriculture.
2. Identify types of agricultural waste and their potential for resource recovery.
3. Explore methods of composting, anaerobic digestion, and biochar production.
4. Integrate biomass valorization techniques into farming practices.
5. Evaluate the environmental and economic benefits of waste reuse.
6. Foster climate-smart agriculture through circular innovations.
7. Develop scalable models for agro-waste recycling.
8. Promote soil fertility enhancement using organic residues.
9. Apply life cycle assessment (LCA) for sustainable agriculture.
10. Implement policy frameworks and circular agri-business models.
11. Engage communities in resource efficiency and green transition.
12. Analyze real-life case studies in regenerative agriculture.
13. Design zero-waste farming systems tailored to local contexts.

Target Audiences

1. Smallholder and commercial farmers
2. Agricultural extension officers
3. Environmental consultants
4. Agri-tech innovators and startups
5. Government and policy makers in agriculture
6. Non-governmental organizations (NGOs) in rural development
7. Academics and researchers in agricultural science
8. Waste management professionals in rural sectors

Course Duration: 10 days

Course Modules

Module 1: Introduction to Circular Economy in Agriculture

- Concepts and principles of circular economy
- Key drivers and global trends
- Linear vs. circular agri-systems
- Policy frameworks and regulations
- Benefits for sustainability and food systems
- **Case Study: Circular Farming Initiatives in the Netherlands**

Module 2: Waste Mapping and Resource Identification

- Identifying farm waste streams
- Resource audit techniques
- Classifying biodegradable and non-biodegradable waste
- Lifecycle of agri-products
- Tools for waste flow analysis
- **Case Study: Kenya’s Waste Resource Audit Project**

Module 3: Composting Technologies

- Fundamentals of composting
- On-farm vs. industrial composting

- Aerobic vs. anaerobic methods
- Compost quality parameters
- Equipment and cost analysis
- **Case Study: Community Composting Model in India**

Module 4: Biochar and Soil Regeneration

- What is biochar and its uses
- Production methods and pyrolysis
- Enhancing soil fertility and moisture
- Carbon sequestration potential
- Application guidelines
- **Case Study: Biochar Implementation in Ghanaian Cocoa Farms**

Module 5: Anaerobic Digestion and Biogas

- Introduction to biogas production
- Feedstock selection and preparation
- Biogas plant operation and maintenance
- Energy recovery and use
- Digestate use as fertilizer
- **Case Study: Biogas Cooperatives in Uganda**

Module 6: Livestock Waste Management

- Manure collection and storage systems
- Nutrient management planning
- Converting waste to fertilizer and energy
- Environmental protection from runoff
- Livestock-waste-based enterprises
- **Case Study: Dairy Farm Waste Utilization in Denmark**

Module 7: Crop Residue Management

- Burning vs. recycling: impacts and alternatives
- Mulching and soil enrichment
- Bioenergy from crop residues
- Equipment for residue management
- Policies promoting residue recycling
- **Case Study: Rice Straw Circular Projects in Vietnam**

Module 8: Aquaponics and Hydroponics with Waste Reuse

- Integrating aquaculture and agriculture
- Using nutrient-rich water from fish farming
- Circular water and waste cycles
- Reduced input farming
- Setting up a system
- **Case Study: Urban Aquaponics Farm in Singapore**

Module 9: Agricultural Plastics and Recycling

- Types of plastic used in farming
- Plastic waste management solutions
- Biodegradable and compostable options
- Collection and recycling systems

- Circular business models in agri-plastics
- **Case Study: Plasticulture Recycling in Spain**

Module 10: Innovations in Biomass Valorization

- Value-added products from agri-waste
- Fermentation, enzyme technologies
- Bio-based packaging, biofuels
- Market trends in biomass industries
- Patents and intellectual property
- **Case Study: Banana Waste Bioplastics in Colombia**

Module 11: Circular Agribusiness Models

- Social entrepreneurship in circular agriculture
- Green finance and business planning
- Revenue generation from waste
- Risk assessment and scalability
- Public-private partnerships
- **Case Study: AgriGreen Circular Coop in Rwanda**

Module 12: Circular Water Use and Wastewater Reuse

- Recycled water in irrigation
- Treatment of agricultural runoff
- Wetlands and natural filtration
- Safe practices and monitoring
- Legal and ethical considerations
- **Case Study: Wastewater Irrigation in Israel**

Module 13: Climate Smart and Zero-Waste Farming

- Linking circularity to climate mitigation
- Zero-waste farming practices
- Greenhouse gas reductions
- Renewable energy on farms
- Adapting to droughts and floods
- **Case Study: Climate-Smart Coffee in Honduras**

Module 14: Community Engagement and Behavioral Change

- Educating farmers and rural youth
- Behavior change communication
- Building networks and cooperatives
- Localizing circular innovations
- Gender-inclusive participation
- **Case Study: Women's Composting Project in Ethiopia**

Module 15: Monitoring, Evaluation, and Policy Advocacy

- Tools for impact assessment
- Key performance indicators (KPIs)
- Reporting frameworks
- Influencing policy and regulation
- Scaling successful models
- **Case Study: National Circular Ag Policy in Rwanda**

Training Methodology

- Interactive lectures and multimedia presentations
- Group-based workshops and scenario simulations
- Live field demonstrations and site visits
- Practical hands-on training with composting/biogas kits
- Case study analysis and group discussions
- Assignments and performance evaluation tools

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
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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

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