

MED-LINKS



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

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IN THE MEDITERRANEAN AREA

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CONTENTS

1	Introduction.....	7
1.1	Aims of Task 1.2 and Deliverable 1.2.....	7
1.2	Methodology adopted.....	7
1.3	Three types of supply chain systems.....	7
1.4	Reminder of indicators identified for local clusters in supply chain systems.....	8
2	Analysis and interpretation of results by country and by type of supply chain.....	9
2.1	Fruit and vegetable cluster of Italy.....	9
2.1.1	Short Food Supply chain (SFSC) in Italy.....	9
2.1.2	Export Oriented Supply chain (EOSC) in Italy.....	10
2.2	Fruit and vegetable cluster of Greece.....	11
2.2.1	Short Food Supply Chains (SFSCs) in Greece.....	11
2.2.2	Export-Oriented Supply Chains (EOSCs) in Greece.....	12
2.3	Fruit and vegetable cluster of France.....	13
2.3.1	Green Public Procurement (GPP) in France.....	13
2.4	Fruit and vegetable cluster of Egypt.....	14
2.4.1	Short Food Supply Chains (SFSCs) in Egypt.....	14
2.4.2	V-4-2- Export-Oriented Supply Chains (EOSCs) in Egypt.....	17
2.5	Fruit and vegetable cluster of Morocco.....	18
2.5.1	Short food supply chains in Morocco.....	18
3	Comparative analysis of Mediterranean local clusters and supply chain systems based on conditions, strategies and performance.....	20
3.1	Short Food Supply Chain.....	20
3.2	Export-oriented supply chain.....	24
4	Conclusion.....	26
5	Deliverable contributions to SDGs.....	27
6	Annexes:.....	29
6.1	Breakdown of the number of experts interviewed by country.....	29
6.2	Summary table of raw data collected by country and supply chain type.....	30
6.3	Questionnaire - task 1.2 : Section A - Short Food Supply Chain (SFSC).....	42
6.4	Questionnaire - task 1.2: Section B - Export Oriented Supply Chain (EOSC).....	50
6.5	Questionnaire - task 1.2: Section C - Green Public Procurement (GPP).....	60

LIST OF ACRONYMS AND ABBREVIATIONS

CSP	Conditions-Strategies-Performances
DEA	Data Envelopment Analysis
EOSC	Export Oriented Supply Chain
FV SCS	Fruit and Vegetables Supply Chain System
GPP	Green Public Procurement
SCS	Supply Chain System
SFSC	Short Food Supply Chain
UCA	University of Cadi Ayyad
VSS	Voluntary sustainability standard
WP	Work package

EXECUTIVE SUMMARY

The theoretical model developed and adopted in Task 1.1 allowed the identification of five fruit and vegetable production clusters in the Mediterranean partner countries and the exploration of an inventory of cluster-relevant reference indicators at the level of the five countries

This report is a contribution to Task 1.2 to measure and assess the degree of importance of relevant indicators related to external and multidimensional factors (economic, environmental, rules, behavioral attitude), strategic choices and supply chain performance of clusters in the Mediterranean area. The survey carried out by questionnaire among the experts interviewed also made it possible to raise, for certain clusters, other proposals for variables likely to impact the performance of the said clusters.

The main contributions to Sustainable Development Goals (SDGs) of the activities performed and the results obtained are outlined at the end of the report.

1 Introduction

1.1 Aims of Task 1.2 and Deliverable 1.2.

The objective of this report is to contribute to Task 1.2 to measure and assess the degree of importance of indicators related to external factors (economic, environmental, rules, behavioral attitude), strategic choices and performance of these supply chains. These indicators were identified in Task 1.1 at the five-country level.

Five fruit and vegetable production clusters in the Mediterranean partner countries are defined and delineated at the geographical and economic level. Thus, at the level of task 1.1, the theoretical model has allowed the identification and realization of an inventory of relevant reference indicators.

These indicators will be evaluated in the present task with the exploration of variables specific to external and multidimensional drivers, strategic choices and competitiveness of supply chain systems.

1.2 Methodology adopted

The methodology adopted here is identical to the one developed and adopted by the French team for Task 1.1. It consists of collecting data from the same reference experts, with the exception of the Egypt team which is required to recruit new experts following some problems encountered with the former experts. Thus, the experts who contributed to the identification of the performance indicators of the different supply chains, contributed their respective judgments for the evaluation of the weight and degree of importance for the different indicators. The sample interviewed is **14 experts/informants** spread over the five partner countries.

The three supply chain systems for fruits and vegetables in the Mediterranean are submitted to the evaluation and proposals of experts based on the key indicators and variables and the opportunities of local supply chain systems at the level of the five Mediterranean countries.

The experts interviewed made their judgments and assessed the respective degrees of importance of the multiple external drivers of the supply chain systems considered as conditions that characterize the structure and strategic behavior of these associated clusters and which, in turn, trigger the consequent performance in terms of competitiveness.

1.3 Three types of supply chain systems

As presented in Task 1.1, the MED-LINKS project covers three types of fruit and vegetables supply chain systems (FV SCS) in five Mediterranean countries. These three types represent fundamental commercial circuits for the considered countries. These types of FV SCS differ regarding the number of actors involved in the supply chain, the arrangements founded between them, and the geographical flow of the goods.

Supply chain systems	Actors	Institutional arrangements	Geographical area
Short Food Supply Chain (SFSC)	Local producers, Limited intermediaries, Organised consumers' networks, Producer associations	Direct selling to consumers (e.g. farmers' markets) and to intermediaries (e.g. local shops)	Local
Green Public Procurement (GPP)	Regional producers, Municipalities, Regional governments	Tendering, horizontal coordination	Regional/National
Export Oriented Supply Chain (EOSC)	Coordinated small-scale producers, Logistics, Export agents, Certification bodies	Label based contracts, horizontal coordination,	International

(Ref. Task 1.1)

Based on the MED-LINKS model of the causal dynamics of supply chain systems, developed and adopted in Task 1.1, the three main components to be studied are: conditions, strategies and performance.

1.4 Reminder of indicators identified for local clusters in supply chain systems

Potential template/example of an indicator matrix

Conditions	Strategies	Performance
Demand	Institutional arrangements	Prices & costs
Infrastructures		
Information technology	Certifications	Products' quality
Regulation & policy		
Socio-demographic	Technological improvement	Digitalization
Socio-institutional		
Finance & risk		Finance and risk sharing

Fig. 2. Conditions, strategies & performances (Ref. Task 1.1)

2 Analysis and interpretation of results by country and by type of supply chain

2.1 Fruit and vegetable cluster of Italy

This analysis is based on the informants' answers to the questionnaire. It has to be underlined that key informants have added some other questions they have considered of interest for the analysis.

2.1.1 Short Food Supply chain (SFSC) in Italy

Conditions

Both the key informants of the SFSC provide ample evidence of the relevance of these external conditions in shaping farm's strategies.

For instance, the informants, while not considering important the role of public subsidies and the level of consumer's income, underline the relevance of the control bodies to secure the quality of supplied foods, jointly with the provision of targeted services for final consumers.

A relevant external condition is related to the availability of digital technologies, which may boost alternative short supply chain and the opportunity to open online windows for interacting with final consumers. Other relevant variables are related to production input, with special reference to labour cost (both family and non-family workforce) and energy consumption. From a financial point of view, the importance of accessing public funds provided by the policy (for instance, the funds provided by the Common Agricultural Policy) is considered of paramount importance.

Both the key informants have posited that socio-demographic, ecological and socio-institutional variables have the same fundamental importance as external conditions shaping the SFSC strategy.

Strategies

As far as strategies are concerned, both "deepening" (valorization of agricultural products, for instance through organic methods) and "broadening" (farm's diversification, for instance through agritourism) strategies are considered as important. This means that territorial extended strategies are at the basis of the farm's persistency and competitiveness.

Moreover, from an internal perspective, farms need to act with sound strategies of risk management, with the purpose of reducing the impact of climate change, also through the support of farm advisory services. Digital solution and adoption of energy saving strategies are identified as key strategies to be adopted.

As far as the supply chain strategy is concerned, commercialization of F&V through pooling logistics is very important for the key informants, jointly with a wider participation to farmers' markets and other initiatives (fairs, etc.) managed by farmers' associations.

Performance

Analysis of performance is articulated in the three performance dimensions, economic social and environmental. As far as economic performance is concerned, cost reduction and market expansion are considered as mostly important, jointly with the capability of accessing financial resources.

From a social point of view, reconnecting consumers and producers and build up a local cultural identity is fundamental outcome of SFSC, jointly with the capability of including social inclusions of disadvantaged person in rural areas. Finally, food miles and environmental footprint are considered as fundamental impact, but also the landscape care secured by farmers is an additional variable evaluated as important by both the informants.

2.1.2 Export Oriented Supply chain (EOSC) in Italy

If, on the one side, commonly shared vision has been found by the informants of the SFSC, on the other side, in the EOSC clear differences emerge by the key informants.

Conditions

As far as external conditions are concerned, on which entrepreneurs have no chance to have an influence, the key informants provide similar opinion regarding the importance of regulation and policy and on the finance and risk conditions, while some different emerge on demand conditions, on technological availability (above all on the importance of foreign investments in the logistics) and on the importance of production factors conditions. Level of education is a fundamental condition which affects the strategy adoption and the performance. More precisely, it is not limited to the "classic" education level, but it includes the training activities the farmers get all lifelong. Recent policy approaches to support long-life learning are in line with this perception.

Strategies

As far as strategies are concerned, diversification strategies are not considered as important, due to the high specialization of the fruit and vegetable sector oriented to international markets. Risk management strategies are perceived as differently important by the key informants. Likewise, differences are also found on the relevance of externalization strategies, while the necessity of State subsidies is a relevant point for both the key informants.

