

WP1: GREEN NUDGES LANDSCAPE ANALYSIS

D1.5: Multi-actor co-creation activities for green nudges v1

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List of abbreviations

AI - Artificial Intelligence

CAP – Common Agricultural Policy

CCF – Continuous cover forestry

D - Deliverable

EC – European Commission

ESG – Environmental, Social, and Governance

EU – European Union

FAB – Functional Agro-Biodiversity

GA – Grant Agreement

GDPR – General Data Protection Regulation

IoT – Internet of Things

T – Task

UC – Use Case

UC – Use Case

wadi – Water Drainage Infiltration

WP – Working Package

WP – Working Package

1. Executive summary

The document at hand investigates the green nudges, behavioural factors and agriculture/forestry contexts that could be tested in the field experiments that will take place later in the PRUDENT project.

The approach outlined in the document begins with developing a guideline document outlining the methodology, workshop structure, and supporting materials to facilitate implementation. A dedicated online training session equipped the UCs with the necessary knowledge to conduct their workshops effectively. Four regional UC workshops were then deployed, engaging diverse stakeholders in participatory discussions. Following the workshops, the UCs compiled detailed reports, including feedback analysis and key findings. Finally, we synthesized the collected data and insights into this document.

The preparation phase involved identifying and inviting participants based on criteria to ensure a balanced representation of perspectives. Invitations were sent well in advance to secure maximum participation, accompanied by informational materials outlining the workshop agenda and objectives. Each UC partner utilized dedicated resources to set up accessible venues, arrange catering, and prepare supportive materials, creating a conducive environment for collaborative discussions. Local teams were trained to utilise various brainstorming techniques, such as brainstorming, brainwriting, and dot-voting, to facilitate active participation and idea generation. To guide the sessions, roles such as moderators, facilitators, and rapporteurs were appointed, ensuring smooth coordination and effective documentation of discussions. The workshops were structured to include introductory, main, and closing sessions, each designed to progressively build on identified issues, co-define sustainable practices, identify adoption barriers, and brainstorm green nudges.

In Lithuania, discussions centred on the negative impact of unsustainable farming practices on wheat production, identifying barriers such as lack of knowledge and bureaucratic constraints. Participants proposed solutions like advanced technologies, crop diversification, and new market opportunities alongside green nudges such as AI-driven tools, mobile apps for knowledge delivery, and mandatory training for farmers. The Belgian workshop focused on water resource degradation and the low adoption of buffer strips, addressing financial concerns and regulatory fears. Participants explored innovative policy solutions and developed nudges like subsidy countdowns, personalised eco-scores, and strategic timing for communication. In Italy, the workshop tackled climate change-related risks in viticulture, emphasising the role of green insurance linked to sustainable practices. Barriers included policy complexity and farmer reluctance, which participants aimed to overcome through social visibility of sustainable actions, timely reminders, and default green options. Finally, Finland's workshop addressed conflicts in forest management, promoting mixed forests and continuous cover forestry. Key barriers included poor information flow and conservative mindsets, with proposed nudges such as peer learning networks, financial incentive communication, and integrating sustainable forestry into education.

Across all workshops, the results highlighted the importance of tailored nudges, policy adaptation, and strategic communication to drive sustainable transitions in agriculture and forestry.

2. Introduction

PRUDENT is a four-year Horizon Europe project that aspires to change how agriculture and forestry systems currently operate and accelerate the transition to sustainable agriculture, forestry practices, and smart farming technologies. It aims to identify and evaluate the most effective green nudges in the context of appropriate behavioural and experimental settings that can enable behavioural change towards more sustainable agriculture and forestry. The project focuses on four use cases (UCs) representing a range of EU agriculture and forestry systems and conditions. In particular, these are (i) Lithuania, focusing on arable crops; (ii) Italy, focusing on perennial crops; (iii) Belgium, focusing on livestock; and (iv) Finland, focusing on forestry.



Figure 1: PRUDENT's Use Cases

The document at hand outlines the methodology and implementation of the co-creation activities of year 1 of the project across the 4 UCs. Overall, throughout the four years of the project, the UCs will organise 16 multi-actor co-creation workshops on the ground to co-create several aspects that define the PRUDENT approach. The focus of each year's co-creation is the following:

- **Year 1:** Green nudges, behavioral factors and agriculture/forestry contexts that will later be tested in the field experiments.
- **Year 2:** Green nudges and agriculture/forestry contexts that will later be tested in the natural experiments and features and functionalities of the innovative tools.
- **Year 3:** Evaluation of alternative social innovations, modes of cooperation and business models and the evaluation of the policy recommendations and tools.
- **Year 4:** Validation of the portfolio of social innovations, modes of cooperation and business models and the validation of policy recommendations and tools.

The document at hand investigates the green nudges, behavioural factors and agriculture/forestry contexts to be tested in the field experiments that will take place later in the PRUDENT project. The remaining of the document consists of the following chapters:

- **Chapter 3** articulates the key steps, and overall approach followed during the 1st year's co-creation activities to ensure good collaboration among project partners.
- **Chapter 4** elaborates on key methodological aspects of the workshop preparation and implementation by the UCs.
- **Chapter 5** illustrates the results of the four co-creation workshops, providing information on the green nudges, the sustainable solutions and barriers that were co-defined.
- **Chapter 6** provides some concluding remarks and guides the project's next steps.

The **Annexes** include (i) the Guidelines for Organising the Workshops; (ii) the Reporting Template for reporting the workshops' results; and (iii) the four UCs' Co-creation workshops' agendas.

The methodology of PRUDENT for multi-actor co-creation activities builds on know-how, tools and templates developed internally by Q-PLAN for the Horizon 2020 project agroBRIDGES, as well as on good practices and templates from the literature. Tailored modifications to the methodology were implemented for PRUDENT to comply with the GA conditions and the particularities of the project. Along these lines, this deliverable presents the adjusted methodology as it was further developed and applied in the context of PRUDENT, as well as presents the results from its application during the project.

3. Overall Approach

During the last year, four workshops were organised, one for each project UC. The workshop methodology was decided centrally, but then, workshop implementation took place locally by the people who work in each UC, involving local stakeholders. The overall approach followed is summarised in the figure below.



Figure 2: T1.3 Overall approach

Step 1 – Guideline document for Year 1. First, we established the methodology for preparing and implementing co-creation workshops. To that end, we created a guideline document, offering a suggested structure of the workshops' sessions, comprehensive instructions on identifying participants and inviting them, and background materials and tools that could be used to facilitate the organisation and implementation of the workshops. This document also provided guidance on conducting the workshops, including co-creation approaches and tools, as well as on how to collect the participants' feedback and report the workshops' results. The workshop guidelines proposed a structure that was based on participatory co-creation principles, drawing from the theoretical frameworks such as the Living Labs approach and participatory research approaches suggested by Eriksson et al. ¹ and Martin et al. ². More specifically, the proposed guidelines covered the workshop preparation phase and the workshop implementation phase and defined the timeframe for the coordination of all UC workshops and the consolidation of all findings. The integration of various stakeholders in the co-creation process was emphasised to define community-driven solutions. The workshop guidelines are available in Annex I: Guidelines for Organising Workshop.

¹ Eriksson M., Niitamo V., Kulkki S. (2005). *State-of-the-art in utilizing Living Labs approach to usercentric ICT innovation - a European approach*. CDT, Luleå University of Technology, Sweden

² Martin, A., & Sherington, J. (1997). *Participatory research methods—Implementation, effectiveness and institutional context*. *Agricultural Systems*, 55(2), 195–216. [https://doi.org/10.1016/s0308-521x\(97\)00007-3](https://doi.org/10.1016/s0308-521x(97)00007-3)

The guideline document was also accompanied by supportive materials and templates to facilitate workshop organisation, stakeholder engagement, implementation and reporting. These included (i) an indicative agenda; (ii) a reporting template; (iii) templates for personalising the invitations to participants; (iv) an invitational email template; (v) an informational document to share with the participants; (vi) a registration form template and a data subject request form; (vii) a participants list template; and (viii) a satisfaction questionnaire for the workshop participants.

Step 2 – Training on Methodology. We organised an online training session on the 15th of October 2024 to introduce the people working at the UCs to the co-creation methodology outlined in the guideline document. The training ensured that all involved people were well-equipped to prepare, implement, and report on their workshops, providing them with the necessary knowledge and tools.

Step 3 – Deploying 4 UC Workshops. Following the training, the four UC pilots prepared and organised their workshops. This involved the selection and invitation of participants, as well as the selection of a venue and the preparation of relevant materials related to co-creating green nudges. The workshops were conducted between November 2024 and January 2025 across the four UC pilots.

Step 5 – Reporting of co-creation activities. After the workshops were completed, each UC pilot compiled a detailed report for their co-creation activities. These reports included information about the workshop execution, participant engagement, and the outcomes of the co-creation process. Furthermore, they aggregated and anonymized the results from the participants' feedback questionnaires in dedicated datasets. The reports and datasets provided valuable insights into the workshops and their effectiveness.

Step 6 – Report on Methodology and results of co-creation (Deliverable 1.5). In the final step, we analyzed the reports and datasets submitted by the UC pilots, integrating the findings and methods into the current document. The document at hand offers an aggregated overview of the co-creation activities and an assessment of the results regarding green nudges in each of the UCs' specific regional contexts.

4. Workshop Methodology

In this Chapter, we elaborate on the methodology that was followed by the event organisers at the four UCs, considering the guidelines they initially received. Among others, relevant numbers or statistics are provided, highlighting the results achieved.

4.1. Preparation before the Workshops

Identify Stakeholders

In the project's first year, the four co-creation workshops that took place targeted to attract 15-25 participants per UC representing various stakeholders (e.g., farmers, foresters, advisors, industry

actors, investors, researchers, consumers, and policymakers). To that end, the UCs approached invitees with expertise or relevance to agriculture and forestry who would be motivated to participate.

Invitation Criteria

Participants for the co-creation workshops were selected based on a set of comprehensive criteria to ensure meaningful and inclusive engagement. Stakeholders were invited by the UCs based on their motivation to actively participate, their decision-making power to influence policies and practices in forestry and farming, and their expertise in addressing identified challenges. Additionally, representation across all relevant stakeholder types was aimed to capture a diverse range of perspectives and visions. Inclusivity was a key principle as well, with efforts made to engage individuals of different genders and ages to ensure that workshop outcomes reflect the needs and opinions of all societal segments.

Invitation Process and Date

At first, UCs took time and effort to identify suitable stakeholders to invite, utilising their network's connections. After the initial identification, and as soon as each UC fixed the date of their co-creation workshop, invitations (e.g., email, mail, in-person invitations, direct calls) were sent to stakeholders well in advance, as suggested. These save-the-date invitations included some basic information and an initial workshop agenda foreseeing a 3-4 hour long event (on average). The invitees were also asked to fill out an Informed Consent Form and Registration Form before taking part in the workshops. The following table summarises the basic details and organisation dates of the regional co-creation workshops.

Table 1: Regional co-creation workshops basic details

UC	Partner(s)	Date of organisation
Lithuania	AFL	17/12/2024
Italy	ASNACODI	15/01/2025
Belgium	BBP & BNVL	28/11/2024
Finland	EFI	25/11/2024

Invitation Materials

Before organising their co-creation workshops, UCs set the event agenda using the provided guidelines. Partners were free to use any relevant materials they saw fit for their event, including the workshops' supportive materials provided and materials from the project's primary communication kit. The UCs made use of the informative document as well as the project's promotional package to communicate their events to their audiences, aiming to provide useful information to the participants so they are aware of what to expect and what benefits they stand to gain from their participation. The UCs' main communication channel was to send emails and personal invitations.

Brainstorming Techniques

Each UC chose brainstorming techniques to utilise during the workshops. They chose from a list of several indicative brainstorming techniques that were provided to them after having discussed internally which ones they found more useful for their audience. Brainstorming, brainwriting, and dot-voting were the most commonly used techniques to encourage participants to discuss and

express their thoughts on questions, dilemmas, and issues raised. The full list of suggested techniques is available within Annex I: Guidelines for Organising Workshop.

Facilitators and Tools

As the multi-actor co-creation workshops were face-to-face events, the local teams decided to utilise mainly physical materials to perform the brainstorming techniques, which created a more personalised and friendly experience for the participants. In all cases, the teams appointed 2 to 3 persons from their organisation to act as: (i) Moderator: Coordinating the event, moderating discussions and keeping activities on time; (ii) Facilitator: Facilitating the use of brainstorming tools for keeping notes, ranking, etc; and (iii) Rapporteur: Keeping notes during discussions and activities and being responsible for reporting. Each local team implementing the workshop made sure to go through the event lineup beforehand and simulate its implementation to ensure that everything would work as intended.

