Ref. Ares(2020)2820245 - 31/05/2020

Deliverable 2.1 – WP2. Report on content and structures of data provision and knowledge formats of TNs

EURAKNOS

Connecting Thematic Networks as Knowledge Reservoirs towards a European Agricultural Knowledge Innovation Open Source System

TASK 2.1

Summary

WP2 aims to make an evaluation of past and running thematic networks (TN) and other EIP-AGRI highly related activities (linked multi-actor approach H2020 projects and relevant OGs as case studies). Particularly, the task 2.1 of WP2 (lead by the USC) will: (i) identify key Thematic Network (TN) partners (22 + approved in 2018) responsible for data management, knowledge communication, and dissemination and multi-actor involvement, (ii) analyse the type of data and the ways data are produced, collected and stored in a TN, (iii) represent on maps the different types of knowledge and data present in the TN Knowledge Reservoirs (KRs) which will be also analysed and evaluated on their contents, structures, and methodologies of data generation.
Task 2.1 is worked out with seven partners (ACTA, IDELE, NAK, UGent, GLZ, USC, and PSKW). Most of them (IDELE, ACTA, GLZ, NAK, UGent) are also working on and even lead Tasks 2.2, 2.3, 2.4, and 2.5.

In task 2.1, the information published on the websites of the TNs was used as material to develop the initial EURAKNOS desktop study. In this task a list was created with the EURAKNOS partners linked to the different TNs to search of the different TNs by the task 2.1 members.
The design preparation was discussed by all task leaders of the WP2 in more than 10 meetings, as the thematic networks should be seen in a holistic form. The design of the desk study of task 2.1 is an excel file with two levels. Level 1 is linked to the overview of the whole TN and level 2 is associated with the data/outputs produced by the different TNs and associated with Task 2.1 information gathering. Moreover, the design of the excel file was carried out classifying the TNs in the main sectors and subsectors recognized by the CAP (arable lands, permanent grasslands, permanent crops, forestry) and also agroforestry as an integrated land use management, to identify the main synergies between the outputs of the TNs and the CAP direct payment policy, following EIP-AGRI main strategy. The desk study was completed by questions linked to a questionnaire that was carried out with 28 Thematic Networks. Both the desk study and the survey results were evaluated, but also the workshop held in Budapest in September (11-13 September 2019) helped to finalize the evaluation and the report from the Task 2.1 perspective.
TN coordinators are mostly linked to the UK followed by Germany, France, and Spain, while most of the partners are based on France and Spain.

The main conclusions were dealing with the origin, content, format, and synergies. Concerning the origin the global data analysis shown that most of the TNs are dealing with Arable crops, livestock, and agroforestry or forestry, which are mainly allocated to urban and lowland areas and targets cooperatives, family and collective farming. Moreover, TNs are working with both large and small farms and mostly traditional but also transitional farming systems. TNs are targeting full-time farmers and women's social aspects are considered by 100% of the projects. Most of the data gathered by the thematic networks have a research/farmer origin as it is aimed at this type of CSA projects.
Concerning the content we found that the analysis of the Arable crops TN, OG, and PA wording revealed that TNs were mostly linked to fertilization and water management while the Practice Abstract (PA) and operational groups were mostly related to farming systems and specific crops. The analysis of the Arable crops TN, OG, and PA wording revealed that TNs were mostly linked to farming systems while PAs were more concrete and highlighted the findings linked to different types of animals and OG were in between. The analysis of the Permanent crops TN, OG, and PA wording revealed that TN were mostly linked wine and illnesses treatments, while OG were more related to farming systems and PA to specific types of orchards besides wine and as well as OG to

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

soil management. The analysis of the Forestry TN, OG, and PA wording revealed that TNs were mostly linked value chain and business model development of non-timber forest production while operational groups seem to be more related to the timber production and practice abstracts were in between.
About the format we can conclude that overall the TN produced 24 types of dissemination/communication materials while each of them delivered 7.8 materials with a range between 2 and 14. The most popular types of materials are the Practice PAs and the factsheets, being the less relevant the podcasts or videos. However, most of the effort recognized by the TN was to Videos besides the PAs and factsheets.

Finally the synergies revealed that multi-actor projects conducted to the inclusion of higher farm outputs while those projects related to the National Rural Networks (NRNs) produced more infographics as an easy form to reach policymakers. Those projects with a higher number of group connections have a higher number of outputs related to practices while those with a higher number of operational group connections use more data from advisors.

Deliverable Number	Work Package
2.1	WP2
Lead Beneficiary	**Deliverable Author(S)**
University of Santiago de Compostela	María Rosa Mosquera Losada Darío Arias Martínez Nuria Ferreiro Domínguez
Beneficiaries	**Deliverable Co-Author (S)**
GLZ	Elodie Pascal, Arno Krause
IDELE	Maxime Marois, Patrick Sarzeaud
NAK	Enikö Fazekas
UGENT	Pieter Spanoghe, Nathan De Geyter, Elena Feo, Sylvia Burssens
ACTA	Pauline Bodin
PSKW	Els Berckmoes, Alexander Opdebeeck
Planned Delivery Date	**Actual Delivery Date**
31/10/2019 20/12/2019	31/5/2020

Type of Deliverable	R	Document, report (excluding periodic and final reports)	X
	DEC	Websites, patents filing, press & media actions, videos	
	E	Ethics	

Dissemination Level	PU	Public	X
	CO	Confidential, only for members of the consortium	

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

Content

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

List of abbreviations and acronyms

C&D – Communication & Dissemination
CAP – Common Agricultural Policy
CSA – Coordinated Support Action
EIP-Agri – Agricultural European Innovation Partnership
F2F – Face to Face
FG – Functional Group
FS – Factsheet
GDPR – General Data Protection Regulation
GIS – Geographic Information System
IA – Innovation Action
KIP – Knowledge Innovation Panel
KR – Knowledge Reservoir
MA – Multi-Actor
MAA – Multi-Actor Approach
MOOC – Massive Open Online Courses
NRN – National Rural Network
OG – Operational Group
PA – Practice Abstract
PR – Press Release
SDGs – Sustainable Development Goals
TA – Technical Article
TN – Thematic Network
WP – Work Package

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

List of Figures

List of Tables

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

1. Objectives

In a first step Task 2.1 identified key H2020 Thematic Network (TN) partners (22 + approved in 2018) responsible for data management, knowledge storage, communication and dissemination (C&D) strategies, and multi-actor (MA) involvement. In a second step, Task 2.1 analysed the type of data and the ways data were produced, collected, and stored in TNs in connection to providing insights to Task 2.2. The different types of knowledge and data formats present in the TN KRs were mapped, analysed, and evaluated on their contents, structures, and methodologies of data generation. Special attention was given to data gaps and other data that were not produced based on the available knowledge and activities within the TN.

Task 2.1 dealt with the evaluation of the outputs/data produced by the desk-top-study and the interviews and survey of 28 TNs concerning the data knowledge content and format. It was the first step to better understand the knowledge reservoir (Task 2.2), C&D strategies (Task 2.3), and strategies for the MA approach (Task 2.4). All best practices and methodologies will be summarized in Task 2.5 to come up with quantitative and qualitative criteria for high impact TNs, as input for WP3.

2. Participants

Task 2.1 is composed of 7 members, most of which (ACTA, IDELE, NAK, UGent) are also worked in Task 2.2, 2.3, 2.4, and 2.5 as shown in Table 1.

Table 1. Partners involved in the different Tasks of WP2 (in bold the task leaders)

	Partner													
Task	**ACTA**	**IDELE**	**NAK**	**UGent**	**GLZ**	**USC**	**AU**	**PSKW**	**ARC**	**AUA**	**IFA**	**LFG**	**RAU**	**EV ILVO**
2.1	X	X	X	X	X	**X**		X						
2.2	X	**X**	X	X		X	X			X				
2.3	**X**	X	X	X	X	X		X			X	X	X	
2.4	X	X	X	X	**X**		X		X					
2.5	X	X	X	X	X	X	**X**	X	X	X	X	X	X	X

3. Methodology

The methodology used to develop the evaluation of Task 2.1 aims was based on a web page evaluation and a survey. Data collection was based on the analysis of the whole population of TN, therefore a sampling design was not needed for both the web page evaluation which included the whole set of documents produced and the surveys carried out. Concerning the surveys, all coordinators and partners successively approached to carry out both the surveys and interviews. If needed both coordinators and partners were approached at least 5 times. The surveys/interviews that were not carried out, it was due to the lack of an answer. The experimental design included the analysis of the whole population of TNs. End-users were involved in the definition of the study and surveys carried out from the beginning. We can start by the fact that those designing the survey and studies were coordinators or partners of 10[1] out of the 28 analysed TNs. The leadership of this WP was taken by an expert on a horizontal content on agriculture such as agroforestry that includes all types of land uses such as agriculture, permanent grassland, permanent crops, and forestry, giving an overview from both the content and the important

[1] AFINET, SMART AKIS, Hennovation, FERTINNOWA, OK NET ARABLE, OK-NET EcoFeed, Inno4Grass, Winetwork, Suwanu, Disarm

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

aspects to be included in the surveys and interviews. Besides the initial design developed by the Task leaders and the WP leader in collaboration with the UGent team, a validation of the questionnaire was carried out through a pre-test that involved 10 TN participants, meaning the 36% of the whole amount of TN approved by July 2020. This pre-testing included not only how the survey/interview questions were asked, but also if some missing aspects should be included. This was an iterative process that 10 TN meaning the 36% of the whole amount of TN approved by July 2020.

3.1. Database creation for TN description

The materials used to develop the initial desktop study are found on the TNs' websites, from which a table with the whole TN name, degree of completion, and the names of the responsible of the knowledge reservoir, communication and dissemination strategies, and the multi-actor approach (MAA) sections was made. If necessary, coordinators were emailed to fill in the main fields of each section. To progress the work, a list of EURAKNOS partners linked to respective TNs was produced to facilitate the search in the different all TNs by the different Task 2.1 members. The EU General Data Protection Regulation (GDPR) was taken into account when producing the list and performing the analysis. The design of the excel file was carried out considering the outputs but also the implications from an innovation point of view they should have. For this, all TNs were classified accordingly to the main sectors and subsectors recognized by the Common Agricultural Policy (CAP), to identify main synergies between the outputs of H2020 TNs and the policy following EIP-AGRI main strategy. It was found very important to have the same answer (wording) for the different fields to fill, and guidelines were produced as shown in Annex I. Maps of main findings were carried out by using excel and GIS software.

3.2. Database creation for data description

All data produced from all TNs until the end of July 2019 was inventoried in an excel file to perform an initial analysis and to be used in WP4. No further extension of this database is programmed as we got it until the last minute to conduct all the analysis to be further used in the successive tasks of EURAKNOS. Each data was identified with the TN of origin, title, webpage link, type of document (pdf, HTML, xlsx, ppt), and language. Besides, a database with all Operational Groups (OGs) links was also created to properly link the data results with the existing knowledge of the innovation activities associated with the National Rural Networks (NRNs) as shown in Figure 1.

