Project funded by EUROPEAN UNION

HEGO

Black Sea CROSS BORDER COOPERATION

HEGO BSB 987

Fulfilling deliverable:	D.T1.5.1
Activity title:	Activity A.T1.5- Final reporting on Market Research Surveys
Deliverable title:	Final Cross-country Report on Market Research Surveys results
Responsible partner:	PP2 (AUTH)
Submission:	May 2021

Project funded by EUROPEAN UNION

HEGO

Black Sea CROSS BORDER COOPERATION

Table of Contents

1. Introduction: Description of Activity T1 in the project context 3

1.1 The aim of this qualitative research 4

2. Materials and Methods 5

3. Results of the compared survey analysis 6

4. Conclusions and Recommendations 37

Notes 40

1. Introduction: Description of Activity T1 in the project context

In the HEGO project context, **Activity A.T1.5 "Final reporting on Market Research Surveys"** is part of Group of Activities **GA_T1 "Market Research for current situation and training needs on herb sector"**.

The objective of GA_T1 is to perform Market Research surveys, one in each Project country (GR,MLD,GE,AM) with stakeholders from all target groups in order to identify (1) the current business and market situation with reference to the collection/cultivation, processing and promotion practices used for herb products in Project countries as well as legislation issues and the niche market segments for sustainable and ethical herbs products, (2) the attributes that influence the trade and market value of herbs in each country and (3) the specific training needs of end-users of Project Outputs in relation to the above mentioned topics. The findings of these surveys will lead to conclusions, suggestions, recommendations and specific guidelines for target groups' members that will be used as feedback for the formulation of GA3 and GA4 activities. Especially for GA2, the survey results will provide direct feedback and guidance for the development of the training programme (O.T2.1) (Fig. 1).

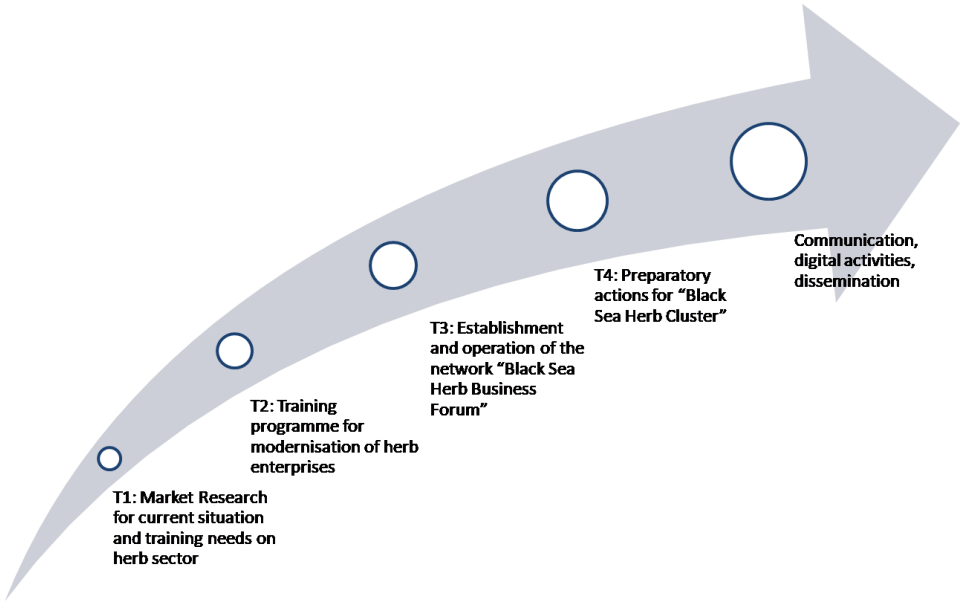

Figure 1. Contribution of WP T1 to the HEGO project

1.1 The aim of this qualitative research

This report is one of the main Deliverables of the project's first work package (WP): **Market Research for current situation and training needs on herb sector** (Fig. 2).

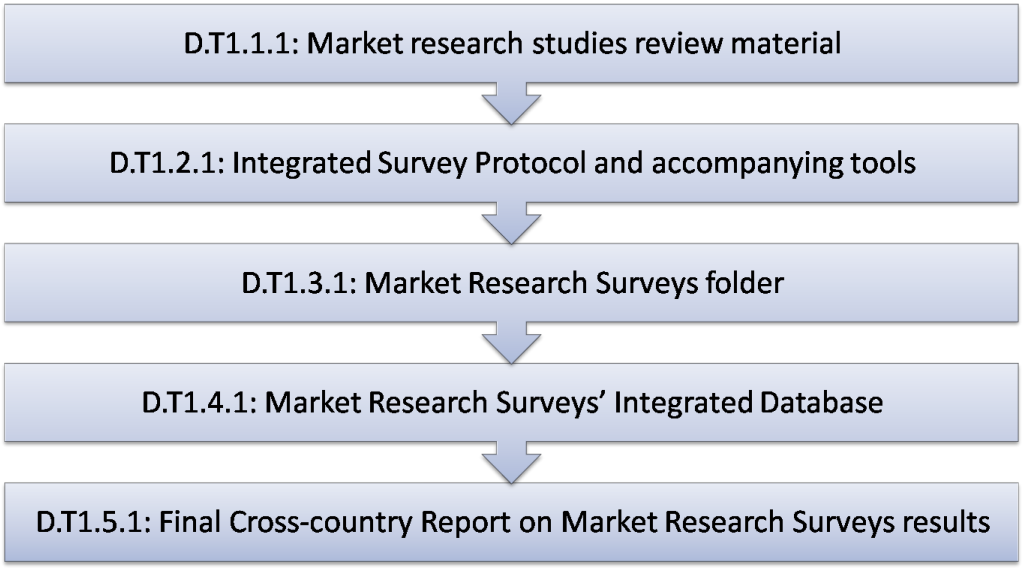

Figure 2. WP T1 interconnection

This qualitative research is performed under the Deliverable **D.T1.5.1 "Final Cross-country Report in Market Research Surveys results"** and **aims** at providing the final common findings, conclusions and suggestions/recommendations on training needs, modernization practices and improvement of herb products' trade value among Project countries.

Following Chapter 1 covering the Introduction and the aim of the qualitive research, the structure of the present Deliverable includes a brief presentation of the questionnaire set – up in Chapter 2, an in depth exposition of the results of the compared survey analysis in Chapter 3 and finally a section dedicated to the conclusions and recommendations.

2. Materials and Methods

The research in all four project **countries** was conducted during March and April 2021. The questionnaire was developed in D.T1.2.1 and completed in **Greece** by 30 responders, in **Moldova** by 49 responders, in **Georgia** by 33 responders and in **Armenia** by 40 responders (Fig. 3). The sample was representative consisting of all target groups, of different age groups and of different educational background. More details are presented below at section 3.1.

Figure 3. Distribution of the sample by country

The primary collection method was face-to-face/personal interviews. But in some cases, due to weaknesses (pandemic, national reasons), interviews were done by phone,

Skype, e-mail or via Google Forms. Also, collected national data were gathered in data excel file "D. T1.2.1_template" and an analysis was performed by each partner in D.T1.4.1.

3. Results of the compared survey analysis

The following Table 1 and 2 present a short description of the research sample. According to Table 1, Moldova had the biggest sample, followed by Armenia, Georgia and Greece. Greece's main target groups were Farmers of herbs (53.33%), whereas in Moldova, Georgia and Armenia, SMEs (42.68%, 33,33% and 35,00% respectively), The main group of the total sample of the survey were SMEs (31,58%), followed by farmers of herbs with 23,03% (Fig. 4).

Table 1. Description of the sample

Distribution of the sample by country	
Greece (30 questionnaires)	19,74 %
Moldova (49 questionnaires)	32,24 %
Georgia (33 questionnaires)	21,71 %
Armenia (40 questionnaires)	26,32 %

Table 2. Description of the target groups

Target groups	Greece (%)	Moldova (%)	Georgia (%)	Armenia (%)
Farmer of herbs	53,33	20,41	12,12	12,50
Collector of herbs	6,67	0,00	27,27	15,00
Local public authorities	6,67	4,08	0,00	0,00
Regional public authorities	0,00	2,04	0,00	22,50
National public authorities	3,33	4,08	3,03	0,00
Sectoral agencies	0,00	2,04	0,00	2,50
Interest groups including NGOs	3,33	6,12	12,12	5,00
Education/ training centers and schools	13,33	8,16	9,09	5,00
SMEs	6,67	42,86	33,33	35,00
Business support Organisations	6,67	10,20	3,03	2,50

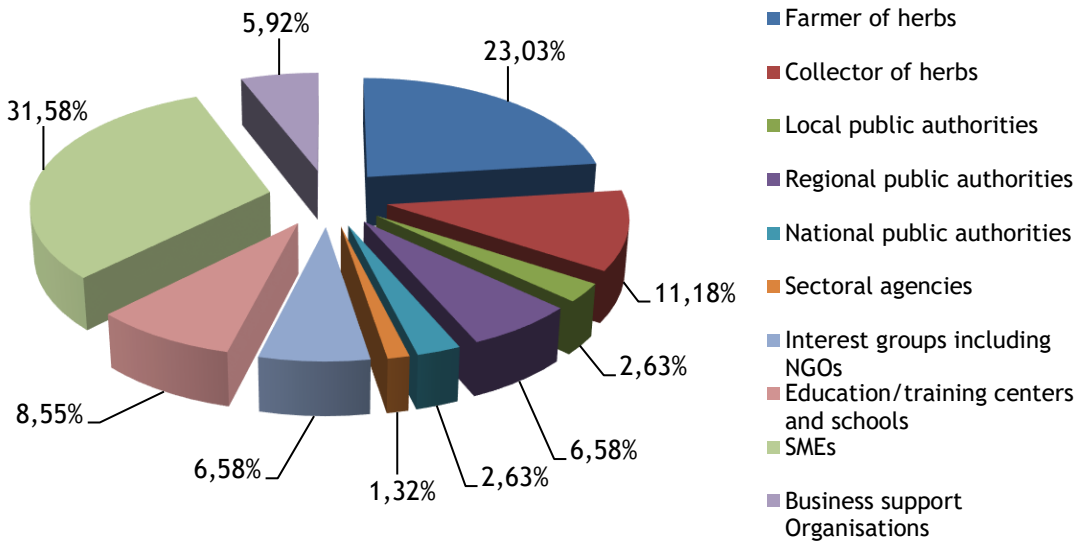

Figure 4. Distribution of the total survey sample

Regarding their ability to cooperate internationally (knowledge of foreign languages), 30,26% mentioned that they stand at medium level and 25,66% at high level of ability (Fig. 5). Moreover, the capacity to cooperate internationally in each country presented in Table 3.

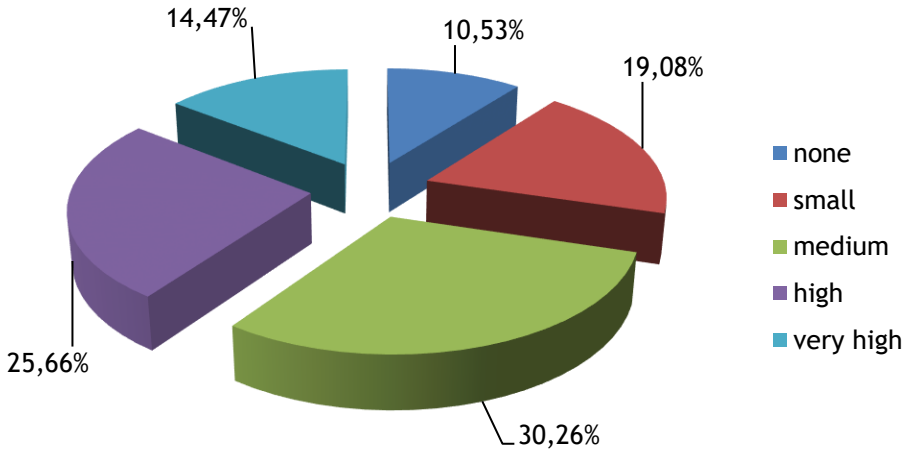

Figure 5. Capacity to cooperate internationally of the total survey sample

Table 3. Capacity to cooperate internationally (knowledge of foreign languages)

Foreign languages	Greece (%)	Moldova (%)	Georgia (%)	Armenia (%)
None	6,67	22,45	6,06	2,50
Small	6,67	22,45	6,06	35,00
Medium	23,33	20,41	45,45	35,00
High	36,67	24,49	33,33	12,50
Very high	26,67	10,20	9,09	15,00

Regarding their capacity to interact electronically, all participants have access to internet and are using it to develop their activities (Fig.6 and Table 4).