Venue, Materials & Catering

Each UC partner utilised their available budget to book a venue for the co-creation workshop, to provide catering services to their participants and to have printed available materials. They all proactively booked the venue and made preparations to ensure that the workshops would take place at places easily accessible by most stakeholders, big enough and convenient for co-creation purposes.

4.2. Implementation during the Workshops

Workshop duration and overall participation

The average duration of the regional workshops was 4 hours, showing that the UC partners opted for a compact event that wouldn't overburden the participants but that would also provide enough time for discussions and brainstorming. Overall, 62 stakeholders attended the four regional co-creation workshops. More specifically, Lithuania engaged 15 stakeholders, Italy 27, Belgium 7 and Finland 13. All UCs' workshops attracted people from a wide spectrum of backgrounds:

- The Lithuanian workshop attracted mainly farmers, researchers, advisors and policymakers, as well as foresters, investors and other industry members.
- The Belgian workshop attracted policymakers, advisors and researchers.
- The Italian workshop attracted mainly farmers, advisors, policymakers and other industry members, as well as researchers and consumers.
- In Finland's case, the workshop attracted foresters, industry members, researchers, consumers and representatives of the local authorities.³

Demographics of the audience

The demographics of the people who participated in the co-creation workshops are provided in the following figures to better understand their background. In more detail, 28,9% were farmers, 21,1% were policymakers, 18,4% were researchers, 18,4% were advisors. In terms of education,

³ In this UC, it was decided that it would be best to split the participants into two groups to better facilitate the discussion. That said, the brainstorming and discussions were conducted separately in each group and all participants discussed together in a plenary that was held after all sessions.

52,6% owned a master's degree, 13,2% a high school degree and 13,2% a doctorate. This indicates a high education level among the respondents.

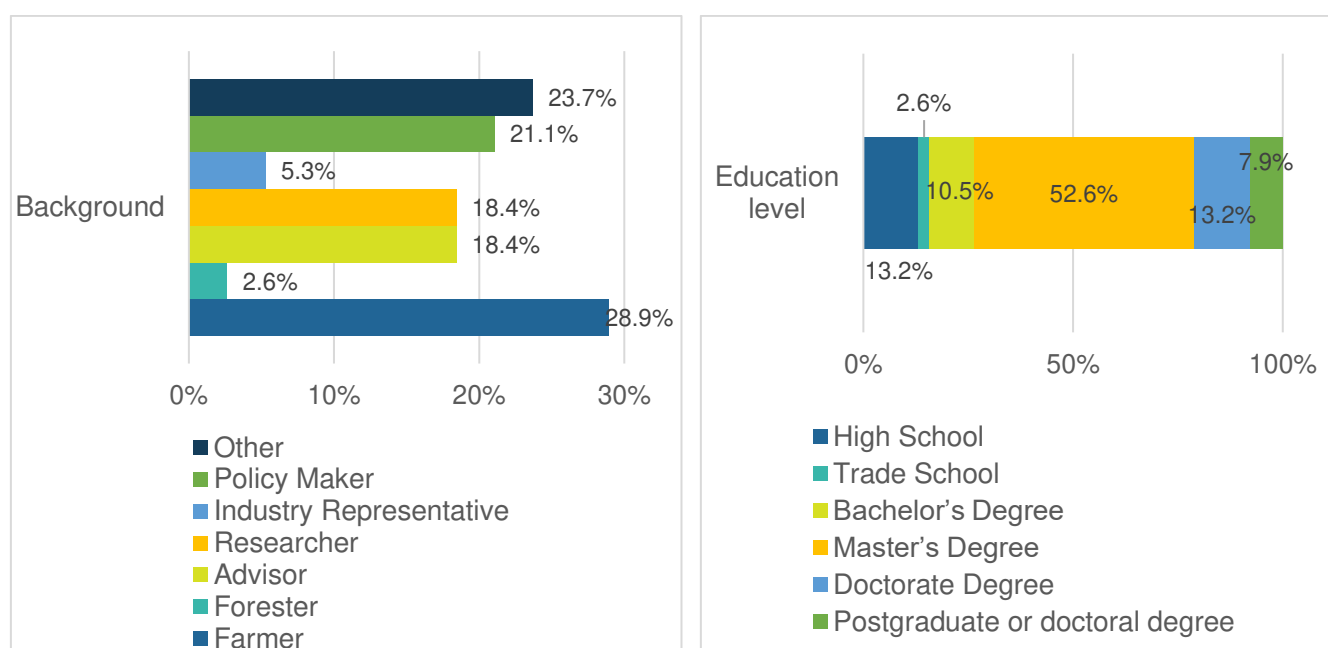


Figure 3: Background of feedback questionnaire respondents

In terms of age, the majority of the respondents were between 36-55 years old, accounting for 60,5% of the total. This is followed by 23,7% between 56-65, 10,5% between 26-35 and 5,3% over 66. In terms of gender, 47,4% were female, and 52,6% were male.

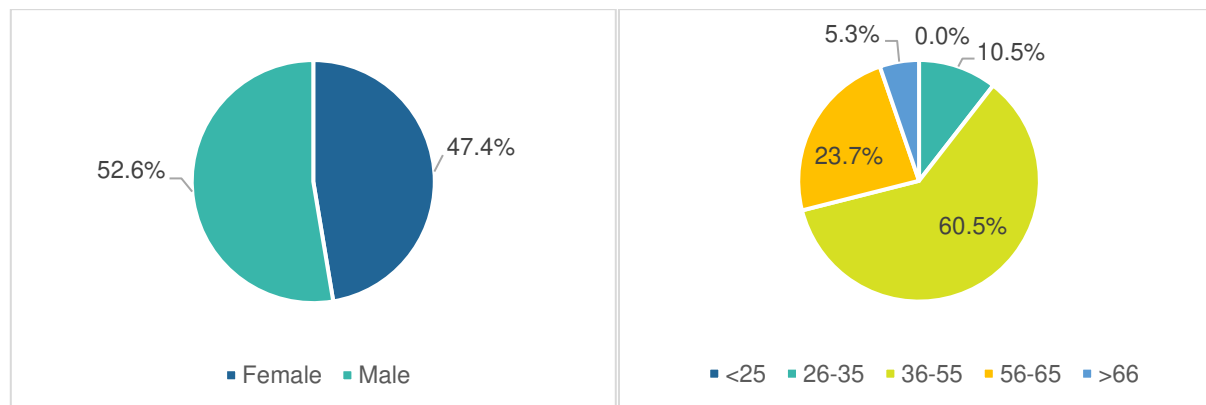


Figure 4: Gender and Age of feedback questionnaire respondents

Workshop structure

The structure proposed through the workshop guidelines was based, as mentioned earlier, on participatory co-creation principles, drawing from the theoretical frameworks such as the Living Labs approach and participatory research approaches suggested by Eriksson et al. ⁴ and Martin et al. ⁵. That said, the typical co-creation workshop in all UCs consisted of one introductory session, three main sessions – devoted to the three key themes for co-creation and a concluding

⁴ Eriksson M., Niitamo V., Kulkki S. (2005). *State-of-the-art in utilizing Living Labs approach to usercentric ICT innovation - a European approach*. CDT, Luleå University of Technology, Sweden

⁵ Martin, A., & Sherington, J. (1997). *Participatory research methods—Implementation, effectiveness and institutional context*. *Agricultural Systems*, 55(2), 195–216. [https://doi.org/10.1016/s0308-521x\(97\)00007-3](https://doi.org/10.1016/s0308-521x(97)00007-3)

session. Each session started with a short presentation by the organisation teams and then co-creation exercises followed to brainstorm on the key topics of co-creation. More specifically:

A. Introductory Session & Problem Adjustment

A welcoming session that introduced the project and scope of the workshop to the participants. The introduction of each workshop also entailed an overview of the problem identified in each UC area. The identification was done early on, before the workshop, by the UCs with the support of the University of Trento. During the introductory session, the workshop participants were presented briefly with the problem identified in their area and offered the space to discuss and adjust it if needed.

B. Main session(s)

This part consisted of three discussions/research topics, each focused on a different aspect related to the identified problem, including, (i) co-defining sustainable practices for the stated problem; (ii) identifying barriers to the adoption of the practices; and (iii) defining nudges to overcome the barriers and adopt practices. Each discussion started by referencing the results of the previous one (so discussion 1 elaborated on the results of the introductory session and so on) before moving on to the co-creation exercises, in which the participants' contribution was expected. The UC partners organised this session in alignment with the baseline methodology (guidelines).

- *Discussion 1- Co-define sustainable practices for the stated problem:* This discussion aimed to identify and assess key sustainable solutions to the stated problem in each of the four UCs. As described in the workshop organisation guidelines, participants were asked to suggest innovative potential sustainable solutions. The suggested solutions were then gathered, and participants evaluated them, leading to a ranking of the sustainable practices that responded well to the stated problem.
- *Discussion 2- Identifying barriers to the adoption of the practices:* In this discussion, the focus was on the identification of potential barriers that farmers and foresters face when trying to adopt the sustainable solutions that participants identified earlier. After identifying them, a discussion of the barriers was performed among the stakeholders to prioritise them according to their severity relative to the local ecosystems.
- *Discussion 3- Define nudges to overcome the barriers and adopt practices:* This discussion focused on identifying and co-creating green nudges which would help farmers and foresters overcome barriers and adopt sustainable solutions, addressing the originally stated problems. First, a list of good nudging techniques (identified earlier in the project) was presented to each UC's participants to help them understand what nudges are and to provide them with a basis. Then, considering the identified barriers, the participants co-created green nudges and discussed their acceptability and perceived efficacy in facilitating the adoption of sustainable practices. Finally, the stakeholders grouped the green nudges into thematic groups and prioritised them, either by voting or by discussing the more important ones.⁶

⁶ In the case of Italy, the team piggybacking on dot-voting also asked participants to rate the identified nudges on a scale from 1-7 regarding their perceived acceptability and efficacy. In Belgium the team utilised the time saved by

C. Closing session

At the end of each workshop, a summary of what was discussed was presented to participants, providing them the opportunity to express their opinions about the event and suggest improvements. The participants were also provided with some information on the next steps, including the collection of their feedback through dedicated questionnaires.

4.3. Follow up after the Workshops

Feedback Questionnaire

A short feedback questionnaire was designed to collect feedback from regional co-creation workshop participants shortly after the events, either on the spot or via email. All UCs also collected feedback orally during the closing session of their respective workshops. **38 replies** were collected, 12 from Lithuania, 4 from Belgium, 17 from Italy and 5 from Finland.

Participants' Satisfaction

The participants were asked to evaluate how they felt about the workshop they participated in, offering their ratings for the statements presented in the following figure. They were asked to vote from 1: *Strongly Disagree* to 5: *Strongly agree*. Overall, the respondents reported a high level of satisfaction. Some memorable mentions include the high satisfaction with the clarity of the questions and other contributions asked by the workshop moderators (4,53), and with the management and facilitation of the discussion by the workshops' organisers (4,5). Also, the high satisfaction with the sufficient time provided for brainstorming and discussions, as well as with the informative and helpful presentations and other materials shown during the workshop (4,39). Finally, the respondents felt that the group of people who participated in the workshops was diverse enough to represent all opinions and have a fruitful discussion (4,34) and that they had a relevant background to the workshops that would complement the outcomes' quality (4,29).

not voting on practices and barriers to have time for the ranking of the nudges, evaluating them on effectiveness and feasibility. This choice was made to better adapt to their participants, who were mainly policymakers.