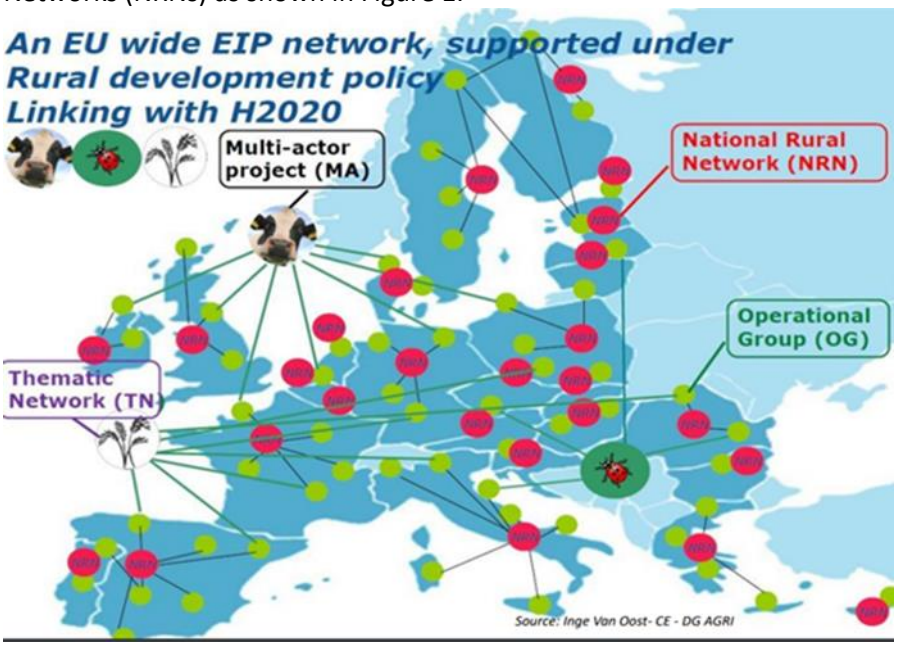

Figure 1. TN content (H2020) associated with the OGs and NRNs

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

The databases generated with EURAKNOS will be further used in other future H2020 and Horizon Europe projects, in particular, the ones related to OG and FG will be built on in the EUREKA, GO-GRASS or UNDERTREES projects. The re-use of the databases created in EURAKNOS will be extended within the EUREKA[2], GO-GRASS[3], and UNDERTREES[4] projects that aim to analyze innovation and EIP-AGRI landscape concerning the MAA, bio-economy and permanent grasslands and agroforestry development indicators, respectively. The re-use of the databases and its extension will be ensured because the WP leader is the same in all projects, but also through the creation of the EURAKNOS Knowledge reservoir. Besides, the database will also be used for further analysis in the frame of scientific publications.

3.3. Surveys

The design of the face to face interviews and on-line surveys was discussed by WP2 task leaders and other WP2 partners and circulated among all EURAKNOS partners after a first draft was performed. The Task 2.1 survey was carried out avoiding overlap with the 2.2, 2.3, and 2.4 tasks and to be able to analyze the results in Task 2.5. For this purpose, WP2 skype meetings were organized on 6th, 14th, and 25th February, 12th, 22th, 23th and 26th March, 4th, 5th, 15th, 23th and 26th April, 27th May and 8th July 2019. The meetings helped to properly design the Task 2.1 excel file that has two levels: Level 1 linked to the overview of the whole TN that will be later on linked to Operational Groups (OGs) and MAA projects (see Annex II) and Level 2 that will be associated to the different data/outputs, meaning the set of primary resources produced by the different TNs that will also be linked to Tasks 2.2, 2.3, 2.4 and 2.5 (see Annex III). To feed into Task 3.1 and Task 4.1, WP3 and WP4 leaders Idele and AUA, respectively, were involved in defining the questions in the survey and questionnaire for the interviews. It was decided to carry out two types of interviews, oral and on-line, aiming at obtaining a large number of answers. Oral and written interviews can be seen in Annex IV and Annex V, respectively. The questionnaires were ready by 20th May 2019 and the interviews were carried out between 22nd May and 8th October 2019, being each Task leader, supervised by the WP2 leader, the main responsible of having them on time.

3.3.1. Oral interviews

Interviews with key partners and actors responsible for content and data management, design of the knowledge reservoir (KR), communication and dissemination strategies, and multi-actor involvement of the TN were carried out, either personally when possible or by mailing, to refine and complement the desktop study. Task 2.1 interviews consisted of 10 qualitative questions (see Annex IV).
Out of the 28 existing TNs, regardless of EURAKNOS, a total of 24 interviews were carried out. The remaining four TNs (AgriSpin[5], Agriforvalor[6], Legumes Translated [7], and Suwanu [8]) were not interviewed on time to include their results in the final analysis due to the lack of response from the responsible TN people, despite the different ways of contacting them such as e-mailing, phone calls, or approaching them through people who are in close contact. The results of the analysis were also validated by the coordinator of AGRISPIN who participated in the Budapest workshop (11-13 September 2019) to share their experiences. Also a representative of the Suwanu TN was present.

All variables asked in these surveys were qualitative.

[2] https://www.h2020eureka.eu/
[3] https://www.go-grass.eu/
[4] https://cordis.europa.eu/project/id/872384
[5] https://agrispin.eu/
[6] http://agriforvalor.eu/
[7] https://www.legumestranslated.eu/
[8] https://suwanu-europe.eu/

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

3.3.2. Online questionnaires

To complement the oral interviews, an online questionnaire to collect further information about the TNs was created (see Annex V).

Out of 28 TNs, only 22 gave a response. Those TNs not answering (AgriSpin, Cerere, Newbie, Panacea, Legumes Translated, and SheepNet) were requested several times to fill in the questionnaire with no response, so these TNs were not considered in the analysis. However, the coordinators of Agrispin, Sheepnet, and Newbie were present at the Budapest participatory results to provide their inputs and validate the results of the surveys[9].

The on-line questionnaire was performed by using Survey Monkey[10], a very convenient tool to perform this type of questionnaire, as they allow reaching a large number of people through different software systems and gather data in a database in a consistent form. This is very convenient for closed questions to be analysed.

3.3.3. Questionnaires for the Surveys/Interviews quality check

Different quality checks were carried out at different stages of the preparation for the questionnaires for the interviews and surveys itself and the analysis

1. Surveys/Interview preparation
Both the questions in the survey and the interviews were pre-tested by all WP2 members and all EURAKNOS partners through mailings and skypes respectively. As most of the EURAKNOS partners were or are TN coordinators and/or involved in a TN as a consortium partner, they belong to the first category of target end-user groups defined by the EURAKNOS project, who will benefit of the results of the project in current or future TNs and spread the EURAKNOS results amongst their networks. The results of WP2 were validated as part of the EURAKNOS workshop organized within the Task 2.5 activities in Budapest (11-13 September 2019), through the engagement of the Knowledge Innovation Panel (KIP). The KIP consists of different actors, including representatives of TNs that are not included in the EURAKNOS consortium and end-user groups such as farmers, foresters, and advisors. WP3 will build further on these results to formulate guidelines for TNs to achieve more impact in terms of uptake of results in the field fostering innovation in agriculture and forestry.

2. Running the surveys/interviews
Appropriate running of the survey was based on the development of a survey/interview set of recommendations that were given and shown in a meeting to all interviewers where interactions were developed to fine-tune any suggestion/comment to improve the survey/interview set of recommendations. Finally, all task leaders, WP leader, and finally the coordination team was available for all the questions appeared when the interviews/surveys were carried out.
The first one was to include an “others” option, as part of the answers in the online-surveys, to be sure that all possibilities were included as part of the closed answers. In most questions the “others” option as an answer was not chosen, which validated the questions by itself. No further extension of the obtained surveys/interviews will be conducted due to the insistency of the EURAKNOS teams to get the questions answered as they were approached several times. Moreover we waited until the very last minute to carry out all the analysis to be further used in the successive tasks of EURAKNOS.

3. Surveys/Interview analysis

[9] See D2.5 Report on EURAKNOS workshop 1 and D2.6 Summary on current practices and methodologies of TNs
[10] SurveyMonkey.com

The EURAKNOS project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No: 817863

Before the survey/interview analysis was carried out, data was introduced in a database. When close questions were carried out the categorization was transformed in dichotomic variables due to the low number of the existing TN projects, when open questions were carried out a categorization to dichotomic variables was also developed. As all surveys/interviews were not anonymous, when a question appeared in the answer, the interviewee was asked again for further clarification.
We analyzed if key factors that were inherent to the different TN and the responses obtained from the different questions were correlated. Especially we tested how the degree of completion of the TN affected the different answers. Whenever relevant these correlations are shown in this report.

3.4. Overview of the limitations and validation of the methodology

The methodology (desktop study, interview, survey) used may suffer from limitations. It is assumed that the use of the different methods used will correct the shortcomings or limitations of each method (desktop study, F2F interviews, and survey). An overview of the methods used to analyze the TNs (WP2) is presented in Table 2.

Table 2. Overview of the limitations and strengths of the methods used for the TN analysis

Method	Limitations	Strengths
Desk top study	Information missing	Facts and figures
F2F Interview	-Qualitative data -TN coordinators not always available -Time-consuming	-Sharing of experiences of TN coordinator and/or partner -Detailed answers
Surveys	-Incomplete answers -Questions not filled in	-Internal validation (questions and other as an option) -Time-saving -Results easy to process

The methodology was developed in different stages, starting from the desktop study on the respective TN websites. Based on the outcome the first set of questions has been formulated by all Task leads involved. These were prioritized by all WP2 members after which, they were validated by the end-user group. The interview questions were then divided for F2F interviews (physical or skype) and online surveys (Survey Monkey). An overview of the different steps in the development and validation of the methodology used to analyze the TNs (WP2) is presented in Table 3 below.

Table 3. Overview of the different steps in the development and validation of the Task 2.1 methodology in chronological order

Project Month	Methodology Steps	Validation steps
M1	Desk top study launched	First insights validated by all WP members
M2	First interview questions set up by Task Leads	Prioritization of the questions by all WP2 members

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

M3	The second set of interview questions	Validation by end-users: SMART AKIS[11], Hennovation[12], ,OK Arable[13] and Inno4Grass[14] TN coordinators
M4	Interview questions validated	List of EURAKNOS partners to interview TNs
M5	Qualitative questions F2F from validated interview questions	Validation by consortium members
M5	Quantitative questions Monkey Survey from validated interview questions	Validation by WP2 members

3.5. Sustainability of the data

The database is a living document and will be updated in the course of the project in the frame of publications. Moreover the database will feed into WP3 (technical guidelines) and the EURAKNOS pilot knowledge repository (e-KRP; WP4) as well as the EUREKA project[15] that will make a knowledge repository with the outputs of all MA H2020 projects.
The database obtained will be kept on the EURAKNOS Sharepoint, which is managed by UGent, for at least three years after the ending of the project.

4. Comparative analysis: existing knowledge

The main results from the desktop study as well as the oral and written interviews are reflected in this epigraph.

4.1. Global TN description

At the start of Task 2.1, only 8 TNs were completely accomplished while 4 of them just started up. All of them were considered in the Task 2.1 study and results were analyzed taking into account this factor. The final date for the website evaluation was the end of March 2019 as agreed by all the partners involved.