Technological innovation strategies are not considered of the same importance (one considers it as important, the other one less important), while partnership and distribution strategies seem relatively important. The propensity to export on international markets require producers to comply with international certification standards, therefore, adoption of quality label is strategic for exporting fruit and vegetable products. Among market orientation strategies, one informant suggest as very important organizational innovation to better perform on international markets.

Performance

Performance is articulated in the three dimensions, economic social and environmental. As far as economic dimension is concerned, all indicators of the economic performance seem relevant for both informants, with the exception of post-harvesting losses, while there are differences in the perception of the importance of both social, environmental and governance indicators.

2.2 Fruit and vegetable cluster of Greece

2.2.1 Short Food Supply Chains (SFSCs) in Greece

Two key informants offered data on SFSCs. Below, we present a brief analysis of the main results that emerged per category.

Conditions:

Data confirm the importance of regulation and policy, whereas the dimension “Demand” is also considered important. On the other hand, the answers referring to the other dimensions are mixed. Interestingly, the dimension “Socio-demographic” received high scores, indicating that participants consider farmers’ age a non-important factor and workers’ educational level a slightly or moderately important variable.

Strategies:

Among the nine dimensions proposed, the “distribution” and “market orientation” received the lowest mean scores, revealing that experts attribute higher importance to these two parameters. Concerning the traceability systems’ adoption, both respondents agreed that it represents a very important strategy. Notably, among the proposed diversification strategies, the processing of fruits and vegetables was evaluated as “very important” by participants, whereas the diversification through the engagement with off-farm activities (agro-tourism, catering, etc.) was assessed as not important.

Performance:

Farmers' access to financial resources seems to be the most important sub-dimension for SFSC's economic performance. The same is true for the development of risk mitigation plans by farmers and the quality of produced and distributed fruits and vegetables. Concerning the environmental dimension, food miles reduction and the mitigation of SFSC's environmental footprint were also evaluated as "very important" by experts.

2.2.2 Export-Oriented Supply Chains (EOsCs) in Greece

To collect data, we invited two experts. The main results of the analysis are presented below.

Conditions:

As the analysis demonstrated, respondents' perceptions of the importance attributed to the different dimensions are not uniform. The importance of regulation and policy received low scores (rated as "very important" and "important"). However, the remaining seven dimensions had varying ratings. Nevertheless, an agreement between the two experts was recorded in some items. For instance, both respondents consider the subsidies received by farmers as an important factor in influencing of the cluster.

Strategies:

Long-term contracts are viewed as a crucial strategy for mitigating risks associated with involvement in EOscs. On the other hand, although, as a set, the variables referring to technological innovation received moderate scores, the "adoption of internet-based platforms for F&V commercialization" was assessed as very important by both experts.

Performance:

It is noteworthy that the dimension referring to EOsc's social performance received very low scores (confirming its importance for the informants). The sub-dimensions referring to job creation, the working conditions for supply chain workers, and the opportunities for women's employment within the chains were evaluated as "very important." The environmental dimension was assessed as very important (all the four relevant variables) by one expert, whereas, for one of the participants, only the water use efficiency was rated as very important. The production cost and the distribution of high added value products, along with the efficiency of distribution channels, were also assessed as very important sub-dimensions of the economic performance of EOscs by both experts.

2.3 Fruit and vegetable cluster of France

2.3.1 Green Public Procurement (GPP) in France

The two key experts who participated in this evaluation were those who contributed to Task 1.1. In this assessment, they emphasized some indicators while considering others less important.

Conditions:

Regarding policy conditions and regulations, the quality standards set by legislation for fruits and vegetables are considered important by only one expert, while the distance from the farm to the market as an indication of proximity is relatively important to not very important. Regarding the demand for quality fruits and vegetables in the public market, it is also important by only one expert.

Regarding access to technology, the cost of transportation is the only indicator that is considered important, the other indicators are relatively important to not very important.

For production factors, the participation of family members as labor, and the cost of seasonal workers, remain two very important to important indicators.

With regard to the functions of finance and risk management, the weight of subsidies in producers' income is important for one expert and not very important for another, while farms with insurance coverage remain not very important as an indicator for the two experts.

Regarding socio-demographic conditions, the age of the farmers and the educational level of the fruit and vegetable sector workforce are only very important for one expert, while they are important to relatively important for the second respondent.

Under ecological conditions, the level of rainfall and the cost of damage caused by climate change are very important to important indicators for all experts.

The size of producer organizations, as an indicator of socio-intentional conditions, remains relatively important to not very important.

Strategies

For diversification strategies, the two indicators of sustainable or organic production of fruits and vegetables are very important: Sustainable or organic production of fruits and vegetables and their processing, are only of medium or low importance, as well as the marketing of products through long-term contracts regarding the strategies for managing the

strategies. In the context of subcontracting and outsourcing strategies, seasonal workers is an important indicator. In the case of strategies for using political

In the case of strategies for using political support, the provision of agricultural advisors to farms is not a significant indicator, while the subsidies received by producers are significant for only one expert.

In terms of intensification and expansion strategies, the size of the producer organization is relatively important for the experts.

For technological innovation strategies, irrigated production is the only important indicator, as is greenhouse production.

For partnership strategies, the experts do not have the same vision, since membership in a producers' organization and the pooling of resources for marketing products are important for one expert and not very important for the second.

With regard to distribution strategies, the supply of the public market by producer organizations is an important indicator for both experts.

In terms of commercial orientations, a divergence was also noted, as the three indicators (marketing in short circuits, adoption of traceability systems, adoption of labeling systems) are very important for one expert and not very important for the second.

Performance

In terms of performance, a great divergence was revealed by the experts' answers. Nevertheless, the cost of production of fruits and vegetables remains a very important indicator for economic performance, job creation is important for social performance, the reduction of losses along the supply chain is important for environmental performance, as well as the equity between the associates of the producer organization in terms of decision making.

2.4 Fruit and vegetable cluster of Egypt

2.4.1 Short Food Supply Chains (SFSCs) in Egypt

Three key informants offered their insights on the level importance of different indicators related to conditions, strategies and performances in SFSCs and EOSCs. A brief analysis of the main results emerged for each supply chain category is presented below.

Conditions:

Based on the results obtained from the surveys, experts highly emphasized the importance of “technological availability” conditions and its sub-indicators “**Use of irrigation in F/V production**” in impacting Fruit and vegetable farming and Short Food Supply Chains. On one hand, it was reported that Fruit and vegetable farming are suffering from are poor hydrological systems and irrigation technologies, leading to myriad drought incidence in many

areas in Upper Egypt, consequently leading to severe economic losses. On the other hand, the fruit and vegetables supply chain are lacking appropriate logistics systems (e.g., cold chain logistics solution). Furthermore, other indicators, such as the **“transport costs”**, **“Presence/Activity of agricultural technicians”** and **“Logistic pooling”** were considered **very important**. **“Traceability systems”** was recommended as a **very important** indicator to rebuild consumer trust in food safety and quality. The Egyptian market for fruit and vegetables lacks transparency in terms of where the products came from, who grow them, and under which production conditions (production methods). There are huge price fluctuations in different location of sale. This majorly affects consumer trust in the safety and quality of food products, and would highly influence where they shop from.

“State subsidies for F&V production” under the **“regulation and policy”** was not perceived seen as important by experts. However, additional indicators were proposed by the experts for this dimension, including **“Food Safety Regulation (sanitary and phytosanitary conditions), Maximum Residue Levels (MRL)”**, **“Contract Farming”** and **“Food losses (waste) policies”**. In particular, Contract farming was perceived as very important as it may contribute to building sustainable relations with supply chain actors; guaranteeing farmers access to Enforceable deals and improve farmers and farms economic viability. Also, food losses policies were deemed very important, where over 40% of the fruit and vegetables are lost along the supply chain due to poor management, lack of technology, logistics and inventory/storage management. Maximum Residue Levels (MRL) was very important, as many Fruit and vegetables exports (including organic products) from Egypt were rejected in recent years by importers due to the presence of high level of residues.

The demand-related indicator **“Sales of F&V in farmers’ market”** was considered by two experts as **important**. However, it was noted that, often, farmers do not care much where and to whom they sell. When the harvesting season approach, they seek to sell to whoever ready to take the harvest and pay in cash. They usually sell to mainstream supermarkets who have their own logistics systems e.g., Metro and Gourmet, Saudi), road sales and other traders via the main market hub (Obour and October market).

“Consumption attitude” was very important and detrimental in the supply chain systems. It was commonly highlighted that, consumers increasingly question the quality (e.g., freshness and safety) and volume and assortment (frozen, dried, fresh, packaged fruit and vegetables) available at markets they shop from.

As for the **“Production factors”** dimension, **“non-family labor cost”** was very important, followed by **“Cost of land rentals”**. Regarding **“Non-family labor”**, it was mentioned that most farmers rely on external labor force, as farmers family devotion to farming is very low. Farmers prefer to spend most of their time outside farming activities, and other family farm members are abandoning farming for other jobs (lorry drivers, local drivers, Corner shops). In relation to **‘Cost of land rentals’**, one expert mentioned that small-scale farmers tend to usually rent more land to cover the cost of production and guarantee profitability.

Regarding Socio-demographic conditions, **“Age of farmers”** in Egypt was very important. The ‘age’ attribute considered as major issue threatening the agriculture sector in general, where most farmers are very old (>60 years). **“Workers' education level in the F&V production”** was **very important**. Furthermore, **“Gender”** was perceived as an **important** indicator. The experts interviewed noted that, women are perceived to be more competent than men in terms of their skillset and precision. In general terms, women work more than men, especially during the harvesting seasons. One expert emphasized on the importance of ‘Agriculture feminization in Egypt’ as an upcoming trend in the Egyptian agriculture. He noted that, there is an increasing trend towards Women who manage the farms, while men prefer to work in more profitable and steady businesses outside farming, such as lorry drivers, corner shops, and local drivers, migrate to bigger metropolitan cities, such as Cairo and Alexandria.