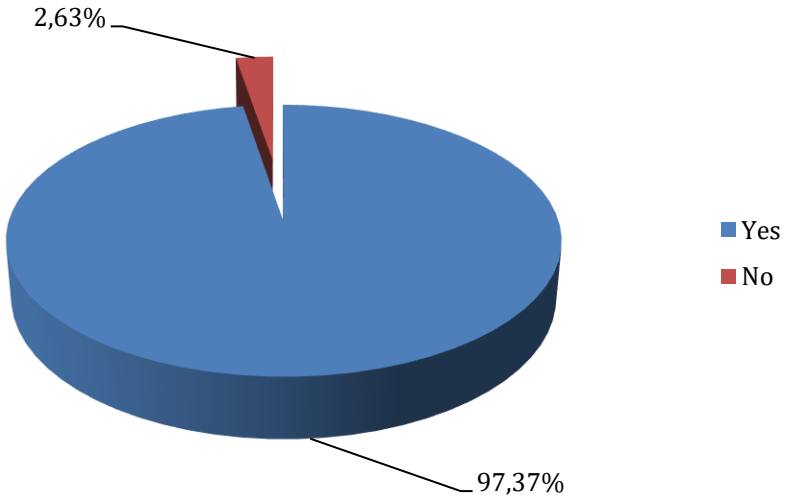

Figure 6. Capacity to interact electronically of the total survey sample

Table 4. Capacity to interact electronically (access to internet)

Access to internet	Greece (%)	Moldova (%)	Georgia (%)	Armenia (%)
Yes	100	100	96,97	92,50
No	0	0	3,03	7,50

The majority of the participants agree that they prefer the cultivation over the collection of the herbs ("collection of herbs" refers to the collection of herbs from the wild/nature). They agreed that cultivation of herbs protects the endangered species

while the collection of herbs threatens the sustainability of the environment. It is worth mentioning that there is an absolute agreement in all countries that **cultivation of herbs requires relevant education and training** (Table 5).

Table 5. Rate your agreement to the following sentences (1: strongly disagree, 5: strongly agree)

Collection or cultivation of herbs	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
I prefer the collection of herbs	2.43	3.69	3.97	3.50	3.40	0.67
I prefer the cultivation of herbs	4.27	4.15	3.73	3.90	4.01	0.24
Collection of herbs threatens the sustainability of the environment	3.97	3.15	3.00	3.10	3.31	0.45
Collection of herbs leading to species extinction	3.87	3.46	2.97	3.10	3.35	0.40
Cultivation of herbs protects endangered herb species	4.57	3.69	4.03	4.30	4.15	0.38
Cultivation of herbs requires high funds	2.97	3.53	4.06	3.30	3.47	0.46
Cultivation of herbs requires relevant education/training	4.00	4.53	4.45	4.10	4.27	0.26

*Average (Mean value)

According to all participants, current skills and expertise towards herbs are higher in processing techniques and lower in wildcrafting practices and technological expertise. Table 6 presents the mean values per country and per total survey sample.

Table 6. Grade the level of your skills and expertise today towards herbs (1: none, 5: very high)

Skills and expertise	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
Cultivation practices (planting, irrigation, fertilization, weed and pest control, harvesting, propagation)	3.57	3.15	3.00	2.80	3.13	0.33
Knowledge on cultivation needs (from planting till harvesting)	3.87	3.38	3.15	3.00	3.35	0.38
Wildcrafting practices (do you implement these methods of harvesting?)	2.83	2.46	3.58	3.30	3.04	0.50
Knowledge on ethical wildcrafting (improve the process, follow regulations and make it more sustainable and environmental- friendly)	3.37	2.38	3.61	3.20	3.14	0.53
Knowledge on the biodiversity conservation of endemic herb plant	3.47	2.76	3.48	3.30	3.25	0.34

species (do you know that many endemic herb plants are forbidden to harvest as they are protected, red-listed?)						
Knowledge about the ecology and sustainable management methods of herb species	3.37	3.15	3.39	3.40	3.33	0.12
Processing techniques (drying herbs, herbal mixtures, distillation, extracts, food products etc)	3.50	3.46	3.48	3.30	3.44	0.09
Technological expertise (like value chain, precision agriculture, innovations, application of technology in the cycle of production etc)	3.13	3.00	3.18	2.90	3.05	0.13
Trading skills (marketing skills, certification etc)	3.03	3.30	3.42	3.10	3.21	0.18
Business management skills (value chain development, legislative expertise, finance etc)	3.17	3.53	3.21	3.30	3.30	0.16

*Average (Mean value)

Future needs in training towards herbs should target the gain of plant health conditions-weed control and managerial-commercial skills (Fig.7). The next figure summarizes the averages of those mean values in an ascending order.

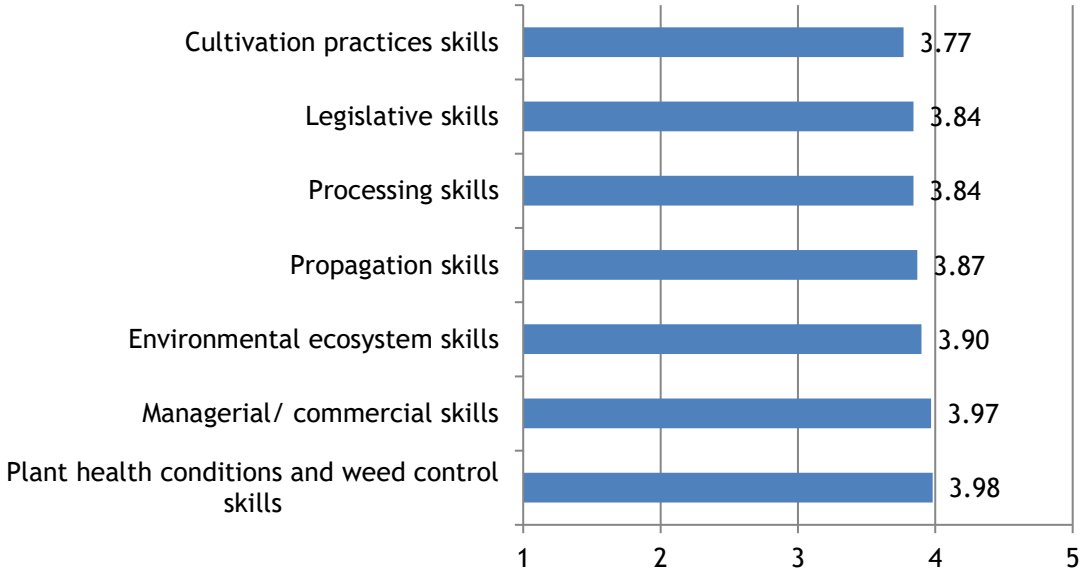

Figure 7. Future needs in herbs training (average of total sample mean values)

Table 7 presents the mean values per country and per total survey sample in every subcategory of skills. In Greece, training for managerial/commercial skills was seen as most needed, whereas cultivation practices skills were graded as a lesser necessity. Moreover, the most important skills that need to be developed are marketing, trading

and cooperating internationally. In Moldova, training for propagation skills was more important, whereas managerial/commercial skills were less important. In Georgia, most needed skills were training for plant health conditions and weed control, while training for legislative skills seems to be a lesser necessity. Finally, in Armenia, training for plant health conditions and weed control skills seems to be very important whereas managerial/commercial skills were less important.

Table 7. Rate your need for training to the following (1: not important, 5: extremely important)

Training needs	Greece	Moldova	Georgia	Armenia	Average (mean value)	St. deviation
a. Training for cultivation practices skills						
On planting process	3.20	4.07	3.97	3.67	3.37	0.39
On site selection like soil composition, pH level, drainage	3.40	4.15	4.27	3.82	3.91	0.39
On fertilizing	3.00	4.07	4.03	3.72	3.71	0.50
On irrigation	3.00	4.07	4.15	3.8	3.76	0.53
On relevant equipment and tools for cultivation and wildcrafting practices	3.37	3.76	4.12	3.72	3.74	0.31
Average Mean values	**3.19**	**4.02**	**4.11**	**3.75**	**3.77**	
b. Training for plant health conditions and weed control skills						
On identification of plant health problems	3.83	4.15	4.21	4.10	4.07	0.17
On weed control	3.47	4.00	4.06	3.82	3.84	0.27
On pest control	3.50	4.00	4.27	3.97	3.94	0.32
On disease control	3.83	4.07	4.39	3.97	4.07	0.24
Average Mean values	**3.66**	**4.06**	**4.23**	**3.97**	**3.98**	
c. Training for propagation skills						
On establishing and operating an herb nursery	3.23	4.23	4.06	4.00	3.88	0.44
On selection of propagation methods and materials (growing structures, cuttings, seed, separation, division)	3.30	4.00	4.27	3.77	3.84	0.41
On knowledge of each method characteristics	3.53	4.23	4.12	3.72	3.90	0.33
Average Mean values	**3.35**	**4.15**	**4.15**	**3.83**	**3.87**	
d. Training for processing skills						
On harvesting	3.03	4.00	4.12	3.87	3.76	0.49
On storage/ post-harvest practices	3.13	4.00	4.09	4.15	3.84	0.48
On distillation techniques	3.57	4.07	3.97	3.47	3.77	0.29
On drying techniques	3.53	4.15	4.24	4.05	3.99	0.32

Average Mean values	**3.32**	**4.06**	**4.11**	**3.89**	**3.84**	
e. Training for legislative skills						
On understanding legislation for products, cultivation, propagation, taxes etc	3.97	4.38	4.00	3.55	3.98	0.34
On dealing with bureaucracy	3.83	4.00	4.03	2.97	3.71	0.50
On regulations and fines about wildcrafting	3.40	3.76	3.85	3.47	3.62	0.22
On regulations about certifications	3.97	4.38	4.15	3.45	3.99	0.40
On organic certification	3.87	4.15	4.15	3.50	3.92	0.31
Average Mean values	**3.81**	**4.13**	**4.04**	**3.93**	**3.84**	
f. Training for environmental ecosystems skills						
Knowledge about the biodiversity conservation of endemic herb plant species	3.57	4.00	4.09	3.75	3.85	0.24
Knowledge about the ecology and sustainable management methods of herb species	3.60	4.23	4.18	3.67	3.92	0.33
New sustainable cultivation practices	3.97	4.08	4.09	3.75	3.97	0.16
New sustainable wildcrafting practices	3.50	4.08	4.09	3.72	3.85	0.29
Average Mean values	**3.66**	**4.09**	**4.11**	**3.72**	**3.90**	
g. Training for managerial/ commercial skills						
On business management	3.90	4.00	4.09	3.52	3.88	0.25
On innovation management	4.10	4.15	4.18	3.70	4.00	0.21
On technological management	4.13	4.15	4.15	3.65	4.02	0.25
On marketing	4.33	4.00	4.12	3.67	4.03	0.28
On trading	4.30	4.00	4.12	3.57	4.00	0.31
On evaluating market demand	4.13	4.31	4.21	3.75	4.10	0.24
On cooperating internationally (language, trade terminology)	4.17	3.15	4.03	3.62	3.74	0.46
Average Mean values	**4.15**	**3.95**	**4.13**	**3.64**	**3.97**	

*Average (Mean value)

However, the specification and ranking of training needs per country is of greater value. Figure 8 shows the mean values in each country from which the following interesting results are obtained:

a) all three major training needs of **Greek** responders are included in the broader category “Training for managerial/ commercial skills”,

b) major training needs of **Moldavian** responders are included in the broader categories “Training for managerial/ commercial skills” and “Training for legislative skills”,

c) major training needs of **Georgian** responders are included in the broader categories "Training for plant health conditions and weed control skills", "Training for cultivation practices skills" and "Training for propagation skills",

d) major training needs of **Armenian** responders are included in the broader categories "Training for plant health conditions and weed control skills" and "Training for processing skills".

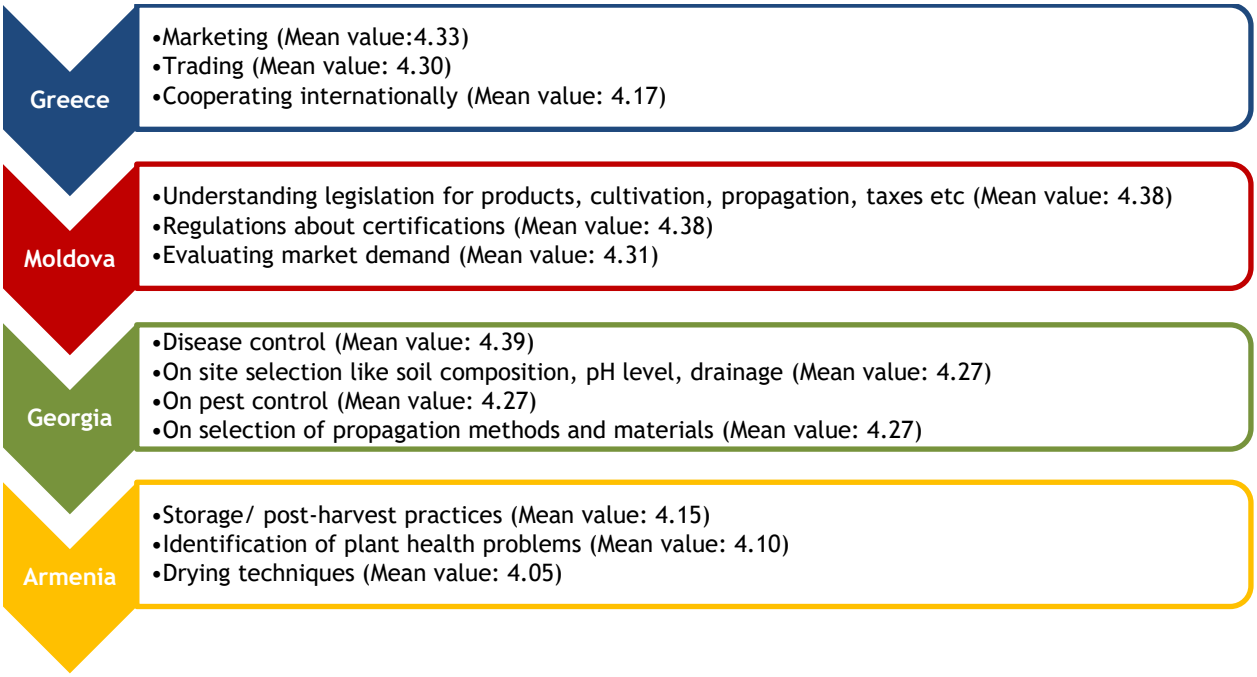

Figure 8. Most important training needs by country

Figures 9-15 show the future training needs of all target groups of each country with a different color, for cultivation practices, plant health conditions-weed control, propagation, processing, legislative, environmental ecosystems and managerial/commercial skills.

