



21st
November

Online

WEBINAR

RESILIENT SMALLHOLDER
INITIATIVE

14.00 PM - 16.45 PM

Organized by:



Contributing Partners



The PRIMA programme is an Art. 185 initiative supported and founded under Horizon 2020, the European Union's Framework Programme for Research and Innovation

MED-LINKS



Data-enabled Business Models and Market Linkages
Enhancing Value Creation and Distribution
in Mediterranean Fruit and Vegetable Supply Chains



****DISCLAIMER:** This project is co-funded within the PRIMA Scheme of the European Union. The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



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ΑΡΙΣΤΟΤΕΛΕΙΟ
ΠΑΝΕΠΙΣΤΗΜΙΟ
ΘΕΣΣΑΛΟΝΙΚΗΣ

MED-LINKS overall objective



MED-LINKS' **overall objective** is to provide SMEs with **tailored and effective solutions** along the **Euro-Mediterranean fruit and vegetables supply chain** to enhance:



Efficiency

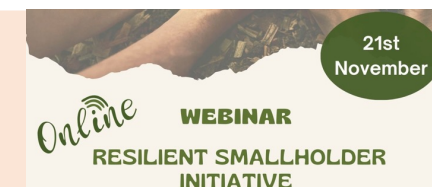


Sustainability



Fairness

MED-LINKS specific objectives



- | | |
|------------|---|
| SO1 | Assessing the competitive performance of Mediterranean FV supply chains and consumer preferences |
| SO2 | Supporting the adoption by small-scale supply chain actors of Voluntary Sustainability Standards for ethical production, including innovative Green Public Procurement approaches for local public authorities |
| SO3 | Providing small-scale supply chain actors with optimised management practices and business relations enhancing sustainability and profitability |
| SO4 | Providing innovative IT tools supporting decision making of enterprises |
| SO5 | Piloting tailored digital-market linkage solutions |
| SO6 | Exploiting the results of the project for the empowerment of stakeholders adapting its communication tools to the characteristics of local societies |



Living Lab approach and innovation pathways

EXPLORING THE PRESENT IMAGING THE FUTURE

INITIAL PROTOTYPES:

Sustainability Standards
Business Models
Digital Platform



REACHING INNOVATIONS

FINAL PROTOTYPES:

Sustainability Standards
Business Models
Digital Platform

CO-IDENTIFYING AND TESTING

Steps, Hypothesis, Actions, Barriers, Opportunities

2023

2028



3 F&V supply chain systems



SHORT FOOD SUPPLY CHAIN (SFSC)

These involve direct sales between small-scale farmers and consumers, with minimal intermediaries. SFSCs prioritize local distribution, often through farmers' markets, local retailers, or direct-to-consumer delivery systems, promoting fresh, locally



EXPORT-ORIENTED FOOD SUPPLY CHAIN (EOSC)

These supply chains focus on the international export of products, requiring compliance with strict quality standards, certifications, and traceability. EOSCs are essential for small-scale farmers looking to enter competitive global markets.