Table 4. TNs and their degree of completion represented by colours and percentages

H2020 THEMATIC NETWORK	Degree of completion	H2020 THEMATIC NETWORK	Degree of completion	H2020 THEMATIC NETWORK	Degree of completion
Euraknos	8%	Suwanu	8%	Legumes Translated	8%
AGRI-SPIN	100%	OK-Net-Arable	100%	Nutriman	14%

[11] https://www.smart-akis.com/
[12] http://hennovation.eu/
[13] https://cordis.europa.eu/project/id/652654
[14] https://www.inno4grass.eu/en/
[15] https://www.h2020eureka.eu/

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

HNV-LINK	97%	FERTINNOWA	100%	HENNOVATION	100%
SMART-AKIS	100%	WINETWORK	100%	EuroDairy	100%
AGRIFORVALOR	100%	EUFRUIT	97%	4D4F	97%
AFINET	72%	CERERE	75%	EU Pig	73%
Inno4Grass	72%	INCREDIBLE	48%	SheepNet	78%
SKIN	78%	PANACEA	39%	OKNeT Ecofeed	39%
ENABLING	39%	INNOSETA	25%	Disarm	6%
NEWBIE	39%	best4soil	14%		

Most of the TNs deal with agricultural lands such as crops (permanent crops and arable crops) and livestock. TNs dealing with crops have a higher degree of completion, as over 50% of the crop and livestock thematic networks surpassed the 80 and 75% of the three years' time they have allocated. Half of the forestry TNs is still in 40% of completion while this number reaches 90% in the case of the agroforestry TN (Figure 2).

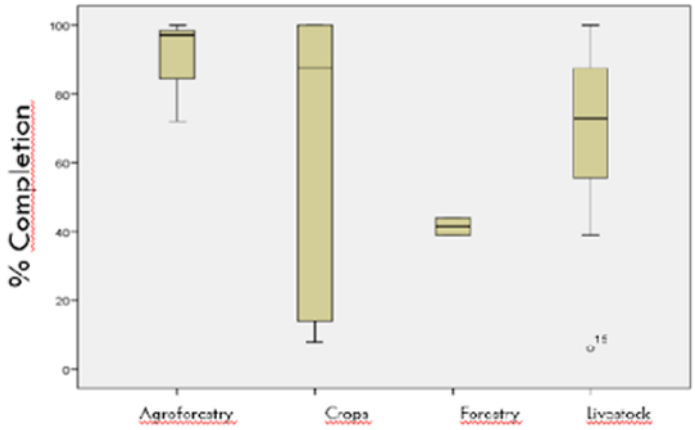

Figure 2. TN degree of completion. Bars indicate the interquartile range and the line in the box the mode

4.2. TN context: Location, Land use, and Farming systems

All TNs are dealing with rural areas but some of them also with periurban (32%) and urban (23%) areas (Figure 3), which means that they are connecting rural, periurban, and urban lands that can be linked to the bio-economy framework.

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

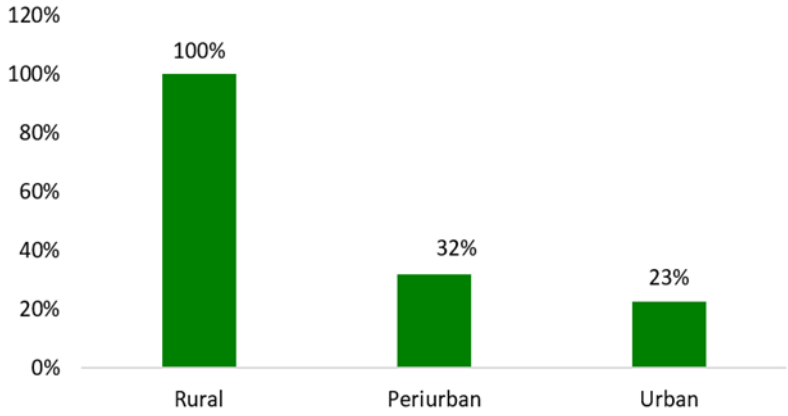

Figure 3. Rural, periurban and urban TNs

When asked if they were mainly allocated to lowlands, mountain, or both areas, 14% of the TNs did not provide an answer. Around 26% of the TN is exclusively associated with lowlands, usually the most productive lands and only 5% of the TNs working in mountain areas, which may limit the innovation in these areas, where it is strongly needed from an environment point of view. Close to 68% of the TN deals with both lowland and mountain areas (Figure 4).

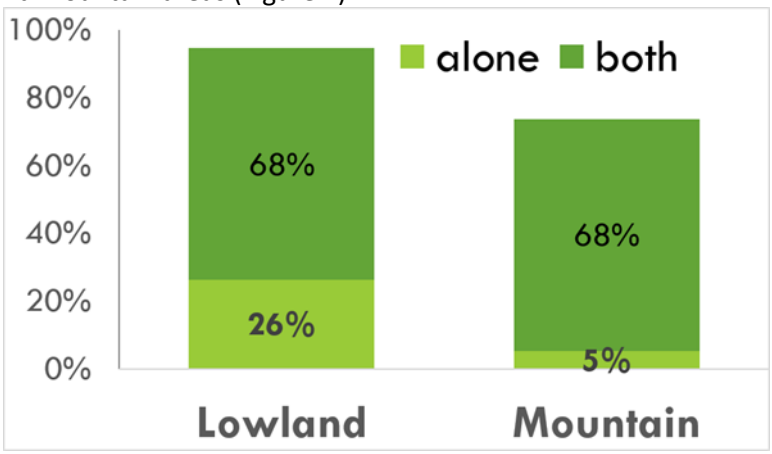

Figure 4. Rural, periurban and urban TN (answers provided by 86% of the 22 TNs surveyed)

Regarding the land use of the existing TNs associated with the CAP sectors, it was appreciated that most of the TN data outputs are linked to agricultural, with over 4000 records produced compared with the low production of agroforestry and forestry (Figure 5). Moreover, TNs are quite focussed on these categories, as 63,6% of the TNs are dealing with just one topic but almost 40% with two or more.

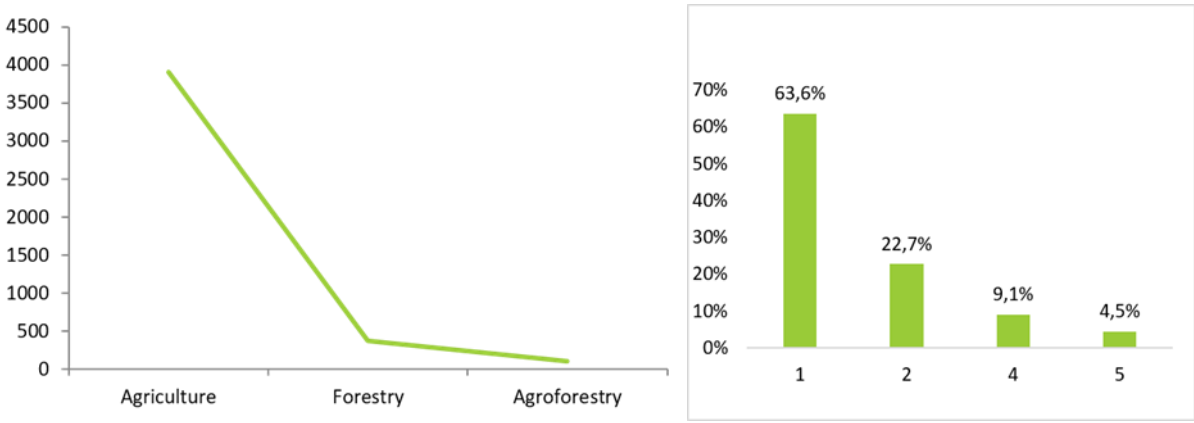

Figure 5. Type of land use (left) and number of uses tackled by TNs (right)

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

The evaluation of the different types of agricultural land reveals that they are mostly linked to arable and permanent crops and less with more sustainable land-use systems such as permanent grasslands, agroforestry, and forestry. We also found that there were outputs that cannot be linked to land use (ex. value chain) as shown in Figure 6.

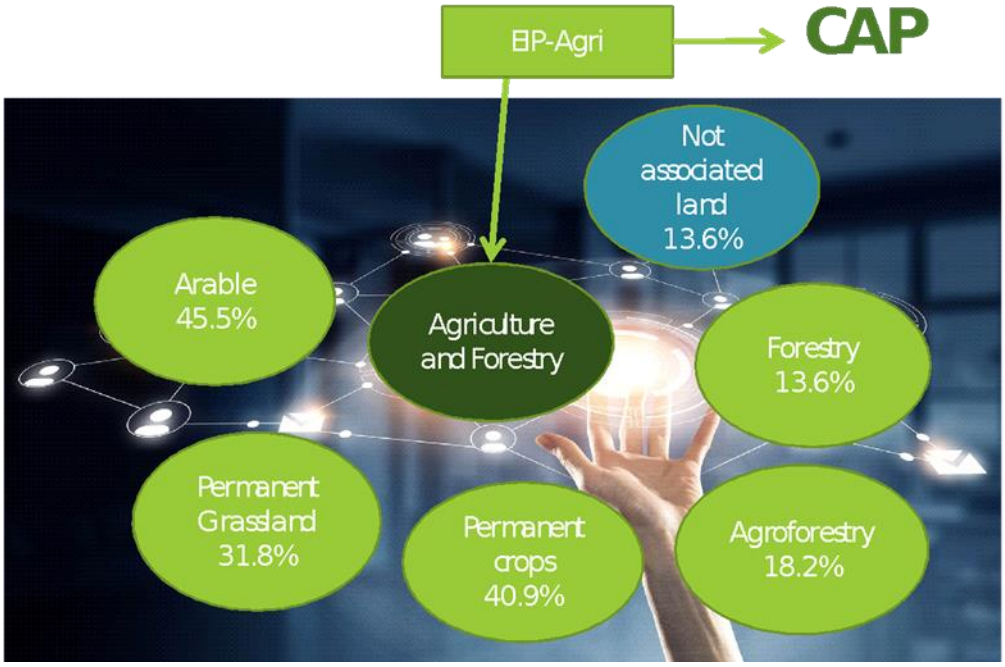

Figure 6. Percentage of data that is associated with different land-use declared by the CAP and number of land-use considered by the different outputs of each TN

In conclusion, most farming systems are dealing with agricultural lands mainly annual and permanent crops, and few are allocated to value chains or business plan development. If we consider this, innovations coming from the TNs are mostly linked to land use practices and technical issues at the plot level, but few are approaching farm or landscape level, needed to promote sustainable farming systems.
Farming systems can be categorized as attending to their social, environmental, and productive/technical aspects.

Concerning their social aspects, TNs intend to mostly approach both full and part-time farmers. This is very important because in many European regions farmers are working part-time, mostly those working in small farms. Despite that, 45.5% of the TNs are dealing with both men and women, around 54.5% declared to consider specifically women as a target group (Figure 7).