Finally, **“Economic cost of damages from climate change”** was regarded as very important indicator belonging to the ecological dimension. Other Ecologically related issues highlighted were the ‘Excess use of chemical pesticides’ by farmers, which is causing major issues related to MRL and food safety and other environmental and ecological concerns, such as deteriorating soil health, increase MRL issues, contaminating ground water and other water streams). Other variables related to socio-institutional, and finance and risk dimensions were not generally regarded as important by interviewed experts. Farm loans (with low interest rates) are usually accessed through partnerships loans. Because of farmers poor farm documentation system (listing info. about farms, farm size, location and revenues) and undisputed land ownership, does not qualify farmers to access loans 'with low interest rates' that is offered by government and Agriculture banks.

Strategies:

Looking into the diversification strategy, **“Organic or sustainable F&V production”**, **“F&V processing”** and **“Minimally processing of fresh F&V”** were deemed either **very important** or **important**. The Fruit and vegetables processing was seen as very important, however currently there are very low number of packaging stations, and overall lack of processing knowledge and practices (e.g., drying). **“Income source diversification”** was **very important**, as market risk/ price volatility was deemed as high-risk to farming. Hence, income diversification strategies were considered very important by diversifying market and sale channels. Nonetheless, it was often highlighted that farmers tend to diversify their income through non-agriculture jobs, due to the lack of marketing skills and knowledge, and bargaining power.

As for Externalization, two attributes **“Workforce from outside the farm”** and **“F&V shifted by third-party logistics/distributors”** were deemed **important**. The Risk and management indicator **“Adoption of technical advisory by farms”** related to policy support was the only one that was unanimously considered **important** by all experts, to access technical assistance, boost farmers’ abilities to comply with quality and quantity specifications.

The intensification and upscaling indicators, and other attributes related to technological innovations, such as **“Adoption of internet-based platforms for F&V commercialization”** were not important.

Performance:

Overall, the majority of Economic indicators were highly valued, with the exception of **“Farming risk mitigation plans”**. In particular, the indicators **“Quality of F&V”** and **“F&V farming production costs”** were considered **very important** and **important**. As for the social performance, **“Rural household income”** and **“Self-esteem among family farms”** were generally seen as important indicators.

Regarding environmental performance, the majority of indicators were either important or very important. However, opinions towards **“Environmental footprint”** and **“Food miles”** and other governance related indicators **“Size of producer organizations/associations”** and **“Decision-making equality among the members of producers’ organizations/associations”** were not important.

2.4.2 V-4-2- Export-Oriented Supply Chains (EOsCs) in Egypt

Conditions:

All three experts shared similar opinions on several indicators; they all view the regulation and policy indicator **“Existence of mandatory or voluntary regulations set by either public authorities, producer organizations or retailers that facilitate or limit F&V export”** as very important, which is the same case for **“Farms size”** and **“Cost of manual harvesting”** related to production factors. Exporters and farm exporters access to subsidies were also deemed very important. According to recent regulation in Egypt, only exporters and farmer exporters of agriculture commodities (e.g., Oranges) can benefit from state subsidies.

Regarding demand, the indicator **“Difference of price between local and export destination market”** is unanimously considered very important, and **“Price elasticity of demand for FV”** is important. Furthermore, Product quality and organising quantity demanded was very important.

The importance of socio-demographic indicators is highly acknowledged as well, **“Age of farmers”**, **“Local employment in the export supply chain”** and **“Workers' education level in the FV production”** were considered very important.

The technological availability indicator **“Presence/Activity of agricultural technicians”** is considered very important. **“Logistics companies (airfreight and ships)”** is very important. **“F&V production from new varieties”** was perceived as very important to introduce varieties with high production and more resistant to drought and salinity.

Partnerships (Venture capital)- to access funding was the most important indicator for the finance and risk dimension. As for ecological conditions, the indicators “Economic cost of damages from climate change” and “Harvest anticipation compared to international market” are considered very important. Finally, the socio-institutional indicator “Size/activity of producer organizations/associations” is viewed as important by only one expert.

Strategies:

All three experts agree that “Diversification of F&V types and varieties produces” is a very important diversification strategy. “Agreements with international companies” was proposed as an additional component with high importance. For the risk management dimension, “Commercialization of F&V through long-term contracts” was considered very important.

Regarding externalization, “Technical advisory” had the highest importance among proposed indicators), followed by “Workforce from outside the farm” and “F&V shifted by third-party logistics/distributors”. The latter was not considered very important, as exporters usually has their own distribution and logistics systems, while small farmers do not have the capacity to export without larger exporters. Moreover, the experts recognized the importance of the majority of policy support indicators, mainly “Trade undertaken by state entities” and “Adoption of technical advisory by farms. Looking into “distribution” and” intensification and upscaling” strategies, the indicators “Exporting destinations” and “Size of producers’ organization/association” were unanimously considered very important.

2.5 Fruit and vegetable cluster of Morocco

2.5.1 Short food supply chains in Morocco

Three experts contributed to this assessment regarding short food supply chains.

Conditions:

Accompaniment and commitment were found to be a very important indicator while government subsidies for F&V production was not equally important (from very important to moderately important).

On the demand side, both indicators (F&V sales at farmers' markets, domestic consumption per capita) were important to very important. Informants added another indicator, product valuation, which was given high importance.

For technological availability, the use of irrigation in F&V production is not an important indicator, while the presence/activity of agricultural technicians seems to be very important, as well as the marketing of fruits and vegetables through Internet platforms and logistic pooling, which are important to very important indicators. Transport costs, on the other hand, are a moderately important to not very important indicator.

For production factors, the involvement of family farm members in the labor force and the cost of renting land are important to very important indicators. In contrast to these indicators, the cost of non-family labor remains a moderately important indicator.

In terms of finance and risk, farm insurance coverage is an indicator of high importance, while subsidies as producer income is a moderately important to unimportant indicator.

In terms of socio-demographic conditions, the age of farmers is a very important indicator, in contrast to the level of education of workers, which is of little or no importance. In this sense, the informants added another indicator in relation to service companies that seems to be a very important indicator.

For ecological and socio-institutional conditions, rainfall and size/activity of producer organizations/associations are very important indicators more than the economic cost of damage caused by climate change, which is an important to not very important indicator.

Strategies:

In this sense, diversification of income sources (agro-tourism, catering, etc.) and organic or sustainable production of F&V, are indicators that are highly important, as is the processing of F&V which is important, more than the minimal processing of fresh F&V which remains a moderately important indicator.

The indicator of improving access to water through water management, in terms of risk management, was designated of high importance to informants.

In terms of outsourcing, the indicator related to off-farm labor received high importance and that of F&V transferred by third party logisticians/distributors remains important.

In terms of political support, the Producers receiving public subsidies is a very important indicator, more so than the adoption of technical advice by the farms.

Regarding market orientation (Participation in initiatives to reduce food supply distance, Adoption of traceability systems, Adoption of quality labels) and intensification and up-marketing (Dynamics of farm size, Size of producer organizations/associations), the informants all attached great importance to these indicators, as did the indicators related to partnership, namely: participation of farmers in producer organizations/associations and marketing of F&V through pooling of logistics.

Regarding technological innovation, the adoption of internet-based platforms for F&V marketing and the implementation of irrigated crops are important to very important indicators, in contrast to greenhouse production, which is a low or non-important indicator.

Regarding distribution, marketing of F&V through direct sales is highly important as an indicator, while marketing of F&V through a single intermediary is of little to moderate importance.

Performance:

In terms of economic performance, F&V quality, farmer income, F&V farm production costs, F&V farm productivity, farmer access to financial resources, and F&V market expansion are all indicators of high importance, except for Farm Risk Mitigation Plans, which remains a moderately to low importance indicator.

Social performance indicators (Employment in the supply chain, rural household income, consumer-producer relations, self-esteem on family farms, employment stability of small farmers, promotion of local/regional identity) and governance indicators (Size of producer organizations/associations, Management of a farm business by immigrants and women) are all important to very important, in contrast to those of the environment, where importance was given only to water use efficiency and the use of pesticides and fertilizers

3 Comparative analysis of Mediterranean local clusters and supply chain systems based on conditions, strategies and performance

3.1 Short Food Supply Chain

After collecting the responses from the experts who participated in this study, we conducted a comparative analysis between the different countries.

Conditions

Regarding the short food supply chain, in terms of **conditions** that influence the cluster activity, state subsidies for fruit and vegetable production are important in Greece, Egypt and Morocco, while they are not very important in Italy. In this sense, support and commitment were proposed by the Moroccan respondents as very important indicators, as were the Italians who added the control of certification bodies and the level of community involvement as very important indicators. On the other hand, the Egyptians proposed other indicators that were considered very important, namely: food safety regulations (chemical pesticides), import of improved seed varieties, regulation of contract farming, and food waste policy.

With respect to demand conditions, Greece, Morocco, and Egypt consider fruit and vegetable sales at farmers' markets and domestic consumption per capita as important to very important indicators. In Italy, these two indicators remain moderately to not very important. Rather, the socio-economic conditions of potential customers and the attention to the quality of food and services of citizens are considered the most important indicators, as is the valuation of products in Morocco, and the attitude of consumption in Egypt.

In relation to technological availability, the use of irrigation in fruit and vegetable production, the presence/activity of agricultural technicians, transport costs, logistical pooling, and the

marketing of fruit and vegetables through internet platforms are important to very important indicators in all 4 countries. The difference is that irrigation is only moderately important in Greece, and it is not important in Morocco where the indicator of transport costs was only moderately important. Respondents in Egypt added cold chain and traceability systems as very important indicators.

In terms of **factors of production**, the involvement of family farm members in the labor force, the cost of non-family labor, and the cost of renting land are all important to very important indicators in Italy, Egypt, and Morocco, except in Greece where they are moderately to not very important. In this context, other important indicators were added by the Italian experts such as the valuation of social and environmental aspects and energy saving. For the Egyptians, the quality of the pesticides and fertilizers used and the price of the pesticides used and quality were added as very important indicators.