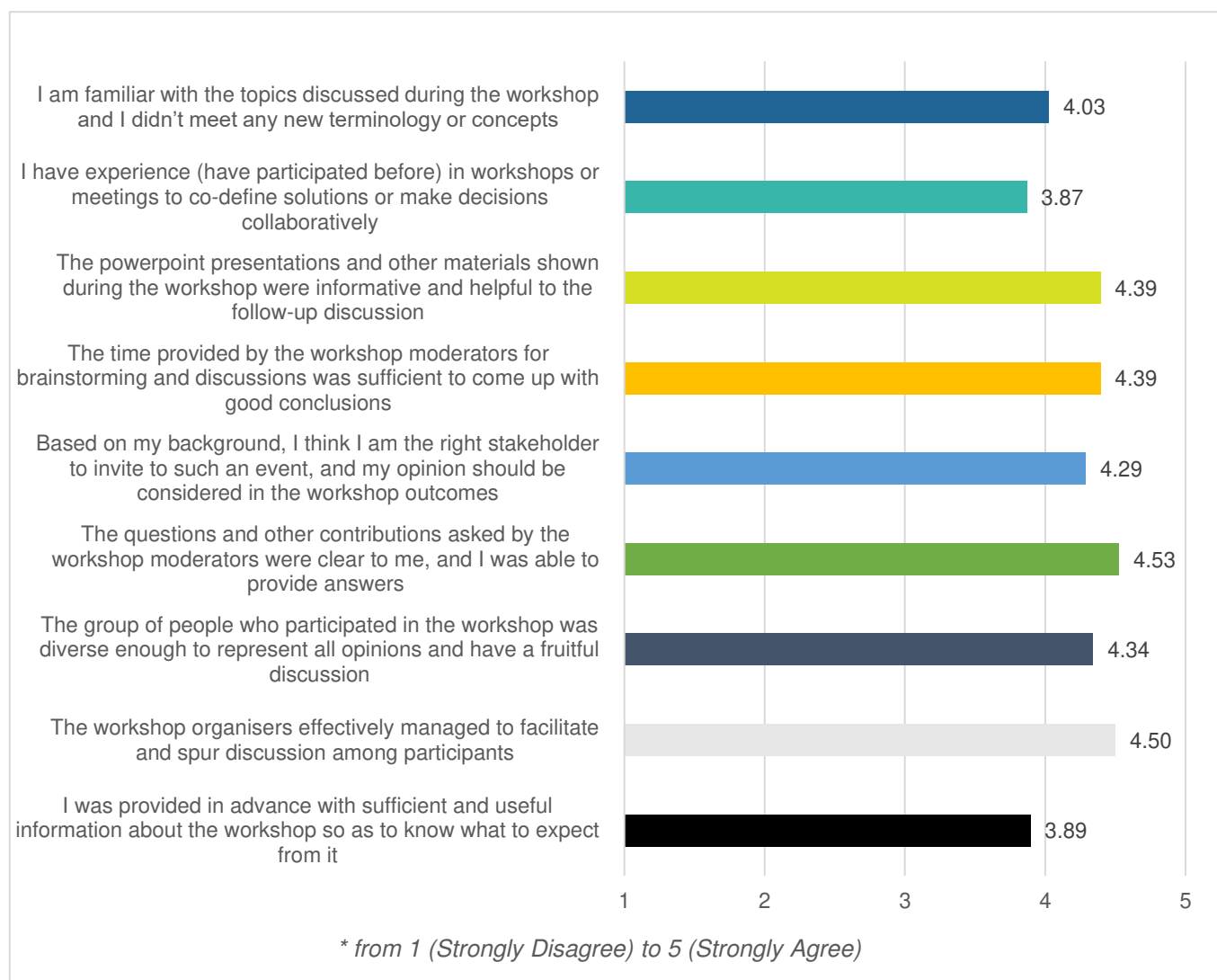


Figure 5: Feedback Questionnaire results

5. Results

5.1. Wheat (Lithuania)

Key problem identified

The key problem identified during the Lithuanian workshop is that improper farming practices harm the environment and do not add value to the sector. Participants discussed and agreed that these practices have long-term negative effects on sustainability and directly affect the quality of wheat products.

More specifically, participants engaged in a dynamic discussion about the widespread issue of improper farming practices, emphasising their dual negative impact on the environment and the agricultural sector's value. They highlighted how unsustainable methods degrade soil health, reduce biodiversity, and increase greenhouse gas emissions, creating long-term challenges for both farmers and the environment. The group recognized that these practices often fail to yield products that align with modern market demands, thereby limiting the sector's ability to adapt to evolving economic and environmental pressures.



Figure 6: Photos of the Lithuanian co-creation workshop

Sustainable practices for the stated problem

To address the identified problem, participants co-defined three key sustainable solutions. The implementation of new technologies emerged as a pivotal strategy to improve product quality and soil health through precision farming, resource efficiency, and real-time monitoring. They also stressed the importance of selecting crops suited to local conditions and market trends, which can enhance biodiversity, optimise resource use, and provide economic resilience. Furthermore, the group underscored the need to search for new markets that reward sustainable practices, such as those demanding certified eco-friendly or value-added products. Together, these approaches were seen as interconnected pathways to not only reduce environmental harm but also create a more competitive and sustainable agricultural sector.



Figure 7: Images of the sustainable practices results in Lithuania

The following table includes all the ranked sustainable solutions identified in the Lithuanian UC area and an explanation for each one of them.

Table 2: Solutions and explanations in Lithuanian UC

Rank	Solution	Explanation
1	Implementation of new technologies to	New technologies, such as precision agriculture tools, can optimise the application of fertilisers, pesticides, and water. This reduces overuse and minimises harmful runoff, thereby preserving soil nutrients, improving soil structure, and promoting biodiversity. Furthermore, advanced monitoring

	improve product quality and soil	and diagnostic tools can ensure crops receive precise nutrients at the right time, improving their quality and nutritional value.
2	Choosing the right crops to grow	Introducing diverse and sustainable cropping systems, such as crop rotation or intercropping, enhances biodiversity by providing habitats for beneficial organisms. This natural pest control reduces reliance on chemical pesticides and fosters a healthier ecosystem
3	Search for new markets	Entering diverse markets reduces dependence on traditional markets, where overproduction or low-quality practices may lead to reduced earnings. By catering to niche markets (e.g., specialty crops, eco-friendly products, or bio-based materials), farmers can secure more stable and lucrative revenue streams.

Barriers to the adoption of the practices

Participants discussed the significant barriers hindering the adoption of sustainable farming solutions. A primary challenge identified was the lack of knowledge, paired with a low willingness to learn, which prevents farmers from understanding and embracing modern agricultural practices. Without adequate education and motivation, the implementation of new technologies, adoption of optimal crop choices, and exploration of new markets remain limited, perpetuating environmentally harmful methods and stifling the sector's growth. Participants emphasised the need for targeted training programs and knowledge-sharing initiatives to overcome this resistance and equip farmers with the skills necessary for sustainable transitions.

Other key barriers included bureaucratic obstacles and a lack of innovation. Complex administrative processes and regulatory requirements discourage farmers from adopting advanced technologies, diversifying crops, or entering new markets, creating frustration and stagnation. Furthermore, the absence of innovative solutions tailored to local needs restricts access to efficient technologies, resilient crop varieties, and modern market strategies. Participants underscored the importance of reducing administrative burdens, fostering collaboration among stakeholders, and investing in agricultural research and development to address these systemic issues. These actions are essential to enable the effective implementation of sustainable practices and transform the agricultural sector into a more resilient and environmentally conscious industry.

The following table includes all the ranked barriers identified in the Lithuanian UC area and their influence on sustainable solutions.

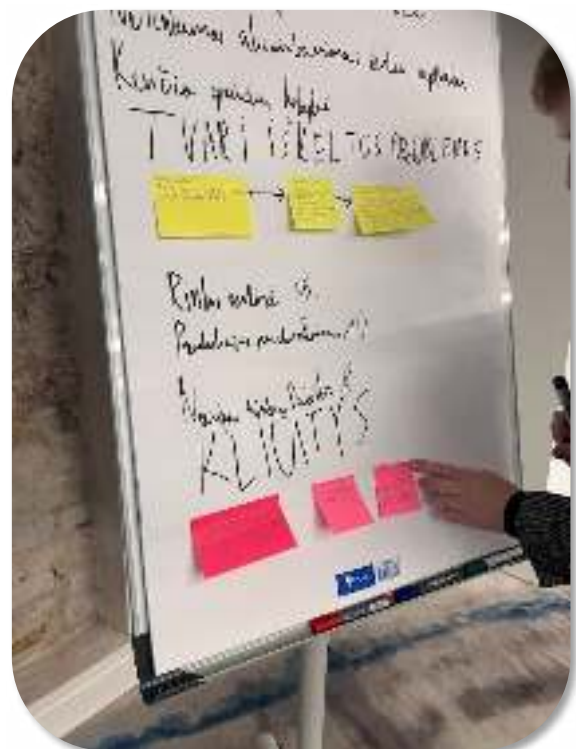


Figure 8: Image of the barriers results in Lithuania

Table 3: Barriers identified in Lithuanian UC

Rank	Barriers	Influence on sustainable solutions
1	Lack of knowledge, related to a low willingness to learn	Farmers who lack knowledge or are unwilling to learn may struggle to understand the benefits and operation of advanced technologies like precision agriculture tools or Internet of Things (IoT)-based systems. Without adequate training and a willingness to adapt, these tools may remain underutilised, leading to missed opportunities for improving soil health and product quality.
2	Bureaucratic obstacles and administrative burden	Farmers often face complex regulatory requirements, such as permits or compliance documentation, when adopting advanced technologies. Navigating these processes can be time-consuming and frustrating, deterring farmers from investing in or scaling up the use of precision farming tools or resource-efficient machinery.
3	Lack of innovation	A lack of innovation in farming technology can result in tools and systems that are either outdated, inaccessible or poorly adapted to the specific needs of farmers. Innovation is crucial for developing resilient crop varieties, such as drought-resistant or climate-adapted crops, which are vital for sustainable farming. Without investment in agricultural research and development, farmers may lack access to improved seeds, or the knowledge required to diversify their cropping systems effectively, perpetuating environmentally harmful practices.

Nudges to overcome the barriers and adopt practices

Participants proposed a set of green nudges and strategies to overcome the identified barriers and facilitate the adoption of sustainable farming practices. One of the main suggestions was the development of a personalised, verified information and knowledge delivery system at the farm level through a mobile app. This tool would provide farmers with tailored information on sustainable farming practices, weather patterns, and market trends, ensuring they have access to accurate, real-time data to make informed decisions. Empowering farmers with relevant knowledge at their fingertips could help them overcome the barriers of lack of knowledge and low willingness to learn, making sustainable solutions more accessible and actionable.

Additionally, participants recommended the introduction of an AI-based tool that would allow farmers to easily ask questions and receive immediate, expert answers. This tool would serve as a dynamic resource, helping farmers troubleshoot problems, improve productivity, and implement best practices in real time. Such technology could bridge the knowledge gap, especially for those with limited access to formal education or agricultural advisory services. By offering a continuous learning support system, this tool could address both barriers of lack of innovation and knowledge, enabling farmers to stay informed and adopt modern farming methods that enhance productivity and sustainability.

To further foster the adoption of sustainable practices, participants suggested implementing a mandatory number of learning hours for farmers to acquire the necessary knowledge and good practices. This strategy would institutionalise ongoing education and ensure that farmers stay updated on the latest sustainable farming techniques. Additionally, appropriate and science-based policy formulation was deemed essential to create a supportive environment for sustainability. By crafting evidence-based, flexible policies, aligned with farmers' needs, the sector can overcome bureaucratic obstacles and encourage farmers to embrace practices that protect the environment while enhancing their economic potential. These strategies, when combined, could provide a robust framework for overcoming the barriers to sustainability and driving meaningful change in the agricultural sector.



Figure 9: Image of the nudges results in Lithuania

The following table includes all identified green nudges in the Lithuanian UC area, in thematic groups.

Table 4: Green nudges identified in Lithuanian UC

Group title	Strategies and Nudges
Direct contact	Personalised, verified information and knowledge delivery at the farm level via a mobile app.
	AI-based tool for asking questions and receiving answers at the farm level.
Education	Mandatory number of learning hours to acquire knowledge and good practices.
Policy	Appropriate and science-based policy formulation.

5.2. Bovines (Belgium)

Key problem identified

At the beginning of the workshop, the focus was placed on a pressing environmental challenge within the Flanders region: the deteriorating quality of water resources. This issue has been primarily attributed to excessive nitrogen levels, resulting from various agricultural practices that contribute to the degradation of aquatic ecosystems. The discussion highlighted the role of buffer strips—vegetated areas adjacent to water bodies designed to filter out pollutants and reduce nitrogen runoff—as an effective mitigation strategy. Despite their proven benefits, the adoption rate of buffer strips among landowners and agricultural stakeholders remains low, posing a significant barrier to improving water quality.



Figure 10: Photos of the Belgian co-creation workshop

Sustainable practices for the stated problem

The participants explored multiple options for buffer zone implementation and management and discussed various alternative approaches beyond the current standard practice of using crops. These alternatives include beetle banks, one-year eco-schemes, five-year management agreements, strips for grazing, wadis, low hedgerows, gullies with wood chips, and other methods.

Many of the proposed ideas involve a reduction in crop production and are anticipated to increase the workload for farmers. These considerations underline the importance of balancing sustainability goals with practical farming demands. Especially, the advisors participating highlighted the importance of practical implementation.