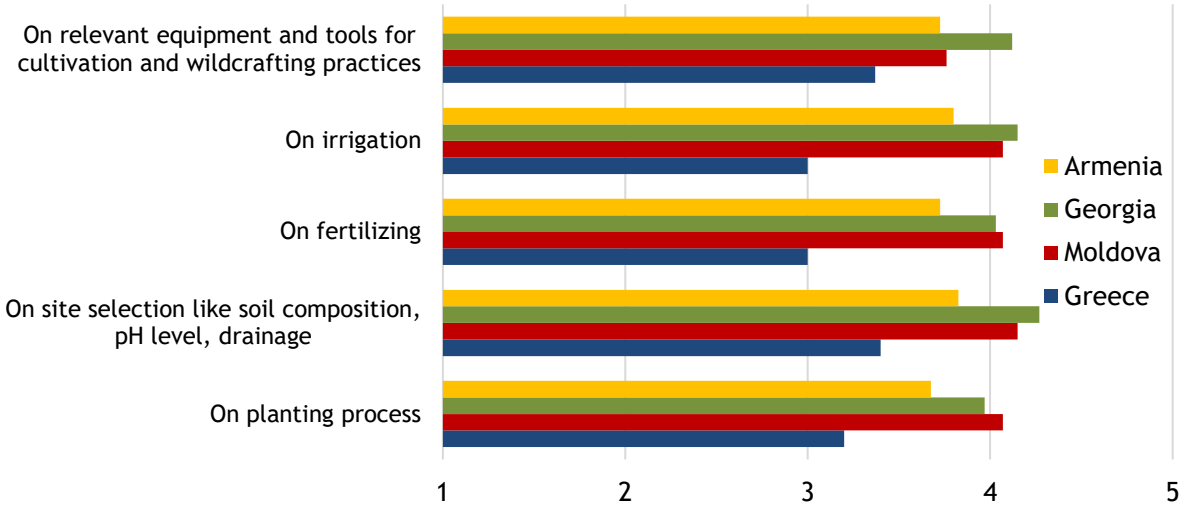

Figure 9. Future training needs for cultivation practices skills (all target groups, mean value)

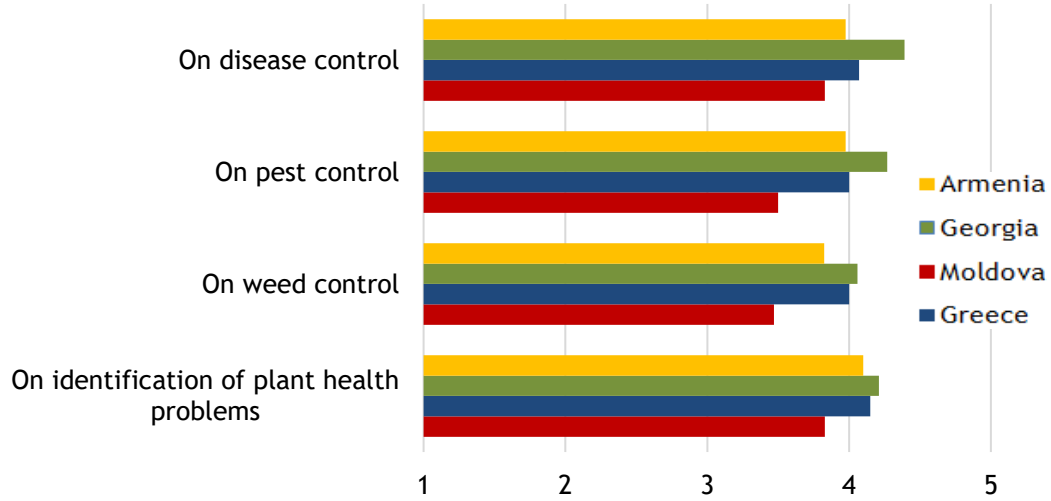

Figure 10. Future training needs for plant health conditions and weed control skills (all target groups, mean value)

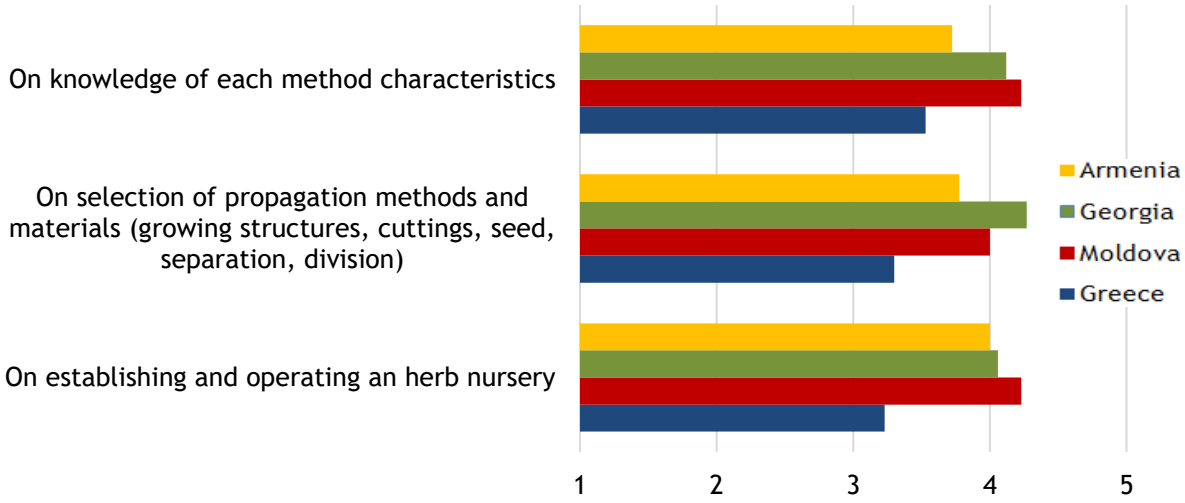

Figure 11. Future training needs for propagation skills (all target groups, mean value)

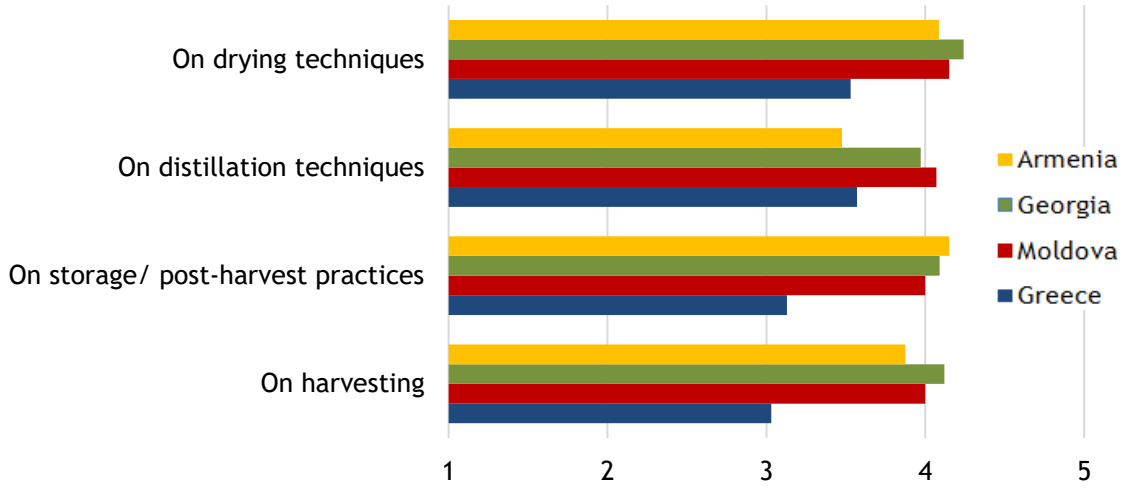

Figure 12. Future training needs for processing skills (all target groups, mean value)

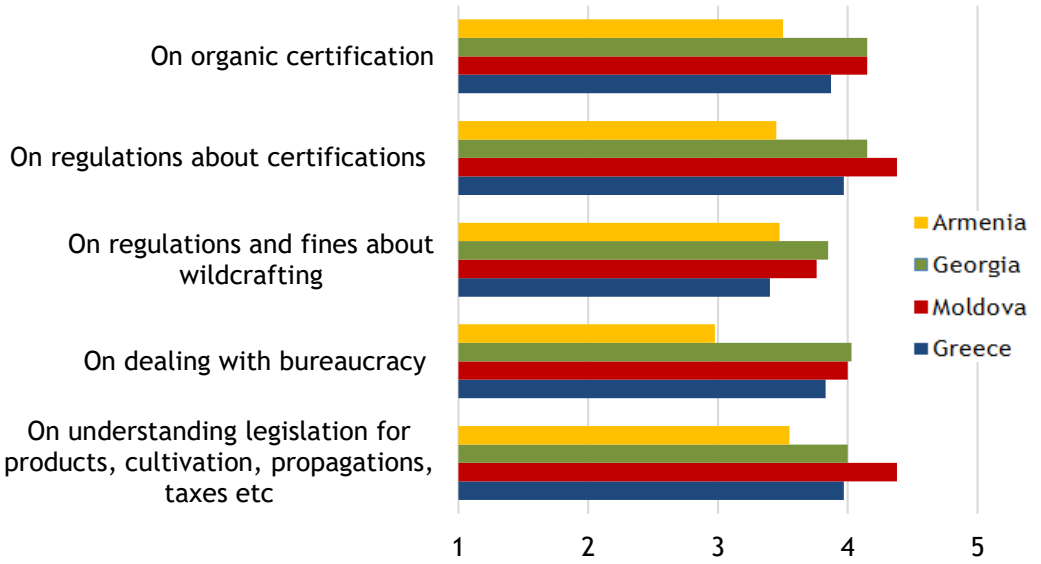

Figure 13. Future training needs for legislative skills (all target groups, mean value)

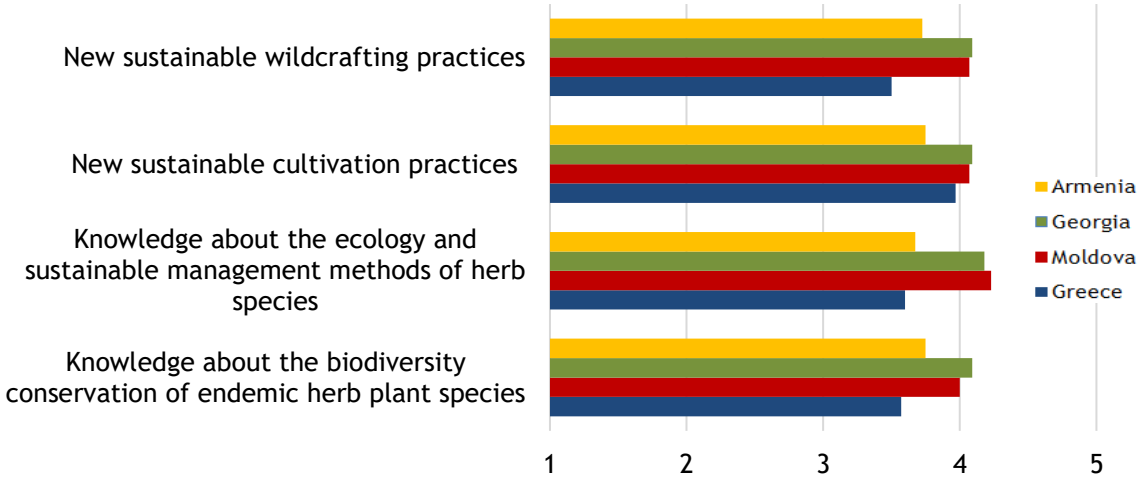

Figure 14. Future training needs for environmental ecosystems skills (all target groups, mean value)

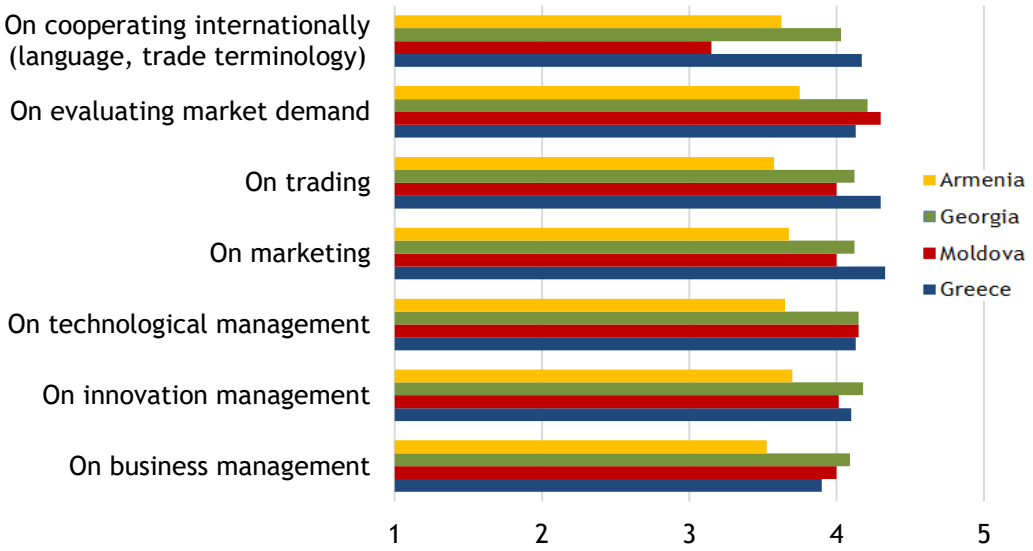

Figure 15. Future training needs for managerial/ commercial skills (all target groups, mean value)

Figures 16-22 below show the future training needs only for farmers, of each country with a different color for cultivation practices, plant health conditions and weed control, propagation, processing, legislative, environmental ecosystems and managerial/ commercial skills.