With regard to the **financial and risk conditions** that influence the activity of the cluster, the subsidies as income of the producer, the insurance coverage of the farms are indicators considered by all the countries as moderately or even not very important, except Morocco where the insurance coverage of the farms is considered as a very important indicator. The Italian experts, in this sense, added the ability to drain public funds and the focus on new productions as important indicators.

Regarding the socio-demographic, ecological and socio-institutional conditions, all the indicators (Age of the farmers, Level of education of the workers in the production of VF, Precipitations, Economic cost of the damages caused by the climate change, Size/activity of the organizations/associations of producers) are very important in the Italian context, together with other indicators that have been added by the experts, namely: Producers' link with the territory and past generations, socio - economic levels of the consumer community, Biodiversity in production, landscape beauty and agro-ecological tourism as a driver of development and the capacity for institutional dialogue.

In the Egyptian context, all the indicators in the study are important to very important, except the Size/activity of the producer organizations/associations which is not important as an indicator. The experts added gender - female labor, feminization of agriculture (ownership and management), excessive use of pesticides and fertilizers, drought, partnerships with traders to access agricultural credit and contract farming as important to very important indicators.

Strategies

With respect to short food supply chain strategies, specifically diversification strategies, the following indicators: Diversification of income sources (agro-tourism, catering, etc.) and Organic or sustainable production of fruits and vegetables, are important to very important according to the Italian, Moroccan and Egyptian experts, on the other hand the same indicators remain unimportant in Greece. For the other indicators (Processing of fruits and vegetables, Minimum processing of fresh fruits and vegetables), they remain important to very important in Morocco and Greece, while the Italians and Egyptians consider them

moderately important. In this sense, the Italian experts have added another indicator that is the level of diversification of fruit and vegetable production to which great importance is given.

In relation to risk management, improving access to water through water management remains an important to very important indicator in all contexts, except in Greece where it is moderately important. Within this framework, actions to mitigate extreme weather events, and measures to mitigate negative socio-economic events were added as very important indicators by the Italians, and the diversity of market channels to minimize price volatility was cited by the Egyptians as an important indicator.

Regarding the outsourcing strategies adopted by the cluster within the supply chain system, off-farm labor and fruits and vegetables transferred by third-party logisticians/distributors are important to very important indicators in Morocco and Egypt, while they are moderately important in Greece and Italy, except for the second indicator which remains important among Italians.

With regard to policy support strategies, the adoption of technical advice by farms and producers receiving public subsidies remain important to very important indicators in the Moroccan context. The results from the other countries show several discrepancies, as the first indicator is important in Italy, but moderately important in Egypt and Greece. The second indicator is moderately important in Italy, not important in Egypt, and very important in Greece. The Italian experts added two other indicators to which they attach importance, namely: the support of the consumer community and other ethical elements to be promoted in production and sale.

With respect to the intensification and up-market strategies adopted by the cluster within the supply chain system, the dynamics of farm size and the size of producer organizations/associations are very important indicators in Morocco. The first indicator is moderately important in Italy, Egypt and Greece. On the other hand, the second indicator is important in Italy, not important in Egypt, and moderately important in Greece. The Italian experts added "A rich product offer" as a very important indicator.

For the technological innovation strategies adopted by the cluster within the supply chain system, the following indicators: Adoption of internet-based platforms for marketing of fruits and vegetables, greenhouse production and implementation of irrigated crops, are all moderately in Egypt and for Greece, except for Italy where the first indicator is important, and the Moroccan experts who consider it very important by giving the same level of importance to the 3rd indicator. The Italians added energy autonomy as a very important indicator.

As far as partnership strategies are concerned, the participation of farmers in fruit and vegetable producer organizations/associations, and the marketing of fruit and vegetables through the pooling of logistics, are two very important indicators in the Moroccan and Italian context. In Greece, only the second indicator is very important, and both indicators remain moderately important in Egypt.

For distribution strategies, the two indicators (Marketing of fruit and vegetables through direct sales and Marketing of fruit and vegetables through a single intermediary) are all important to moderately important in four countries surveyed. The same is true for market orientation strategies with its indicators (Participation in initiatives to reduce food supply distance, Adoption of traceability systems, Adoption of quality labels) being important to very important for all countries.

Performance

With regard to performance indicators, we note:

At the economic level: all indicators included in the survey (Fruit and vegetable quality, Farmers' income, Fruit and vegetable agricultural production costs, Fruit and vegetable agricultural productivity, Farmers' access to financial resources, Fruit and vegetable market expansion, Agricultural risk mitigation plans) are all important to very important in all 4 countries, except in Italy where farmers' income is moderately important, as is fruit and vegetable market expansion in Egypt.

At the social level: the findings on economic performance remain valid at the social level, as all indicators (employment in the supply chain, income of rural households, consumer-producer relations, self-esteem in family farms, stability of employment of small farmers, promotion of local/regional identity) are important to very important in all countries participating in the survey, except in Greece where self-esteem in family farms is moderately important

At the environmental level: all the indicators (food miles, environmental footprint, quantity/volume of organic fruits and vegetables, area devoted to organic farming) of the study are very important to important for all the countries with some discrepancies, in the sense that the quantity/volume of organic fruits and vegetables is a moderately important indicator in Italy, the area devoted to organic farming remains unimportant to not important in Greece, as well as the environmental footprint that is moderately important in Morocco.

At the level of governance: the size of producer organizations/associations and the equality of decision making among members of producer organizations/associations are important to very important indicators in Morocco, moderately important in Egypt and Greece, but for the Italian experts the first indicator is moderately important compared to the second which is important to very important. In this sense, the latter experts added the presence of a coordinated regulation and image and the control bodies as very important indicators.

3.2 Export-oriented supply chain

Conditions

Regarding regulatory and policy conditions, the existence of mandatory or voluntary regulations established by public authorities, producer organizations or retailers that facilitate or restrict the export of fruits and vegetables is an important to very important indicator in the context of the 3 countries participating in the survey (Italy, Egypt, Greece). In this sense, the Egyptian experts added the subsidy policy for F/L exporters as a very important indicator.

Indicators related to demand conditions (price elasticity of F/L demand and the price difference between the local market and the export destination market) are also important to very important in all three countries. The Egyptian experts added product quality and quantity demanded as very important indicators.

Regarding the technological availability conditions that influence cluster activity, the indicators included in the study (F/L production in greenhouses, Presence/activity of agricultural technicians, F/L production from new varieties, foreign investment in supply chain logistics) are all important to very important by all experts, except for foreign investment in supply chain logistics, which remains a moderate indicator in Greece. Egyptian experts suggested cold chains and available logistics technology as very important indicators.

In relation to input conditions, farm size and the cost of manual harvesting are all important in all countries surveyed, except in Greece where the cost of manual harvesting remains low.

For financial and risk conditions, subsidies as producer income are a moderately important indicator in Italy, important in Egypt, and very important in Greece. For the second indicator, farm insurance coverage, is of little importance in Italy, very important in Egypt, and moderately important in Greece.

In terms of socio-demographic conditions, age of farmers, education level of workers in VF production, and local employment in the export supply chain are all considered by experts to be important to very important indicators except for age of farmers which is moderately to not very important in Greece.

In terms of ecological conditions that influence cluster activity, rainfall, economic cost of climate change damage, and anticipation of harvest in relation to the international market, are important to very important indicators in all 3 countries, except for rainfall which is unimportant to not very important.

Regarding the size/activity of the producer organizations/associations, in the context of the ecological conditions that influence the activity of the cluster, this indicator remains important to moderately important according to all experts.

Strategies

Regarding the diversification strategies adopted by the cluster within the supply chain system, the diversification of types and varieties of fruits and vegetables is considered a low importance indicator in Italy, very important in Egypt, and important to moderately important in Egypt.

For risk management strategies, marketing of F/L through long-term contracts is a very important indicator in Egypt and Greece, but moderately important in Italy.

In terms of outsourcing strategies, all indicators (off-farm labor, F/L routed through third-party logisticians/distributors, technical advice) are important to very important from the point of view of all experts, except for off-farm labor, which remains moderately to not very important in Greece.

In terms of policy support strategies adopted by the cluster within the supply chain system, the adoption of technical advice by farms is a moderately important to unimportant indicator in Italy, as is producers receiving public subsidies, which is an unimportant to important indicator in Egypt. Beyond these two exceptions, the indicators included in this framework are all important according to all experts.

Regarding the intensification and up-market strategies adopted by the cluster within the supply chain system, all indicators (Adoption of internet-based platforms for F/L marketing, Greenhouse production and implementation of irrigated crops) are important by all countries, except in Greece where Greenhouse production and implementation of irrigated crops represents a moderate to unimportant indicator.

Concerning partnership strategies, the marketing of F/L through producers' organizations/associations, and the intermediation activity of the supply chain, are important indicators for all experts. These findings are the same with respect to distribution strategies, since the participation of intermediaries in the distribution channel and the export of destinations are all important to very important in all countries, as is the adoption of quality labels as an indicator in market orientation strategies.

Performance

In terms of the economic performance achieved by the cluster within the supply chain system, all the indicators included in the study (Total revenue generated by F/L export, Cost of production, Harvesting method (manual or mechanized), Productivity, Export of high value-added F/L, Post-harvest losses, and Efficiency of distribution channels) are important to not very important in all countries except for the harvesting method (manual or mechanized), which represents a moderately important indicator in Greece.

In terms of the social performance achieved by the cluster within the supply chain system, the indicators in the study (Job creation, Population benefiting/affected by the supply chain, working conditions of supply chain workers, Fair compensation of supply chain workers, Employment of women, Employment of immigrants) are all important to very important

according to all the experts, except in Egypt where employment of immigrants is an indicator of low importance.