Using buffer zones for Functional Agro-Biodiversity (FAB) emerged as a particularly promising idea. Discussions focused on repurposing the area between watercourses and farmland to provide additional benefits to farmers, thereby increasing adoption. Examples include using buffer zones for extensive grazing by cattle, sheep, or chickens housed in mobile poultry coops. The belief underpinning these ideas is that farmers are more likely to adopt measures if they perceive tangible advantages.

The discussion also addressed policy mismatches and administrative hurdles, as some sustainable practices highlighted during the session require adjustments to existing policies and rules within eco-schemes and agro-climate practices. For instance, while

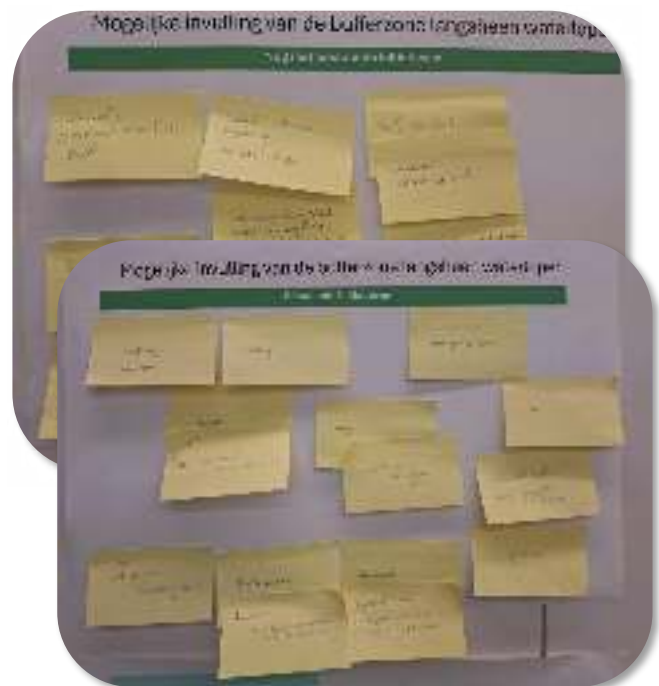


Figure 11: Images of the sustainable practices results in Belgium

grass buffer strips could potentially be used for recreational purposes such as walking, current regulations prohibit such activities on designated agro-climate measures. Moreover, several initiatives, like beetle banks, involve additional administrative burdens, such as obtaining permits, which can deter adoption.

The following table includes all the sustainable solutions identified in the Belgian UC area and an explanation for each one of them. They listed both existing solutions(*) and identified new.⁷

Table 5: Solutions and explanations in Belgian UC

Rank	Solution	Explanation
-	Beetle Bank	A beetle bank is a raised, minimally managed grass strip that lies like an island in a field. This habitat mainly attracts the beneficial running and short-tailed beetles that contribute to natural pest control. At the same time, a beetle bank also provides cover, food and nesting opportunities for field birds such as the partridge.
-	Take over management of the strip by another farmer/switch strips/land	Providing the opportunity to let another farmer take over the management of the buffer strip, could increase the number of farms that choose to have buffer strips.
-	Strip for extensive grazing	It refers to the use of livestock, usually for conservation purposes. By providing a strip for extensive grazing, there is again a barrier between crops and Watercourses.
-	Combination of grass strip with Small Landscape Elements	N/A
-	Gully with wood chips	Due to the temporary immobilisation of mineral nitrogen present in the soil, the nitrate residue may be lower in autumn. As a result, the risk of leaching during winter decreases and fewer nutrients enter the surface and groundwater.
-	Implement Wadi's	A wadi (Water Drainage Infiltration) is a bowl or basin filled with gravel and sand that can both hold water and allow it to infiltrate. Because wadis are planted, they fit well in green areas and green strips. They also have agricultural benefits: by allowing water to infiltrate into the soil instead of being washed away, the soil will be better able to withstand droughts.
-	Area-focused farmer collaboration	Improvement of current buffer strips implementation by working together as farmers with a focus on certain areas. For example, one farmer who sows the seed mixture, one who can mow the strips, one who can valorise the grass, etc.
-	Recreation expands to	The management agreements prohibit the buffer strip from being used as a walking path. A lot of farmers are reluctant to lose their compensation or risk a fine when hikers use these buffer strips as hiking trails. So by

⁷ The team did not utilise voting on practices and barriers due to time constraints (they chose to keep this exercise for the ranking of the nudges to better adapt to their participants, who were mainly policymakers).

Rank	Solution	Explanation
	management agreements	modifying this rule, farmers will be more motivated to implement management agreements.
-	Mobile Poultry Coops	By providing space between crops and water courses, the newly made buffer zone could be used for Mobile Poultry Coops.
-	Agroforestry (trees, hedgerows)*	Planting trees and hedgerows between crops and watercourses.
-	Perennial crops (e.g. Luzerne)*	Alfalfa is a resilient, protein-rich forage crop for cattle, known for its deep roots that enhance drought resistance. It can be cultivated as a perennial with multiple annual harvests, contributing substantial organic matter to the soil. As a legume, alfalfa naturally fixes atmospheric nitrogen through symbiotic bacteria in its roots, reducing the need for nitrogen fertilisers and minimising nitrous oxide emissions.
-	Alternative crops (hemp, Miscanthus)*	Growing hemp offers many advantages to farmers, as it is not susceptible to disease, making it a low labour-intensive plant that hardly needs any chemical plant protection products, pesticides and fertilisers.
-	Buffer strips (eco-schemes or agro management agreements)*	Including one-year eco-schemes or five-year management agreements.
-	Flower borders/flower strips*	Flower borders enhance landscape beauty, boost biodiversity, and benefit farmers by attracting beneficial insects that provide pollination and natural pest control, reducing the need for chemical pesticides. This concept, also known as functional agro-biodiversity, extends pest control effects up to 50 meters into fields. Flower borders also act as buffer strips near watercourses, preventing soil erosion, and offering shelter and food for birds and other wildlife.
-	Duo & trio edges*	A duo-edge is a form of perennial field edge management in which strips of 9 to 12 m width are sown with a mixture of (low-growing) grasses and herbs, one half of which is mowed at a later time than the other.
-	A low hedgerow with minimal leaf fall*	N/A
* Existing solutions		

Barriers to the adoption of the practices

The discussions identified two primary categories of barriers: (i) costs in a broad sense, and (ii) fear and uncertainty:

(i) Costs encompass various factors. They are not limited to an immediate decrease in crop production due to reduced planting areas. They also include additional workload and time commitments. These may involve farm planning, coordinating with other farms in collaborative efforts, and investments in new machinery. Furthermore, uncertainty about financial compensation adds to the burden, as subsidy amounts are indicative rather than guaranteed, depending on the total number of applications received.

(ii) Fear emerged as a prominent barrier for multiple reasons. Farmers expressed concerns about the irreversibility of their ecological efforts, fearing that temporary measures might unintentionally become permanent (for example new nature claims/rules by the government). They also worried about potential sanctions if they fail to meet specific conditions of eco-schemes or management agreements, anticipating immediate and severe penalties. This fear of doing something wrong non-intentionally and the related penalty is expected to withhold farmers from adopting certain sustainable measures. Additionally, participants cited fears about negative impacts on crops, such as reduced light and weed proliferation from buffer zones.

The workshop also discussed more barriers as can be seen in the following table, which includes all the barriers identified in the Belgian UC area and their influence on sustainable solutions. The team did not utilise voting on barriers due to time constraints (they chose to keep this exercise for the ranking of the nudges to better adapt to their participants, who were mainly policymakers).

Table 6: Barriers identified in Belgian UC

Rank	Barriers	Influence on sustainable solutions
-	Management agreement conditions	People are not allowed to walk on a management agreement, meaning that laying a gras walking path between the watercourse and the crops would currently not be allowed since people aren't allowed to walk there.
-	Anticipation of loss of money	Loss of money related to the loss of crops.
-	Administrative Burden	It is too complex to apply for implementing certain subsidies and get rewarded for sustainable solutions.
-	Too little visibility. appreciation/image	There is too little visual appreciation of the work done by farmers, which leads to them feeling that society doesn't know what they are already doing, resulting in lower adoption of sustainable practices.



Figure 12: Image of the barriers results in Belgium

Rank	Barriers	Influence on sustainable solutions
-	Information (overload) & Education	The amount of information is overwhelming/ farmers don't have the right information at the right time which makes them not choose certain practices, as they have no knowledge of them or they don't know how to implement them.
-	Impact on planning	Finding out how to implement a certain sustainable practice is time-consuming and farmers don't have enough time. Incorporating it into their job can have a negative impact on the rest of their planning. Therefore, they might prefer not to explore it further since they expect too much disruption.
-	Unfit machinery	The current machinery farmers own is not always a good fit for sustainable practices. For example, big machines do not work in agroforestry landscapes (too big to manage the strips). The consequences are practical challenges and anticipated costs.
-	Resistance to change	Some farmers are reluctant to modify their existing practices.
-	Fear of irreversibility	Farmers are concerned that adopting certain sustainable or green practices might eventually lead to these practices becoming mandatory, leaving them with no flexibility or choice. This fear of unintended consequences discourages them from implementing sustainable solutions.
-	Food production mindset	Some farmers focus exclusively on food production, without considering other factors.
-	Policy implementation challenges	Farmers who wish to adopt agroforestry and apply for subsidies often face complex administrative requirements. For instance, if they unintentionally divide their land into plots that are too small, they may become ineligible for subsidies.
-	Expectation of increased workload	Some sustainable practices, such as mowing, demand additional time and effort from farmers. The perception of increased workload without corresponding financial compensation discourages the adoption of these practices.
-	Limited collaboration between farmers	There is a general perception that many farmers prefer to work independently and are reluctant to engage in collaborative efforts with others.
-	Lack of good examples	Lack of good examples of how to implement a certain practice leads to not adopting the practice.
-	Lack of processing options for clippings	The absence of effective processing or disposal options for clippings discourages farmers from adopting certain practices, as it creates additional challenges and unresolved issues.
-	Fear of sanctions	Farmers are hesitant to adopt certain practices due to concerns about making mistakes that could result in fines or other penalties, limiting their willingness to try new approaches.
-	Fear of impact on crops	Farmers worry that practices such as agroforestry may block sunlight, potentially reducing the yield or quality of nearby crops.

Rank	Barriers	Influence on sustainable solutions
-	Uncertainty about payment	Eco-scheme subsidies are variable and depend on the number of applications from other farmers, leading to uncertainty about the final payment amount (if it will be high enough).

Nudges to overcome the barriers and adopt practices

The participants discussed the nudges' feasibility and effectiveness and dot-voted to rank them⁸. Some interesting insights from the discussions are:

(i) Nudging Low-Impact vs. High-Impact Decisions: A key insight was the distinction between nudging low-impact decisions (e.g., purchasing a product in a supermarket) and high-impact decisions (e.g., adopting long-term behavioral changes). Participants recognized that nudging has boundaries, particularly when applied to initiatives requiring farmers to commit to sustained changes. This raises the question of how effective nudging can be for complex, long-term behaviours compared to simpler, one-off decisions.

(ii) Combining Nudges for Greater Effectiveness: The discussions highlighted that nudges are rarely used in isolation. For instance, timing nudges (e.g., delivering messages at specific times) often overlap with other techniques such as social norms or sentiment appeals.

(iii) Context: Participants noted that feasibility constraints often stem from the polarised political climate in Flanders regarding climate and nature debates. Government officials emphasised that certain messages from governmental agencies might backfire, highlighting the importance of considering the context and ethical boundaries when designing nudges. For example, the acceptability of a nudge idea depends heavily on whether the "space" for governmental action is perceived as appropriate by stakeholders.

(iv) Costs: Some nudges simply cost too much (IT-wise) to implement. For example, live feedback on water quality or programming personal suggestions within the collective application.