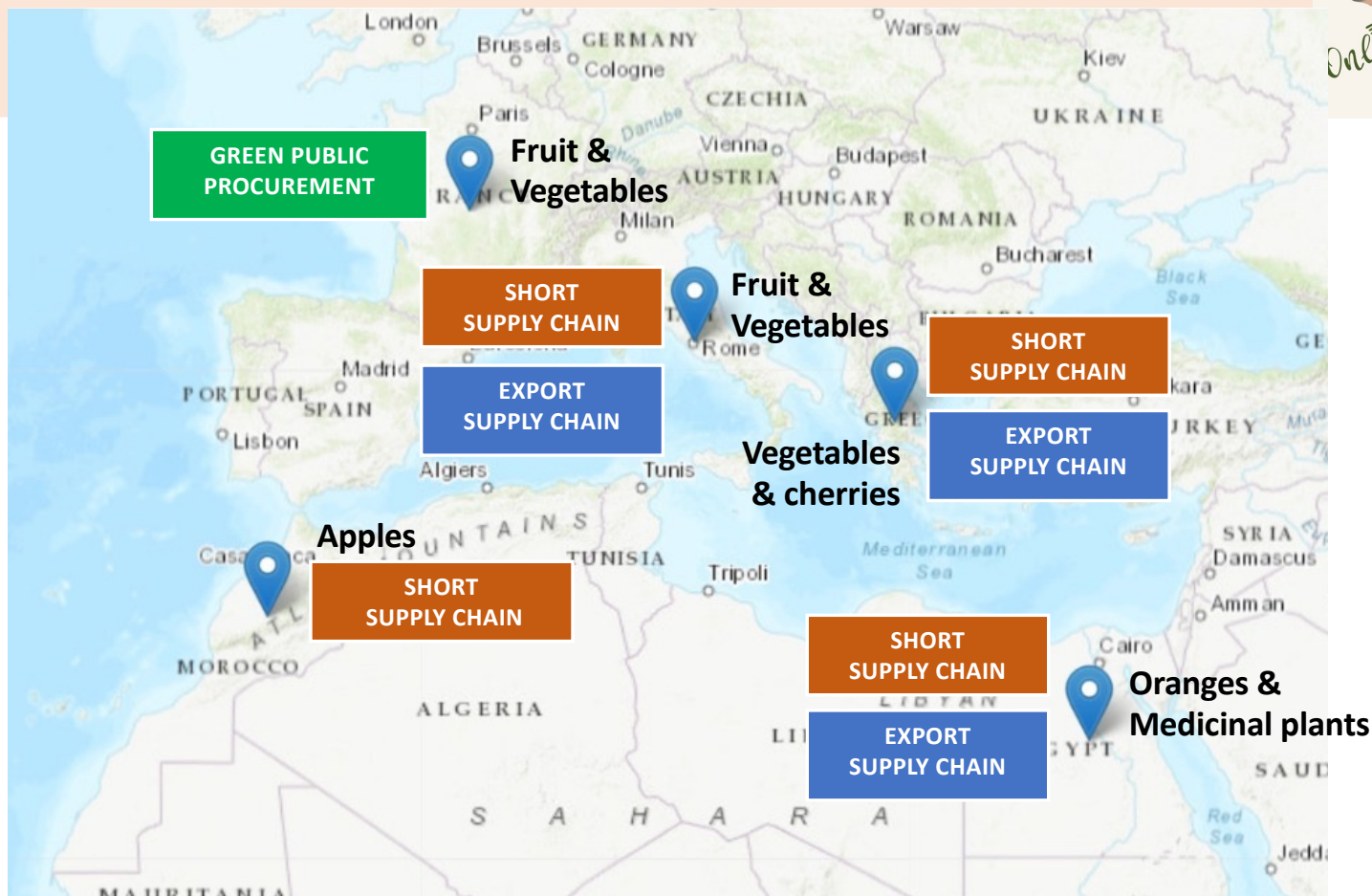


GREEN PUBLIC PROCUREMENT (GPP)

GPP integrates environmental criteria into the purchasing decisions of public authorities. It encourages the acquisition of sustainable products, e.g., organic fruits and vegetables, and services, aligning with sustainable development goals and reducing environmental impact in public sector supply chains.

PILOT ACTIONS

Online **WEBINAR**
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RESILIENT SMALLHOLDER INITIATIVE



(Carayannis, 2012)

Main Results and beneficiaries

TARGET AUDIENCE AND USER GROUPS

- **Academic/research and development community**
 - Mediterranean Fruit and Vegetables **supply chain actors and stakeholders**
- **Government bodies and policy makers**
- The general public