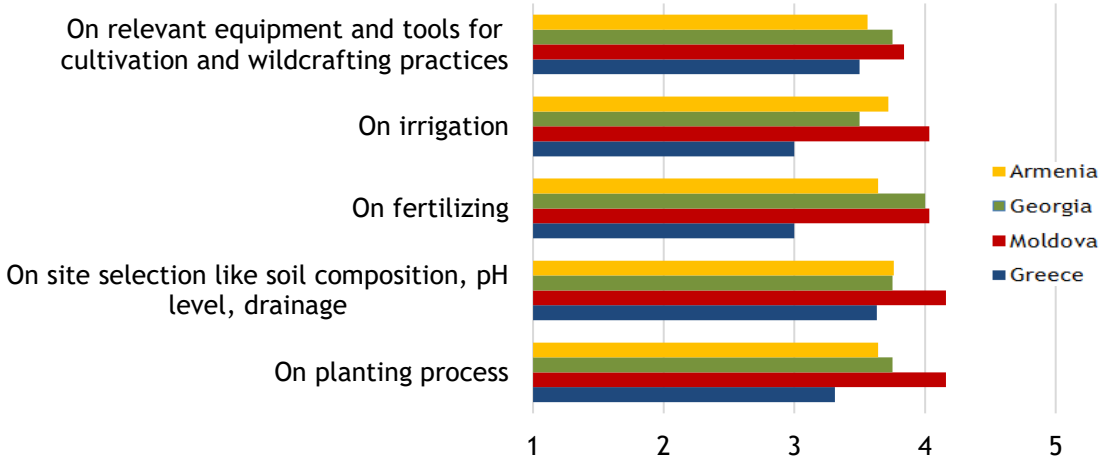

Figure 16. Future training needs for cultivation practices skills (only farmers, mean value)

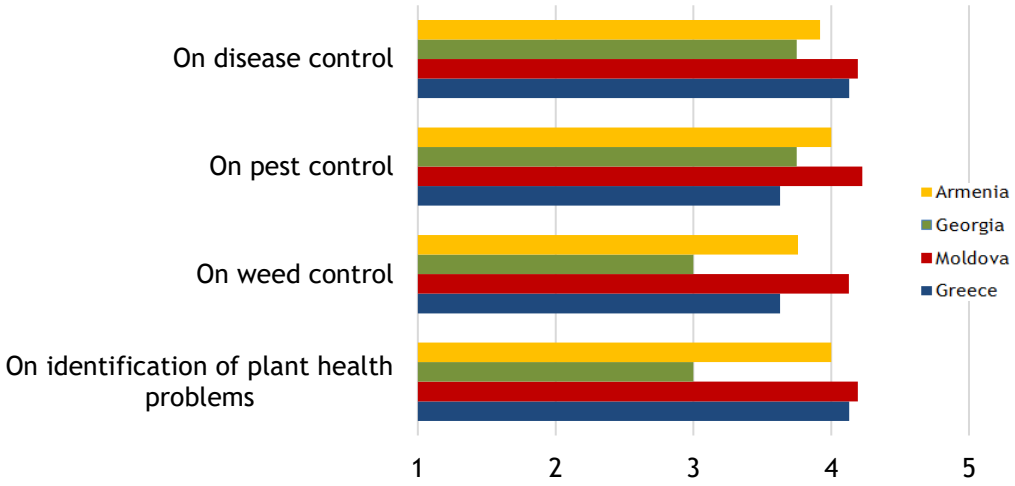

Figure 17. Future training needs for plant health conditions and weed control skills (only farmers, mean value)

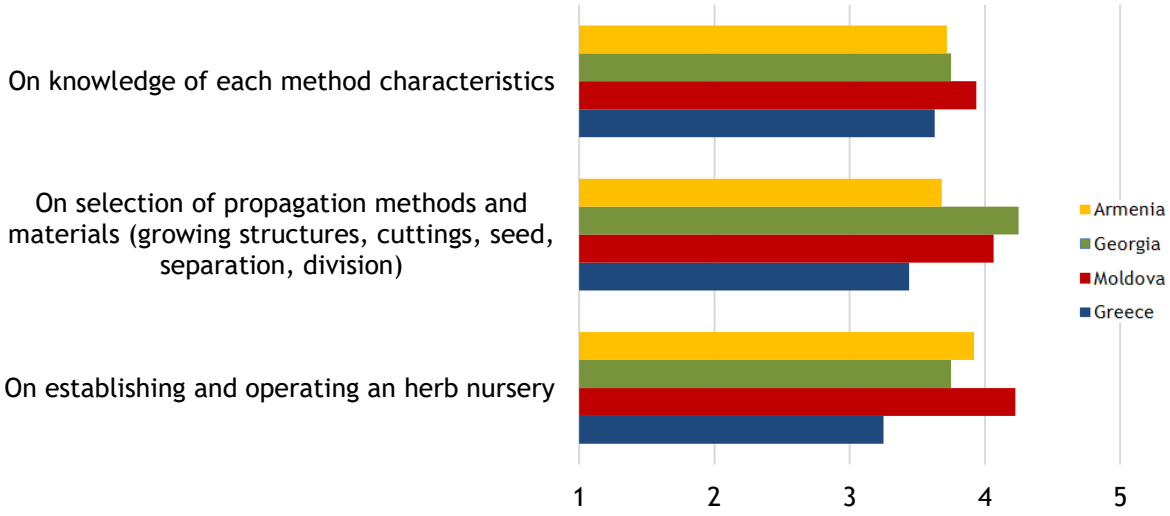

Figure 18. Future training needs for propagation skills (only farmers, mean value)

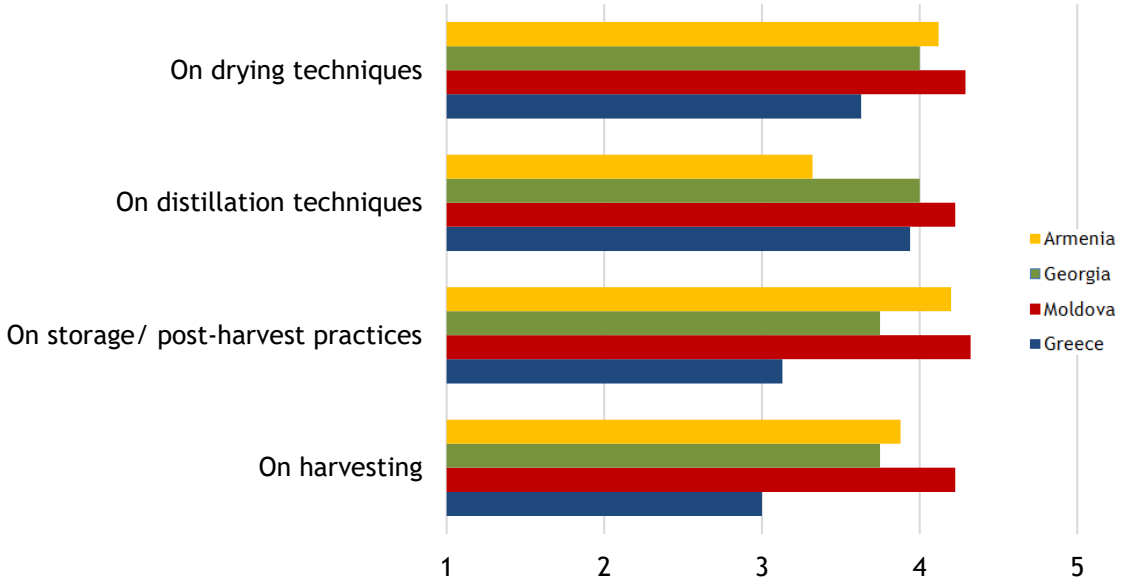

Figure 19. Future training needs for processing skills (only farmers, mean value)

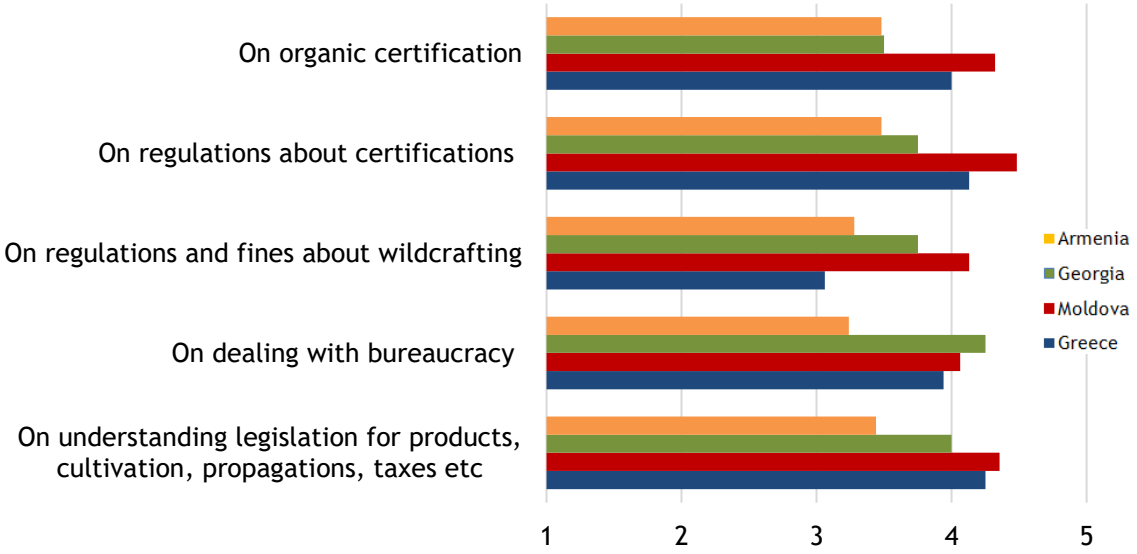

Figure 20. Future training needs for legislative skills (only farmers, mean value)

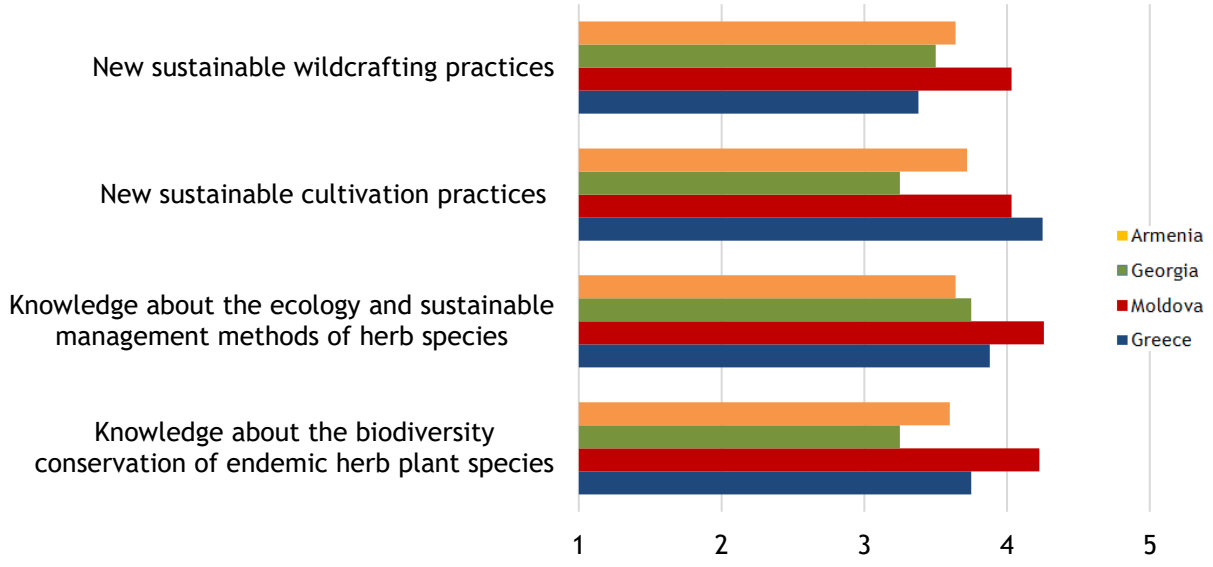

Figure 21. Future training needs for environmental ecosystems skills (only farmers, mean value)