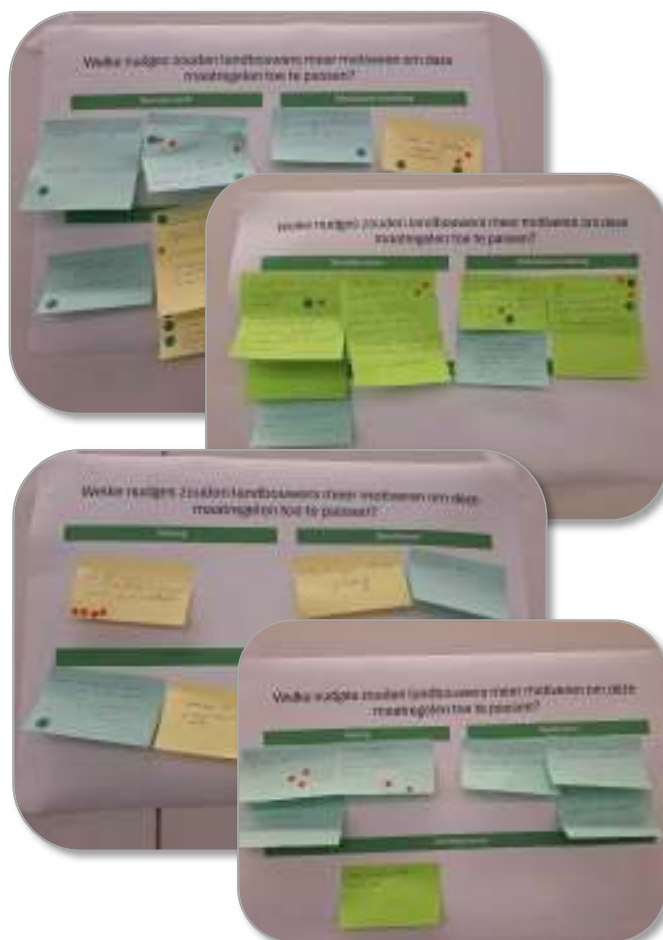


Figure 13: Image of the nudges results in Belgium

⁸ In the case of Belgium the team utilised the time saved by not voting on practices and barriers to have time for the ranking of the nudges, evaluating them on effectiveness and feasibility. This choice was made to better adapt to their participants, who were mainly policymakers.

(v) Timing: A discussion emerged about when farmers make decisions to apply for eco-schemes or management agreements. For certain measures, such as buffer strips, farmers must have already taken action before completing the administrative collective application. This timing mismatch can undermine the effectiveness of nudges—such as pop-ups or social norms—intended to encourage implementation, as the window for action may have already closed for that year.

The following table includes all identified green nudges in the Belgian UC area, in thematic groups. The most effective green nudges identified during the discussions in the Belgian UC focus on creating urgency and making sustainable practices more accessible. The most effective key approach identified was leveraging Loss Aversion by displaying a countdown of available subsidy funds and highlighting the shrinking subsidy pool, encouraging farmers to apply before opportunities are lost. Selecting the best timing with communication tailored to specific moments when farmers are most likely to be free, such as during rain or after lunch was also considered effective. “Prestation-measuring⁹” (in the sense of eco-performance assessment), where farmers receive a personal eco-score and improvement suggestions during the collective application, fosters a sense of responsibility and was considered important by the participants. Another effective tactic was deemed to be advisors presenting more complex options first and then offering simpler alternatives, making sustainable practices easier to adopt. Lastly, emphasising that a significant percentage of farmers already implement buffer strips was thought encouraging for others to follow as well.

Table 7: Green nudges identified in Belgian UC

Group title	Strategies and Nudges	Expected Effectiveness ¹⁰	Expected Feasibility ¹¹
Social Norm	Induce Social norms via Agricultural News sites.	/	/
	Highlighting that a specific percentage of farmers implement buffer strips.	1	3
	Displaying real-time water quality measurements near farms and comparing them to other farms.	0	0
	Responding to trends, such as <i>“agriculture is more than food production - sow hemp”</i> .	0	0
	Peer farmers sharing their experiences on the pros and cons of buffer strips.	0	0
	Comparison between municipalities.	0	0
	Utilising platforms like E-Loket (Bodempaspoort).	1	0
Default Setting	Standard simulations including personalised suggestions of eco-schemes/management agreements on a company level.	2	2 ¹²
	Personalised suggestions for eligible plots (via Email, Collective application), such as, <i>“This area would be a good location for a buffer strip”</i> .	1	1

⁹ Term used by the Belgian Use Case, that could be described as eco-performance assessment.

¹⁰ Dot-voting results.

¹¹ Dot voting results.

¹² Here questions about feasibility were raised.

Group title	Strategies and Nudges	Expected Effectiveness ¹⁰	Expected Feasibility ¹¹
	Role advisor: give a standard option for a buffer strip (difficult kind), then “weaken down” to an easier kind of buffer strip or other eco-schemes ¹³ .	2	2
	Automatic enrolment of strips along water courses, with farmers given the option to opt-out.	2	1
	Simplify how information is presented	0	0
EGO-principle	Water quality or soil quality live measurement and feedback to farmers. Farmers motivated to take care of their soil and care about public opinion regarding water quality will be able to see water quality live.	1	0
	Prestation-measuring while farmers (or their advisors) complete the collective application: Provision of a personal eco-score and suggestions on what they could do to improve their eco-score.	3	1
	Leveraging farmers' sense of pride in their work in communications, emphasising how their actions increase respect and recognition from society	1	1
	App via which farmers could take pictures of their farm/specific locations where they could see the potential visually of how it could look (for example how a flower buffer strip could look on their specific land).	0	0
Timing	Communicating at specific times when farmers are free (when it rains, foggy times, just after lunch).	0	4 ¹⁴
	Press release sent out in autumn by the Agency of Agriculture regarding the implementation of buffer strips/eco-schemes.	0	3
	Show testimonials of farmers at specific times	0	2
	When a farmer is in a specific area of their land or field and opens their phone, a pop-up suggestion for a relevant eco-scheme or management agreement is provided.	0	0
Sentiment	Communication of the message that not laying buffer strips now could lead to worsened water quality and stricter rules in 20 years.	0	0
	Focus on appreciation clearly illustrating the positive impact of specific eco-schemes or management agreements. For example, <i>"By doing X, you will achieve Y impact"</i> .	0	0
	Quantifying the effects of pesticide use and its impact on water quality (pesticides are a sensitive topic in Flanders).	0	0
	Displaying these messages around the farm/company	0	0

¹³ The current practice is that advisors due to lack of time do not mention these options.

¹⁴ This timing nudge, during the dot-voting exercise, it received high feasibility ratings but lacked explicit votes for effectiveness. However, the discussion revealed that feasibility inherently implied its effectiveness.

Group title	Strategies and Nudges	Expected Effectiveness ¹⁰	Expected Feasibility ¹¹
	Statements like <i>“By spraying less, the water quality improves”</i> (spraying refers to the spraying of pesticides).	0	0
Loss Aversion	Framing subsidies they don't apply for as losses: <i>“By not participating in X and Y eco-scheme, you've missed out on about XXX euros. Click here to apply now”</i>	1	0
	If farmers indicate fewer than two beneficial eco-schemes or management agreements, a pop-up could warn them that this will negatively affect bird populations and water quality, explaining the rationale behind it.	1	0
	During the collective application process, displaying a countdown of available subsidy funds, alongside the amount already applied for, could invoke a sense of urgency and loss aversion. Similar messaging could highlight the shrinking subsidy pool, such as <i>“The total subsidy for this practice is almost gone. X number of farmers in your region have already applied”</i> .	5	1
	Show the financial loss/subsidy they miss when not applying for a buffer strip.	2	1
	By tillage of the strip, farmers lose organic matter.	0	0

5.3. Grapevines (Italy)

Key problem identified

During the introductory discussion of the workshop, an overview of the challenges facing grapevine cultivation in Italy was presented, with a focus on the impact of climate change and the current risk management system. In Italy, wine holds great significance that extends beyond economic value. It is considered a key symbol of Italian heritage, and its production plays a crucial role in transforming territories and increasing tourism across all regions, particularly in the country's internal areas. However, viticulture also produces negative externalities and has an environmental impact related to the use of pesticides and the consumption of natural resources such as water and soil. At the same time, the sector faces increasing risks from climate change, including severe adverse climatic events and the increasing prevalence of plant diseases. Although grapevine is the most insured crop in Italy, with a current insured value of 2.9 billion euros, this figure should be improved to address the growing risks posed by climate change and its long-term consequences.



Figure 14: Photos of the Italian co-creation workshop

In this context, the potential of innovative insurance products linked to the adoption of sustainable practices was highlighted as a possible solution. Henceforth, these insurance products will be called “green” insurances¹⁵. These products could protect vineyards from climate-related risks, while also promoting the adoption of proactive measures that enhance environmental resilience and help mitigate environmental impacts of viticulture.

Sustainable practices for the stated problem

Overall, participants showed interest in “green” insurance products that are linked to the adoption of sustainable practices. These products could protect vineyards from adverse climatic events while enhancing environmental resilience. By adopting these solutions, farmers would be able to protect their crops, comply with EU regulations, and secure both long-term economic and environmental benefits, thereby adapting to future climate and market scenarios. Furthermore, these products are also considered appealing for banks and insurance companies, as they could contribute to the achievement of Environmental, Social, and Governance (ESG) objectives.

¹⁵ The functioning of green insurance is the following: Farmers who adopt more sustainable farming practices on their farm, obtain facilitating conditions when purchasing an insurance product.

The discussion focused on the *characteristics of the insurance product*. There was a debate over the most suitable type of insurance for the intended purpose. Some participants argued that traditional policies (e.g., multi-risk coverage) are not sufficiently attractive and that more innovative approaches are needed. The discussion then focused on parametric versus non-parametric policies, as well as the ideal target for these “green” insurance products (insured farmers, non-insured farmers, or both). Some suggested integrating the link to sustainable practices into existing traditional insurance products for policyholders while proposing more innovative solutions for non-insured farmers. There was also a consensus that such policies should be linked to economic incentives, such as premium discounts, or indirect support, such as access to credit, provision of technology or human support to help farmers understand and implement sustainable practices.

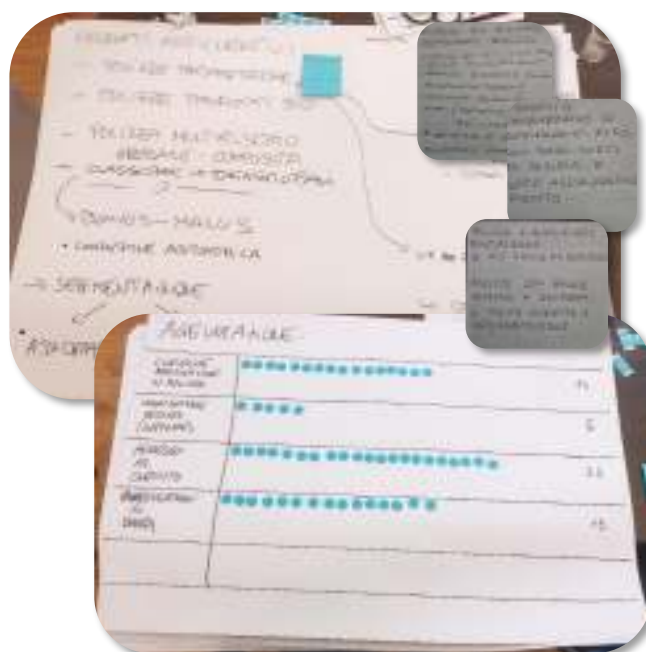


Figure 15: Images of the sustainable practices results in Italy

Participants also discussed the *active defense practices and their link to sustainability*. The adoption of active defense practices is a key element of the proposed innovative “green” insurance policies. These practices may include water and energy conservation, more sustainable agricultural techniques, and the use of technological tools. There was a broad consensus that sustainability should be viewed as a multifaceted concept, not reliant on a single practice. Therefore, an integrated protocol including various sustainable practices should be developed. Additionally, a major challenge lies in measuring and verifying the adoption of the identified sustainable practices, ensuring that insurance companies can assess the sustainability of farming operations.

The following table includes all the ranked sustainable solutions identified in the Italian UC area and an explanation for each one of them.

Table 8: Solutions and explanations in Italian UC

Rank	Solution	Explanation
1	Development of an index-based green insurance product	Index-based insurance products can be particularly suited to be incorporated into green insurance products as they compensate farmers based on climatic or natural indicators. Index-based insurances are easier to understand than traditional ones and may facilitate farmers' uptake of innovative green insurance. Also, they might facilitate farmers' adoption of insurance more in general.