On the environmental side, regarding the environmental performance achieved by the cluster within the supply chain system, the indicators concerned by the study (Certification systems for sustainable agricultural practices, Waste management, Water use efficiency, Pesticides and fertilizers used) are all important to very important in Italy, Egypt and Greece.

Regarding governance performance, the size of producer organizations/associations, management of a farm by immigrants and women, bargaining power of producer organizations/associations, and equality of decision making among members of producer organizations/associations are all important according to all experts, except for the bargaining power of producer organizations/associations, which remains a moderately to not very important indicator in Italy.

4 Conclusion

Task 1.1 broadly addressed the key issues and opportunities of local supply chain systems in the five Mediterranean countries and allowed the identification of a set of cross-cutting indicators characterizing the functioning of these systems. Secondly, this task presented the relevant ideas and patterns of functioning of the supply chain systems and presented an inventory of general indicators articulated around the main elements constituting the conditions, strategies and performances of the fruit and vegetable cluster dynamics.

Based on the outputs of Task 1.1 and in feedback to the same experts interviewed, ***with the exception of the Egypt team which is required to recruit new experts following some problems encountered with the former experts***, we were able to identify specific variables as well as multiple external drivers of supply chain systems related to the conditions that characterize the structure and strategic behavior of clusters and which, in turn, trigger performance in terms of competitiveness. The identified items were evaluated by the experts with proposals and suggestions for the improvement of cluster performance.

That being said, however, the results in the five Mediterranean countries should be viewed with some caution since the different fruit and vegetable supply chains are neither identical nor of the same size. Also, it should be mentioned that the number of experts/informants interviewed is not of the same size for all five countries,

Also, it should be noted that some of the respondents interviewed in Task 1.1 were changed and the sample size was reduced from 18 to 14 respondents. Thus the sample is not sufficiently representative.

Given the following considerations, it is therefore difficult to generalize the results.

5 Deliverable contributions to SDGs

This deliverable, "Report on Structure of Five Mediterranean Clusters," makes meaningful contributions to several Sustainable Development Goals (SDGs) by providing an in-depth analysis of the structural characteristics, dynamics, and relationships within Mediterranean agri-food clusters. These findings offer actionable insights into enhancing the economic, social, and environmental performance of the clusters. Below are the detailed contributions:

- 1. SDG 1 - End poverty in all its forms everywhere:** By analyzing the structure and interconnections within the five Mediterranean clusters, this deliverable identifies strategies for improving the competitiveness of small-scale producers and local SMEs. These strategies include fostering collaboration and strengthening value chain linkages, which empower rural communities to increase their incomes and economic resilience, directly contributing to poverty alleviation.
- 2. SDG 2 - End hunger, achieve food security, and promote sustainable agriculture:** The deliverable emphasizes the importance of strengthening local agricultural clusters to improve the efficiency of production and distribution systems. By identifying gaps and opportunities in the clusters, it supports the development of localized food systems that increase access to fresh, nutritious fruits and vegetables while promoting sustainable agricultural practices. This approach enhances food security and builds more robust agri-food systems in the Mediterranean region.
- 3. SDG 8 - Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all:** The report identifies critical structural and strategic weaknesses in the clusters and provides recommendations to address them. By optimizing cluster performance, it creates opportunities for economic growth and job creation, especially in rural and underserved areas. The focus on fostering collaboration between producers, processors, and distributors encourages inclusive economic development and supports decent work conditions across the value chain.
- 4. SDG 12 - Ensure sustainable consumption and production patterns:** Through its analysis of the clusters, the deliverable promotes sustainable production and consumption practices tailored to local conditions. The recommendations include adopting voluntary sustainability standards (VSS) and other environmentally friendly practices to ensure that the production processes align with responsible consumption demands. These efforts directly contribute to reducing waste and minimizing the environmental impact of agricultural production in the region.
- 5. SDG 13 - Take urgent action to combat climate change and its impacts:** The deliverable highlights the importance of integrating climate-smart practices into cluster operations, such as efficient water use, reduced reliance on chemical inputs, and low-carbon logistics solutions. By encouraging such practices within the Mediterranean clusters, the report supports efforts to mitigate the environmental impact of agricultural activities and strengthen the clusters' resilience to climate-related challenges.
- 6. SDG 17 - Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development:** By facilitating collaboration among a diverse

range of stakeholders within the Mediterranean clusters, this deliverable promotes partnerships that drive sustainable development. The report encourages knowledge sharing and capacity building among farmers, SMEs, policymakers, and other actors, ensuring that the identified solutions can be implemented effectively at local, national, and regional levels.

6 Annexes:

6.1 Breakdown of the number of experts interviewed by country

	Public technical advisory services	Academia/ Research	Producers' organisation/ Associations	Private sector	Total per country
Egypt	1	1	1	-	3
France	-	-	1	1	2
Greece	-	1	-	1	2
Italy	1	1	2	-	4
Morocco	2	-	1	-	3
Total per sector	4	3	5	2	14

Source: Partners' team leaders of the Med-Links project Deliverable Task 1.1 updated by Task 1.2

6.2 Summary table of raw data collected by country and supply chain type

SECTION A - Short Food Supply Chain (SFSC) CONDITIONS

		Morocco			Egypt		
		MR1	MR2	MR3	EG1	EG2	EG3
Regulation & Policy	I1 A1	1	2	3	4	5	1
	I2 A1	1	1	1			
	I3 A1						
	I4 A1						
Demand	I1 A2	2	2	1	4	1	2
	I2 A2	1	2	2	5	2	1
	I3 A2	1	2	1			
	I4 A2						
Technological availability	I1 A3	5	5	5	2	1	1
	I2 A3	1	1	1	2	1	2
	I3 A3	4	3	3	1	1	2
	I4 A3	1	2	2	1	2	2
	I5 A3	1	2	1	3	2	1
	I6 A3						
	I7 A3						
Production factors	I1 A4	1	2	2	5	1	3
	I2 A4	3	3	2	1	1	2
	I3 A4	1	1	1	2	1	2
	I4 A4						
	I5 A4						
Finance & risk	I1 A5	5	4	3	5	4	3
	I2 A5	1	1	1	3	1	5
	I3 A5						
	I4 A5						
Socio-demographic	I1 A6	1	1	1	1	2	4
	I2 A6	5	4	4	1	2	2
	I3 A6	1	1	2			
	I4 A6						
Ecological	I1 A7	1	1	1	5	4	1
	I2 A7	4	2	2	3	1	1
	I3 A7						
	I4 A7						
Socio-institutional	I1 A8	1	1	1	5	3	2
	I2 A8						
	I3 A8						

		Greece		Italy	
		GR1	GR2	IT1	IT2
Regulation & Policy	I1 A1	2	2	4	4
	I2 A1			1	1
	I3 A1			1	1
	I4 A1				
Demand	I1 A2	2	1	4	4
	I2 A2	2	2	3	3
	I3 A2			2	2
	I4 A2			1	2
Technological availability	I1 A3	3	4	2	2
	I2 A3	3	1	2	2
	I3 A3	1	2	1	1
	I4 A3	1	1	2	1
	I5 A3	2	1	1	2
	I6 A3			1	2
	I7 A3				
Production factors	I1 A4	4	3	2	2
	I2 A4	3	3	2	2
	I3 A4	2	4	2	2
	I4 A4			2	2
	I5 A4			2	
Finance & risk	I1 A5	2	3	4	4
	I2 A5	3	4	3	3
	I3 A5			2	2
	I4 A5			2	2
Socio-demographic	I1 A6	5	5	1	2
	I2 A6	3	4	1	1
	I3 A6			1	1
	I4 A6			1	
Ecological	I1 A7	4	4	1	1
	I2 A7	1	2	1	1
	I3 A7			1	1
	I4 A7			1	
Socio-institutional	I1 A8	2	3	1	1
	I2 A8			1	1
	I3 A8				1

SECTION A - Short Food Supply Chain (SFSC) STRATEGIES

		Morocco			Egypt		
		MR1	MR2	MR3	EG1	EG2	EG3
Diversification	I1 A9	1	1	1	2	1	2
	I2 A9	1	1	1	3	1	2
	I3 A9	1	2	2	3	2	1
	I4 A9	3	3	2	2	1	3
	I5 A9						
	I6 A9						
Risk management	I1 A10	1	1	2	3	1	1
	I2 A10						
	I3 A10						
Externalisation	I1 A11	1	1	1	1	2	2
	I2 A11	2	2	2	1	2	2
	I3 A11						
	I4 A11						
Policy support	I1 A12	2	2	1	2	2	2
	I2 A12	1	1	1	5	3	3
	I3 A12						
	I4 A12						
Intensification and upscaling	I1 A13	1	1	1	4	3	2
	I2 A13	1	1	1	5	3	4
	I3 A13						
	I4 A13						
Technological innovation	I1 A14	1	2	1	3	1	2
	I2 A14	5	5	4	3	5	2
	I3 A14	1	2	2	3	1	5
	I4 A14						
	I5 A14						
Partnership	I1 A15	1	1	1	5	3	2
	I2 A15	1	2	1	3	1	1
	I3 A15						
	I4 A15						
Distribution	I1 A16	1	1	1	5	4	3
	I2 A16	2	3	4	3	2	1
	I3 A16						
	I4 A16						
Market orientation	I1 A17	1	1	2	4	4	2
	I2 A17	1	1	1	4	1	2
	I3 A17	1	1	1	4	1	2
	I4 A17						
	I5 A17						