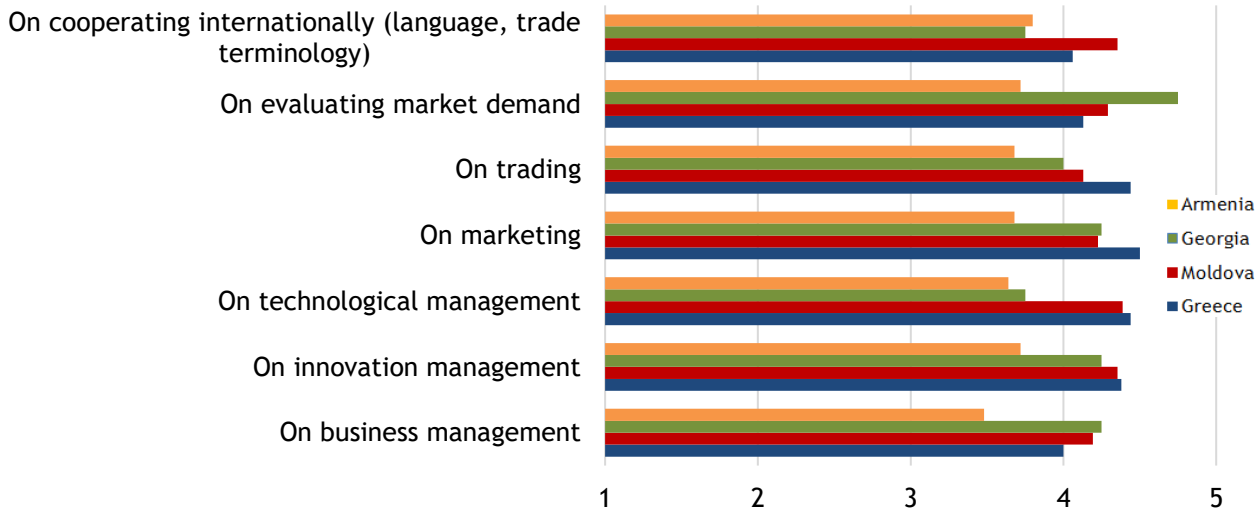

Figure 22. Future training needs for managerial/ commercial skills (only farmers, mean value)

Figures 23-29 below presents the future training needs of all target groups except farmers in each country with a different color for cultivation practices, plant health conditions and weed control, propagation, processing, legislative, environmental ecosystems and managerial/ commercial skills.

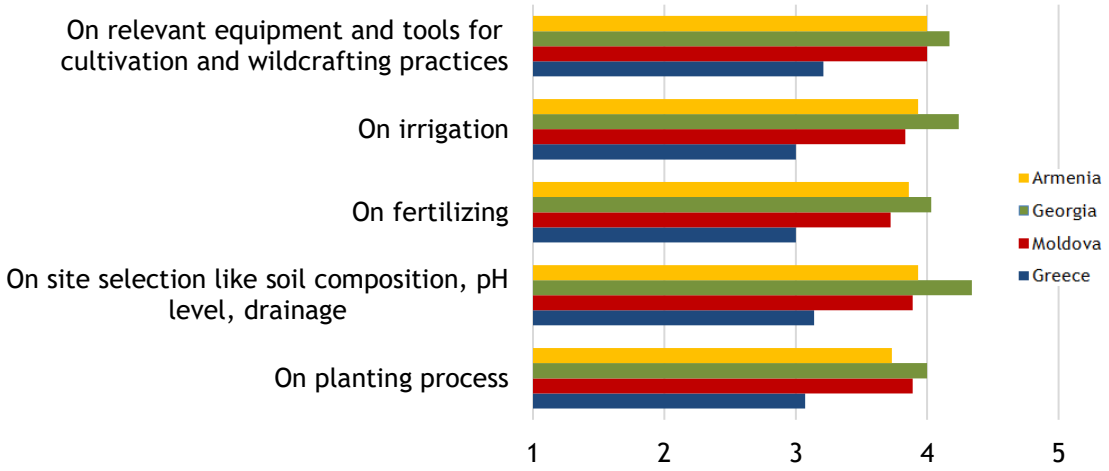

Figure 23. Future training needs for cultivation practices skills (all target groups except farmers, mean value)

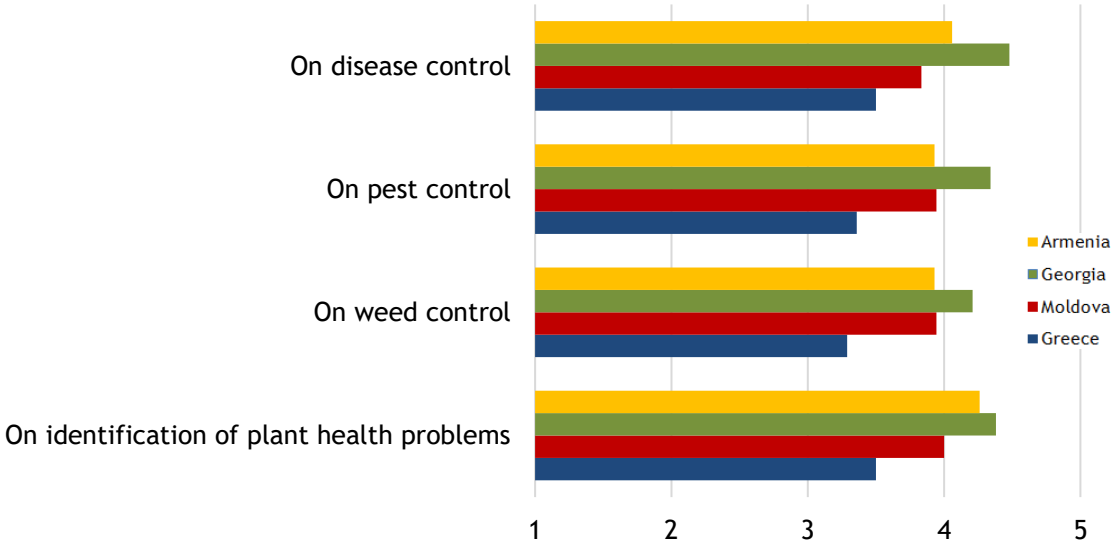

Figure 24. Future training needs for plant health conditions and weed control skills (all target groups except farmers, mean value)

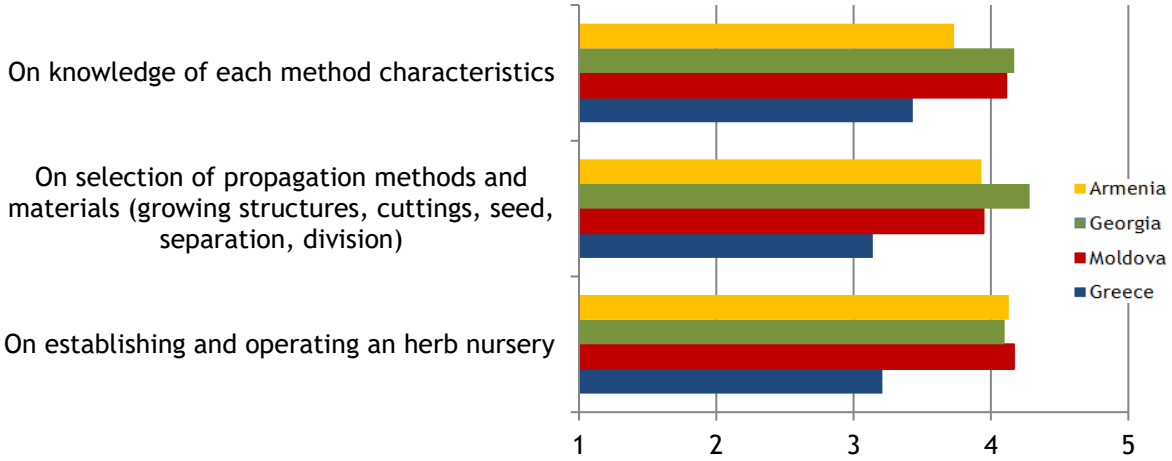

Figure 25. Future training needs propagation skills (all target groups except farmers, mean value)

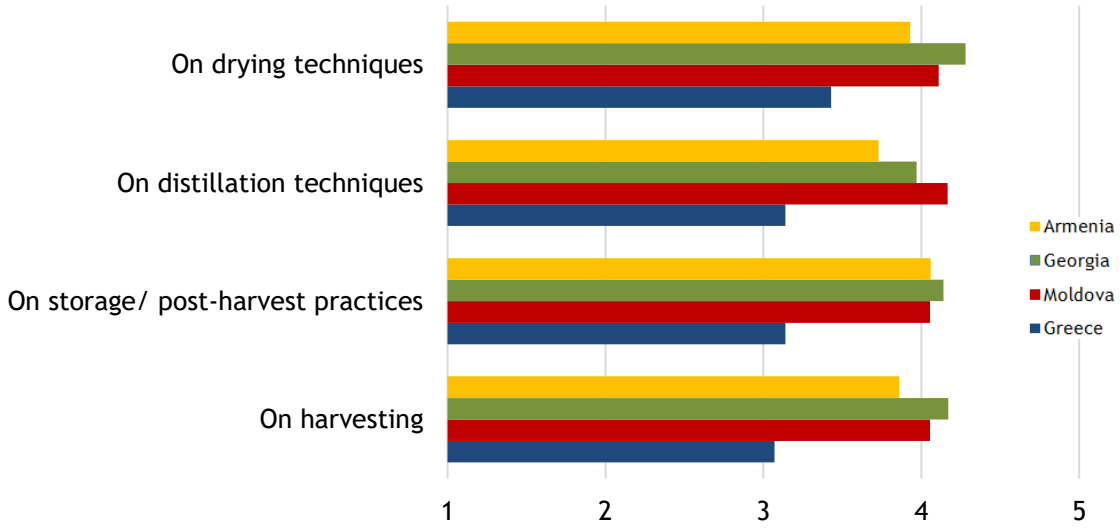

Figure 26. Future training needs for processing skills (all target groups except farmers, mean value)

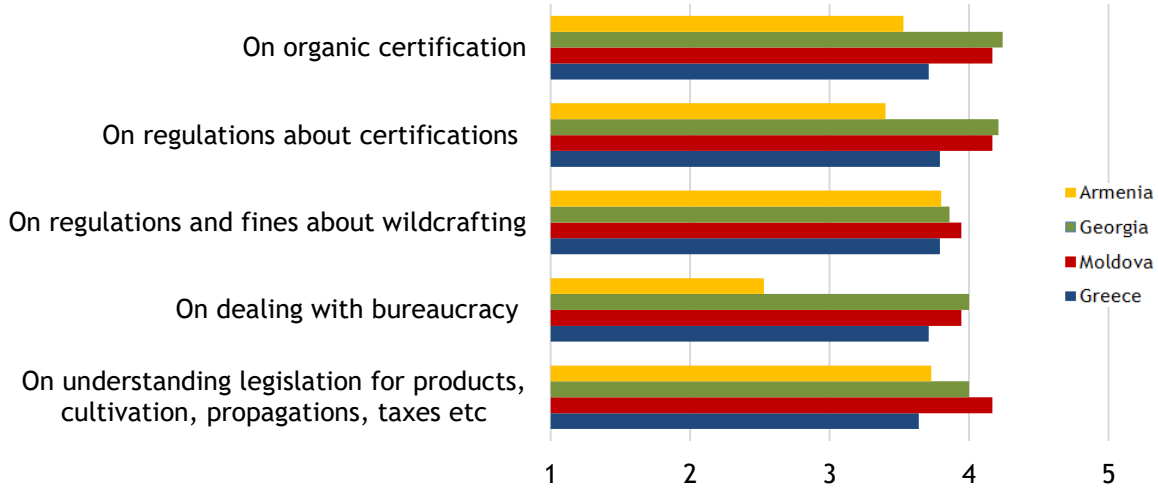

Figure 27. Future training needs for legislative skills (all target groups except farmers, mean value)