Rank	Solution	Explanation
2	Development of a more classic “green” insurance product based on a multi-peril insurance product	Some farmers may not be ready to switch from a classic to an index-based insurance. The offer of a “green” index-based insurance may be too innovative.
3	Create a protocol and a verified measurement and certification system for environmental benefits	Environmental benefits generated by the adoption of more sustainable practices must be measured and verified. A third-party certification must be issued to farmers to take advantage of the benefits of buying green insurance
3	Create a vision in the risk management community	Farmers do not purchase green insurance products because it is financially convenient but because they can see the benefits in terms of climate change adaptation. The farming systems become more resilient overall. This long-term idea has to be delivered.
4	Connect the green insurance with CAP contributions for pro-environmental actions (eco-schemes and agri-environmental schemes)	Farmers may have extra monetary benefits. Farmers are often unaware of what they face and insufficiently informed about the CAP contributions available to support the use of risk management tools.
5	Connect green insurance to digital tools	Farmers could buy the insurance online as if they buy their car insurance. This can be possible if insurance contracts are simplified (see index-based insurance).
6	Increasing knowledge of risk management tools	Farmers are often unaware of the risks they face and insufficiently informed about the whole range of risk management practices they can use. Also, they are not aware of the market benefits from being sustainable. Awareness could be enhanced using educational apps.
7	Different economic incentives can be employed to encourage sustainable practices	These include traditional incentives such as a reduction in insurance premiums, access to credit, and eligibility for competitive funding sources. Additionally, promoting the idea that sustainability can open up new market opportunities. A scalar system can be used, where incentives increase based on the environmental outcomes achieved.
8	Marketing – segmentation	Different green insurance may be acceptable by different farmer segments. An analysis of the market must be conducted.

Barriers to the adoption of the practices

Regarding costs, participants reported that farmers on average consider insurance premiums too expensive. This issue could be mitigated by expanding the base of insured farmers. Additionally, concerning the proposed “green” insurance products, several participants highlighted that the cost of adopting sustainable practices linked to the policy should be equal to or lower than the discount applied to the policy (whether through direct or indirect incentives). Regarding the complexity of insurance contracts, most participants agree that farmers should be supported in understanding policies. This requires greater clarity and transparency in the contract terms. More generally, farmers have a poor understanding of the portfolio of risk management strategies they can implement, and they fail to see the long-term benefits of purchasing a “green” insurance. The farming community is highly heterogeneous and different green insurance products may be preferred by different segments.

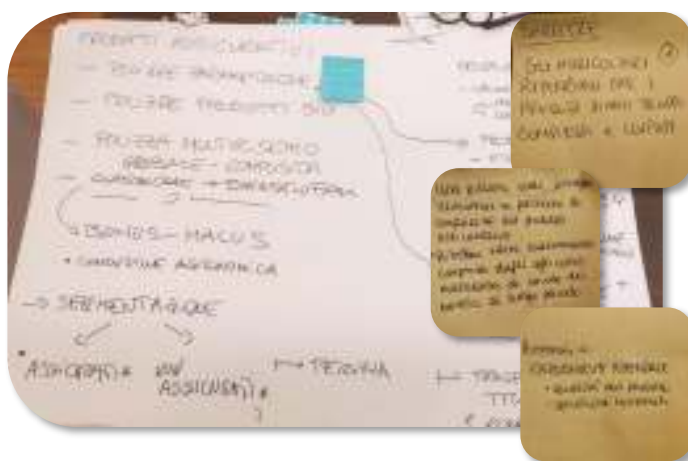


Figure 16: Image of the barriers results in Italy

The following table includes all the ranked barriers identified in the Italian UC area and their influence on sustainable solutions.

Table 9: Barriers identified in Italian UC

Rank	Barriers	Influence on sustainable solutions
1	Farmers are reluctant to insure	Negative effect on the possible demand for “green” insurance.
2	Companies and territories’ heterogeneity	Demand for green insurance could be highly heterogeneous.
3	Insurance policies considered complicated	An innovative product might not be very appealing, if not easily understandable.
4	Lack of vision in the farming community	Farmers may not fully understand the benefit of green insurance in the long term.
5	Poor understanding of risk management strategies overall in the farming community	Farmers may not fully understand the benefit of green insurance in the long term.

Nudges to overcome the barriers and adopt practices

The discussion centred around the nudges identified previously in the PRUDENT project and the evaluation of their acceptability and efficacy. The participants also discussed the possibility of combining nudges, the importance of creating awareness in the farming community and the need to simplify the risk management system and insurance products. More specifically:

(i) Combining nudges: Participants argued that certain nudges are complementary, as they target different psychological mechanisms and biases. As a result, they could be implemented in combination to enhance their effectiveness. Additionally, nudges could be combined with monetary incentives, like offering “green” insurance with favourable access conditions (e.g. lower premiums, lower deductibles, higher contributions), and with nudges to adopt sustainable practices to reduce the environmental impact of grapevine cultivation. Additionally, integrating nudges that promote the use of contributions for prevention methods aimed at mitigating damage from adverse climatic events, alongside nudges emphasising the importance of prevention, can increase the resilience of farming activities.

(ii) Create awareness: Participants recognized a limitation of nudging, as while it may be effective in influencing farmers’ short-term behaviour, its long-term effects were questioned. There was consensus that nudging should be coupled with awareness campaigns and training programs aimed at shifting farmers’ perspectives in the long term.

(iii) Simplification: It was highlighted that nudges may have limited impact unless the risk management system and insurance products are simplified. Without clarity and user-friendly options, nudging strategies may be insufficient to engage farmers.

The following table includes all identified green nudges in the Italian UC area¹⁶. The green nudges to encourage sustainable practices include (i) making actions visible through social desirability to motivate farmers by showcasing the positive impact of their efforts; (ii) timely reminders about key actions; (iii) reminders about risks; (iv) reminders about future prospects, that can help maintain focus on long-term benefits; (v) emphasising the farmer’s positive role in environmental

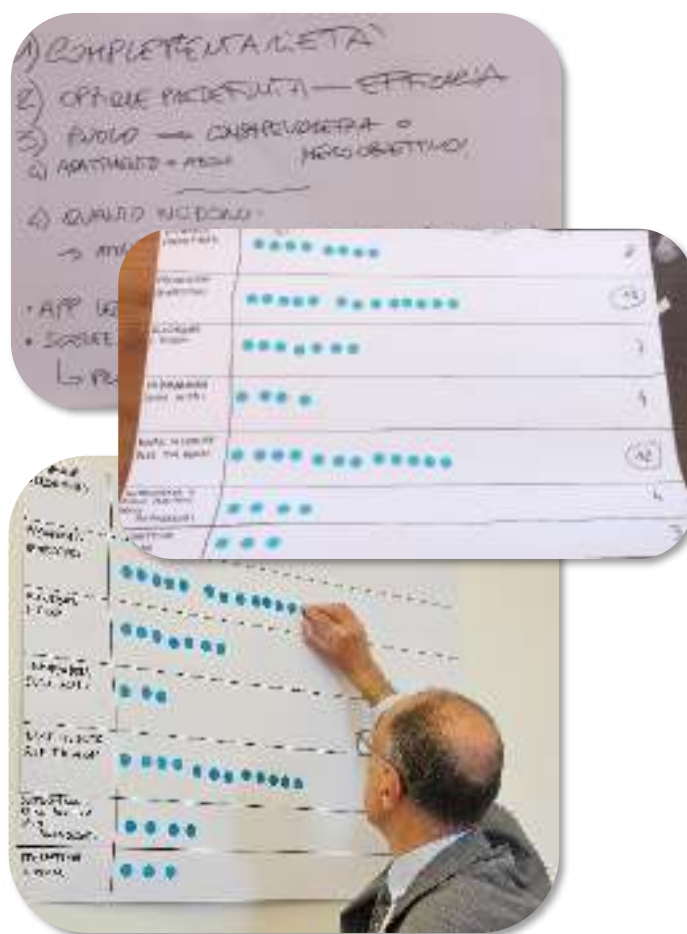


Figure 17: Image of the nudges results in Italy

¹⁶ In the case of Italy, the team piggybacking on dot-voting also asked participants to rate the identified nudges on a scale from 1-7 regarding their perceived acceptability and efficacy.

stewardship, which can generate positive emotional arousal, reinforcing their sense of pride and responsibility; (vi) offering a default option for sustainable practices, making it easier for farmers to adopt; and (vii) providing information on others (peer effect) to leverage social influence, as seeing peers engage in similar actions encourages others to follow as well.

Table 10: Green nudges identified in Italian UC

Rank	Strategies and Nudges	Average perceived acceptability ¹⁷	Average perceived efficacy ¹⁸
1	Make actions visible (social desirability)	5.94	5.47
2	Timely reminders	5.50	5.71
3	Remind the risks	5.00	5.06
4	Remind future prospects	5.00	4.88
5	Emphasise the farmer's positive role (positive emotional arousal)	4.94	5.18
6	Default option	4.44	4.82
7	Information on others (peer effect)	4.12	4.00

5.4. Boreal Forests (Finland)

Key problem identified

The problem, as adjusted during the workshop, centres around the conflicting goals of the diverse set of forest users. This, in turn, is seen to lead to lack of consensus around implementing more sustainable practices, which is reinforced by the decreasing value of forest products (especially timber). As such, privately owned forests are predominantly used for intensive commercial purposes, while specific sustainable management practices are not widely in use. Although there is an abundance of research and a consensus over best sustainable practices and their benefits for biodiversity and forest retention, these are not implemented among forest owners at a broad scale. The predominance of commercial forestry for timber production (for products like pulp) results in practices gravitating towards intensive management. This can cause challenges to forest biodiversity, forest conservation (especially conserving larger areas of higher natural value), and carbon storage. Peatland forests are of special importance in Finland. Participants also highlighted the lack of engaging and listening to all the value chain actors, especially forest owners.

¹⁷ Rated on a 7-point Likert scale from 1: "not acceptable at all to farmers", to 7: "totally acceptable to farmers".

¹⁸ Rated on a 7-point Likert scale from 1: "not effective at all to farmers", to 7: "totally effective to farmers".



Figure 18: Photos of the Finnish co-creation workshop

Sustainable practices for the stated problem

The discussion focused predominantly on mixed forest and Continuous cover forestry (CCF) as the two best practices for sustainable management. Mixed forest growth was highlighted as a practice enabling a range of benefits: enhancing biodiversity, greater retention, climate resilience, forest health, and even financial benefits from value added. CCF was highlighted as a best practice but mostly spoken about as something necessary for peatland management. There was some conflict about CCF as a practice that should be implemented across the industry, and so consensus about its immense benefits for biodiversity enhancement and water management was reached in the context of peatlands. Carbon storage through greater forest retention was highlighted.

Participants also highlighted the importance of other aspects that are important to consider, such as, development of new technology and incorporating it to use, and involvement of listed companies to increase the market value of sustainable products. Acknowledgement of lack of market for sustainable practices was central. Participants concluded that the combined effects of lacking financial incentives and insufficient information sharing about alternative practices must be overcome in order to effectively implement solutions.

Moreover, it was highlighted that targeted solutions are needed, as one practice or solution does not fit all. For example, participants recognised the importance of peatland forests and their potential for CCF, while CCF might not be a viable solution in another type of forest.



Figure 19: Images of the sustainable practices results in Finland

The following table includes all the ranked sustainable solutions identified in the Finnish UC area and an explanation for each one of them.

Table 11: Solutions and explanations in Finnish UC

Rank	Solution	Explanation
1	Mixed forests and cultivation	Diversification of tree species (at the expense of spruce growth) results in increased biodiversity, forest resilience, climate resilience, retention, and carbon storage.
2	Continuous cover forestry	Greater retention areas, increased biodiversity, and greater carbon storage (financial benefits from this). An additional highlight is that CCF in peatlands aids water management.
3	Saving deadwood	Greater retention increases biodiversity, important for forest ecosystems and climate adaptability.
4	Longer rotation	Older forests for improving biodiversity and greater forest resilience. Creates potential for increasing timber products' value.
5	(Voluntary) protection and management in Natura 2000	Increasing protected areas to improve species diversity and natural habitat protection. It could be combined with having selected areas with undisturbed forest growth and selected areas with intensive commercial timber production.
6	Active management (risk areas)	Active, adaptive, and continuous forest management to ensure maintenance of neglected forests and focus on risk areas ensuring that the forest won't reach crucial thresholds of biodiversity loss, etc.
7	Urban forestry	Increasing green infrastructure (e.g., forest strips/clusters, green bridges, buffer strips) in urban areas positively influences climate resilience and adaptability, water management, etc.

Barriers to the adoption of the practices

The main barrier identified was insufficient transfer of expertise and knowledge. Participants acknowledged the abundance of information about best practices and the great amount of expert and scientific research that has gone into developing this knowledge base. However, the central issue is that this knowledge is not effectively transferred across the value chain and does not reach private owners. Additionally, no advisory services are targeting individual forest owners to improve this issue.