Expected result	Envisaged product or development	Target customers	Impact
ER1.1	In depth analysis of the supply chains structures of interest and enhancement strategies	Producers, processors, Micro-processors, smallholders, exporters	Improve economic, social and environmental performance of the three SCS
ER1.2	Focus groups to uncover consumers' preferences and attitudes	Consumers	From consumers' attitudes tailor specific supply chain solutions
ER2.1-ER2.2-ER2.3	Identification of sustainability standards suited for local clusters and SCS	Smallholders, SMEs, exporters, public authorities	Enhance competitiveness through sustainability schemes in different supply chain systems
ER 3.1-ER 3.2-ER 3.3	Selection and evaluation of business models suited for local clusters and SCS	Smallholders, SMEs, exporters, public authorities	Development of optimised business models and market access strategies to enhance competitiveness and profitability
ER4.1-ER4.2-ER 4.3	Provide innovative IT tools (web-based platform, virtual training, blockchain) in support of enterprises' decision making	Smallholders, SMEs, exporters, public authorities	Development of digital solutions to guarantee and intensify B2B transactions, transparency and networking between players
ER5.1-ER5.2-ER5.3	Implementation of 5 pilot actions in targeted countries, SCS and product categories	Smallholders, SMEs, exporters, public authorities	Creating conditions for scaling out, through spreading geographically the innovation, and scaling up the implemented innovations to foster productivity
ER6.1	Tailored training courses and webinars	Smallholders, SMEs, exporters, research community, policy makers	Transfer the informational knowledge and potential of technological, entrepreneurial and certification solutions developed
ER6.2	Communication materials portfolio for Web site activation, visibility on social medias, press and international events	Smallholders, SMEs, exporters, research community, policy makers, consumers	A portfolio for communication with external users to strengthen agricultural knowledge and innovation systems

Voluntary Sustainability Standards (VSS)



- These are **compliance schemes established to promote optimal processes of operations in a sustainable manner** (UNFSS, 2013).
 - While they are voluntary in nature, **adopting these standards can help address various economic, social, and environmental issues** as they **convey crucial information to different stakeholders and incentivizes them to comply with rules and norms to maintain their performances while improving their sustainability outcomes** (Marx et al., 2022; Wijen & Flowers, 2022).
 - Studies have shown that compliance with VSS in the agricultural sector can lead to positive economic, social, and environmental benefits (Meemken et al., 2021).
- MED-LINKS identified and selected a **set of VSS suited for local clusters in each SCSs: 15 VSS (3 per each country)** and provided **guidelines and training contents to support their adoption by smallholders.**

Italy-VSS 1 - SFSC

The AIAB organic



AIAB (Associazione Italiana per l'Agricoltura Biologica) is a set of guidelines and criteria developed by the Italian Association for Organic Agriculture.

Strengths	Weaknesses
- Builds trust and improves producer-consumer relationships through superior-quality organic products.	- High costs of certification and farm support at the trade level.
- Promotes environmental benefits from sustainable production practices.	- Lack of awareness and knowledge building regarding climate change resilience and mitigation.
- Enhances producers' knowledge of sustainable practices and operations.	- Costs of extension services and education discourage utilization by producers.
- Enables premium pricing and access to significant markets , ensuring higher revenues for farmers.	- Informational asymmetries in the supply chain hinder cooperation and equitable relationships.
- Motivating sustainable practices by offering economic and environmental benefits.	
Opportunities	Threats
- Access to public funding opportunities and subsidies (e.g., CAP).	- Costs of extension services and education remain a barrier without public support.
- Group certification as a viable option for small and medium-scale farmers to reduce costs .	- Lack of awareness among farmers about the impacts of natural disasters and their contributions to solutions.
- Micro-crediting systems for farmers to ease financial constraints .	- Potential non-guaranteed sales , despite growing organic markets.
- Structural technical assistance (e.g., training, knowledge sharing) to build awareness and skills.	- Rising need for consumer and producer education to maintain momentum in organic market growth .
- National and EU strategies promoting organic agriculture (e.g., GREAT Life project).	

Italy-VSS 3 - EOSC

GRASP



GRASP is an **add-on module** to the **Global G.A.P** to assess social practices on farms, focusing on workers' health, safety, and welfare.

Strengths	Weaknesses
- Protects and ensures the safety and well-being of workers through good social practices.	- Perceived " non-correlation to product quality," reflecting a one-dimensional view of quality.
- Promotes human rights, fair remuneration , freedom of association, and basic social needs for workers.	- Misconception of limited correlation between GRASP and consumers' quality of life.
- Enhances B2B and B2C relationships through transparent, fair, and socially responsible management systems.	- GRASP certification requires prior GLOBAL G.A.P certification, creating additional prerequisites .
- Supports a robust social management system to protect producers' human resources.	
- Complements GLOBAL G.A.P certification, enabling compliance with good agricultural practices and food safety.	
Opportunities	Threats
- Link to GLOBAL G.A.P provides access to both social and environmental benefits through sound agricultural practices.	- Risk of non-compliance with improving working conditions.
- Raises awareness about the multidimensional concept of quality, including social and cultural dimensions.	- Non-conformities may occur without adequate monitoring or auditing.
- EU policies can link funding provisions to the adoption of certification schemes, incentivizing compliance.	
- Consumers indirectly benefit from improved working conditions and safe, high-quality products.	

