Transferrable carbon farming training materials
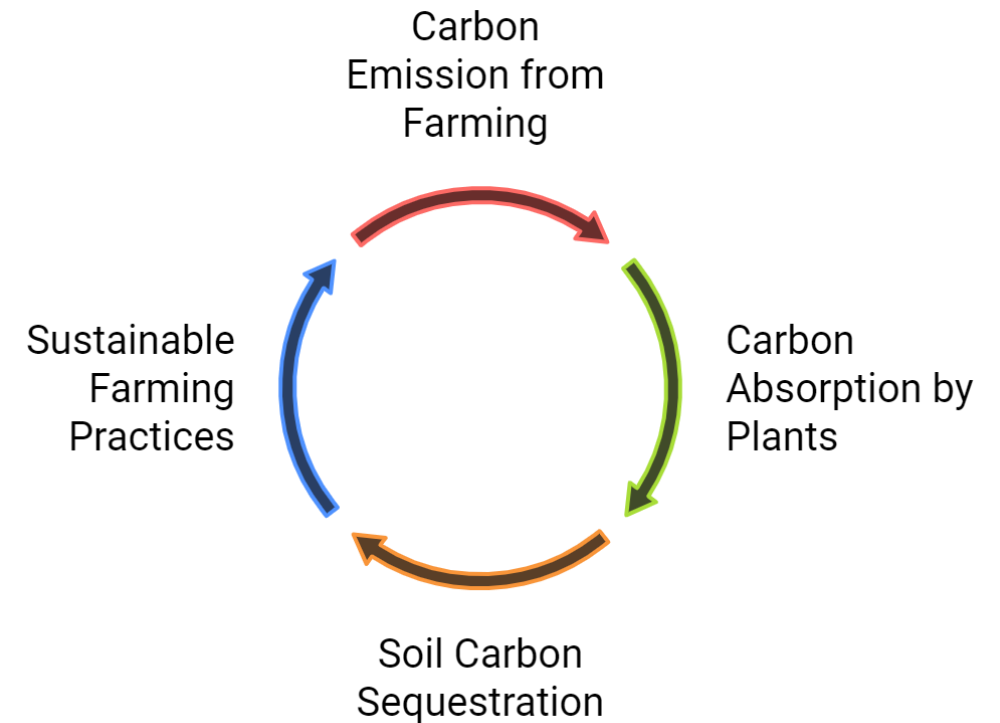
Conference: "Carbon Farming: Benefits in the Mediterranean region"
Thessaloniki, Greece | 10 December 2025

Institution | Department: AUTH
Name: George Bilas & Thomas Koutsos

Activity 2.2 (part of WP2)

- Aim was to enhance understanding on carbon farming for soil quality

- Targeted audience is agricultural advisors and practitioners

Carbon Emission from Farming

Carbon Absorption by Plants

Soil Carbon Sequestration

Sustainable Farming Practices

D2.2.1 Training material for carbon farming

- The whole training material was organized under an eLearning platform.

- It was in the form of brochure, on-line course and videos ready for agriculture advisors or farmers.

- Additional resources were provided for further reading.

eLearning platform

The course included seven topics:
- An introduction to Carbon for Soil Quality project.
- The "Soil Quality" module.
- The "Soil Carbon Cycle" module.
- The "What is Carbon Farming?" module.
- The "Benefits of Carbon Farming and How to choose appropriate Carbon Farming techniques" module.
- "A practical guide for farmers to benefit from carbon credits" module.
- The Evaluation and Feedback topic that included the questionnaire.

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Training in carbon farming for C4SQ

This educational material is aimed at agronomists and consultants to raise awareness environmental benefits.

Forum
Forum

> Introduction to C4SQ

> Soil Quality

> Soil Carbon Cycle

> What is Carbon Farming?

> Benefits of Carbon Farming and how to choose appropriate Carbon Farming techniques

> A practical guide for farmers to benefit from carbon credits

> Evaluation and Feedback

Evaluation and feedback

- Questionnaire

- 12 questions

The questionnaire comprised twelve items (Annex I), of which eleven were closed-ended questions utilizing a 5-point Likert scale ranging from 1 ('Very Low') to 5 ('Very High').

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Evaluation and feedback on the testing of Carbon 4 Soil Quality project training material (Activity 2.2)

Country:

Job:

Partner responsible for the training:

Training date:

Questions

Q.1 - The objective and contents of the training were easy to understand?

1	2	3	4	5

Not satisfied at all   Fully satisfied

Q.2 - Is the knowledge gained in training useful according to my professional activity?