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

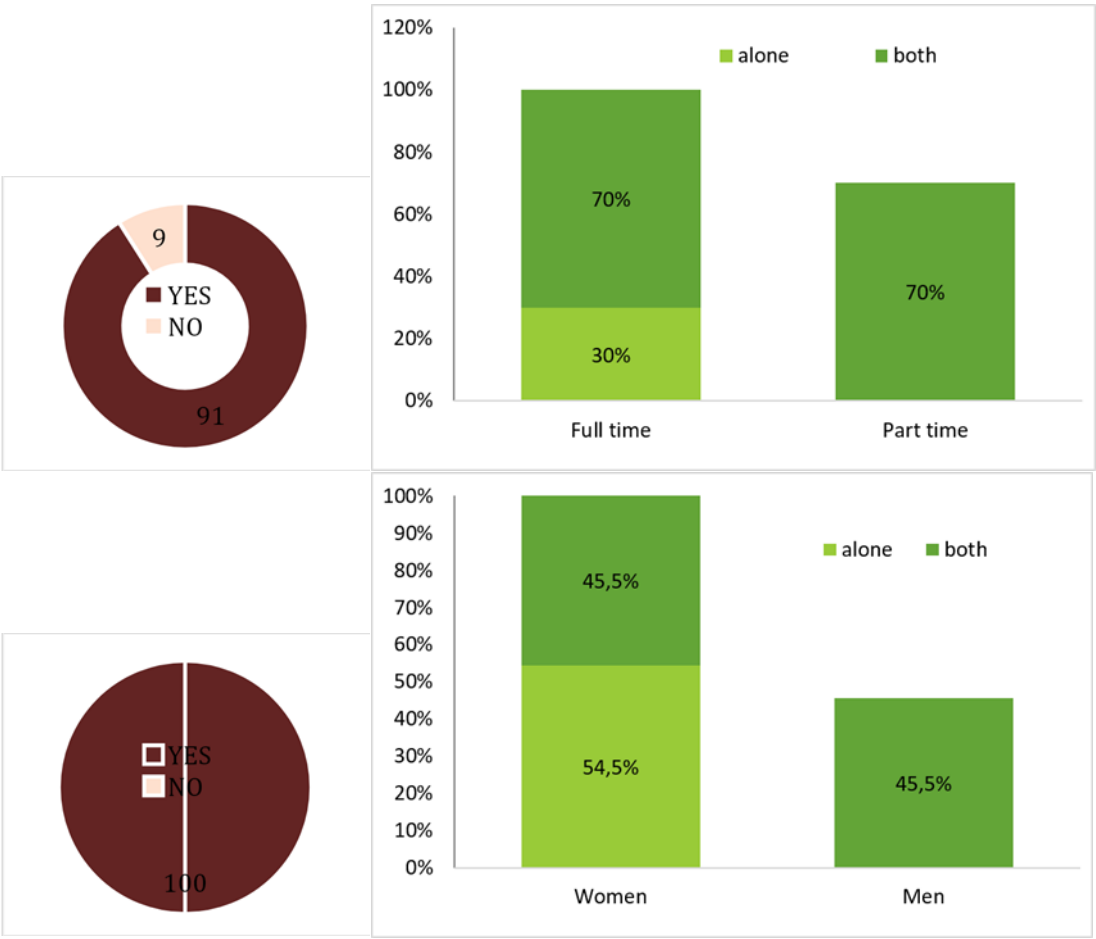

Figure 7. Share of TN focussed on full/part-time and women/men employment (right). Left figures indicate the percentage of the 22 TNs that answered the EURAKNOS survey

TNs are mainly tackling cooperatives, but also family and collective farms. Cooperative and collective farming are forms of optimizing the use of the resources and better organizing the sales. However, few TNs are exclusively linked to one of these types of farming, being 67% of the TNs targeting the three types of aforementioned farm organizations (Figure 8).

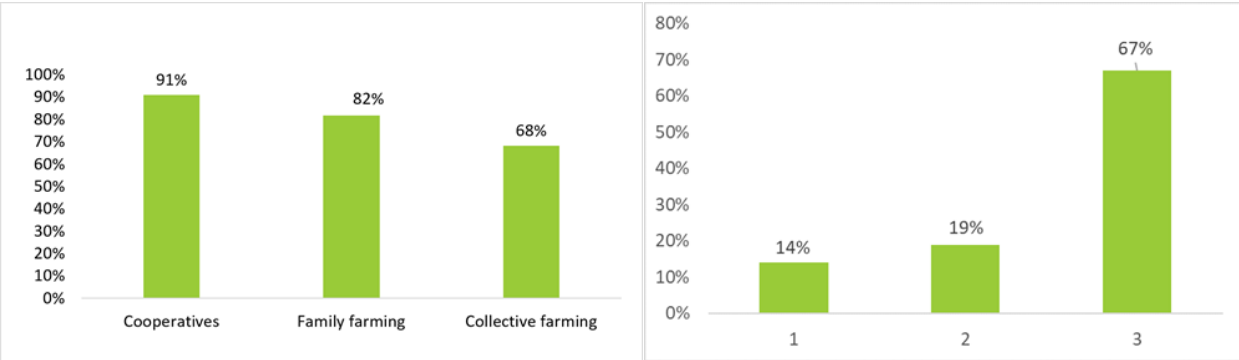

Figure 8. Share of TN dealing with cooperatives, family and collective farming (left) and number of TN approaching 1, 2 or 3 of the aforementioned types of farming systems (right)

Large and Small farming systems are targeted by 14 and 5% of the TNs, while 73% of the TNs are dealing with both large and small farms (Figure 9). On the other hand, we found that 54.5% of the TNs are focused on traditional farming systems, and 45.5 % are working for both transitional and traditional farming systems. Transitional farming systems such as organic farming are very important to foster European

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

agriculture towards sustainability and the fulfilment of the Sustainable Development Goals (SDGS)[16] promoted by the United Nations.

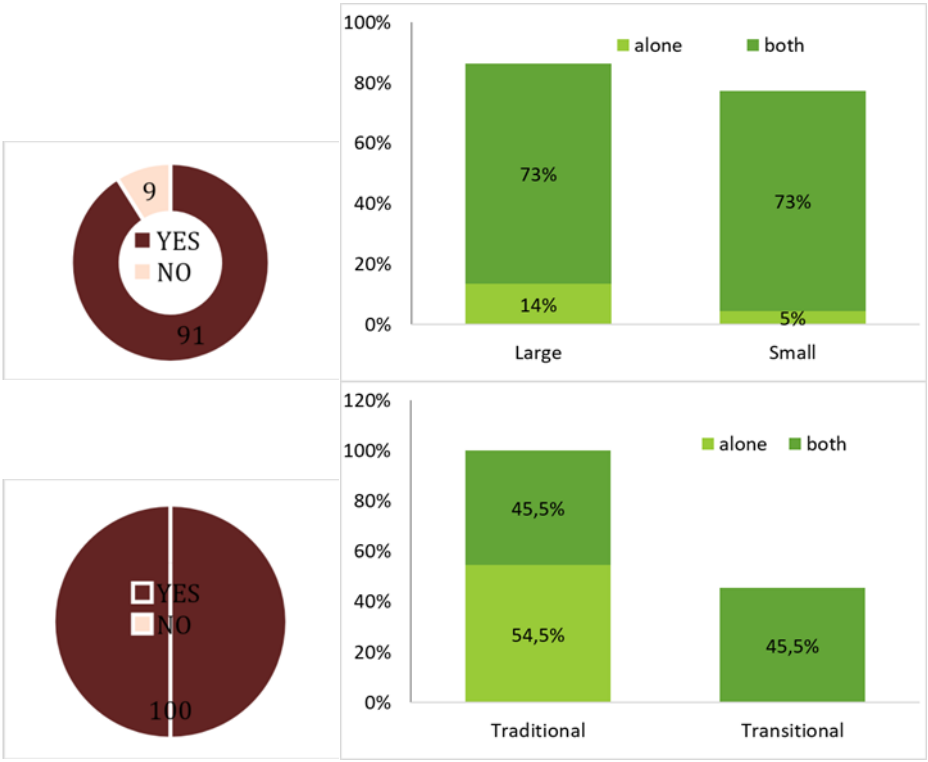

Figure 9. Share of TNs focussed on large/small and traditional/transitional farming systems (right). Left figures indicate the percentage of the TN that answered the EURAKNOS survey

Farming systems in the TNs are mostly linked to conventional (72.7%) followed by organic farming (63.3%) and less relevance is given to other types of farming systems such as precision, mixed, conservation, and low input farming systems (Figure 10). Most of the farming systems are focused on one or two topics (mainly conventional and organic) followed by a scarce share of them that deals with other types of farming systems.

[16] https://www.undp.org/content/undp/en/home/sustainable-development-goals.html

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

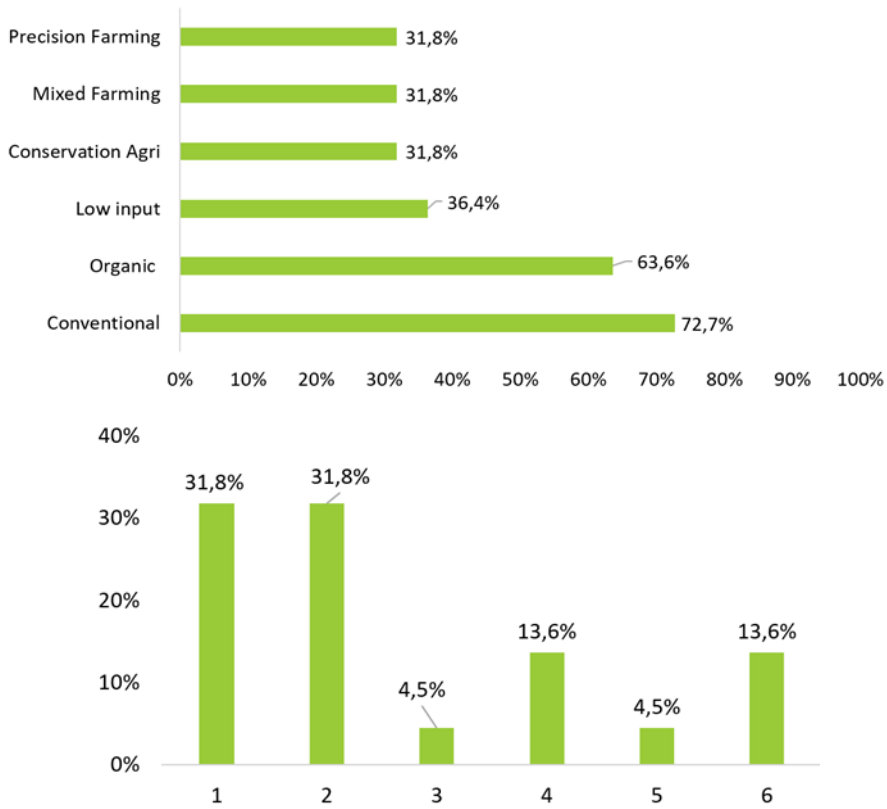

Figure 10. Types of farming and number of farming systems tackled by 22 TNs

In conclusion, TNs deal with full and part-time farmers, mostly women working in cooperatives, although not exclusively, being both large and small traditional farms in conventional and organic farming.

4.3. Type of output production

As a result of the EURAKNOS workshop in Budapest (11-13 September 2019; Task 2.5), it was found out that the ideal TN should have or gather an extensive overview of what content already exists (relevant state of the art) about the subject it will deal with. The TN should know how it will utilize the existing coordination and support measures to apply, add value, and go beyond the existing body of knowledge. This phase enables the TN to decide whether they have enough knowledge and expertise within the TN, or whether they need to do more research or engage other experts.

The origin of the data produced in the TNs comes from researchers (22 out of 24), farmers/foresters (21 out of 24), and advisors (18 out of 24). There are also thirteen TNs that use other sources of information such as industries or facilitators (Figure 11). TNs offering innovative solutions are those not choosing farmers or foresters as a source of information.