What strengthens this effect, are the norms centred around forest management. Participants voiced their concerns regarding the lack of motivation among private owners to actively engage in forest management and learn about the alternative practices available to them. This translates into conventional practices dominating, the acceptance of which is strengthened through the reiteration of the economic importance of commercial timber production in national and local governments.

Many participants reiterated the lack of financial incentives for adoptions. Many saw this as an integral barrier to large-scale adoption of sustainable practices – if there is no profitability, switching to a new way of managing is very unlikely, especially for owners whose main source of income is wood sold to timber production.

Despite the participants' acknowledgement of the abundance of forest-related information and research in Finland, it was brought up that even better forest inventory data and other types of nature data are required. This allows to e.g., concentrate conservation efforts to the areas where they are most beneficial. In connection to this, participants discussed the need for better indicators and metrics, to allow for more informed decisions.



Figure 20: Image of the barriers results in Finland

The following table includes all the ranked barriers identified in the Finnish UC area and their influence on sustainable solutions.

Table 12: Barriers identified in Finnish UC

Rank	Barriers	Influence on sustainable solutions
1	Transfer of information	While there is extensive scientific knowledge and consensus on best practices for sustainable forest management, this information is not effectively shared with forest owners, leaving them ill-equipped to transition to sustainable methods. Better forest inventory data and open access to it are also needed.
2	Lack of motivation and conservative attitudes	Forest owners often lack motivation to engage with expert knowledge or advisory services, favouring conventional practices. This is compounded by attitudes described by participants as resistant to change, with many foresters avoiding learning or decision-making.
3	Added value is low	The limited market for non-wood products and the low profitability of sustainable solutions discourage adoption. Finland's reliance on low-value forest products like pulp reduces the industry's capacity to offer competitive payments to forest owners, highlighting the need for added-value production.
4	Insufficient advisory services	Despite the abundance of scientific information, only a few experts provide personalised advice to forest owners, leaving them without guidance tailored to their specific contexts.
5	Generational gap and inherited land	Inherited forests are often neglected or managed through conventional practices due to high taxation on inherited land, leading to sales to commercial actors or insufficient sustainable management efforts.

Nudges to overcome the barriers and adopt practices

An interesting focal point of this session was peer learning and the importance seen in developing the networks among private forest owners. This was a shift from the discussion on “Sustainable practices for the stated problem”, where the discussion gravitated to the macro-level of national governance and decision-making. Instead, the need for actions was seen more on the micro- and individual-level and the proposed nudging targeted mostly individual forest owners (with the exception of the norm change, and its introduction in primary education).

The discussion was predominantly centred around the ways in which sustainable practices can become more of a norm and replace the dominance of conventional practices – without addressing the concrete ways to do this by targeting individuals by nudging.

The following table includes all identified green nudges in the Finnish UC area, in thematic groups.

Table 13: Green nudges identified in Finnish UC

Group title	Strategies and Nudges
Information sharing	Establish peer support and learning groups (e.g., excursions) to facilitate forester knowledge exchange.
	Use social media to share best practices, targeting younger generations and addressing issues like the generational gap and inherited forests.
	Distribute brochures or materials promoting "easy forest management" by highlighting low-effort sustainable practices.
Signalling incentives and risks	Regularly share information about financial incentives for adopting sustainable forest management (through e.g., advisory services and regional forest administration newsletters).
	Highlight the adoption of sustainable practices by other forest owners, leveraging social comparison as motivation.
	Communicate the visible trade-offs and synergies of alternative practices to help forest owners make informed decisions.
	Emphasise the risks - financial, environmental, and resilience-related - of maintaining conventional practices, encouraging a shift to sustainable methods (e.g., communications from owners' forest advisory services and regional forest administration newsletters).
Default	Make CCF the recommended default practice for new forest owners instead of clear-cutting.
Norm change	Foster a shift in norms by incorporating education on forest management and human-nature relationships into primary school curriculums.



Figure 21: Image of the nudges results in Finland

6. Conclusion and Way Forward

The document at hand is the outcome of the work that was performed by PRUDENT to co-define and assess green nudges tailored in each of the project's four UCs' operational agriculture and forestry contexts. The green nudges will be tested in the dedicated field experiments that will occur later in the lifespan of the project.

After developing the methodology for the first year's multi-actor co-creation workshops and training the UCs on how to implement it, four regional co-creation workshops took place on the ground in Lithuania, Belgium, Italy and Finland. The workshops engaged 62 stakeholders in discussions that, starting from the key problem identified in each UC area, moved along to identify sustainable solutions, the barriers that prohibit their adoption and green nudges that would help overcome these barriers.

Our findings support PRUDENT's overarching goal of promoting sustainable, climate-neutral agricultural and forestry systems. By showcasing diverse examples of the green nudges that were co-created during the four workshops, this document offers a deeper view into the needs of each of the four UCs while suggesting sustainable solutions and green nudges. Despite the diversity of issues faced in each UC, common themes emerged regarding the necessity for knowledge transfer, policy alignment, economic incentives, and behavioural nudges to encourage sustainable transitions. The results across all cases underscored the need for tailored, region-specific and combined nudges. The pool of green nudges that has been created could be utilised by policymakers in their efforts to accelerate the adoption of climate-smart practices by nudging farmers and foresters into adopting greener practices.

The document at hand has been elaborated in the context of PRUDENT Task 1.3 "Multi-actor co-creation of green nudging practices". The outcomes of our work will contribute to Task 2.2 "Testing the impact of nudges on decision-making using field experiments", and Work Package 2, which aims to identify the most promising nudges to promote sustained behavioural change towards sustainable agriculture and forestry.

7. Annexes

Annex I: Guidelines for Organising Workshop

1. Workshop Preparation (Suggestions by Q-PLAN)

1.1. *Identify Stakeholders*

In the project's first year, four co-creation workshops should take place (1 in each UC area), attracting (at least) 80 participants in total. In this respect, the target for each workshop is **15-25 participants per UC**. As the most important factor for our workshop's success, invited workshop participants should represent various stakeholders (e.g., farmers, foresters, advisors, industry actors, investors, researchers, consumers, and policymakers). This will further enable us to reflect on personal and community beliefs regarding sustainable practices related to pressing issues in the relevant agri-environmental systems, as well as barriers to adopting such practices and green nudges to overcome barriers, as reported by different actors in the UCs.

1.2. *Invitation Criteria*

Criteria for selecting participants:

- **Motivation:** It is crucial that the stakeholders are interested in participating in our co-creation events. UCs are invited to assess which stakeholders would be more motivated to join and actively participate in our workshops. Also, UCs are invited to consider what motivates each type of stakeholder and adjust their communication approach (e.g., key messages) to lure their interest.
- **Decision-making power:** Policymakers with the power to make changes in the current framework of the UC areas and help facilitate the adoption of green and sustainable practices in forestry and farming should be among the invited stakeholders. Similarly, please consider inviting value chain actors such as logistic operators who can transfer the PRUDENT main message to a broader audience.
- **Expertise:** Advisors and other experts who can provide accurate suggestions and valuable knowledge about the identified challenges that arise during the discussion-consultation process should be among the invited stakeholders.
- **Representation:** Representatives of each stakeholder type must be invited so that we ensure that beliefs and vision are captured from a representative societal spectrum of each UC area.
- **Inclusivity:** The outcomes of the co-creation workshops should reflect the needs and opinions of all genders and ages, as well as of people who face marginalisation. Marginalisation factors could include, for example, material deprivation, inadequate housing, low educational levels, high unemployment, poor health as well as discrimination and prejudice¹⁹.

¹⁹ Cohesion policy and marginalized communities-Briefing, European Parliamentary Research Service, October 2016

1.3. *Invitation Process*

At first, the UCs need to take time and effort to identify suitable stakeholders to invite, utilising their network's connections. After the initial identification, and as soon as each UC fixes the date of their co-creation workshop, invitations (e.g., email, mail, or in-person invitations) shall be sent to stakeholders so that they are aware and save the date for the event. This save-the-date invitation can include some basic information. It is recommended that you also attach the workshop agenda.

It is also recommended that further stakeholders be approached by communicating the event through the involved partners' social media accounts/websites, radio, or posters. We also recommend contacting the PRUDENT's communication and dissemination manager (ABE) to take advantage of the PRUDENT's social media accounts and project website to promote your workshops further.

In any case, it is essential that invited participants fulfil the criteria enlisted in section 0. It is also important that participants fill out an Informed Consent Form before taking part in your event (see section 1.5), along with a Registration Form, so that you collect some basic information (name, profession etc.) on the number of people interested in participating and their stakeholder category.

1.4. *Invitation Materials*

A more informative invitational e-mail or mail can follow in due time when the details pertaining to the organisation of the workshop are fixed. Although participation in the co-creation workshops does not require any form of preparation on the side of stakeholders, it typically makes for a better event experience when participants are aware of what to expect and what benefits they stand to gain from their participation in an event. With that in mind, an informative document will be prepared by Q-PLAN in cooperation with UNITN so that each UC can adapt (e.g. translate) and employ in their communications with their stakeholders to convey the purpose of the event better the way it will unfold and how it can be beneficial for the stakeholders. The PRUDENT promotional material package (e.g. brochure, poster) can be used to this end, too. UCs are encouraged to consult with Q-PLAN if they would like support in preparing their save-the-date and/or invitational (e-)mails.

Invitations to stakeholders can be more effective when adapted to each stakeholder group's specificities. For example, some stakeholders are reachable by email, while for others, different communication channels need to be employed (e.g., personal invitations, social media posts, website posts, announcements through relevant professional associations, press releases to local newspapers, magazines, flyers, etc.). Also, the key message of the invitation may need to be adapted to the needs and preferences of each stakeholder group so that it appeals to what would motivate them to attend the meeting.

1.5. GDPR – Informed Consent Form

Personal data (e.g., contact details, group photos, screenshots) will be collected during the workshops. Thus, it is essential that all project activities fully comply with GDPR. To this end, an informed consent form should be distributed among participants before the event officially begins. This can be done in three ways:

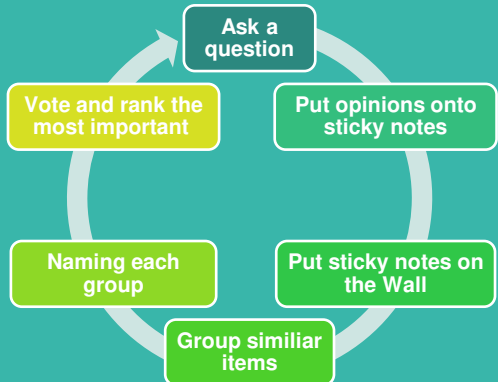
1. Stakeholders sign the consent form that is applicable for four years, as prepared by AUA in Task 1.4. Through that form, stakeholders consent to collecting their data from all four multi-factor co-creation workshops throughout the project.
2. Stakeholders register online for the event and accept the consent form included in the registration form. Q-PLAN has prepared a registration form and informed consent form template in English, which UCs can translate into the local language.
3. Any additional stakeholders who may attend the meeting should sign a printed version of the consent form when they enter the workshop venue.

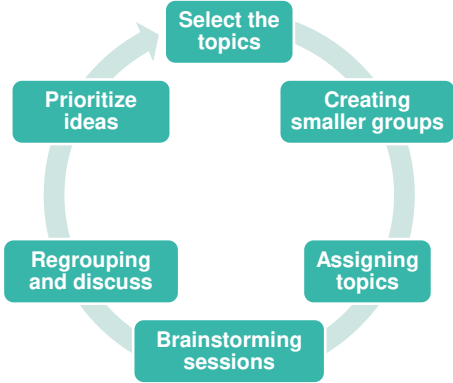
1.6. Brainstorming Techniques

The following section lists several indicative brainstorming techniques that UCs can use to encourage participants to discuss and express their thoughts on questions, dilemmas, and issues raised.