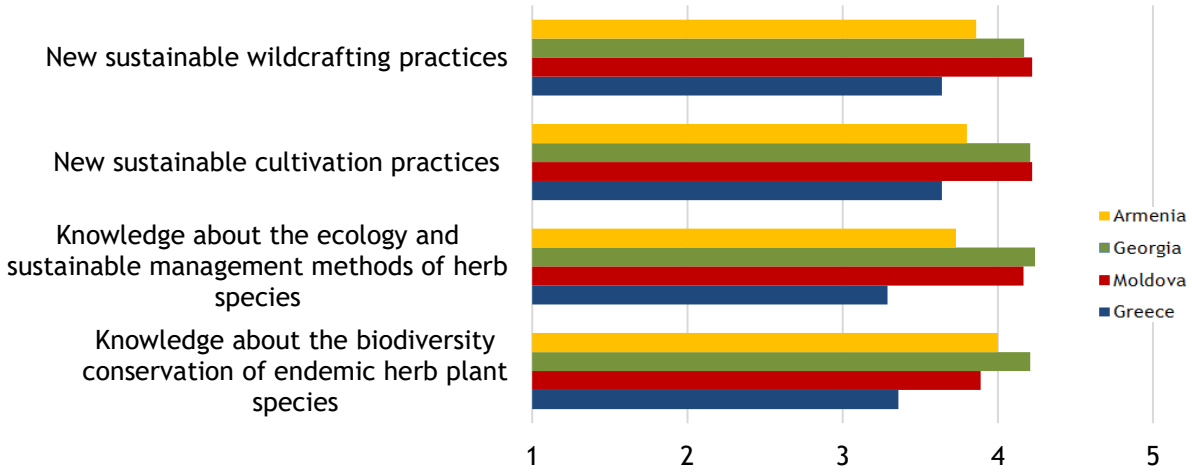

Figure 28. Future training needs for environmental ecosystems skills (all target groups except farmers, mean value)

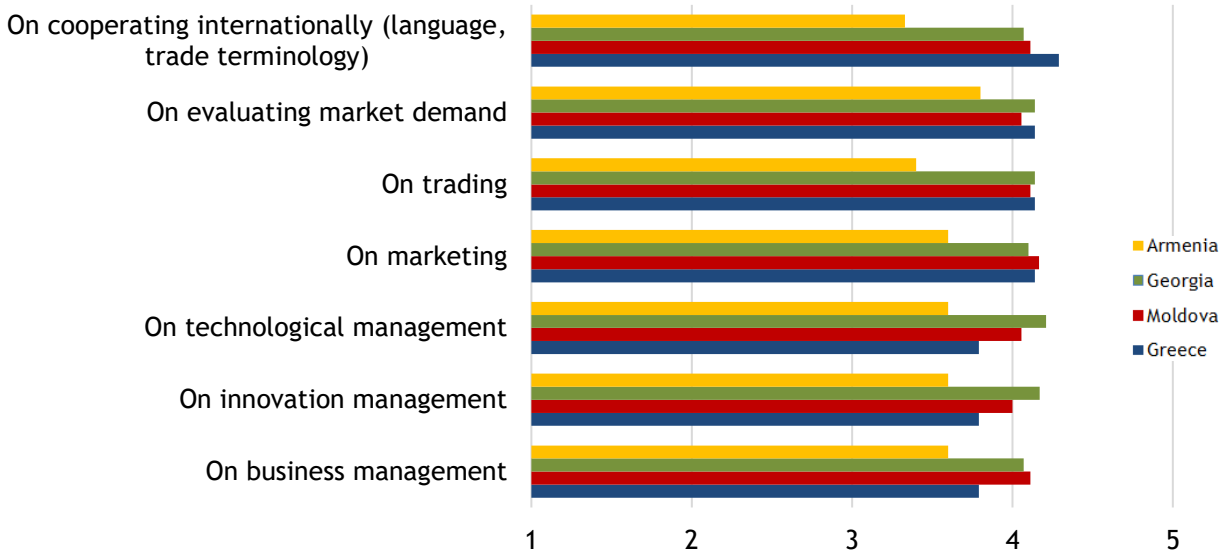

Figure 29. Future training needs for managerial/ commercial skills (all target groups except farmers, mean value)

According to responders the most efficient training methods are field demonstrations and practical courses (Table 8 and Fig. 30). More specifically, a) responders from Greece, Moldova and Armenia mentioned "Practical courses" as the most efficient method and b) responders from Georgia mentioned "Field demonstrations" as the most efficient.

Table 8. Efficiency of each training method (1: not efficient, 5: extremely efficient)

Training methods	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
Field demonstrations	4.13	4.38	3.97	4.20	4.17	0.17
Short-term seminars	3.67	3.92	3.73	3.20	3.63	0.31
Practical courses	4.07	4.23	4.15	3.95	4.10	0.12
On-line courses	3.53	3.38	3.58	2.35	3.21	0.58
Personalized education	3.80	4.00	4.12	3.57	3.87	0.24
On-line communication with an expert scientist	3.93	4.07	4.00	2.85	3.71	0.58
Creating newsgroups	3.50	3.76	3.79	3.42	3.62	0.19
Broadcasts on radio	2.30	3.53	3.30	3.37	3.13	0.56
Television broadcasts	2.50	3.53	3.58	2.82	3.11	0.53

Information material like brochures	2.87	3.23	3.55	3.05	3.18	0.29
Articles in newspapers	2.63	3.15	3.24	2.30	2.83	0.44
Scientific journals	3.10	3.46	3.70	2.62	3.22	0.47

*Average (Mean values)

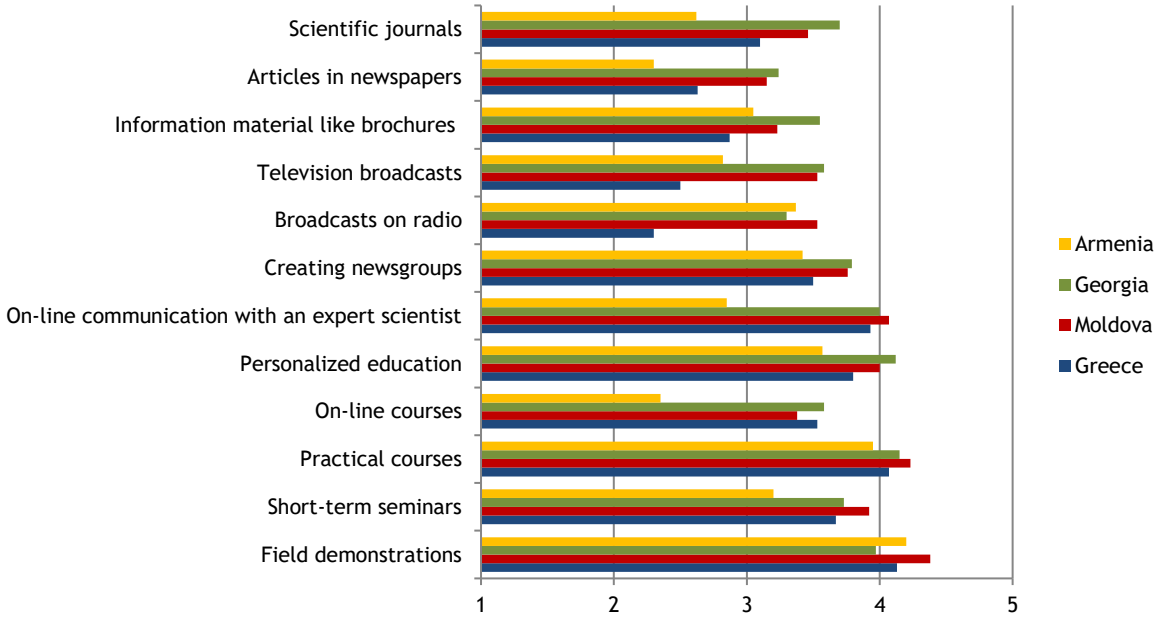

Figure 30. Efficiency of training methods by country (mean value)

Tables 9 and 10 present the level of current use of modernization practices and level of willingness for future adoption in herb businesses. The modernization practices herb businesses currently use, in a greater level are, innovation in herbs processing in Greece, value chain in Moldova and Georgia and innovation in trading in Armenia (Table 9).

Table 9. Level of the above that you currently use in your herb business (1: none, 5: very high)

Modernization practices	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
Innovations in cultivation practices (propagation techniques, weed control, practices improving the quality of raw product, collection techniques)	2.93	2.84	2.27	2.35	2.60	0.34
Innovations in herbs processing (packaging, distillation and drying	3.00	2.84	3.00	2.67	2.88	0.16

techniques, food and cosmetic products based on herbs)						
Innovations in trading (certification, marketing and promotion)	2.47	2.92	3.06	2.75	2.80	0.25
Value chain (understanding and familiarization with the term)	2.27	3.23	3.33	2.65	2.87	0.50
Precision agriculture (adoption of new technologies)	2.30	3.00	3.00	2.52	2.71	0.35

*Average (Mean values)

Participants are willing to adopt in the future, modernization herb businesses practices in a greater level, mainly as innovations, in trading in Greece, in cultivation practices and herbs processing in Moldova, in herbs processing in Georgia and in herbs processing and trading in Armenia (Table 10).

Table 10. Level of willingness for future adoption in your herb business (1: not important, 5: extremely important)

Modernization practices	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
Innovations in cultivation practices (new propagation techniques, weed control, practices improving the quality of raw product, collection techniques that will improve your business)	4.00	4.23	3.88	3.72	3.96	0.21
Innovations in herbs processing (new packaging, distillation and drying techniques, food and cosmetic products based on herbs that will improve your business)	4.07	4.23	4.15	3.97	4.11	0.11
Innovations in trading (new certification, marketing and promotion that will improve your business)	4.13	4.15	3.97	3.97	4.06	0.10
Value chain (include more parts in your current value chain)	3.90	4.00	3.88	3.83	3.90	0.08
Precision agriculture (improve the lack of knowledge in the adoption of new precision agriculture technologies)	3.97	4.15	4.06	3.87	4.01	0.12

*Average (Mean values)

As shown in Fig. 31, in all countries (total mean values) the current adoption of modernization practices in herb businesses is very low, whereas there is high willingness for future adoption. They are willing to adopt innovations in herbs processing, in trading and precision agriculture.

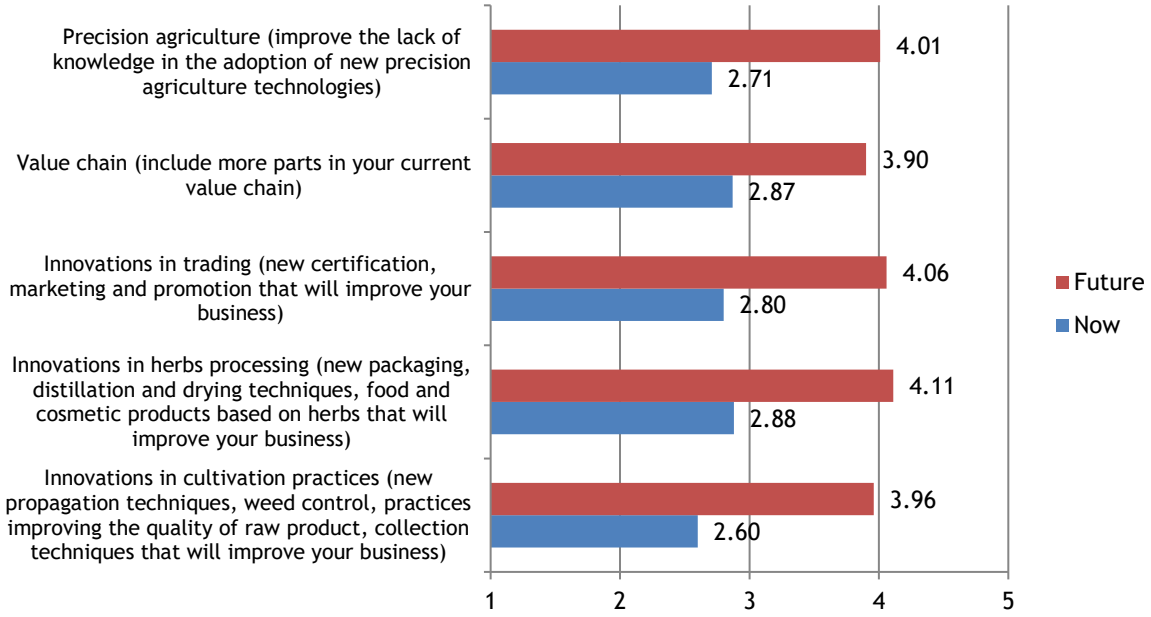

Figure 31. Current and future adoption of modernization practices in herb businesses (total sample mean values)

All improvements of herb products trade value seem to be very important, according to Table 11. Better product presentation and products traceability were ranked higher, in total survey sample. More specifically, in Greece better product presentation, reduction of intermediaries' number and the better value addition are needed most. Moldova highlights better value addition, Georgia the certification documents and Armenia the controlled post-harvest handling, as the most important improvements of herbs' trade value.

Table 11. Improvements of trade value of herb products, that is needed the most (1: not important, 5: extremely important)

Trade value improvements	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
Certification documents	4.10	4.23	4.33	3.75	4.10	0.25
Ensure quality of the products, ISO	4.27	4.23	4.21	4.02	4.18	0.11
Better labeling (more details about the product)	4.10	4.38	4.12	3.85	4.11	0.22
Better product presentation	4.47	4.23	4.06	4.17	4.23	0.17
Controlled post-harvest handling	3.77	4.30	4.18	4.22	4.12	0.24
Undertake a more in-depth global review of the demand and supply of herb	4.33	4.38	3.79	3.80	4.08	0.32
Reduction on the number of intermediaries	4.47	4.46	3.73	3.52	4.05	0.49
Better value addition	4.47	4.54	3.76	3.90	4.17	0.39
Products traceability	4.23	4.23	4.27	4.07	4.20	0.09
Cheaper raw material	3.50	4.15	3.85	3.85	3.84	0.27
Modern and cost-effective machinery	4.20	4.38	4.39	4.17	4.29	0.12

*Average (Mean values)

As shown in Table 12, almost half of Greek, Georgian, Moldavian and Armenian participants are willing to participate in HEGO Forum conferences and follow e-Business Portal. Responders expect that their participation in HEGO Forum conferences and e-Business Portal will be an **opportunity to gain technical knowledge and new ideas**. They view their participation in HEGO Forum Conferences as a mean of identification of new markets and an opportunity to share and promote knowledge and ideas by interacting with other participants. (Fig. 32).