France-VSS 2 - GPP

Haute Valeur Environnementale (HVE)



The **Haute Valeur Environnementale (HVE)** standard is a certification in France designed to promote environmentally sustainable practices in agriculture.

Strengths	Weaknesses
- Guaranteed sales for public markets at reasonable prices compared to organic products.	- Lack of exposure and recognition of the certification , requiring targeted communication initiatives.
- Strong environmental benefits , including biodiversity protection and agro-forestry promotion.	- High certification costs due to the requirements of multiple levels, with the third level recognized by public authority.
- Promotes transparency and traceability in production processes.	- Geographical limitations and low awareness among producers, hindering widespread adoption.
- Well-developed communication among supply chain actors.	- Lack of political engagement in territorial food projects, weaker exposure compared to organic certification.
Opportunities	Threats
- Develop communication and marketing strategies to enhance public and producer awareness .	- Risk of unfairness and lack of transparency in the post-production phase.
- Strengthen political engagement through policy interventions and national exposure.	- Focus on environmental protection may overlook other critical issues , leading to a narrow certification focus.
- Implement financial support systems (e.g., micro-credit) to help producers with certification costs.	- Consumers' lack of understanding and trust in the certification, leading to preference for well-established certifications like organic.
- Simplify the certification structure (e.g., eliminating level B) to enhance public policy recognition.	- The perception of HVE as less comprehensive and politically involved than other certifications (e.g., AB).

Business Models: the Triple Layered approach



The concept of **business models** was assessed under a **multi-level perspective** to depict how technological – and the consequent social – change affects and is affected by different business fields and applied:

- to a theoretical analysis of the 3 supply chain systems (Short Supply Chains, Export-Oriented supply Chains, and Green Public Procurement)
- to investigate how it can depict the economic, environmental, and social performance (**Triple Layered Business Model Canvas - TLBMC**) of these systems in different countries