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

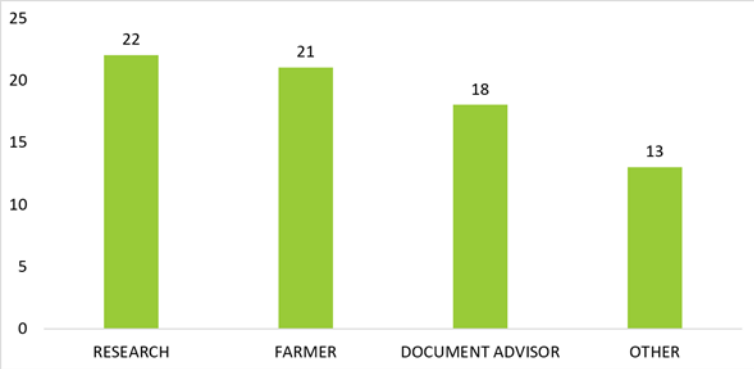

Figure 11. Origin of the data produced in the TNs

Regarding the activities by which TN-related outputs were gathered, literature review and workshops were the options chosen by 21 TNs, followed by interviews in 17 cases and benchmarking in six. Nine TNs chose "other" as the activities to gather information (Figure 12).

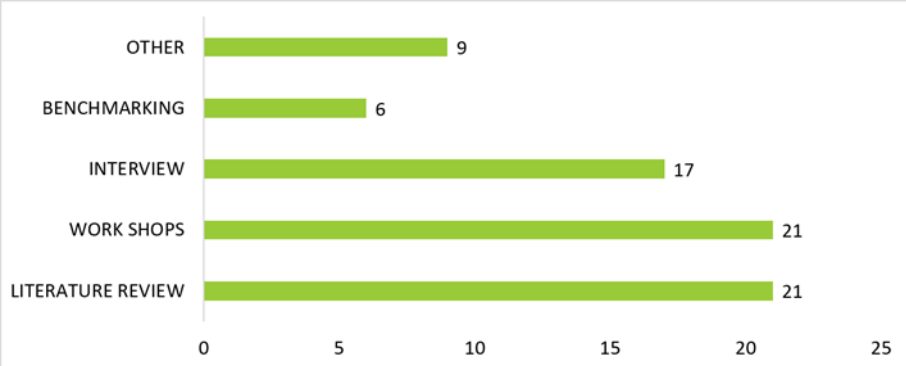

Figure 12. Activities performed to gather information for the TNs

Validation on the communication and dissemination infographics based on documents and the document definitions and usefulness was performed at the workshop held in Budapest (11-13 September 2019) and organized by Task 2.5. A list of communication and dissemination materials was provided (Annex VI) where attendants had to write what changes they would make to improve the definitions to increase their usefulness. For communication materials, there was no common agreement on changes in the material definitions but some slight changes were suggested to improve most of them and identified more materials that could be added to the list, such as Short presentations at different events, Policy briefs, and Technical infographics. Regarding dissemination materials, there was no common agreement on definitions but some modifications were suggested to improve them, it was suggested to include advisors as a target group in all the materials and more materials could be added to the list, such as training and online courses (MOOC), policy reviews and podcasts.

The outputs that the ideal TN produces should be based on the practical expertise that can inspire farmers to apply or further innovate to tackle technological, economic, and ecological problems. The solutions should have clear targets and user profiles (+ expertise level) for the problems they are trying to solve and they should be embedded in everyday farming practice. The role of a TN is twofold: (I) to create and share timely practice solutions to technological, economic, and ecological problems; and (II) to inspire other 'end-users' and actors to mobilize new TNs to trial, innovate and apply their practical solutions to context-specific problems.

Figure 13 shows the type of formats of the materials produced by the TNs. The materials produced in a higher number are PAs, factsheets, press releases, research articles (scientific papers), reviews, and technical articles, being 7.8 the median number of the materials produced and ranging from 2 to 14. So, most of the materials produced are text and video types, in a much higher proportion than image,

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

presentation, excel files, and audio types. The lowest number of materials produced is podcasts and others (e.g. leaflets, posters, on-line courses, and datasheets).

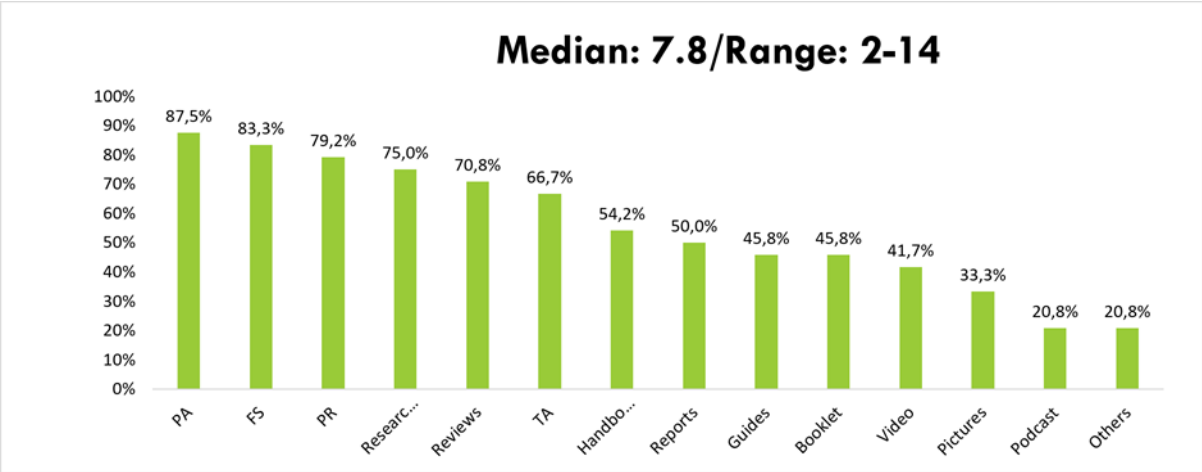

Figure 13. Type of formats of the materials produced by 24 TNs. (PA: Practice Abstract, FS: Factsheet, PR: Press Release, TA: Technical Article)

The language chosen to produce text and video materials is English in most of the cases, followed by German, Spanish, and French in a very low number. Nevertheless, the countries producing these materials in a higher number vary among the project members.

The highest effort on producing these materials is on guides (best practices guides), PAs, videos, factsheets, reports, and reviews (Figure 14).

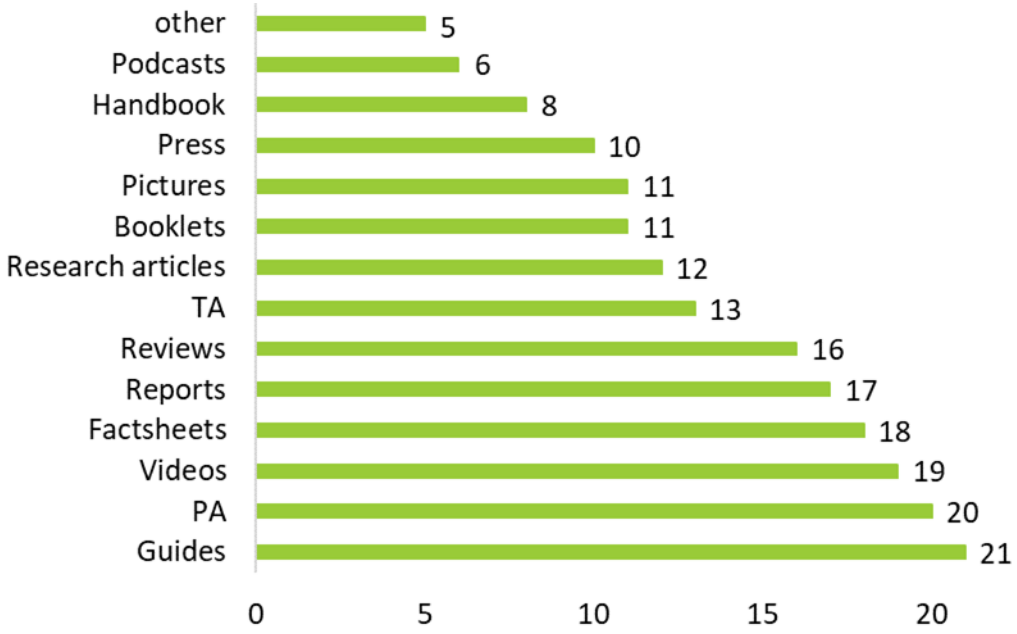

Figure 14. Degree of the effort of the materials produced by the TNs. (PA: Practice Abstract, FS: Factsheet, PR: Press Release, TA: Technical Article)

When asked about what were the main problems in the data and knowledge materials creation, interviewees responded that lack of time is the most limiting factor, followed by lack of information, lack of budget among others (existing tools, time for translation, qualified technology and product, farmers fatigue when interviewed), respectively. Furthermore, lack of time is related to lack of budget, since the

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

increase of the person involved in the project can reduce the need of time. Nevertheless, the lack of information is independent of the degree of development of the TN.

4.4. Geographic distribution

Countries coordinating TNs are located mainly in Western Europe, the United Kingdom is the country that leads or has led more projects so far, followed by Spain, France, Belgium, and Germany (Figure 15). The number of partners involved in TNs is also higher in Western Europe than in Eastern Europe (Figure 16). By sectors, arable crops are not represented by TNs accordingly to the area arable land covers, leaving many eastern and southern regions not tackled due to lower extension services development. For permanent grassland and permanent crops, many relevant regions are not covered as well. Regarding forestry, many relevant regions such as Austria and Slovenia are not tackled and it is poorly tackled in general.

