

Climate-Smart Agriculture and Resilient Production Training Course

10 – 14 January 2027
Muscat

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Training Center

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Ref: 2195_260634 **Date:** 10 – 14 January 2027 **Location:** Muscat **Fees:** 5700 Euro

Overview

Climate-Smart Agriculture and Resilient Production Training Course is a one-week professional course for agricultural managers, agronomists, production leaders, extension professionals, and sustainability teams, who leave with a Climate-Smart Production and Resilience Plan. The course connects agricultural climate risk, climate services, crop and livestock adaptation, soil and water resilience, and low-emission agriculture. Agile Leaders Training Center develops climate-smart agriculture practice.

Who Should Attend

- People responsible for farm and food-production planning
- Teams responsible for crop, livestock, soil, and water decisions
- Functions responsible for agricultural climate risk and sustainability
- People responsible for extension services and producer support
- Public-sector teams responsible for agricultural resilience initiatives

The course assumes participants work with agricultural production data and operating plans; it leaves out generic climate policy, emergency response, and broad food-security strategy.

Departments and Industries

The course supports climate-smart production decisions across agricultural and food-system operations.

- Crop production and horticulture operations
- Livestock, dairy, and mixed-farming systems
- Food processing and agricultural supply chains
- Agricultural extension and advisory services
- Sustainability, environment, and resource management teams
- Public agricultural planning functions

Learning Objectives

By the end of this course, participants will be able to:

- Analyze agricultural climate hazards, exposure, and vulnerability.
- Apply climate services to seasonal production decisions.
- Compare crop and livestock adaptation options.
- Build soil and water resilience measures.
- Evaluate low-emission agriculture practices and trade-offs.

- Build a climate-smart production and resilience plan.

Course Agenda

Day 1: Profile Agricultural Climate Risk

- Agricultural Climate Hazard and Exposure Map
- Farm Vulnerability and Sensitivity Assessment
- Crop and Livestock Risk Register
- Climate Scenario Interpretation Worksheet
- Climate-Smart Agriculture Three-Pillar Decision Frame

Day 2: Use Climate Services

- Seasonal Climate Information Review Method
- Production Calendar Adjustment Matrix
- Climate Threshold and Trigger Log
- Farm Early-Warning Communication Protocol
- Adaptation Decision Pathway Template

Day 3: Adapt Production Systems

- Crop Variety and Diversification Options Matrix
- Livestock Heat and Water Stress Control Plan
- Agroforestry and Landscape Diversification Map
- Soil Moisture Conservation Practice Checklist
- Farm Water Balance and Storage Assessment

Day 4: Reduce Agricultural Emissions

- Agricultural Emissions Source Inventory
- Fertilizer Efficiency and Nitrogen Management Review
- Livestock Feed and Manure Mitigation Options
- Energy and Irrigation Efficiency Comparison
- Adaptation-Mitigation Trade-Off Assessment

Day 5: Practice Climate-Smart Planning

- Exercise: Complete an Agricultural Climate Risk Profile
- Exercise: Select Seasonal Production Triggers
- Exercise: Compare Crop and Livestock Adaptations
- Exercise: Prioritize Resilience and Emissions Measures
- Capstone Exercise: Complete the Climate-Smart Production and Resilience Plan

Practical Exercises

The course uses suggested activities based on crop, livestock, horticulture, and food-production settings.

- Suggested activity: map heat, drought, flood, and water-supply exposure across a mixed farming operation.
- Suggested activity: compare soil, crop, livestock, and water adaptations against feasibility, timing, and residual risk.
- Suggested activity: identify agricultural emissions sources and prioritize lower-emission operating practices.
- Suggested activity: combine climate triggers, adaptations, responsibilities, and monitoring measures in a production plan.

FAQs

Who suits climate-smart agriculture training?

Climate-smart agriculture training suits professionals who plan or advise crop, livestock, and food-production operations and who can work with production records, resource data, and operating plans.

How does climate-smart agriculture differ from general climate policy training?

Climate-smart agriculture focuses on farm and production decisions for productivity, resilience, and emissions, while general climate policy training focuses on wider policy instruments, institutions, and economy-level action.

What does agricultural climate risk assessment examine?

Agricultural climate risk assessment examines hazards, exposure, sensitivity, adaptive capacity, production dependencies, and the residual risk remaining after adaptation measures.

How can climate-smart agriculture improve production resilience?

Climate-smart agriculture can improve resilience through climate information, diversified production, adapted varieties and breeds, soil-moisture conservation, water management, agroforestry, and operational triggers.

How does low-emission agriculture support climate-smart production?

Low-emission agriculture supports climate-smart production by improving fertilizer, feed, manure, energy, irrigation, and land-management decisions while testing trade-offs with productivity and resilience.

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Conclusion

Participants take back a Climate-Smart Production and Resilience Plan connecting hazards, climate information, adaptations, emissions measures, responsibilities, and monitoring. It makes farm-level climate decisions traceable. The plan supports seasonal adjustments, investment priorities, and coordinated action across crop, livestock, soil, and water systems.