



# PB INSTITUTE OF RESEARCH AND TECHNOLOGY

P.O Box 21457-00100

Nairobi - Kenya

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## Regenerative Agriculture Practices: Restore Soil & Ecosystems

Duration: 5 days

On-Site

### 01 Who Should Attend

- This course is designed for farmers, agricultural extension officers, environmental consultants, policymakers, and sustainability professionals. This includes Farmers, Agricultural Consultants, Environmental Scientists, Land Managers, Sustainability Officers, Agricultural Extension Officers, Farm Managers, Policy Makers, Researchers, and NGO Staff. These individuals require expertise in regenerative agriculture to implement sustainable farming practices and improve ecosystem health.

### 02 About the Course

Regenerative Agriculture Practices equips professionals with the knowledge and skills to restore soil health, enhance carbon sequestration, and revitalize ecosystems. This course focuses on implementing sustainable farming techniques that go beyond minimizing harm, aiming to actively improve environmental conditions. Participants will learn to apply practices like no-till farming, cover cropping, and holistic grazing to build resilient agricultural systems. By mastering regenerative agriculture, professionals can contribute to climate change mitigation, improve farm productivity, and enhance biodiversity.

### 03 Workshop Objectives

- Understand the principles and benefits of regenerative agriculture.
- Implement no-till and minimum tillage techniques to improve soil structure.
- Utilize cover cropping to enhance soil fertility and reduce erosion.
- Apply holistic grazing practices to restore grasslands and enhance biodiversity.
- Develop strategies for building soil organic matter and sequestering carbon.
- Understand the role of composting and biofertilizers in regenerative agriculture.
- Implement agroforestry systems to integrate trees into farming landscapes.
- Analyze the impact of regenerative agriculture on water management and conservation.



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## **04 Module Topics**

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### **Module 1: Introduction to Regenerative Agriculture: Foundational Principles**

- Defining and differentiating regenerative agriculture.
- Exploring core principles: soil health, biodiversity, context, integration, feedback loops.
- Understanding ecological, social, and economic benefits.
- Setting the stage for a holistic approach.

### **Module 2: The Living Soil: Building a Foundation for Regeneration**

- Understanding the soil food web.
- Analyzing soil health indicators.
- Importance of soil organic matter (SOM) for carbon sequestration.
- Assessing and diagnosing soil degradation.

### **Module 3: Minimizing Disturbance: No-Till and Reduced Tillage Practices**

- Implementing no-till and minimum tillage techniques.
- Selecting appropriate equipment.
- Managing crop residues and weed control.
- Measuring impact on soil structure and water infiltration.

### **Module 4: Enhancing Fertility: Cover Cropping and Crop Rotations**

- Selecting diverse cover crop species.
- Designing effective rotations and mixes.
- Implementing termination methods.
- Integrating cover crops into rotations.

### **Module 5: Restoring Grasslands: Holistic Planned Grazing**



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- Understanding holistic planned grazing.
- Developing grazing plans.
- Monitoring and managing livestock.
- Integrating livestock into landscapes.

### **Module 6: Natural Amendments: Composting and Biofertilizers**

- Creating high-quality compost.
- Understanding and applying biofertilizers.
- Enhancing nutrient cycling.
- On farm input production.

### **Module 7: Integrating Trees: Agroforestry Systems**

- Designing diverse agroforestry systems.
- Selecting appropriate tree species.
- Integrating trees with crops and livestock.
- Harvesting and processing tree products.

### **Module 8: Water Management: Conservation and Resilience**

- Implementing water harvesting techniques.
- Utilizing regenerative irrigation.
- Water management in arid climates.
- Building soil water holding capacity.

### **Module 9: Livestock Integration: Synergies and Benefits**

- Understanding livestock's role in regenerative systems.
- Implementing rotational grazing.
- Managing livestock manure.
- Addressing animal welfare.

### **Module 10: Biodiversity Enhancement: Ecosystem Services**



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- Creating habitats for pollinators.
- Promoting natural pest control.
- Understanding native plant species.
- Measuring on farm biodiversity.

### **Module 11: Soil Health Monitoring and Assessment**

- Conducting visual soil assessments.
- Utilizing soil testing.
- Developing soil health management plans.
- Using technology for monitoring.

### **Module 12: Economics of Regeneration: Market Opportunities**

- Analyzing economic benefits.
- Identifying market opportunities.
- Navigating certification programs.
- Developing farm business plans.

### **Module 13: Transitioning to Regenerative Practices: Planning and Implementation**

- Developing a transition plan.
- Overcoming challenges.
- Utilizing adaptive management.
- Building supportive networks.

### **Module 14: Case Studies: Successful Regenerative Farms and Systems**

- Analyzing real-world examples.
- Highlighting innovative techniques.
- Documenting impacts.
- Farmer interviews and tours.

### **Module 15: The Future of Regeneration: Innovation and Policy**



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- ▶ Exploring emerging trends.
- ▶ Understanding policy and incentives.
- ▶ Discussing technology and research.
- ▶ Building resilient food systems.