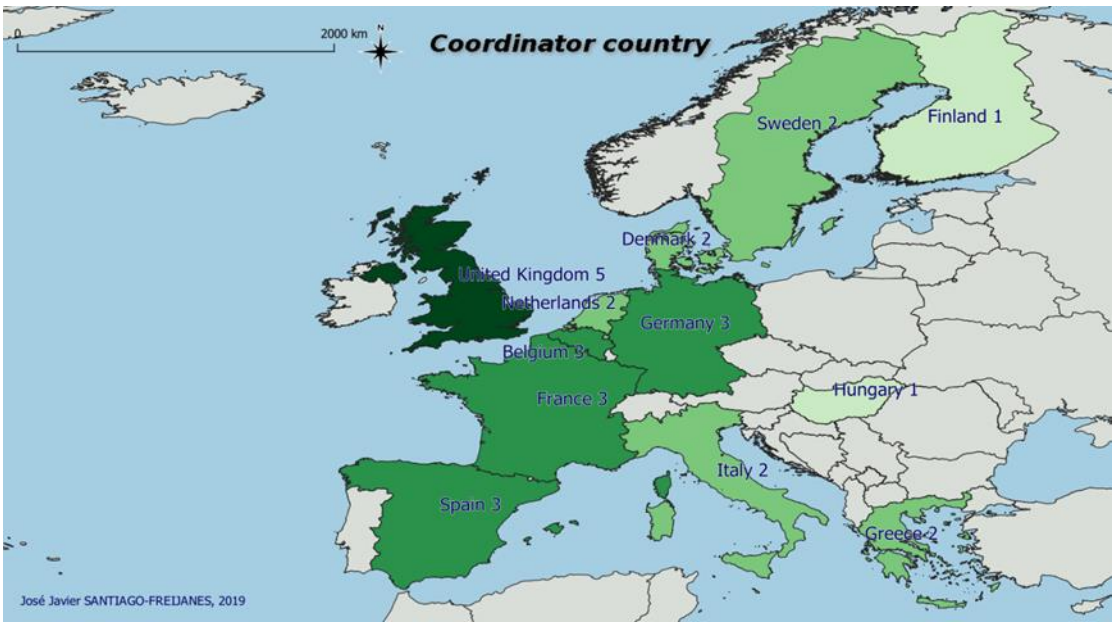

Figure 15. Countries and number of projects coordinated

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

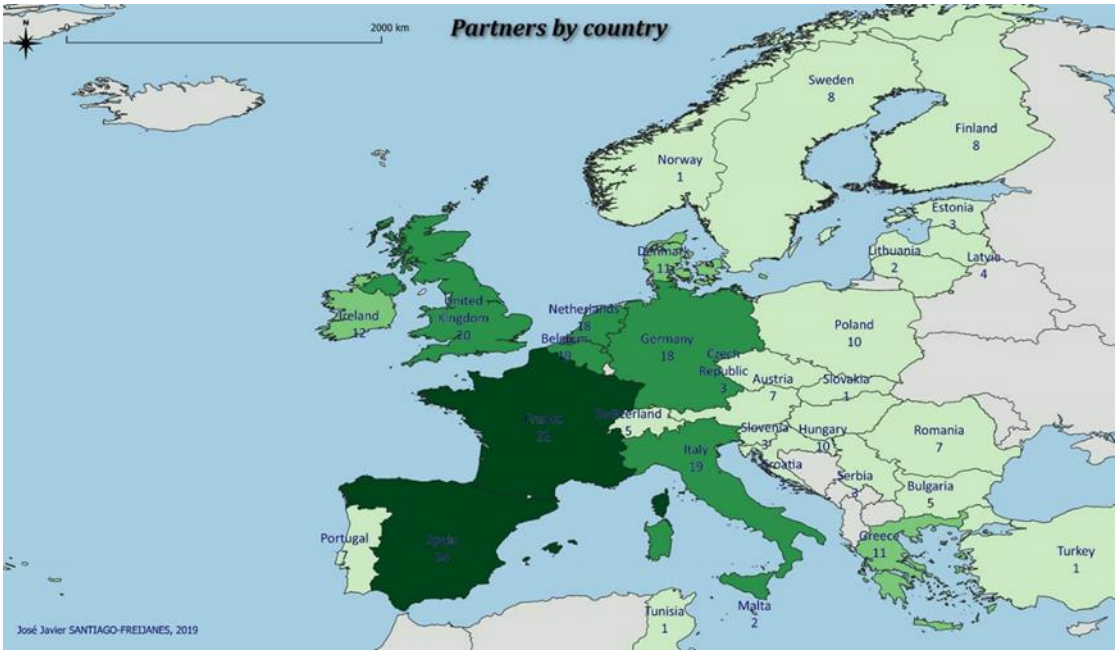

Figure 16. Number of partners involved in TNs by country

A validation on how we can expand specific sector knowledge towards those less represented countries based on their own needs was performed by asking participants in the Budapest workshop. The conclusions were that more links with OGs and NRNs should be created, relevant actors, such as policymakers, representatives of the agricultural sector, researchers, stakeholders, and farmer associations should be engaged, the knowledge transfer should be improved, and communication should be more effective.

4.5. Synergies and sustainability of TNs

A content analysis of all the outputs produced by the TNs included in the Level 2 excel file with a valid internet link was performed, analyzing a total of 3776 files out of 5064 plus 690 additional PA links, with keywords related to each document. The methodology carried out was counting the most cited keywords in each related EIP-Agri sector (arable crop, permanent crop, permanent grassland, and forestry), although some of them were not allocated to any specific category.

For those outputs not related to any category, the most relevant keywords were farmer, soil, innovation, local, market, farm, producer.

Arable crops are tackled by 45.5 % of the TNs and 35.6T % of the OGs as this is one of the key topics where farmers are working. For the TNs the most relevant keywords were related to irrigation water ("irrigation", "fertigation", "sustainable water", "fertigated"), "innovative", "transfer" and "emission effect". Those related to OGs were "system", "water", "sustainable", "quality", "soil", "water", "innovative" and "plant". For the PAs, the most relevant keywords were "organic", "soil", "weed", "cereal", "farmer" and "plant" (Figure 17).

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

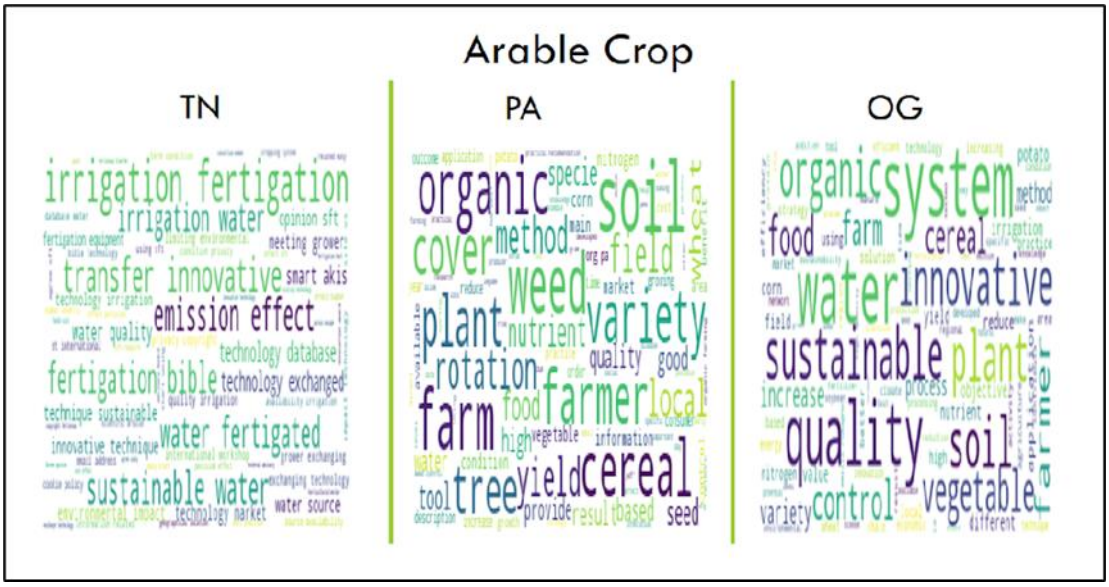

Figure 17. Word cloud for Arable Crop analysis

Permanent Grassland topic is dealt with by 31.8 % of the TNs and 42 % of the OGs. The most relevant keywords of the TNs were “farming”, “nature value”, “cross visit”, “fertigated”, “laying hen” and “high nature value”. Those related to Operational Groups were “production”, “system”, “management”, “farmer”, “animal”, “farm”, “cow” and “milk” and for the PAs, the most relevant keywords were “cow”, “soil”, “weed”, “cereal”, “farmer” and “plant” (Figure 18).

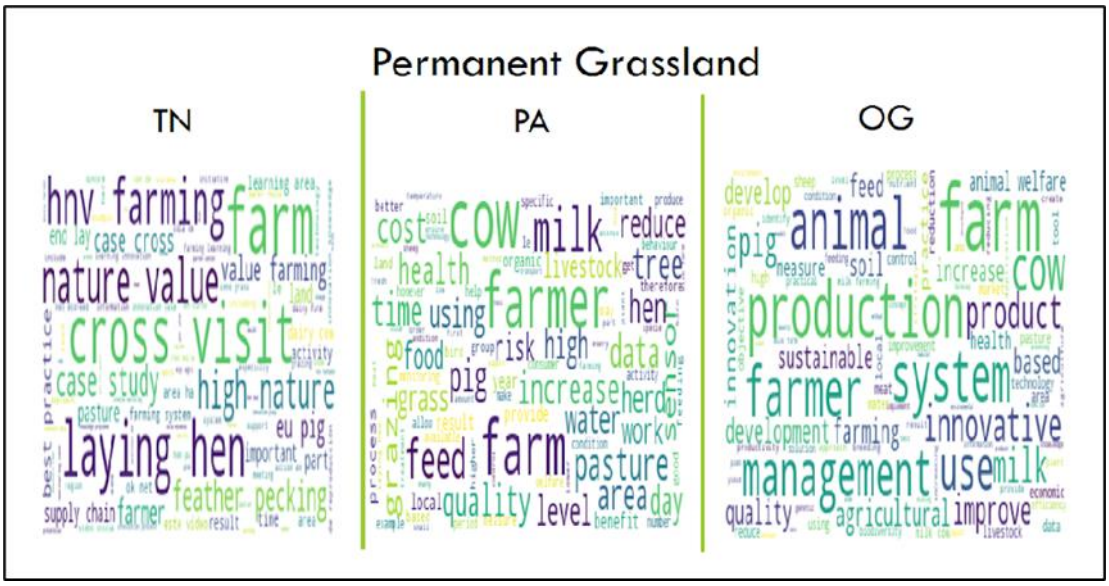

Figure 18. Word cloud for Permanent Grassland analysis

Permanent Crops are tackled in 40.9 % of the TNs and 18.4 % of the OGs. The most relevant keywords for the documents produced by the TNs are related to vineyard pests and diseases (“flavescence dorée”, “trunk disease”, “scaphoideus titanus” and “Eutypa dieback”). The most important words for OGs were “production”, “system”, “vineyard”, “management”, “fruit”, “vineyard”, “soil” and “innovative” while for PAs were more focused on crops such as “variety”, “quality”, “tree”, “orchard”, “wine”, “farmer” and “apple” (Figure 19).

The EURAKNOS project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No: 817863

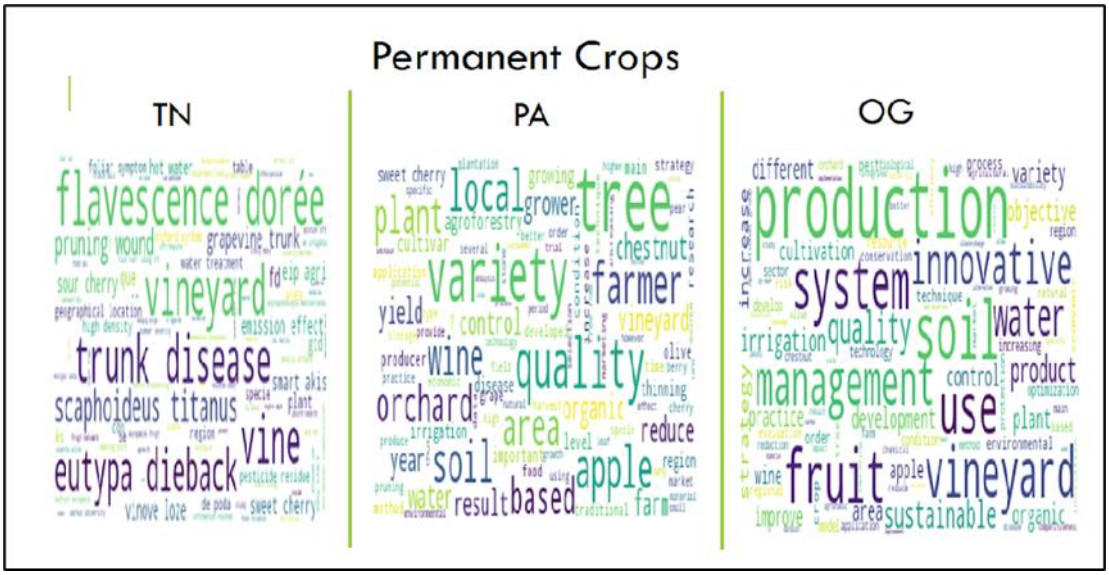

Figure 19. Word cloud for Permanent Crop analysis

Finally, Forestry is tackled in 13.6 % of the TNs and 3.8 % of the OGs. The most relevant keywords from the TN documents are “value chain”, “non-wood”, “wild nut”, “nut”, “berry”, “good practice” and “business model”, from the OG are “management”, “development”, “production”, “control”, “disease”, “pine” and “oak” and from the PAs are “agroforestry”, “practice”, “mushroom”, “tree”, “soil”, “poplar”, “hedge”, “land” and “field” (Figure 20).