		Greece		Italy	
		GR1	GR2	IT1	IT2
Diversification	I1 A9	5	5	1	1
	I2 A9	2	5	2	2
	I3 A9	1	1	3	3
	I4 A9	3	1	3	3
	I5 A9			1	
	I6 A9				
Risk management	I1 A10	3		2	2
	I2 A10			1	1
	I3 A10			1	2
Externalisation	I1 A11	3	2	3	3
	I2 A11	3	3	2	2
	I3 A11				
	I4 A11				
Policy support	I1 A12	3	3	1	2
	I2 A12	1	1	3	3
	I3 A12			2	2
	I4 A12			2	
Intensification and upscaling	I1 A13	2	4	3	3
	I2 A13	3	2	2	2
	I3 A13			1	1
	I4 A13				2
Technological innovation	I1 A14	2	3	1	2
	I2 A14	3	3	4	4
	I3 A14	3	4	3	3
	I4 A14			2	1
	I5 A14			1	
Partnership	I1 A15	3	4	1	1
	I2 A15	1	1	1	1
	I3 A15			3	
	I4 A15				
Distribution	I1 A16	1	1	1	1
	I2 A16	2	2	3	4
	I3 A16			1	3
	I4 A16				1
Market orientation	I1 A17	2	1	1	1
	I2 A17	1	1	1	1
	I3 A17	1	2	2	2
	I4 A17			1	1
	I5 A17				2

SECTION A - Short Food Supply Chain (SFSC) PERFORMANCE

		Morocco			Egypt		
		MR1	MR2	MR3	EG1	EG2	EG3
Economic	I1 A18	1	1	1	1	1	1
	I2 A18	1	2	1	1	2	3
	I3 A18	3	2	2	2	2	2
	I4 A18	1	1	2	3	1	2
	I5 A18	1	1	1	3	1	2
	I6 A18	1	1	1	5	2	2
	I7 A18	4	3	3	4	3	3
	I8 A18						
Social	I1 A19	1	2	2	5	1	2
	I2 A19	1	2	1	3	1	2
	I3 A19	1	1	1	4	1	3
	I4 A19	1	2	1	3	1	2
	I5 A19	1	1	1	5	2	2
	I6 A19	1	1	1	5	1	2
	I7 A19						
	I8 A19						
Environmental	I1 A20	3	2	1	4	1	1
	I2 A20	5	4	2	3	1	3
	I3 A20	1	1	1	5	1	2
	I4 A20	1	1	1	4	1	2
	I5 A20						
	I6 A20						
Governance	I1 A21	1	2	2	4	2	3
	I2 A21	1	2	1	4	2	3
	I3 A21						
	I4 A21						

		Greece		Italy	
		GR1	GR2	IT1	IT2
Economic	I1 A18	1	1	2	1
	I2 A18	3	1	3	3
	I3 A18	2	3	1	1
	I4 A18	2	2	2	2
	I5 A18	1	1	2	3
	I6 A18	4	1	1	1
	I7 A18	1	1	2	2
	I8 A18			1	
	I9 A18				
Social	I1 A19	3	2	2	2
	I2 A19	1	1	2	2
	I3 A19	1	1	1	1
	I4 A19	3	3	2	2
	I5 A19	2	1	1	1
	I6 A19	1	3	1	1
	I7 A19			2	2
	I8 A19				
Environmental	I1 A20	1	1	1	1
	I2 A20	1	1	1	1
	I3 A20	2	1	3	3
	I4 A20	4	5	2	3
	I5 A20			2	1
	I6 A20			1	
Governance	I1 A21	2	4	3	3
	I2 A21	2	3	1	2
	I3 A21			1	1
	I4 A21			1	1

SECTION B - Export Oriented Supply Chain (EOSC) CONDITIONS

		Egypt			Greece		Italy	
		EG1	EG2	EG3	GR1	GR2	IT1	IT2
Regulation & Policy	I1 B1	1	1	1	2	1	2	1
	I2 B1	1						
	I3 B1							
Demand	I1 B2	2	1	1	2	3	1	4
	I2 B2	1	1	1	2	3	2	2
	I3 B2	1						
	I4 B2	1						
Technological availability	I1 B3	3	1	1	2	3	2	2
	I2 B3	1	1	1	3	1	3	2
	I3 B3	3	1	2	2	2	2	1
	I4 B3	5	1	2	3	3	2	5
	I5 B3	1		1				
	I6 B3	1						
	I1 B4	1	1	1	2	3	3	1
Production factors	I2 B4	1	1	1	4	4	1	3
	I3 B4			1				
	I4 B4			1				
	I5 B4							
Finance & risk	I1 B5	5	4	1	1	1	3	3
	I2 B5	4	1	1	3	4	4	5
	I3 B5			1				
	I4 B5							
Socio-demographic	I1 B6	2	1	1	4	3	2	3
	I2 B6	1	1	2	2	3	4	2
	I3 B6	2		1	2	3	2	1
	I4 B6							1
	I5 B6							
Ecological	I1 B7	5	5	4	4	5	2	3
	I2 B7	2	1	1	3	2	1	3
	I3 B7	1	1	2	2	3	1	1
	I4 B7			1				
Socio-institutional	I5 B8							
	I1 B8	5	2	4	3	5	2	3
	I2 B8			1				
	I3 B8							

SECTION B - Export Oriented Supply Chain (EOSC) STRATEGIES

		Egypt			Greece		Italy	
		EG1	EG2	EG3	GR1	GR2	IT1	IT2
Diversification	I1 B9	1	1	1	3	2	4	4
	I2 B9			1				
	I3 B9			1				
Risk management	I1 B10	1	1	2	1	1	2	4
	I2 B10			1				
	I3 B10							
Externalisation	I1 B11	3	1	1	4	3	1	4
	I2 B11	2	2	4	1	2	2	4
	I3 B11	1	1	2	1	2	2	3
	I4 B11			1				
	I5 B11			1				
Policy support	I1 B12	5	1	2	1	2	3	5
	I2 B12	1	1	2	2	3	1	1
	I3 B12	5	4	4	1	3	2	1
	I4 B12							
	I5 B12							
Intensification and upscaling	I1 B13	1	1	1	1	2	1	3
	I2 B13			1				
	I3 B13							
Technological innovation	I1 B14	2	3	4	3	1	1	4
	I2 B14	3	2	1	2	3	2	2
	I3 B14	2	1	1	3	4	3	1
	I4 B14							
	I5 B14							
Partnership	I6 B15							
	I1 B15	3	2	2	4	2	2	3
	I2 B15	2	1	3	3	2	1	2
	I3 B15							
	I4 B15							
Distribution	I1 B16	2	1	1	2	2	1	2
	I2 B16	1	1	1	4	2	2	1
	I3 B16							
	I4 B16							
Market orientation	I1 B17	2	1	1	2	2	2	1
	I2 B17							1
	I3 B17							

SECTION B - Export Oriented Supply Chain (EOSC) PERFORMANCE

		Egypt			Greece		Italy	
		EG1	EG2	EG3	GR1	GR2	IT1	IT2
Economic	I1 B18	2	2	1	1	2	2	1
	I2 B18	2	1	1	1	1	1	2
	I3 B18	2	1	1	3	3	1	1
	I4 B18	1	1	1	1	2	1	2
	I5 B18	2	1	1	1	1	1	2
	I6 B18	1	1	2	1	2	2	4
	I7 B18	1	1	2	1	1	2	3
	I8 B18							
	I9 B18							
Social	I1 B19	1	1	1	1	1	2	1
	I2 B19	2	3	1	2	1	2	2
	I3 B19	2	1	1	1	1	3	2
	I4 B19	2	1	1	2	1	4	1
	I5 B19	3	1	2	1	1	4	1
	I6 B19	4	4	4	5	2	4	1
	I7 B19							
	I8 B19							
Environmental	I1 B20	1	2	1	2	1	3	1
	I2 B20	1	2	1	2	1	4	1
	I3 B20	1	1	1	1	1	4	2
	I4 B20	1	1	1	4	1	3	1
	I5 B20							
	I6 B20							
Governance	I1 B2	4	2	1	4	4	2	3
	I2 B2	5	3	2	2	3	4	2
	I3 B2	5	2	1	2	2	3	4
	I3 B2	5	3	1	3	2	3	1
	I3 B2							
	I4 B2							

SECTION C - Green Public Procurement (GPP) CONDITIONS

		France	
		FR 1	FR 2
Regulation & Policy	I1 C1	1	3
	I2 C1	3	4
	I3 C1		
Demand	I1 C2	1	3
	I2 C2		
	I3 C2		
	I4 C2		
Technological availability	I1 C3	3	4
	I2 C3	4	4
	I3 C3	1	2
	I4 C3	3	3
	I5 C3		
	I6 C3		
Production factors	I1 C4	3	1
	I2 C4	2	1
	I3 C4	2	3
	I4 C4		
	I5 C4		
Finance & risk	I1 C5	4	2
	I2 C5	4	4
	I3 C5		
	I4 C5		
Socio-demographic	I1 C6	5	1
	I2 C6	3	1
	I3 C6		
	I4 C6		
	I5 C6		
Ecological	I1 C7	2	1
	I2 C7	2	2
	I3 C7		
	I4 C7		
Socio-institutional	I5 C8		
	I1 C8	3	4
	I2 C8		
	I3 C8		

SECTION C - Green Public Procurement (GPP) STRATEGIES

		France	
		FR 1	FR 2
Diversification	I1 C9	3	3
	I2 C9	4	3
	I3 C9		
Risk management	I1 C10	3	4
	I2 C10		
	I3 C10		
Externalisation	I1 C11	3	2
	I2 C11	3	3
	I3 C11		
	I4 C11		
	I5 C11		
Policy support	I1 C12	4	4
	I2 C12	4	2
	I3 C12		
	I4 C12		
	I5 C12		
Intensification and upscaling	I1 C13	3	2
	I2 C13		
	I3 C13		
Technological innovation	I1 C14	3	4
	I2 C14	4	2
	I3 C14	2	2
	I4 C14		
	I5 C14		
Partnership	I6 C15		
	I1 C15	4	2
	I2 C15	4	2
	I3 C15		
	I4 C15		
Distribution	I1 C16	2	2
	I2 C16	2	4
	I3 C16		
	I4 C16		
Market orientation	I1 C17	4	1
	I2 C17	5	1
	I3 C17	4	1