1	2	3	4	5

Not satisfied at all   Fully satisfied

Q.3 – Have the topics presented been thoroughly addressed?

1	2	3	4	5

Not satisfied at all   Fully satisfied

Q.4 –Were the training tools adequate?

1	2	3	4	5

Not satisfied at all   Fully satisfied

Q.5 – Was the time for the discussion sufficient?

1	2	3	4	5

Not satisfied at all   Fully satisfied

Q.6 - Did I have the opportunity to interact and describe my experience on the topics?

1	2	3	4	5

Not satisfied at all   Fully satisfied

Training sessions

Dates of training sessions and number of participants

Country	Date	Participants
Greece	21/03/2025	8
Italy	21/03/2025	6
Montenegro	15/04/2025	9
North Macedonia	02/04/2025	14
Slovenia	04/04/2025	6
Spain	11/04/2025	8

Reliability Analysis

Item-Total Statistics

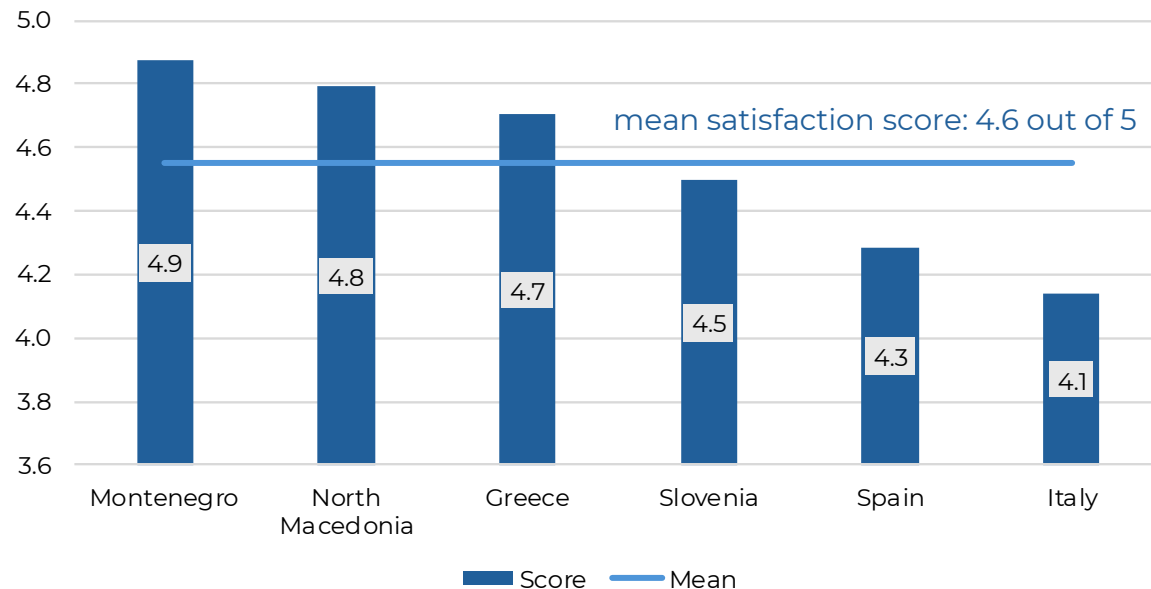|	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q1	45,88	17,218	,685	,569	,866
Q2	46,08	18,291	,251	,198	,896
Q3	46,00	16,255	,661	,699	,866
Q4	46,04	16,551	,634	,662	,868
Q5	45,92	16,801	,607	,577	,870
Q6	45,79	17,402	,637	,548	,869
Q7	46,08	16,546	,596	,574	,871
Q8	45,98	17,383	,657	,560	,868
Q9	45,94	16,570	,749	,640	,861
Q10	46,13	17,005	,579	,483	,872
Q11	46,00	17,021	,625	,623	,869

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,881	,889	11

Cronbach's α Value	Interpretation
≥ 0.90	Excellent (very high internal consistency)
0.80 – 0.89	Good (high internal consistency)
0.70 – 0.79	Acceptable (adequate internal consistency)
0.60 – 0.69	Questionable (marginal reliability)
0.50 – 0.59	Poor (low reliability)
< 0.50	Unacceptable (very low reliability)

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Mean Satisfaction Score per Country

mean satisfaction score: 4.6 out of 5

Montenegro: 4.9
North Macedonia: 4.8
Greece: 4.7
Slovenia: 4.5
Spain: 4.3
Italy: 4.1