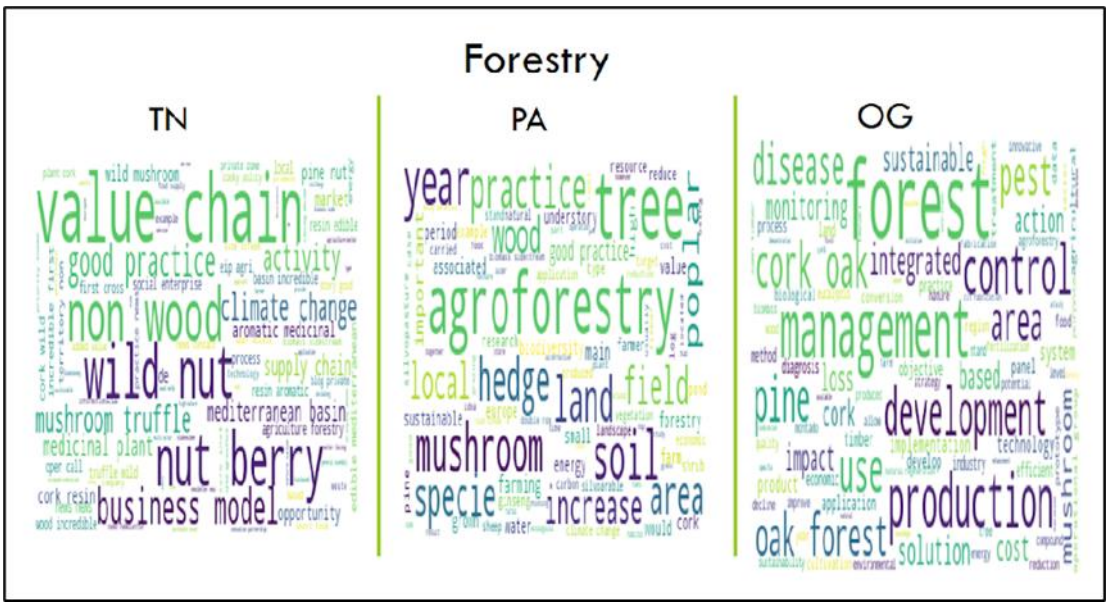

Figure 20. Word cloud for Forestry

Most of the TNs answered that they are or were able to make strong connections to other initiatives in the EIP-AGRI landscape. All correlations shown in Figure 21 are positive, with the significance level that is indicated in arrows. Infographics are correlated with NRNs and Handbooks with NRNs, MA H2020 IA, and MA H2020 CSA projects. These types of EIP-Agri initiatives are connected among themselves, and more specifically MA H2020 IA is connected with MA H2020 RIA which is correlated with Farm outputs. Handbooks are also correlated with the total number of group connections.
Moreover, Practice Outputs are correlated with the total number of group connections and Data from Advisors with OGs.

The EURAKNOS project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No: 817863

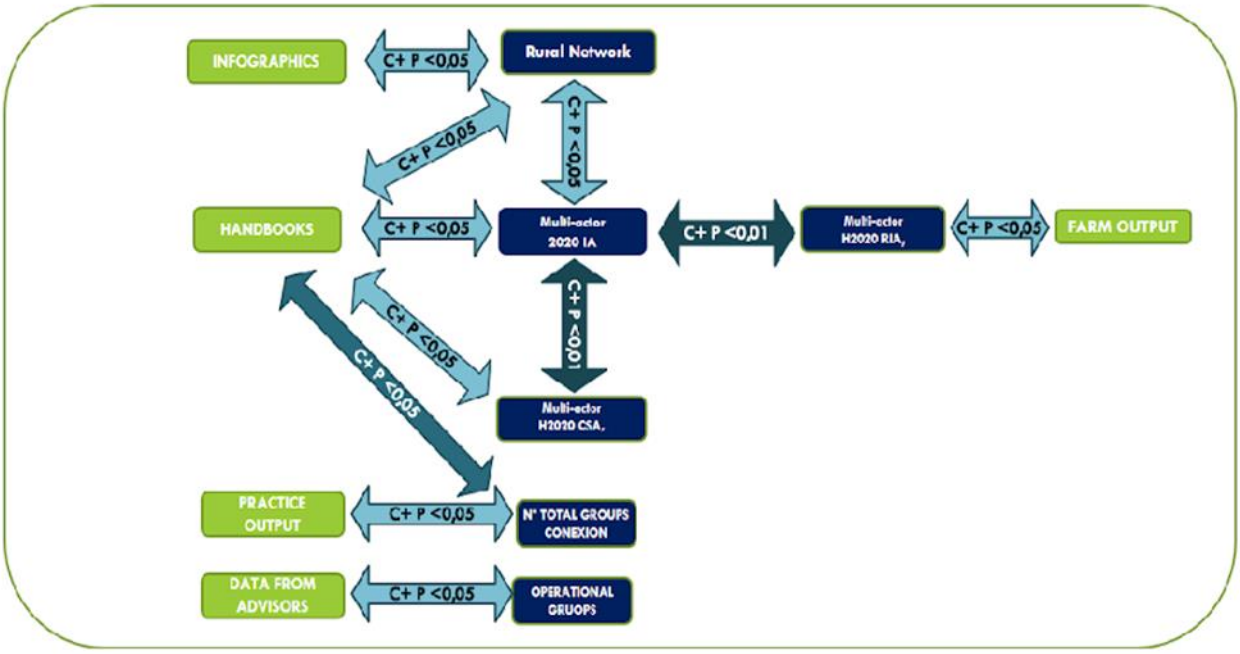

Figure 21. Synergies among outputs and EIP-AGRI initiatives

During the Budapest workshop, the existing data gaps were asked to the participant people after all previous data was presented, obtaining that the main knowledge gaps are the differences among regions and actors and end-users lack of information.

As a conclusion, the best forms to increase sustainability are Innovation document maintenance and increase and Innovation networking maintenance and enlargement.

5. Conclusions

Based on the above results on the comparison of best practices on the way TNs produce, collect, and store knowledge the following conclusions can be made:

TN origin

1) TN coordinators are mostly linked to the UK followed by Germany, France, and Spain, while most of the partners are based in France and Spain. Countries from the East of Europe are much less represented.

Content

2) The global data analysis shows that most of the TNs are dealing with arable crops, livestock, and agroforestry or forestry, are mainly allocated to urban and lowland areas, and targets cooperatives, family and collective farming. Moreover, TNs are working with both large and small farms and mostly traditional but also transitional farming systems.

3) TNs are targeting full-time farmers and women while social aspects are considered by 100% of the projects

4) Most of the knowledge gathered by the TNs has a research/farmer (practice) origin as it is aimed at by this type of CSA projects.

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

5) The analysis of the arable crops TNs, OGs, and PA's wording revealed that TNs are mostly linked to fertilization and water management while the PAs and OGs were mostly related to farming systems and specific crops.

6) The analysis of the arable crops TNs, OGs, and PAs wording revealed that TNs are mostly linked to farming systems in general while PAs have more specific wording and highlighted the findings linked to different types of animals while OGs are in between TNs and PAs.

7) The analysis of the permanent crops TNs, OGs, and PAs wording revealed that TNs are mostly linked wine and illnesses treatments, while OGs are more related to farming systems and PA to specific types of orchards besides wine and as well as OG to soil management.

8) The analysis of the forestry TNs, OGs, and PAs wording revealed that TNs were mostly linked to the value chain and business model development of nontimber forest production while OGs seem to be more related to the timber production and PAs were in between TNs and PAs.

Format

9) Overall the TNs produced 24 types of dissemination and/or communication materials while each of them delivered on average 7.8 materials with a range between 2 and 14. The most popular types of materials are the PAs and factsheets, being the less relevant the podcasts or videos. However, most of the effort recognized by the TN was to videos besides the PAs and factsheets.

Synergies

10) MA projects included mainly data coming from farm practices while those projects related to the NRNs produced more infographics to reach more easily form policymakers.

11) Those projects with a higher number of group connections (TNs, OGs, and NRNs) have a higher number of dissemination materials related to practices, while those with a higher number of OGs connections produce more dissemination materials coming from advisors.

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

ANNEX I: Instructions to fill in table 2.1

Logo: logotype of the project
H2020 THEMATIC NETWORK: name of the Thematic Network (TN) with the link to the website inserted
Degree of completion: number of months since the beginning of the TN divided by the duration of the TN in months and multiplied by 100 to get it in percentage
Number of materials: published so far (in figures)
Connection with EURAKNOS partner: common partner or partners. Use the acronym
Aim project: short description of the project (normally found in the website)
Project e-mail:
Coordinator: name of the coordinator
Coordinator organisation: complete name of the coordinator organisation
Coordinator organisation type: type of the coordinator organisation. Use acronyms when clearly understandable (e.g. NGO, SME…). Universities are coded as "Academic"
Mail: coordinator´s e-mail address
Skype: coordinator´s Skype user name
Website: Add the link to the website, the name shown in the cell must be coincident with the link (i.e. www.agrispin.eu is the name shown in the cell and the link takes to the website www.agrispin.eu)
Coordinator name: complete name
Partners country: abbreviation of the partner´s countries according to ISO 3166 (https://www.nationsonline.org/oneworld/country_code_list.htm)
Sector: choose among Arable crops, Permanent Grassland, Permanent Crops, Forestry, Agroforestry. More than one category can be chosen. Arable crops, Permanent Grassland and Permanent Crops are defined in Regulation (EU) No 1307/2013 (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32013R1307)
Subsector Arable crops: indicate the type of crop (e.g. cereals, horticultural crops…) and specify the species between brackets (e.g. wheat, rye…). Please, check the wordings available in the row´s name comment and add to the list any new keyword in order to use the same expressions
Subsector Permanent Grassland: indicate species when possible. Grazing animals or feeding in grasses or other herbaceous forages, including shrubs and/or trees must be included here. Please, check the wordings available in the row´s name comment and add to the list any new keyword in order to use the same expressions
Subsector Permanent Crops: indicate scientific names of the species involved to avoid confusion when possible
Subsector Forestry: indicate the type of forest (e.g. conifer, broadleaved…) and specify the species between brackets (e.g. Picea abies, Juglans regia…) when possible. Please, check the wordings available in the row´s name comment and add to the list any new keyword in order to use the same expressions
Subsector Agroforestry: Please use the following classification (Table 2 of AGFORWARD policy report https://www.agforward.eu/index.php/es/extent-and-success-of-current-policy-measures-to-promote-agroforestry-across-europe.html): Silvoarable, Silvopasture, Riparian buffer strips, Forest farming, Homegardens or kitchen gardens.
Management […]: specify the treatments applied under each subsector. Choose the wording from the list in the row´s name comment and if the management you need to include is not in the list, please, write it in the corresponding cell and add it in the list.
Topics: indicate relevant topics related with TNs
Transversal: include here any thematic network not fitting in the different five sectors (e.g. soil, digitization…)
Collaboration (synergies): Yes / No. If "Yes", please specify if it is a synergy with Policy makers, Thematic Networks, Multi Actor Approach…
Outputs: type of materials publish

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

ANNEX II: Overview of the Thematic Networks

Table 5. Level 1 structure overview of the whole Thematic Network

H2020 THEMATIC NETWORK	Degree of completion	Number of materials	Connection with Euraknos partner	Aim of the project	Project e-mail	Coordinator	Coordinator organisation	Coordinator organisation type	Mail	Skype	Website	Coordinator country	Partner countries	Sector