Table 12. Participation in HEGO Forum conferences and e-Business Portal

Willingness to participate	Greece (%)	Moldova (%)	Georgia (%)	Armenia (%)	Total (%)
Extremely unlikely	3,33	2,04	0,00	2,50	1,97
Unlikely	0,00	4,08	0,00	12,50	4,61
Neutral	6,67	10,20	30,30	5,00	12,50
Likely	56,67	32,65	48,48	50,00	45,39
Extremely likely	33,33	51,02	21,21	30,00	35,53

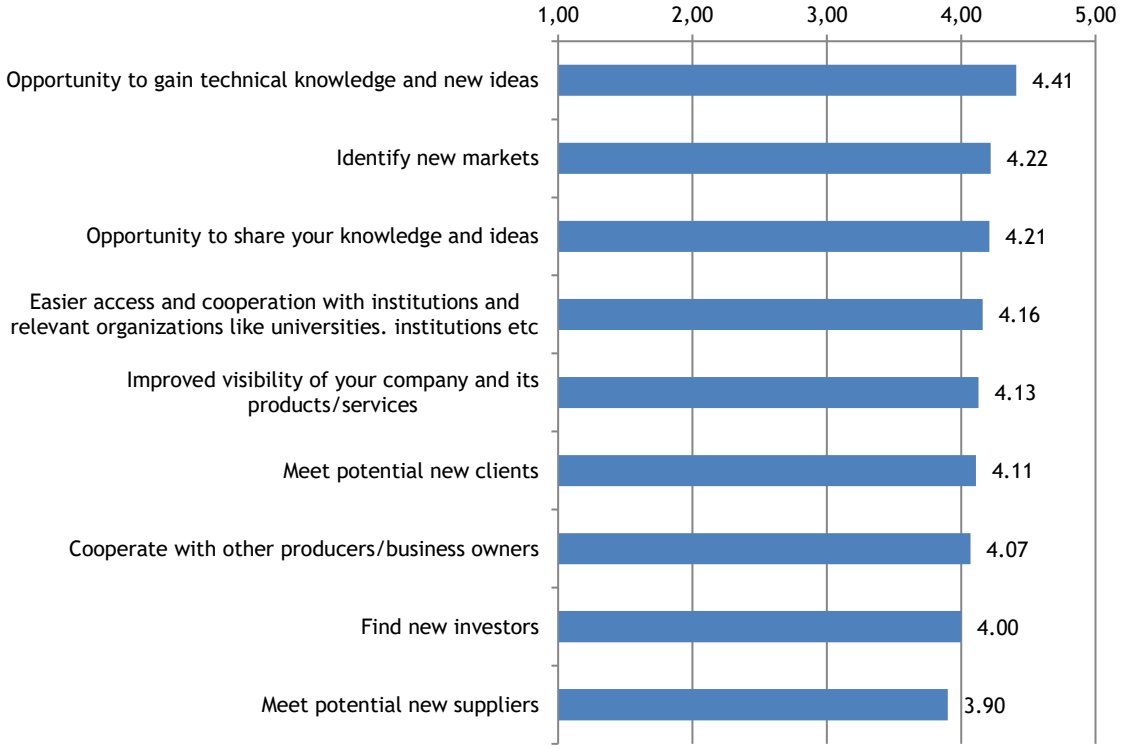

Figure 32. Expectations from your participation in HEGO Forum conferences and membership in e-Business Portal (total sample mean values)

As shown in Table 13, almost half of the Greek, Georgian, Moldavian and Armenian participants are willing to participate in a cross-border Cluster. Responders expect that their participation in a cross-border Cluster will facilitate their access to new ideas and innovations and their cooperation with other businesses. Moreover, they expect that it will reinforce their common participation to exhibitions and trade fairs, training and education initiatives and their negotiating power. (Fig.33).

Table 13. Participation in a cross-border Cluster

Willingness to participate	Greece (%)	Moldova (%)	Georgia (%)	Armenia (%)	Total (%)
Extremely unlikely	6,67	2,04	0,00	2,50	2,63
Unlikely	0,00	2,04	6,06	12,50	5,26
Neutral	6,67	16,33	24,24	7,50	13,82
Likely	53,33	30,61	45,45	52,50	44,08
Extremely likely	33,33	48,98	24,24	25,00	34,21

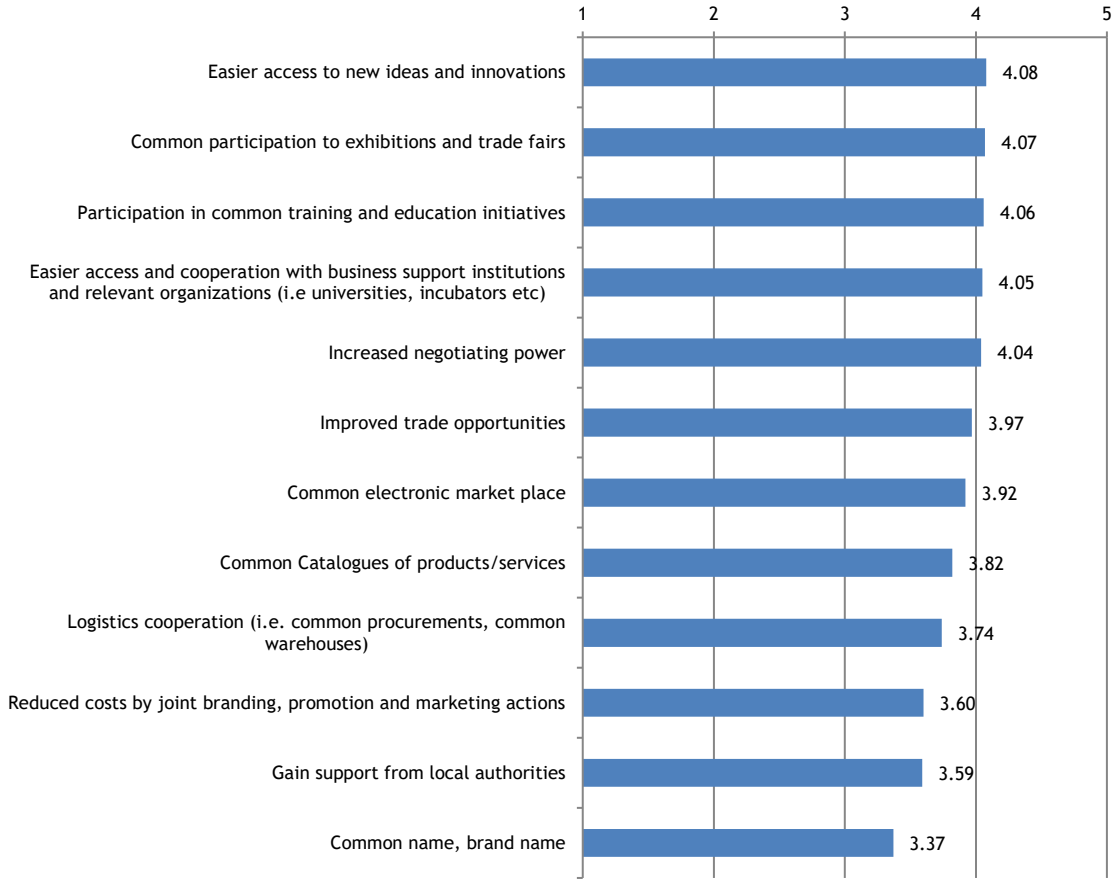

Figure 33. Expectations from participation in a cross-border Cluster (total sample mean values)

In the performed SWOT-type analysis, strengths/weaknesses and opportunities/threats were analyzed (Table 13). According to responders' answers and the demonstration of spider graphs (Fig. 34, 35), we conclude that there is a continuum of strengths/weaknesses. This analysis shows that, if a variable is closer to 1, it reveals a weakness and closer to 5 reveals a strength. The same applies in the continuum of opportunities/threats. A variable closer to 1 is a threat and closer to 5 is an opportunity. Figures 34 and 35, present that the variable which affects internal environment most is, product quality and the variable which affects external environment most is, climate conditions of the area.

Table 13. Level of impact of the above variables to strengths/weaknesses and opportunities/threats of herb business, accordingly (1: none, 5: very high)

SWOT analysis	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
a. Strengths/Weaknesses of the internal environment of a herb business						
Current knowledge of herbs	3.67	3.85	3.42	3.27	3.55	0.26
Current situation of herb business	3.57	3.54	3.21	2.7	3.26	0.40
Natural environment and biodiversity	3.83	3.77	3.52	3.52	3.66	0.16
Current skills, expertise and knowledge	3.90	3.54	3.33	3.3	3.52	0.28
Initial investment cost	3.67	4.00	3.03	3.2	3.48	0.44
Quality assurance	3.97	3.92	3.61	3.61	3.78	0.19
Product quality	4.37	4.38	3.94	3.87	4.14	0.27
Precision agriculture	3.43	3.69	3.30	3.15	3.39	0.23
Mechanical harvesting	3.37	3.77	3.33	3.35	3.46	0.21
Family- work	3.67	3.46	3.21	3.7	3.51	0.23
b. Opportunities/Threats of the external environment of a herb business						
Trends of consumers	4.00	3.92	3.36	3.4	3.67	0.34
Acceptance of herbal products	3.80	4.08	3.39	3.5	3.69	0.31
Funding resources	3.43	4.00	2.94	2.67	3.26	0.59
Current affairs and conditions like covid-19, war, natural disasters, economic crisis	3.60	3.77	3.67	3.8	3.71	0.09
Change of legislation	3.83	3.61	3.61	3.2	3.56	0.26
Social constraints like behaviors, habits, perceptions about herbs	3.83	3.69	3.21	3.17	3.48	0.33
Production cost	3.40	4.08	3.45	3.22	3.54	0.37

Cooperative power	3.43	3.77	3.33	3.37	3.48	0.20
Contract farming	3.23	3.69	3.30	3.17	3.35	0.23
Climate conditions of the area	3.97	4.31	3.73	3.8	3.95	0.26
Land availability	3.53	4.00	3.12	3.65	3.58	0.36
Farms size	3.03	3.69	3.09	3.25	3.27	0.30
Landscape of the area	3.57	3.92	3.55	3.85	3.72	0.19
Products with high nutraceutical value	4.00	3.62	3.64	3.72	3.75	0.18
Imports like competitive products	3.53	3.62	3.45	3.32	3.48	0.13
Strong existence of economically feasible herbs cultivated in your region	3.77	3.84	3.06	2.75	3.36	0.54

*Average (Mean values)

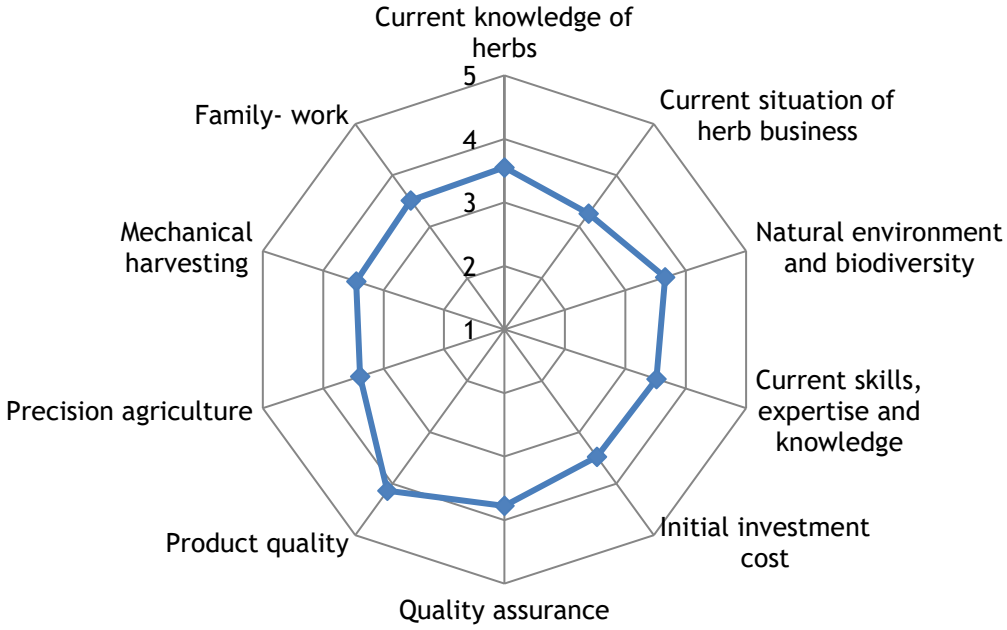

Figure 34. Internal environment of a herb business (total sample mean values)

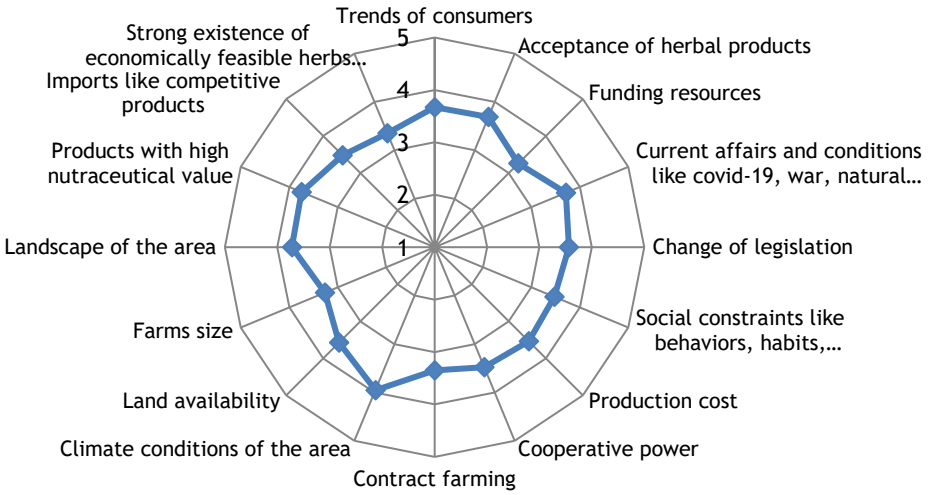

Figure 35. External environment of a herb business (total sample mean values)

PEST analysis tool was used to analyze the Political, Economic, Socio-Cultural and Technological changes in the business environment (Table 14). According to the responders' point of view, spider graphs present that the greatest impact in the political environment was the **legislation** (Fig 36). In the economic environment the greatest impact was the **production cost** (Fig. 37). In social environment the greatest impact was the **product quality** (Fig. 38) and finally in the technological environment was the **knowledge transfer about herbs** (Fig. 39).