■ Score — Mean

Overall stakeholder perceptions of the training were **highly positive** across all participating countries with **mean satisfaction score 4.6 out of 5.**

Reliability statistics:
- Cronbach's a value = 0.889
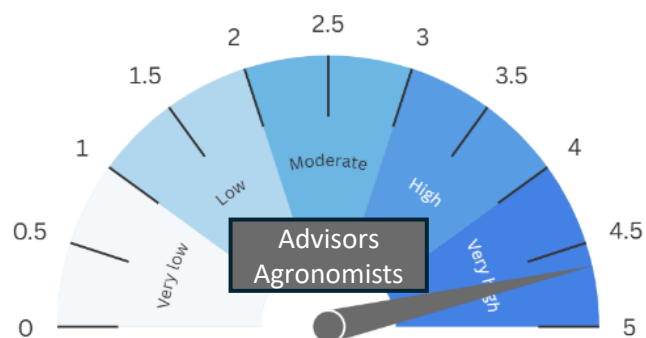- Interpretation: Good to excellent (high to very high internal consistency)
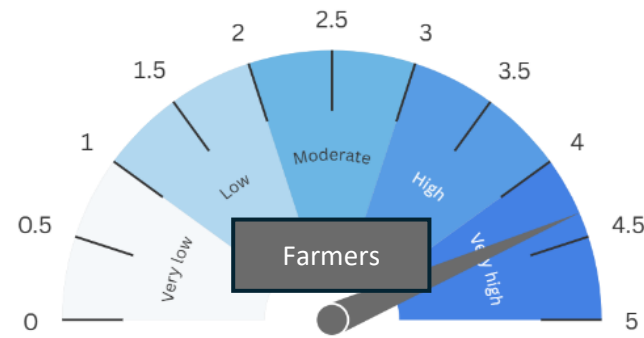
Mean Satisfaction Scores per Role

Advisors/agronomists mean satisfaction score
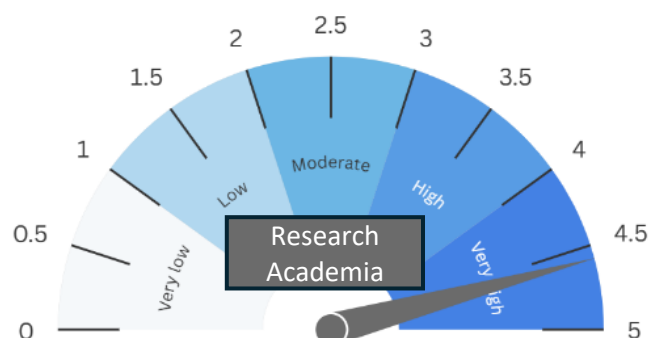**4.6 / 5**
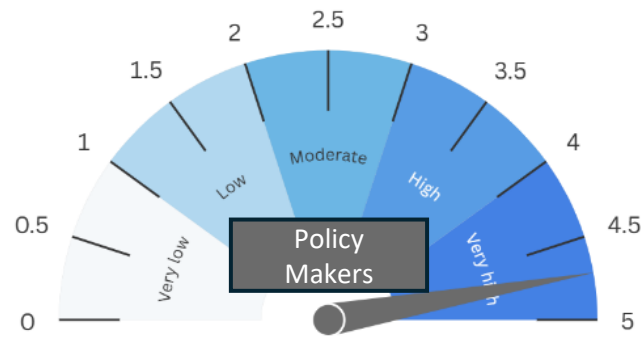
Policy makers mean satisfaction score
4.7 / 5