...	Subsector Arable Crops	Subsector Permanent Grassland	Subsector Permanent Crops	Subsector Forestry	Subsector Agroforestry	Management Arable Crops	Management Permanent Grassland	Management Permanent Crops	Management Forestry	Management Agroforestry

...	Topics	Transversal	Collaboration (synergies)	Outputs

ANNEX III: Outputs produced by the Thematic Networks

Table 6. Data/outputs produced by the different TNs

Related project	Title of material (can be the title of a video)	Link to material	Organization	Practice	Sector	Subsector	Keywords	Type of data	Format of data	Format data

...	Data producer//videos	Data format	Region	Language of material	Publication year	Data accessibility	Frequency updating data

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

ANNEX IV: Oral interview

Question 1. Your TN spent/spends a lot of time and effort to produce...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Practice abstracts	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Factsheets	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Press releases	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Scientific papers	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Review documents	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Technical articles	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Handbooks	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Reports	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Best practices guides	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Booklets	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Videos	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Pictures	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Podcasts	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Other (specify)	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑

EXPLAIN your answer

Question 2. The data produced at your TN are easy to be categorised according to...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Farm description	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Practice (agriculture, forestry, agroforestry)	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

Question 3. The majority of the data (documents, videos...) produced in your TN comes from...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Researchers	❑1	❑2	❑3	❑4	❑5	❑
Farmers/Foresters	❑1	❑2	❑3	❑4	❑5	❑
Advisors	❑1	❑2	❑3	❑4	❑5	❑
Other (specify)						

EXPLAIN answer

Question 4. The process by wich TN-related outputs were gathered was based on...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Benchmarking	❑1	❑2	❑3	❑4	❑5	❑
Literature review	❑1	❑2	❑3	❑4	❑5	❑
Interviews	❑1	❑2	❑3	❑4	❑5	❑
Workshops	❑1	❑2	❑3	❑4	❑5	❑
Other (specify)						

EXPLAIN answer

Question 5. There are content gaps in the data (documents, videos…) produced in your TN due to

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Lack of information	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Lack of time	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Lack of budget	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Other (specify)	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑

EXPLAIN answer

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

Question 6. The data of the TN you work for was/is free accessible for the end users

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑

EXPLAIN answer

Question 7. Your TN was/is able to make strong connections to other initiatives in the EIP-Agri landscape, namely to

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Focus Groups	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Operational Groups (OGs)	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
National rural networks (NRN)	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Multi-actor H2020 RIA,	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Multiactor H2020 IA	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Multiactor H2020 CSA	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Other H2020 TN	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Other ---------- --	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑

EXPLAIN answer (can you give for each interaction one example on how your TN collaborates, what was also the last time that you collaborated, was the collaboration successful or did you have difficulties)

Question 8. Have you received **consent from your TN consortium** so as to allow TN-related outputs use for the EURAKNOS KR? Who is the person that should be contacted with the aim to grant access to TN-related data? (Please, specify name & email address)

Question 9. The data stored in your KR are GDPR compliant: privacy policy, consent, legal compliance, information about personal data collected, to whom personal information is disclosed, user's rights

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not able to answer
Past data	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑
Future data	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑

EXPLAIN planned efforts: have to write ethic report, data protection policy.

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

Question 10. Are there any **intellectual property rights** issues that apply to any of your TN's outputs or output types? If yes, which are these outputs or output types? Do you know who the **intellectual property rights holder** is?

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

ANNEX V: Written interview

1. Which thematic network do you represent?
2. What is the primary domain (e.g. arable, horticultural, dairy, poultry, etc.) of your TN? If applicable, more than one domain (serving the role of keywords) can be mentioned.
3. Can you indicate the main type of land tackled by your TN? *Arable Crops (AR); Permanent Grasslands (PG); Permanent crops (PC); Forestry (F); Agroforestry (AF)*
4. Can you indicate the main type of farming tackled by your TN? *Conventional(C); Organic farming (O); Conservation agriculture (Ca); low input agriculture (lia); mixed farming (mf); precision farming (pf)*
5. Indicate the degree of intensification tackled by your TN. *Extensive (E); I: intensive (I)*
6. Indicate the animal husbandry tackled by your TN. *Dairy (D); Pigs (Pi); Cattle(Ca); Horses(H); Sheep(Sh); Goats (Go)*
7. Indicate the geographic type of the farm tackled by your TN. *Lowland farm (L); Mountain farms (M)*
8. Indicate the farmers tackled by your TN. *Smallholders (Sh); Large-scale farmers (Bf); Women farmers (wf), Urban farmers (Uf); peri-urban farmers (PU), farmers not included in the previous one, Full-time farmers (Ff); part-time farmers (pt)*
9. Indicate the farmers' organization tackled by your TN. *cooperatives(Coop); family farming (Ff); Collective farming (Cf); traditional farming(tf); transitional farming (Tf)*
10. What were the main crops tackled by your TN? (please provide specific species)
11. Are there any other topics tackled by your TN?
12. Indicate the type of seeding tackled by your TN. *conventional seeding (s); direct seeding (ds)*
13. Indicate the type of fertilization tackled by your TN. *Inorganic Fertilization with N; Inorganic Fertilization with P; Inorganic Fertilization with K; Inorganic fertilization with NPK; Organic Fertilization with farm residues (FS); Organic fertilization with external residues (bio-economy: sewage sludge…)*
14. Indicate the type of weeding tackled by your TN. *spraying(S); natural weeding (nw)*
15. Indicate the type of harvesting tackled by your TN. *mechanical harvesting (mh); natural harvesting*
16. Indicate the type of pruning methods tackled by your TN. l*ow pruning (lp); formation pruning (fp)*
17. Indicate the type of irrigation tackled by your TN.
18. Indicate the type of fertilization tackled by your TN. *Inorganic Fertilization with N; Inorganic Fertilization with P; Inorganic Fertilization with K; Inorganic fertilization with NPK; Organic Fertilization with farm residues (FS); Organic fertilization with external residues (bio-economy: sewage sludge…)*
19. Indicate the type of pruning tackled by your TN. *formation pruning (fp);* l*ow pruning (lp)*
20. Indicate the type of thinning tackled by your TN. *low thinning (lt); high thinning (ht)*
21. Indicate the type of harvesting or logging tackled by your TN. *mechanical harvesting (mech); manual harvesting (mh)*
22. What type of agroforestry did your TN tackle? *Silvoarable; Silvopasture; homegarden; Riparian buffer Strips; forest farming*
23. Please mention any of the agriculture and forestry innovations that you tackled in your TN.
24. Which of the following project-related documents are available so as to be considered for EURAKNOS KR design and development? *Deliverable; Report; Milestone; Practice abstract; Other*
25. Which of the following additional documents are available so as to be considered for EURAKNOS KR design and development? Factsheet; Press release; Newsletter; Review

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

document; Technical article; Handbook; Scientific publication; Best practice guide; Manual; Booklet; Spreadsheet; Other

26. Which of the following ICT-based materials are available so as to be considered for EURAKNOS KR design and development? Technology database/ platform; Algorithms; Software; Decision Support Tools; Other
27. Which of the following Media-based materials are available so as to be considered for EURAKNOS KR design and development? Videos; Figures; Presentation; Infographic; Chart/graph; Podcast; Other
28. Which of the following training materials are available so as to be considered for EURAKNOS KR design and development? Seminar; Workshop; Webinar; Other
29. What is the number of output per type? (project-related documents and additional documents)
30. What is the number of output per type in ICT-based material?
31. What is the number of output per type in media-based material?
32. What is the number of output per type in training material?
33. What categories of output creators (e.g. farmer, breeder, scientist, entrepreneur, advisor, policymaker, domain expert, other) have been involved in the production of your TN's outputs?
34. Is it possible to identify the creator of each concrete created output?
35. Can you list the countries and/or regions from which creators of TN-related outputs come from? (please answer with the full name of the country)
36. In what languages are your TN's outputs available? please answer with the full language name
37. What is the purpose (information material, presentation of best practices, presentation of innovative practices, training material, communication, dissemination etc.) of created outputs? More than one purpose per output (type) could be mentioned.
38. Which types of stakeholders (e.g. farmer, breeder, scientist, entrepreneur, advisor, policymaker, domain expert, other) does the creation of TN's outputs target at? More than one stakeholder type per output (type) could be mentioned.
39. How many links/synergies were you able to make to other initiatives in the EIP-Agri landscape (focus groups, operational groups, national rural networks (NRN)...)? please answer with a number. Operational Groups; National Rural Network; Multi-actor H2020 RIA; Multi actor H2020 IA; Multi actor H2020 CSA; Other TN; Focus Groups; Others...
40. How was the synergy established? Operational Groups; National Rural Network; Multi-actor H2020 RIA; Multi actor H2020 IA; Multi actor H2020 CSA; Other TN; Focus Groups; Others...
41. How would you describe this process (main difficulties)? Operational Groups; National Rural Network; Multi-actor H2020 RIA; Multi actor H2020 IA; Multi actor H2020 CSA; Other TN; Focus Groups; Others...
42. How would you describe this process (suggestions/actions taken to facilitate this process)? Operational Groups; National Rural Network; Multi-actor H2020 RIA; Multi actor H2020 IA; Multi actor H2020 CSA; Other TN; Focus Groups; Others...
43. What is/are the names of the linked initiatives? Operational Groups; National Rural Network; Multi-actor H2020 RIA; Multi actor H2020 IA; Multi actor H2020 CSA; Other TN; Focus Groups; Others...
44. What have been the main reasons for these linkages (e.g. use of it in future projects, advisory services, better contact with the end-users e.g farmers cross-border exchange of knowledge etc)? Operational Groups; National Rural Network; Multi-actor H2020 RIA; Multi actor H2020 IA; Multi actor H2020 CSA; Other TN; Focus Groups; Others...

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

ANNEX VI: Definitions of Communication and Dissemination materials

Main type of Outputs. Communication	
Press release	Official statement delivered to members of the news media for the purpose of providing information, an official statement or making an announcement. To maximize the impact it could be linked to the provision of a solution of a huge society problem. Target: General Public
Brochure, booklets	A type of small magazine that contains pictures and information on the project. Target: General Public
Podcast	Audio that is stored in a digital form that you can download from the internet and play on a computer. Target: General Public
Infographics	A representation of information in a graphic format designed to make the data easily understandable at a glance. Target: General Public
Newsletter	A bulletin issued periodically to the members of the project. Target: General Public

Main type of Outputs. Dissemination	
Practice abstracts	A short document that highlights a practice and useful innovation. Target: Farmers and researchers
Factsheets	One single printed sheet with a concise presentation of information in a format which emphasizes key points concisely, usually using tables, bullet points and/or headings and printed on a single printed page. They are sometimes a summary of a longer document. *Target: Farmers and researchers*
Research papers, Reviews	Papers published in scientific journals indexed in the WoS or any other scientific database as a direct result (Research papers) or as a compilation of results from other papers. Target: Researchers
Report	A document coming from the project that highlights the most important results from a specific project Target: Researchers
Technical articles	A document that describes the nature, state of the art, progress, or results of a technical process. Therefore usually associated to best practices. Target: Farmers

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863

Guides	A document that describes a process or the know-how of an innovation. Target: Farmers
Videos	A film detailing an innovation in images. Target: Farmers
Handbook	A book giving information such as facts on a particular subject or instructions for operating a machine. Target: All type of stakeholders

The EURAKNOS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 817863