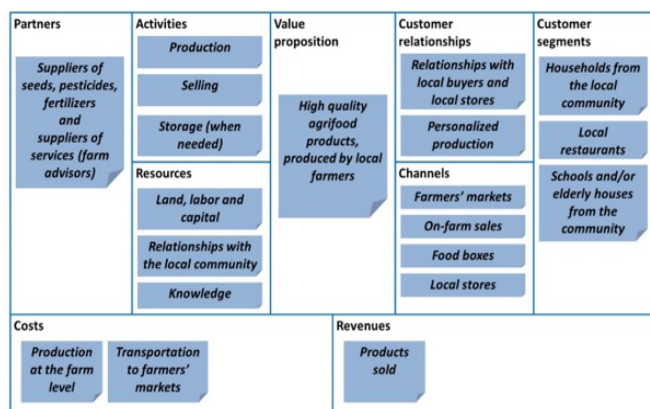


Figure 2. The economic layer of TLBMC for short food supply chains

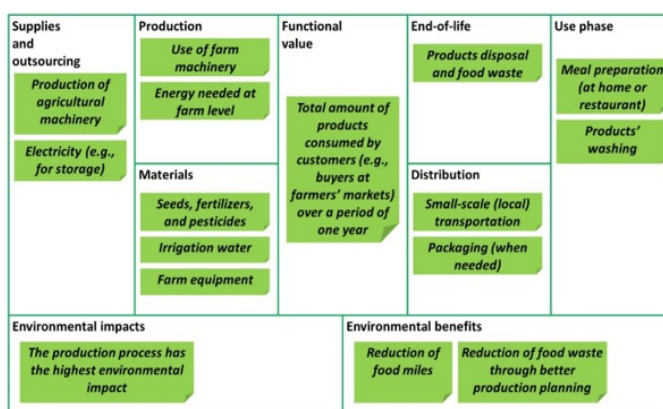


Figure 3. The environmental layer of TLBMC for short food supply chains

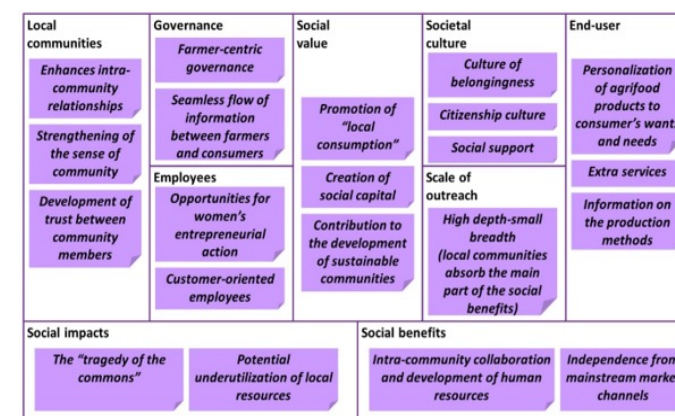


Figure 4. The social layer of TLBMC for short food supply chains

Enhanced business models



8 enhanced Business Models have been developed and evaluated

- 3 for Short Food Supply Chains (SFSCs),
 - 3 for Export-Oriented Supply Chains (EOSCs),
 - 2 for Green Public Procurement schemes (GPP).
- In all the business models we included the development of a **digital platform**.
 - **Innovative digital solutions** (e.g. applications serving as pools of information that will receive input from farmers and other actors) were added to 4 business models (BM#1-3 in SFSCs, BM#4 for EOSCs, and BM#8 in GPP)
 - We finally incorporated in 5 business models the adoption of **voluntary certification schemes** as another alternative value-creation strategy (BM#1-2 in SFSCs, BM#6 for EOSCs, and BM#6-7 in GPP).

Digital platform

A web-based digital platform to facilitate connections and transactions among FV producers

It has **three main functionalities**:



1. Networking



2. Virtual Training



3. Smart contracts registration



Digital platform - Networking

A **collaborative ecosystem** where stakeholders **connect and communicate**



Finding **buyer** and **sellers**



Creating or joining **groups** of shared interest



Digital platform - Training

A **virtual learning hub** designed to equip farmers and producers with valuable **knowledge** and **skills**



MED-LINKS offers comprehensive **training modules tailored to the specific needs of users** within the fruits and vegetables supply chain

Training modules overview



Instructor

Romagna Tech



Category

F&V Consumer Attitude.....

Consumer attitude in F&V supply chain systems

🕒 Lifetime Access

📶 All Levels

📄 6 Lessons

🧩 6 Quizzes

👤 6 Students



Continue

Lessons completed: 1/6

Quizzes finished: 2/6

Course progress: 16.67%

Overview

Training

Instructor

Training modules – Self-assessment test

Overview

Training

Instructor

Module 1.1

F&V supply chain systems definition and cluster identification

Self-assessment test 1.1

8 questions

✓

Module 1.2

Main drivers influencing consumer F&V preferences

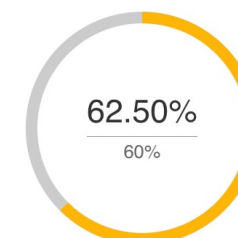
Self-assessment test 1.2

3 questions

✗

SHOW MORE SECTIONS

Self-assessment test 1.1



Passed ✓

Time spent	00:01:19
Points	5 / 8
Questions	8
Correct	5
Wrong	3
Skipped	0

Retake

Review

Digital platform - BlockChain Technology/Smart Contracts



BCT can create **immutable** and **transparent** records of transactions and **data exchanges**

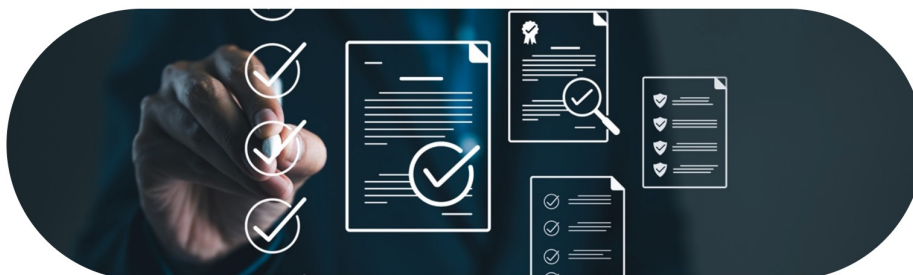


It enables buyers and sellers to **stipulate contracts** directly on the platform, ensuring transparency and efficiency