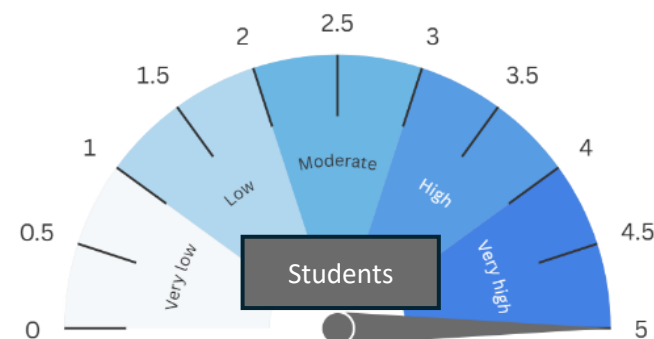Farmers mean satisfaction score
4.3 / 5

Research/academia mean satisfaction score
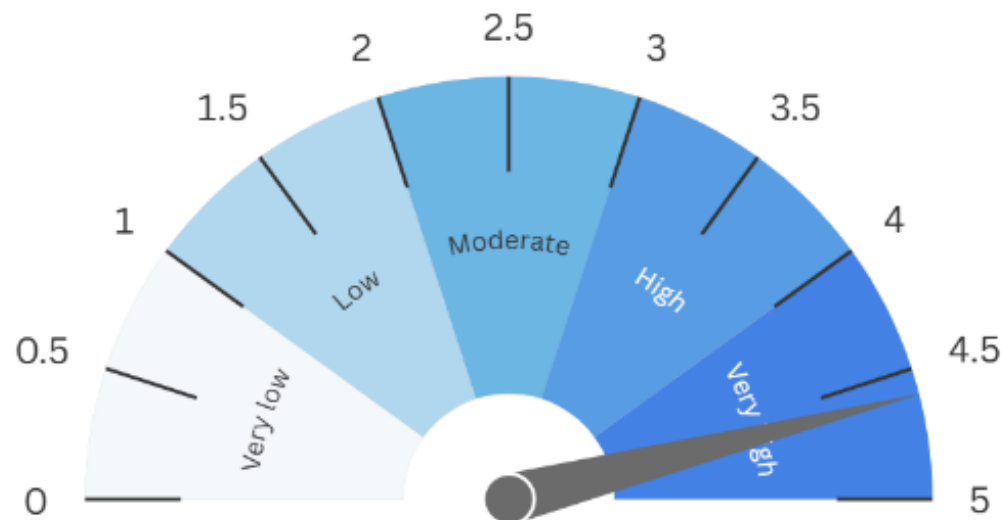**4.6 / 5**

Students mean satisfaction score
5 / 5

Overall Mean Satisfaction Score

Overall mean participants' satisfaction score

4.6 / 5

High level of satisfaction: The total mean satisfaction score was 4.6 out of 5, with 81% of responses falling in the 'High' to 'Very high' categories across 11 Likert-scale items.

Mean Satisfaction Score per Country per Question
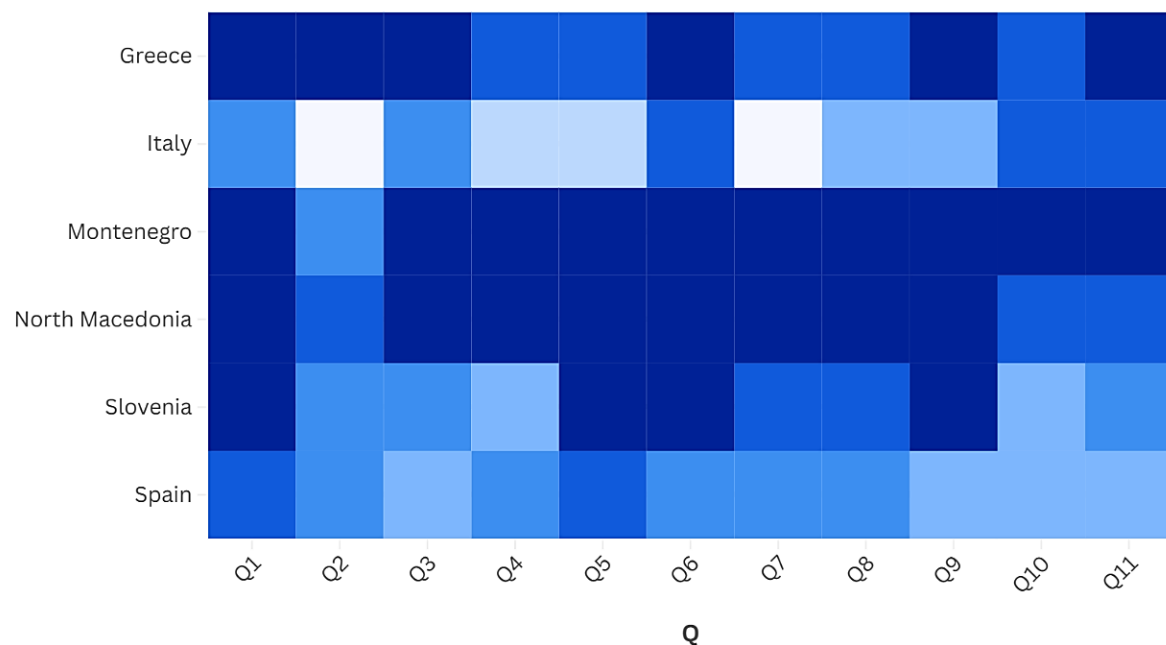
High overall satisfaction in Greece, Montenegro and North Macedonia: Darker shades across all items indicate consistently positive responses.