Table 14. Level of impact of the above variables to political, economic, social and technological environment (1: none, 5: very high)

Pest Analysis	Greece	Moldova	Georgia	Armenia	Average (Mean value)	St. deviation
a. Political environment						
Political stability	3.30	3.84	3.48	3.30	3.48	0.25
Legislation	3.87	3.84	3.58	3.17	3.62	0.32
Form of governance	3.37	3.69	3.39	3.22	3.42	0.20
b. Economic environment						
Growth rate	3.47	3.92	3.33	3.40	3.53	0.27
Exchange rates	3.50	3.84	3.55	3.52	3.60	0.16
Inflation rate	3.50	3.61	3.70	3.60	3.60	0.08
Production cost	4.13	4.00	3.52	3.65	3.83	0.29
Imports	3.37	4.00	3.33	3.45	3.54	0.31
c. Social environment						
Public perceptions about herbs	3.93	3.16	3.30	3.32	3,43	0.34
Psychographic criteria	3.37	3.53	3.21	3.20	3.33	0.16
Population growth rate	3.07	3.61	2.91	2.82	3.10	0.35
Age distribution	3.47	3.23	3.06	2.77	3.13	0.29
Food security perceptions	3.67	3.92	3.42	3.25	3.57	0.29
Product quality	4.27	4.15	3.73	3.82	3.99	0.26
Cooperatives existence	3.47	3.76	3.27	3.12	3.41	0.28
Family-work	3.37	3.46	3.33	3.55	3.43	0.10
d. Technological environment						
Innovations in herb businesses	3.97	4.04	3.15	3.15	3.58	0.49
Knowledge transfer about herbs	3.93	4.00	3.36	3.42	3.68	0.33
Production automatization of herbs	3.57	4.15	3.15	3.35	3.56	0.43
Technological change trend in herbs	3.83	4.07	3.21	3.10	3.55	0.47
Precision agriculture	3.70	3.76	3.21	3.47	3.54	0.25

*Average (Mean values)

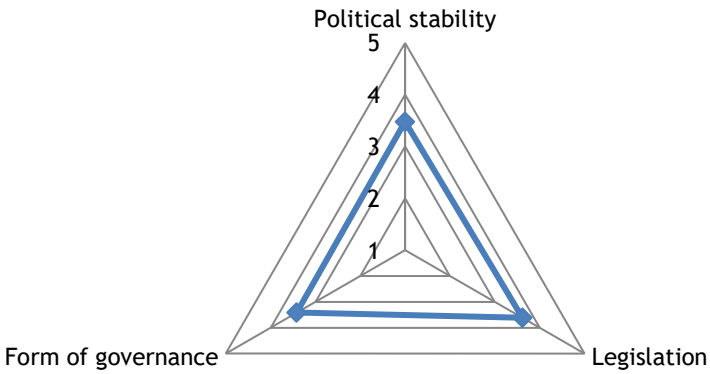

Figure 36. Political environment (total sample mean values)

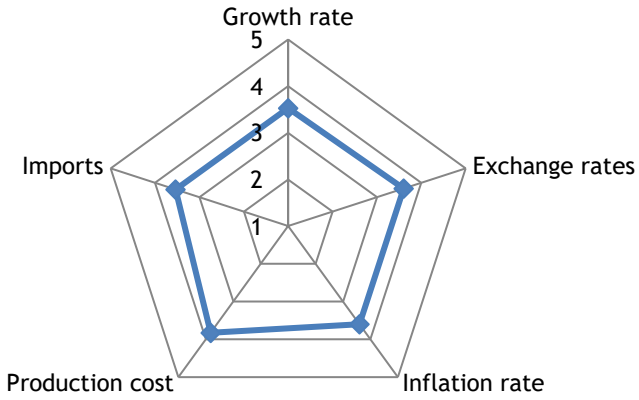

Figure 37. Economic environment (total sample mean values)

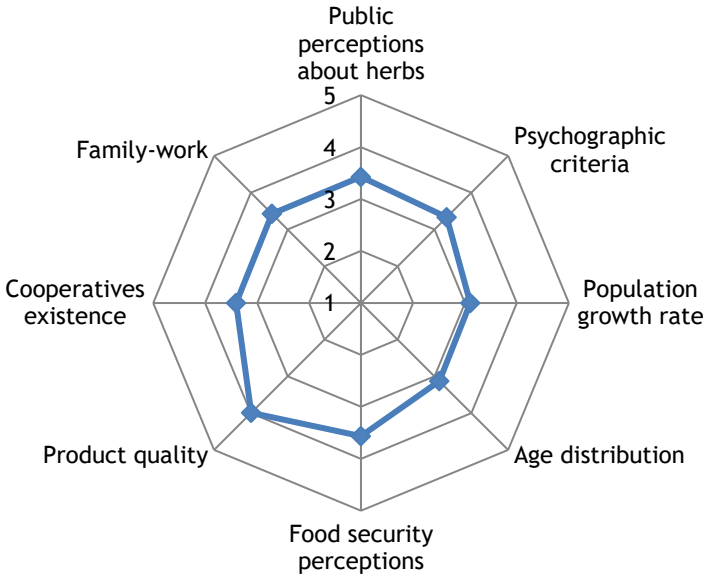

Figure 38. Social environment (total sample mean values)

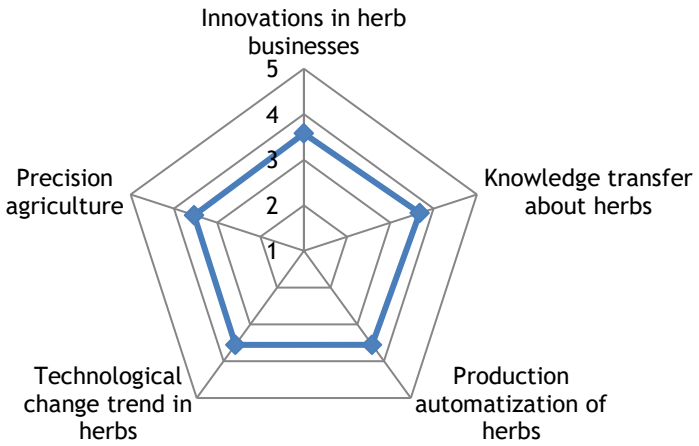

Figure 39. Technological environment (total sample mean values)

4. Conclusions and Recommendations

This report provides important insights in the research field of herbs. From content point of view, this report helps bring the sector of herbs a step closer to all different target groups participated in the survey and reduce their training gap. More specifically, results of this report can be used to design a common training framework for all Project countries, in order to cope with the potential threats of the herb sector. Moreover, it answers the following fundamental questions for the effective implementation of the HEGO project:

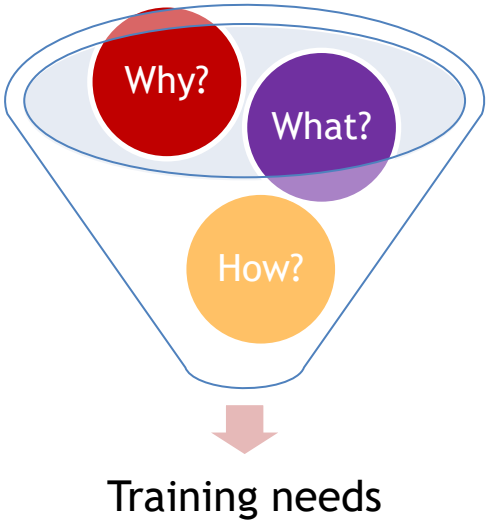

Figure 40. Extracting the important questions

1. **"Why is training needed?"** The most important gap detected was knowledge/skills, especially in wildcrafting practices and technological expertise, among participants of the survey. In addition, almost all of the responders recognize the importance of education/training for herbs' cultivation.
2. **"What is needed the most?"** The most important skills regarding training were managerial/ commercial and plant health conditions-weed control. More specifically, the major future training needs are "evaluating market demand", which belong to managerial/commercial skills and "identification of plant health

problems and disease control", which belong to plant health conditions-weed control skills.

3. **"How to get the best results?"** Field demonstrations and practical courses can bring the best results in training, according to participants' point of view.

The development of herb businesses can be succeeded through the adoption of modernization practices and the improvement of herb products' trade value. Survey participants currently do not use modernization practices in their herb businesses, but they are willing to adopt new practices and activities like innovations in herb processing or trading and precision agriculture, in a great level. The trade value of products can be improved by modern and cost-effective machinery, better product presentation and products traceability.

It is highlighted that participants' majority is willing to participate in HEGO conferences, cross-border cluster and follow e-Business Portal. They have high expectations for benefits and opportunities to share and gain knowledge and ideas, get easier access and cooperation with relevant institutions and organizations, but also get common training and education initiatives.

Based on the implemented questionnaire and performed analysis of the collected data from all countries, we conclude into a series of recommendations which can be the basis to design the training programme.

Recommendations on training needs:

- ✓ Training on wildcrafting practices.
- ✓ Training on plant health conditions and weed control skills.
- ✓ Training for processing skills.
- ✓ Training on sustainable development of the business.
- ✓ Training on recognition and adoption of innovation and modernization practices current and future practices in growing, harvesting, production and trade of herbs (i.e. during the entire cycle of business).
- ✓ Training in developing skills for market review demand and supply.

- ✓ Training on product quality improvement and traceability.
- ✓ Training in accessing financing and investments.
- ✓ Training on labelling and certification.
- ✓ Training on increasing capacities to cooperate locally and internationally.
- ✓ Training in trading and commercial skills.
- ✓ Training for the development of the value chains and clusters of the herbaceous sector.
- ✓ Training for internationalization of companies and development of export activities.
- ✓ Training of new qualified specialists in herbal sector.

Recommendations on modernization practices and improvement of trade value of herb products:

- ✓ Organization of forum conferences and workshops on current and future practices in growing, harvesting, production and trade of herbs.
- ✓ Organization of cross- border clusters in herbaceous branch and plan products.
- ✓ Organization of matchmaking and internationalization activities in the herb sector and herb products with commercial value added.
- ✓ Develop programs and train/qualify the specialists in the herb sector.
- ✓ Organization of mentoring sessions and expert assistance from the herbaceous field, with participation in practical demonstrations and study missions.
- ✓ Support in adoption of labels and certification.
- ✓ Support in modernizing and innovating the practices and processing along the entire cycle of production and trading.
- ✓ Promote sectorial policy assessment, drafting, implementation and monitoring.

General findings and recommendations on future developments of HEGO project:

One of the most observed finding was the desire by responders of the questionnaires in all project's countries to participate in interactive trainings, events, forums and Cluster's. They believe that via their active involvement and interaction with other

stakeholders, they will absorb the information in the higher level possible. Therefore, this desire of them should be taken into consideration for the planning and conduction of future HEGO activities such as trainings, dissemination and awareness raising events, forums and the Cluster.

Notes

Joint Operational Programme Black Sea Basin 2014-2020 is co-financed by the European Union through the European Neighborhood Instrument and by the participating countries: Armenia, Bulgaria, Georgia, Greece, Republic of Moldova, Romania, Turkey and Ukraine.

PROJECT: HEGO BSB 987 – HERBS FOR GROWTH
RESPONSIBLE PARTNER: PP2_AUTH
DATE OF PUBLISHING: May 2021

Joint Operational Programme Black Sea Basin 2014-2020 is co-financed by the European Union through the European Neighbourhood Instrument and by the participating countries: Armenia, Bulgaria, Georgia, Greece, Republic of Moldova, Romania, Turkey and Ukraine.