SECTION C - Green Public Procurement (GPP) PERFORMANCE

		France	
		FR 1	FR 2
Economic	I1 C18	4	3
	I2 C18	3	4
	I3 C18	4	3
	I4 C18	3	1
	I5 C18	1	1
	I6 C18	1	2
	I7 C18	2	2
	I8 C18		
Social	I1 C19	4	3
	I2 C19	4	3
	I3 C19	2	1
	I4 C19		
	I5 C19		
	I6 C19		
	I7 C19		
	I8 C19		
Environmental	I1 C20	4	2
	I2 C20	2	2
	I3 C20		
	I4 C20		
	I5 C20		
	I6 C20		
Governance	I1 C21	3	2
	I2 C21	4	2
	I3 C21	3	2
	I3 C212		
	I3 C22		
	I4 C21		

6.3 Questionnaire - task 1.2 : Section A - Short Food Supply Chain (SFSC)

MED-LINKS Task 1.2:

Questionnaire for survey interviews to key supply chain systems' partners and experts

Methodology and guidelines for the questionnaire to key informants and experts (for the report "Structure of five Mediterranean clusters")

The objective of this questionnaire is to contribute in Task 1.2 to measure indicators related to external drivers (economic, environmental, rules, behavioural attitude), strategical choices and competitiveness. These findings will be provided by partners in the attached report "*Supply chain system and cluster description and functioning dynamics*".

For each cluster, partners will interview at least 2-3 key informants/experts whom were previously interviewed for the former task 1.1.

The questionnaire provided here represents the methodological guidelines that partners are recommended to follow **for key informants and expert interviews**, according to the list of general indicator provided in task 1.1.

QUESTIONNAIRE - TASK 1.2

SECTION A - Short Food Supply Chain (SFSC)

With regards to each group of conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance

With regards to each group of strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration

With regards to each group of performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

Experts will also be asked to propose 1 or 2 indicators more if they deem it is necessary.

For conditions that present only one indicator, expert will be asked to provide 2 or 3 indicators and to assess them according to the appropriate level.

SECTION A - Short Food Supply Chain (SFSC) CONDITIONS

With regards to Regulation and policy conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A1	Regulation and policy	I1.A1	State subsidies for F&V production	
		I2.A1		
		I3.A1		

Please suggest 2 indicators more and evaluate them according to importance from 1 to 5.

With regards to Demand conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A2	Demand	I1.A2	Sales of F&V in farmers' market	
		I2.A2	Domestic per capita consumption	
		I3.A2		
		I4.A2		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Technological availability conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A3	Technological availability	I1.A3	Use of irrigation in FV production	
		I2.A3	Presence/Activity of agricultural technicians	
		I3.A3I	Transport costs	
		I4.A3	Logistic pooling	
		I5.A3	F&V commercialisation through internet-based platforms	
		I6.A3		
		I7.A3		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Production factors conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A4	Production factors	I1.A4	Family farm members' engagement in the workforce	
		I2.A4	Non-family labour cost	
		I3.A4	Cost of land rentals	
		I4.A4		
		I5.A4		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Finance & risk conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A5	Finance & risk	I1.A5	Subsidies as producer income	
		I2.A5	Insurance coverage of farms	
		I3.A5		
		I4.A5		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Socio-demographic conditions that influence the activity of the cluster please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A6	Socio-demographic	I1.A6	Age of farmers	
		I2.A6	Workers' education level in the FV production	
		I3.A6		
		I4.A6		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Ecological conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A7	Ecological	I1.A7	Precipitation	
		I2.A7	Economic cost of damages from climate change	
		I3.A7		
		I4.A7		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Socio-institutional conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A8	Socio-Institutional	I1.A8	Size/activity of producer organisations/associations	
		I2.A8		
		I3.A8		

Please suggest 2 indicators more and evaluate them according to importance from 1 to 5.

SECTION A - Short Food Supply Chain (SFSC) STRATEGIES

With regards to Diversification strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A9	Diversification	I1.A9	Income source diversification (agro-tourism, catering, etc.)	
		I2.A9	Organic or sustainable F&V production	
		I3.A9	F&V processing	
		I4.A9	Minimally processing of fresh F&V	
		I5.A9		
		I6.A9		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Risk management strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A10	Risk management	I1.A10	Water access improvement through water management	
		I2.A10		
		I3.A10		

Please suggest 2 indicators more and evaluate them according to importance from 1 to 5.

With regards to Externalisation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A11	Externalisation	I1.A11	Workforce from outside farm	
		I2.A11	F&V shifted by third party logistics/distributors	
		I3.A11		
		I4.A11		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Policy support strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A12	Policy support	I1.A12	Adoption of technical advisory by farms	
		I2.A12	Producers benefiting from state subsidies	
		I3.A12		
		I4.A12		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Intensification and upscaling strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A13	Intensification and upscaling	I1.A13	Farm size dynamics	
		I2.A13	Size of producers' organisations/associations	
		I3.A13		

		I4.A13		
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Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Technological innovation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A14	Technological innovation	I1.A14	Adoption of internet-based platforms for F&V commercialisation	
		I2.A14	Production under greenhouse	
		I3.A14	Implementation of irrigated cultivations	
		I4.A14		
		I5.A14		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Partnership strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A15	Partnership	I1.A15	F&V Farmer participation in producer organizations/associations	
		I2.A15	Commercialization of F&V through pooling logistics	
		I3.A15		
		I4.A15		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Distribution strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A16	Distribution	I1.A16	Commercialization of F&V through direct sale	
		I2.A16	Commercialization of F&V through one intermediary	
		I3.A16		
		I4.A16		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Market orientation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A17	Market orientation	I1.A17	Participation to initiatives for reducing food supply distance	
		I2.A17	Adoption of traceability systems	
		I3.A17	Adoption of quality labels	
		I4.A17		
		I5.A17		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

SECTION A - Short Food Supply Chain (SFSC) PERFORMANCE

With regards to Economic performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A18	Economic	I1.A18	Quality of F&V	
		I2.A18	Income of farmers	
		I3.A18	F&V farming production costs	
		I4.A18	F&V farming productivity	
		I5.A18	Farm access to financial resources	
		I6.A18	Expansion of F&V market	
		I7.A18	Farming risk mitigation plans	
		I8.A18		
		I9.A18		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Social performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A19	Social	I1.A19	Employment in the supply chain	
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		I2.A19	Rural household income	
		I3.A19	Consumer-producer relationships	
		I4.A19	Self-esteem among family farms	
		I5.A19	Employment stability of small-scale farmers	
		I6.A19	Promotion of local/regional identity	
		I7.A19		
		I8.A19		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Environmental performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A20	Environmental	I1.A20	Food miles	
		I2.A20	Environmental footprint	
		I3.A20	Quantity/volume of organic F&V	
		I4.A20	Area under organic farming	
		I5.A20		
		I6.A20		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Governance performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

A21	Governance	I1.A21	Size of producer organisations/associations	
		I2.A21	Decision-making equality among the members of producers organisations/associations	
		I3.A21		
		I4.A21		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

6.4 Questionnaire - task 1.2: Section B - Export Oriented Supply Chain (EOSC)

MED-LINKS Task 1.2:

Questionnaire for survey interviews to key supply chain systems' partners and experts

Methodology and guidelines for the questionnaire to key informants and experts (for the report "Structure of five Mediterranean clusters")

The objective of this questionnaire is to contribute in Task 1.2 to measure indicators related to external drivers (economic, environmental, rules, behavioural attitude), strategical choices and competitiveness. These findings will be provided by partners in the attached report "Supply chain system and cluster description and functioning dynamics".

For each cluster, partners will interview at least 2-3 key informants/experts whom were previously interviewed for the former task 1.1.

The questionnaire provided here represents the methodological guidelines that partners are recommended to follow for key informants and expert interviews, according to the list of general indicator provided in task 1.1.

SECTION C - Green Public Procurement (GPP)

With regards to each group of conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance

With regards to each group of strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration

With regards to each group of performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

Experts will also be asked to propose 1 or 2 indicators more if they deem it is necessary. For conditions that present only one indicator, expert will be asked to provide 2 or 3 indicators and to assess them according to the appropriate level.

SECTION C - Green Public Procurement (GPP) CONDITIONS

With regards to Regulation and policy conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C1	Regulation and policy	I1.C1	Quality requirements for FV set by state for public canteens	
		I2.C1	Farm-market distance as local product criterion for F&V	
		I3.C1		
		I4.C1		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Demand conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C2	Demand	I1.C2	Demand for high quality F&V in public procurement	
		I2.C2		
		I3.C2		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Technological availability conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C3	Technological availability	I1.C3	F&V commercialization through internet-based platforms	
		I2.C3	Presence/Activity of agricultural technicians	
		I3.C3	Transport costs	
		I4.C3	Logistic pooling	
		I5.C3		

		I6.C3		
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Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Production factors conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderatly important	Slightly important	Not important

C4	Production factors	I1.C4	Family farm members' engagement in the workforce	
		I2.C4	Non-family labour cost	
		I3.C4	Cost of land rentals	
		I4.C4		
		I5.C4		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Finance & risk conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderatly important	Slightly important	Not important

C5	Finance & risk	I1.C5	Subsidies as producer income	
		I2.C5	Insurance coverage of farms	
		I3.C5		
		I4.C5		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Socio-demographic conditions that influence the activity of the cluster please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderatly important	Slightly important	Not important

C6	Socio-demographic	I1.C6	Age of farmers	
		I2.C6	Workers' education level in the FV production	
		I3.C6		
		I4.C6		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Ecological conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C7	Ecological	I1.C7	Precipitation	
		I2.C7	Economic cost of damages from climate change	
		I3.C7		
		I4.C7		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Socio-institutional conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C8	Socio-Institutional	I1.C8	Size/activity of producer organisations/associations	
		I2.C8		
		I3.C8		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