Italy shows item-specific variability: Lower satisfaction observed in Q2, Q4, and Q7.

Montenegro and North Macedonia mostly positive: High scores across all items, with minor dips in Q2, and Q2, Q10 and Q11, respectively.

Questions with the lowest scores: Q2, Q7, Q10

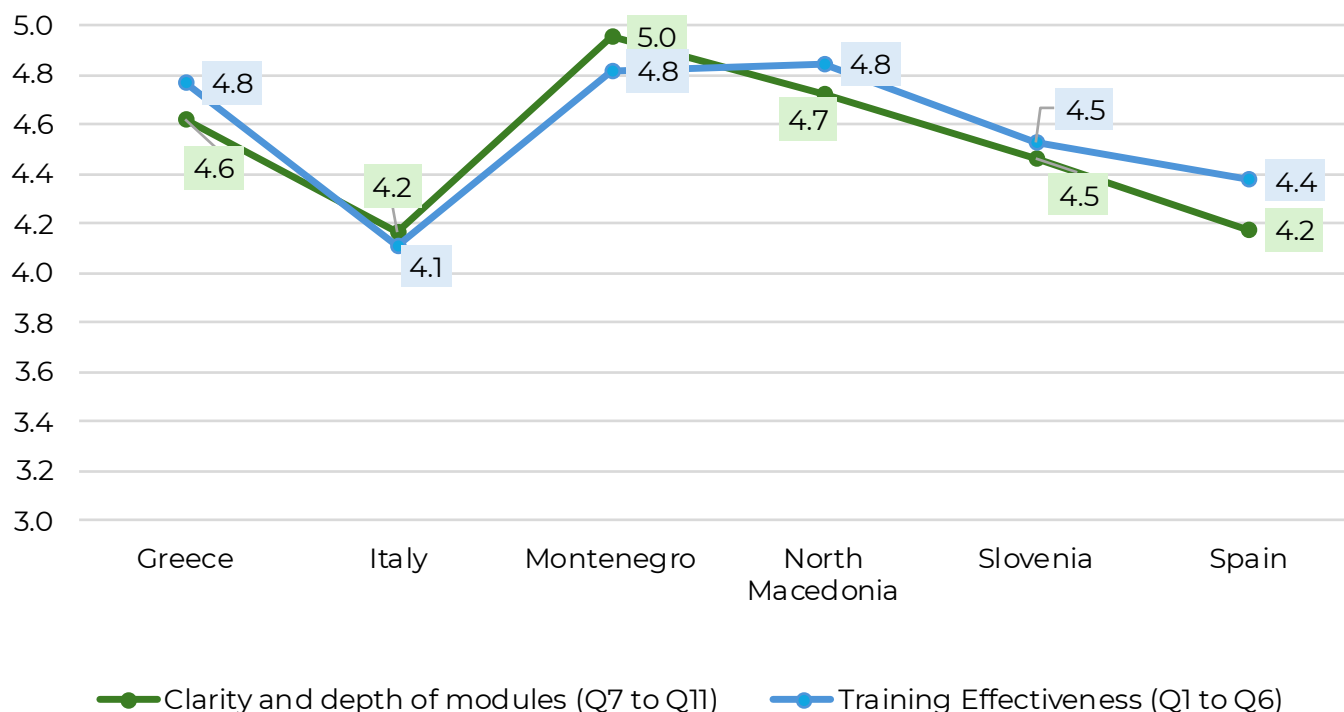# The mean satisfaction scores by question category

High satisfaction with both clarity and effectiveness: Scores were closely aligned and generally high across countries.

Montenegro leads: Achieved top ratings (5.0 for clarity, 4.8 for effectiveness), indicating outstanding training delivery and outcomes.

Strong performance in Greece and North Macedonia: Especially notable in training effectiveness (4.8).

Italy lowest in both metrics: Scores of 4.2 (clarity) and 4.1 (effectiveness) point to areas needing improvement.

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Specific Recommendations for Content Improvement

- **Include case studies** from participating countries to show practical application.

- **Offer region-specific recommendations** based on climate, soil, and farming systems.

- **Expand on economic aspects**, linking to policies like CAP and the EU Green Deal.

- **Adapt content for diverse audiences** using visuals, demos, and interactive formats.

- **Integrate emerging topics** such as microorganisms in carbon cycles and micro-biogas in livestock.

Thank you