Smart contract registration

My Contracts



Credits

AVAILABLE: 980 FROZEN: 10
(contracts waiting for buyer approval - 1)

USER CURRENCY: Euro [EUR] [edit +](#)

New Contract x

CONTRACT TITLE

Apples

CONTRACT DESCRIPTION

Selling 5 kg of apples with 10% discount

RECIPIENT

Luca Camanzi

PRODUCTS

[SEARCH PRODUCTS ARCHIVE](#)

[ADD NEW PRODUCT](#)

Apple

[ADD TO CONTRACT](#)

Apple	Red apples	Km0	0,70	x
5	kg	10		

PDF FILE

[Choose file](#) No file chosen

DISCOUNT % 10

ADDITIONAL COSTS 10

TOTAL 12,84

CURRENCY: EURO

[SAVE AS DRAFT](#)

[SEND FOR APPROVAL](#)

PA in FRANCE



DESCRIPTION

- This pilot focuses on implementing the **Green Public Procurement (GPP)** system for fruits and vegetables in the Montpellier Market of National Interest (Mercadis)
- It engages **wholesale operators, producers, processors, service providers, restaurants and public catering** (e.g. universities)

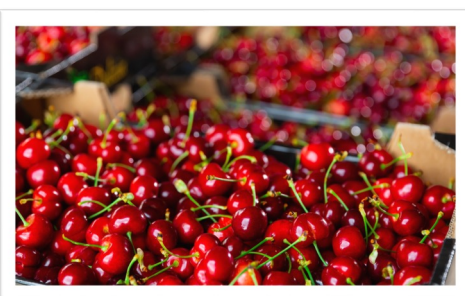
CHALLENGE

- GPP prioritizes **reducing environmental impact** while supporting sustainable agriculture.
- Need to **optimize logistical processes** and gain **certifications** related to sustainable logistics, such as **Km0** and **circular economy-based** labels
- Enhancing **coordination between local farmers and public buyers**

SOLUTIONS

- Increase in **knowledge and acceptance of sustainable practices**
- Identification of opportunities to streamline **logistics** and strengthen **communication channels between local farmers and public institutions**
- High acceptance levels for the **adoption of business model** optimizations and digital tools for tracking and managing local supply chains.

PA in GREECE



DESCRIPTION

- In Central Macedonia, specifically around the Katerini area, cherry and vegetable farmers operate within **Short Food Supply Chains**, primarily serving local consumers.
- This model helps keep **fresh produce accessible and affordable** but can **limit the scalability of local agriculture**.

CHALLENGE

- Farmers need more robust infrastructure and **networking opportunities** to increase local distribution while competing with imported products.
- Limited support for small-scale producers puts pressure on these farmers to remain competitive without compromising their **traditional practices or economic viability**.

SOLUTIONS

- Enhancement of local farmers' **knowledge on business models and voluntary sustainability schemes**,
- Web **platform adoption**
- Creation of new and the enhancement of already existing **social networks**



PA in ITALY



DESCRIPTION

- Small-scale fruit and vegetable producers in the Lazio region contribute to **both SFSC and EOSC**.
- Fruit: eggplants, peppers, tomatoes, zucchinis
- Root vegetables: carrots, cabbages, kohlrabi.

CHALLENGE

- Fragmentation creates challenges in achieving **consistent quality and distribution limiting their capacity to scale and reach broader markets**
- Fragmentation also hinders efficient **logistics** and makes it difficult for farmers **to negotiate fair prices**, posing a threat to the economic stability of local agricultural practices.

SOLUTIONS

- Greater awareness of the digital solution and its benefits, fostering increased **familiarity** and **anticipated adoption**
- **EOSC**: simplified digital tools showed promise in helping farmers access new marketing channels
- **SFSC**: interest in reaching distant consumers, though some hesitancy toward digital integration remains

Stakeholder engagement and dissemination



WEBSITE www.med-links.eu



Create new tools for more efficient and sustainable fruit & vegetable

MED-LINKS

Provide small-scale producers with tailored and effective solutions enhancing efficiency, sustainability, and fairness along fruit and vegetables supply chains in Mediterranean countries



MED-LINKS



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Thank You!

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