SECTION C - Green Public Procurement (GPP) STRATEGIES

With regards to Diversification strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C9	Diversification	I1.C9	Organic or sustainable F&V production	
		I2.C9	F&V processing	
		I3.C9		
		I4.C9		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Risk management strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C10	Risk management	I1.C10	Commercialization of F&V through long term contracts	
		I2.C10		
		I3.C10		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Externalisation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C11	Externalisation	I1.C11	Workforce from outside farm	
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		I2.C11	F&V shifted by third party logistics/distributors	
		I3.C11		
		I4.C11		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Policy support strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C12	Policy support	I1.C12	Adoption of technical advisory by farms	
		I2.C12	Producers benefiting from state subsidies	
		I3.C12		
		I4.C12		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Intensification and upscaling strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C13	Intensification and upscaling	I1.C13	Size of producers’ organisation/association	
		I2.C13		
		I3.C13		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Technological innovation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C14	Technological innovation	I1.C14	Adoption of internet-based platforms for F&V commercialisation	
		I2.C14	Production under greenhouse	
		I3.C14	Implementation of irrigated cultivations	
		I4.C14		
		I5.C14		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Partnership strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C15	Partnership	I1.C15	F&V Farmer participation in producer organizations/associations	
		I2.C15	Commercialization of F&V through pooling logistics	
		I3.C15		
		I4.C15		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Distribution strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C16	Distribution	I1.C16	Producer organisations' supply of F&V to public canteens	
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		I2.C16	Supply of F&V to public canteens directly by farmers	
		I3.C16		
		I4.C16		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Market orientation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C17	Market orientation	I1.C17	Participation to initiatives for reducing food supply distance	
		I2.C17	Adoption of traceability systems	
		I3.C17	Adoption of quality labels	
		I4.C17		
		I5.C17		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

SECTION C - Green Public Procurement (GPP) PERFORMANCE

With regards to Economic performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C18	Economic	I1.C18	Income generated by supplying public collective restaurants	
		I2.C18	Organic F&V supplied to public market	

		13.C18	Local and fresh F&V supplied to public market	
		14.C18	Coherence of local production with the demand of public market	
		15.C18	F&V farming production costs	
		16.C18	F&V farming productivity	
		17.C18	F&V area under cultivation (cluster)	
		18.C18		
		19.C18		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Social performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C19	Social	11.C19	Food charities supplied by the cluster	
		12.C19	Population benefiting from public canteens	
		13.C19	Job creation	
		14.C19		
		15.C19		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Environmental performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C20	Environmental	I1.C20	Waste management	
		I2.C20	Reduction of food waste in the supply chain	
		I3.C20		
		I4.C20		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Governance performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

C21	Governance	I1.C21	Conventions and contracts between small-scale farmers and the municipality	
		I2.C21	Size of producers organisations/associations	
		I3.C21	Decision-making equality among the members of producers organisations/associations	
		I4.C21		
		I5.C21		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

6.5 Questionnaire - task 1.2: Section C - Green Public Procurement (GPP)

WP1: SME competitiveness and consumer attitude in FV supply chain systems

®MED-LINKS Task 1.2:

Ex ante cluster competitiveness assessment

Questionnaire for survey interviews to key supply chain systems' partners and experts

Task leader: UCA

(for any question please contact us: louahi@gmail.com ; mohamed.aithou2@gmail.com)

Methodology and guidelines for the questionnaire to key informants and experts (for the report "Structure of five Mediterranean clusters")

The objective of this questionnaire is to contribute in Task 1.2 to measure indicators related to external drivers (economic, environmental, rules, behavioural attitude), strategical choices and competitiveness. These findings will be provided by partners in the attached report "Supply chain system and cluster description and functioning dynamics".

For each cluster, partners will interview at least 2-3 key informants/experts whom were previously interviewed for the former task 1.1.

The questionnaire provided here represents the methodological guidelines that partners are recommended to follow for key informants and expert interviews, according to the list of general indicator provided in task 1.1.

SECTION B - Export Oriented Supply Chain (EOSC)

With regards to each group of conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance

With regards to each group of strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration

With regards to each group of performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

Experts will also be asked to propose 1 or 2 indicators more if they deem it is necessary.

For conditions that present only one indicator, expert will be asked to provide 2 or 3 indicators and to assess them according to the appropriate level.

SECTION B - Export Oriented Supply Chain (EOSC) CONDITIONS

With regards to Regulation and policy conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B1	Regulation and policy	I1.B1	Existence of mandatory or voluntary regulations set by either public authorities, producer organisations or retailers that facilitate or limit F&V export	
		I2.B1		
		I3.B1		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Demand conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B2	Demand	I1.B2	Price elasticity of demand for FV	
		I2.B2	Difference of price between local and export destination market	
		I3.B2		
		I4.B2		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Technological availability conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B3	Technological availability	I1.B3	F&V production in greenhouses	
		I2.B3	Presence/Activity of agricultural technicians	
		I3.B3	F&V production from new varieties	
		I4.B3	Foreign investments in the logistics of supply chain	
		I5.B3		
		I6.B3		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Production factors conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B4	Production factors	I1.B4	Farm size	
		I2.B4	Cost of manual harvesting	
		I3.B4		
		I4.B4		
		I5.B4		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Finance & risk conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B5	Finance & risk	I1.B5	Subsidies as producer income	
		I2.B5	Insurance coverage of farms	
		I3.B5		
		I4.B5		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Socio-demographic conditions that influence the activity of the cluster please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B6	Socio-demographic	I1.B6	Age of farmers	
		I2.B6	Workers' education level in the FV production	

		I3.B6	Local employment in the export supply chain	
		I4.B6		
		I5.B6		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Ecological conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B7	Ecological	I1.B7	Precipitation	
		I2.B7	Economic cost of damages from climate change	
		I3.B7	Harvest anticipation compared to international market	
		I4.B7		
		I5.B7		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Socio-institutional conditions that influence the activity of the cluster, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B8	Socio-Institutional	I1.B8	Size/activity of producer organisations/associations	
		I2.B8		
		I3.B8		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

SECTION B - Export Oriented Supply Chain (EOSC) STRATEGIES

With regards to Diversification strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B9	Diversification	I1.B9	Diversification of F&V types and varieties produces	
		I2.B9		
		I3.B9		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Risk management strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B10	Risk management	I1.B10	Commercialization of F&V through long term contracts	
		I2.B10		
		I3.B10		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Externalisation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B11	Externalisation	I1.B11	Workforce from outside farm	
		I2.B11	F&V shifted by third party logistics/distributors	
		I3.B11	Technical advisory	
		I4.B11		
		I5.B11		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Policy support strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Indicator highly irrelevant	Indicator likely to be irrelevant	Indicator more or less relevant	Indicator likely to be relevant	Indicator highly relevant

B12	Policy support	I1.B12	Adoption of technical advisory by farms	
		I2.B12	Trade undertaken by state entities	
		I3.B12	Producers benefiting from state subsidies	
		I4.B12		
		I5.B12		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Intensification and upscaling strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important)

) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B13	Intensification and upscaling	I1.B13	Size of producers' organisation/association	
		I2.B13		
		I3.B13		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Technological innovation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B14	Technological innovation	I1.B14	Adoption of internet-based platforms for F&V commercialisation	
		I2.B14	Production under greenhouse	
		I3.B14	Implementation of irrigated cultivations	
		I4.B14		
		I5.B14		
		I6.B14		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Partnership strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B15	Partnership	I1.B15	Commercializing of F&V through producer organizations/associations	
		I2.B15	Supply chain intermediation activity	
		I3.B15		
		I4.B15		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Distribution strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected

indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B16	Distribution	I1.B16	Participation of intermediaries in the distribution channel	
		I2.B16	Exporting destinations	
		I3.B16		
		I4.B16		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

With regards to Market orientation strategies that are adopted by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B17	Market orientation	I1.B17	Adoption of quality labels	
		I2.B17		
		I3.B17		

Please suggest 2 indicators more and evaluate them according to relevance from 1 to 5.

SECTION B - Export Oriented Supply Chain (EOSC) PERFORMANCE

With regards to Economic performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B18	Economic	I1.B18	Total income generated by export of F&V	
		I2.B18	Production cost	
		I3.B18	Harvesting method (manual or mechanised)	
		I4.B18	Productivity	
		I5.B18	Export of F&V high added value products	
		I6.B18	Post-harvest losses	
		I7.B18	Efficiency of distribution channels	
		I8.B18		
		I9.B18		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Social performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B19	Social	I1.B19	Job creation	
		I2.B19	Population benefiting/affected from the supply chain	
		I3.B19	Working conditions of the supply chain workers	
		I4.B19	Fair remuneration of supply chain workers	
		I5.B19	Employment of women	
		I6.B19	Employment of immigrants	
		I7.B19		
		I8.B19		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Environmental performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B20	Environmental	I1.B20	Sustainable agricultural practices certification schemes	
		I2.B20	Waste management	
		I3.B20	Efficiency of water use	
		I4.B20	Pesticides and fertilizers used	
		I5.B20		
		I6.B20		

Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)

With regards to Governance performance obtained by the cluster within the supply chain system, please assess on a scale from 1 (Very important) to 5 (Not important) the selected indicators according to their importance for the performance of the supply chain into consideration:

1	2	3	4	5
Very important	Important	Moderately important	Slightly important	Not important

B21	Governance	I1.B21	Size of producers organisations/associations	
		I2.B21	Running of farm business by immigrants and women	
		I3.B21	Bargaining power of producer organisations/associations	
		I4.B21	Decision-making equality among the members of producers organisations/associations	
		I5.B21		

		I6.B21		
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Please suggest 1 or 2 indicators more that you deem important to include (not compulsory)