Table 14: Indicative brainstorming techniques

Techniques	Description
Brainstorming	In the traditional method of brainstorming, a main question is asked, and the participants are encouraged to express their thoughts and ideas and write them down. After this, a discussion is carried out to examine all the thoughts and ideas and reach a result. The role of the facilitator is critical during this process, as it is their duty to encourage everyone to participate and to solve the potential conflicts that can arise during the process.
Brainwriting	In this technique, each participant has to contribute three ideas for each question posed at the beginning of each round. As each person add their ideas, the rest of the group can see the answers and use them as inspiration.
Open panel discussion	During an open panel discussion, stakeholders can engage directly by taking the speech and contributing their own thoughts. The format can be structured around specific themes or

Techniques	Description
	questions, ensuring that the discussion remains focused and relevant to the workshop's objectives. Keeping concrete notes and carefully moderating the session is crucial here.
KJ-Method (Affinity diagram)	The method organises ideas into themes or categories to identify patterns and insights. The participants write down ideas on Post-it notes and place the Post-it notes on a wall or board. Then they group similar ideas together and discuss the emerging themes and patterns. Finally, they summarise the key insights. 
Round-Robin Brainstorming	Participants sit in a circle and take turns sharing one idea at a time, going around the circle until there are no new ideas. The rapporteur documents all ideas on a whiteboard or flipchart.
Mind Mapping	Participants create a visual map of ideas related to a central concept, showing connections between different ideas. The moderator presents the central theme or problem, and the participants, individually or in small groups, draw branches from the central theme, adding related ideas and sub-ideas. The rapporteur combines the individual maps into a large group mind map and the group discusses and refines the connections and ideas.
SWOT Analysis	The method is used to identify and discuss the Strengths, Weaknesses, Opportunities, and Threats related to a specific topic or problem. • Participants are divided into small groups. • Each group is assigned one of the SWOT categories. • Groups brainstorm and list points under their assigned category. • Findings are shared and discussed with the entire group. • Rapporteur documents and synthesises the SWOT analysis. 
World Café	Participants rotate between tables discussing different aspects of a topic, capturing ideas and insights at each station. The moderator sets up several tables, each with a different topic or question and participants spend 10-15 minutes at each table discussing the topic and noting ideas on paper or a whiteboard. After the allotted time, participants rotate to a new table. After several rotations, they summarise the key ideas from each table. The rapporteur documents the key ideas.
Dot Voting	Participants prioritise ideas by placing dots next to their preferred options. The procedure is as follows: • Generate a list of ideas using another brainstorming technique. • Write the ideas on large sheets of paper or a whiteboard. • Give each participant a set number of Post-it dots. • Participants place dots next to their favourite ideas. • Discuss the most popular ideas as a group. • Rapporteur documents the key results. 

Techniques	Description
Six Thinking Hats	Participants explore ideas from six different perspectives, represented by coloured hats (White: Facts, Red: Emotions, Black: Caution, Yellow: Benefits, Green: Creativity, Blue: Process). The moderator presents the topic and explains the six hats. Then, they assign each participant a hat, and participants discuss the topic from their hat's perspective. The rapporteur documents the insights from each perspective and the group combines and synthesises the different viewpoints.
Charette Procedure	The Charette procedure provides the opportunity to solve more than one problem at a time and gives space to all the participants to be involved and express their opinions and ideas. The procedure includes multiple rounds of feedback and refinement, which helps in improving and polishing ideas. This iterative process ensures that the final solutions are well thought out and robust. 

Please feel free to Google search for details on how to perform the aforementioned brainstorming techniques better or even come up with an alternative technique that might better suit your needs. In the case of virtual brainstorming methods, we would recommend exploring indicative e-tools such as Slido or Miro, which allow workshop participants to put post-it notes on a commonly shared virtual wall.

1.7. Digital Tools and Facilitators

The multi-actor co-creation workshops will all be face-to-face events. However, digital collaboration tools could be used instead of post-it notes to facilitate co-creation in part of the workshops. The table that follows provides a few indicative tools.

Table 15: Digital tools

Tools	Description	Link
Slido	A Q&A and polling platform for live, remote or hybrid meetings, events, classes, and webinars for crowdsourcing top questions and engaging participants with live polls and quizzes.	https://www.slido.com/
Mentimeter	Interactive presentation platform for hosting live Q&A sessions, polling and much more.	https://www.mentimeter.com/
Miro	Online collaborative whiteboarding, library of templates, integration with web apps, good for brainstorming, Post-it notes, freeform pen, shapes, arrows etc.	https://miro.com/
Mural	Post-it notes, text, shapes and connectors, icons, frameworks, images, gifs, drawing.	https://www.mural.co/

Overall, we suggest that UCs engage at least 3 people from their organisation to act as:

1. Moderator: Coordinating the event, moderating discussions and keeping activities on time.

2. Facilitator: Facilitating the use of digital or other tools for keeping notes, ranking, etc.
3. Rapporteur: Keeping notes during discussions and activities and being responsible for reporting.

Familiarise all people involved in implementing the workshop with its flow and tools. We strongly encourage you to organise a rehearsal meeting with your team members in preparation for the workshop to simulate its implementation and ensure that everything works as intended.

1.8. Venue, Materials & Catering

Each UC partner has a budget available for the co-creation activities (organisation costs) that need to be divided among all the co-creation workshops they will implement along the life span of the project (see “3.1.9 Purchase costs’ items” table in the DoA). This budget should be indicatively spent for:

- Booking a workshop venue
- Supporting material (digital tools, stationery, etc.)
- Catering services – coffee, drinks and food.

UCs are invited to proactively act and prepare the above to ensure that the workshop will take place at a venue easily accessible by most stakeholders, big enough and convenient for co-creation purposes.

2. Workshop Implementation (Suggestions by UNITN)

In the following section, UNITN suggests an approach to implementing co-creation workshops in UCs. In particular, UNITN suggests the workshop have four main sessions on: solutions and sustainable practices related to agri-environmental issues, barriers to adopting sustainable practices, and green nudges to overcome such barriers. Also, it suggests questions that you can pose to stakeholders, the processes to collect feedback (e.g., brainstorming technique) and an allocation of roles.

UCs may modify the suggested approach if local circumstances demand it. For example, the suggested brainstorming technique may be altered to suit the size of the group of participants better.

2.1. Introductory Session & Problem Adjustment

In this stage, UCs introduce the project and scope of the workshop, encouraging participants to introduce themselves and warm up for the core sessions to come. A typical approach is for the organisers to introduce themselves before inviting the rest of the participants to share a few quick details about them. Then, organisers provide a short presentation to better familiarise participants with:

1. PRUDENT, and the objectives and agenda of the workshop, along with the tools to be used.
2. the problem identified in the UC area around which the workshop will revolve (e.g., mismanagement of privately owned forests, etc.).

Overall, this stage aims to describe the operational agriculture and forestry contexts and provide a holistic overview of the problem identified, establishing a friendly atmosphere amongst all participants (partners and stakeholders), breaking the ice and stimulating excitement for the co-creation activities foreseen during the core sessions.

Table 16: Summary of the approach for the Introductory Session

Input	A few ppt slides about the project, the workshop and the problem identified in the area
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Process	• Q&A after the ppt • Open panel discussion to hear stakeholder opinions about the problem identified
Output	• Participants know each other and feel more comfortable to discuss • Participants understand what will be asked from them during the workshop • The problem identified has been validated or adjusted, and people are ready to discuss it
Roles	• ABE prepares the ppt to present the project, and UCs translate the ppt • UCs prepare a few slides about the identified problem and UNITN provides feedback • UCs moderate the session and keep notes from the discussion

2.2. Main Session 1: Co-define sustainable practices for the stated problem

Following the problem statement of the introductory session, the facilitator initiates an open discussion on potential solutions to the problem by suggesting innovative sustainable practices. The participants are encouraged to take turns suggesting solutions and write down sustainable practices in Post-it notes. To encourage the participants to express their thoughts, ask some thought-provoking questions, such as: “Can you think of any innovative sustainable agriculture and forestry practices that would improve current farming or forestry systems?”. Later on, ask the participants to:

1. place the Post-it notes on a whiteboard or flipchart,
2. group them into thematic areas,
3. prioritise them by placing dots next to their preferred options (i.e., see the “Dot voting” from brainstorming techniques in section 1.6).

Alternatively, the same approach could be implemented using the digital tool you have selected for your workshop (e.g. Slido and Mentimeter). Finally, please present the results of the ranking or poll, start a discussion and wrap up the session. To fuel the discussion, ask some questions. Such questions can be:

- Are there common elements among these practices that contribute to their effectiveness?
- Which practices do you identify as more effective across different value chains?

Table 17: Summary of the approach for the Main Session 1

Input	Results from the introductory session
Process	• Dot voting to ask stakeholder opinions about the potential practices.
Output	• Suggested practices are validated and new ideas for practices are collected • Potential practices are prioritised to come up with a list of the best 3 practices
Roles	• UCs moderate the session, collect answers and keep notes from the discussion

2.3. Main Session 2: Identifying barriers to the adoption of the practices

Utilise the results of Main Session 1 as a basis and proceed with a few key questions to spur discussion around the barriers farmers and foresters face when trying to adopt sustainable practices. Such questions can be:

- What barriers might prevent the successful implementation of these sustainable practices?
- How do these barriers differ among various types of farmers and foresters (e.g., small vs. large operations, different crops or forest types)?

Later on, ask the participants to:

1. place the Post-it notes on a whiteboard or flipchart,

2. group them into thematic areas,
3. prioritise them by placing dots next to their preferred options (i.e., see the “Dot voting” from brainstorming techniques in section 1.6).

Alternatively, the same approach could be implemented using the digital tool you have selected for your workshop (e.g. Slido and Mentimeter). Finally, please present the results of the ranking or poll, start a discussion and wrap up the session.

Table 18: Summary of the approach for the Main Session 2

Input	Results from Main Session 1
Process	• Dot voting to ask stakeholders to suggest and prioritise barriers to adopting sustainable practices
Output	• New ideas for barriers are collected • Barriers are prioritised to come up with a list of the most significant
Roles	UCs moderate the session, collect answers and keep notes from the discussion

2.4. Main Session 3: Define nudges to overcome the barriers and adopt practices

Firstly, a list of good nudging techniques that were identified in T1.1 will be presented to help participants understand what nudges are before they participate, along with ideas and suggestions for the discussion. Then, based on the barriers to adopting sustainable practices identified and prioritised in Main Session 2, ask a few questions to guide the discussion around the acceptability and perceived efficacy of green nudges in facilitating the adoption of sustainable practices. Such questions can be:

- Which green nudges can facilitate overcoming barriers to adopting sustainable practices identified?
- Which green nudges seem most effective for encouraging sustainable practices among farmers and foresters?
- Which green nudges seem to be more acceptable?

Later on, ask the participants to:

1. place the Post-it notes on a whiteboard or flipchart,
2. group them into thematic areas,
3. prioritise them by placing dots next to their preferred options (i.e., see the “Dot voting” from brainstorming techniques in section 1.6).

Alternatively, the same approach could be implemented using the digital tool you have selected for your workshop (e.g. Slido and Mentimeter). Finally, please present the results of the ranking or poll, start a discussion and wrap up the session.

Table 19: Summary of the approach for the Main Session 3

Input	Results from previous sessions. Also, a few ppt slides with examples of nudges
Process	• Dot voting (or another technique from section 1.6) will be used to ask stakeholder opinions about the nudges
Output	• Suggested nudges are assessed and new ideas for nudges are collected • Notes are collected on the potential effectiveness of each nudging method
Roles	• UNITN prepares the ppt to present nudges • UCs translate the ppt

- UCs moderate the session and keep notes from the discussion

The core sessions are designed to feed into D1.5 directly. We strongly recommend that UCs carefully check and invest some time to properly understand the reporting template before planning and running their workshop. Please keep the template in mind while posing questions and moderating the discussions of the core sessions. Ideally, use the reporting template to document ideas and feedback during the workshop, facilitating the reporting process.

2.5. Closing Session

The last session serves as the wrap-up of the workshop. If enough time exists, the moderators may summarise the main findings or conclusions from the various sessions. In any case, it is important to thank participants for the time they dedicated to the workshop, highlighting the significance of their contribution to the project as a whole. Also, the facilitator will distribute a feedback questionnaire to the participants to collect their opinions on the workshop's outcomes and organisation. At the end of the workshop, moderators may also encourage participants to continue the discussion through the PRUDENT social media and stay tuned to access the co-creation results, which will be shared as soon as they become available for public release.

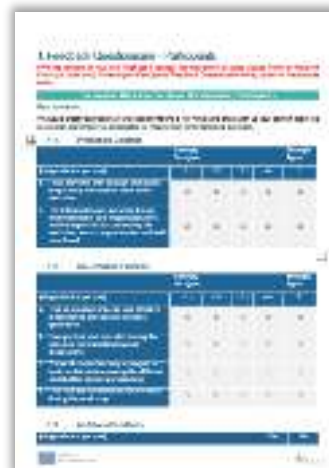


Table 20: Summary of the approach for the Closing Session

Input	A feedback questionnaire
Process	• The moderator wraps up the meeting • The facilitator distributes a questionnaire
Output	• Better understanding of the workshop outcomes • Participants' opinions about the workshop
Roles	• UCs moderate the session • Q-PLAN prepares the feedback questionnaire • UCs distribute and collect answers. Then, aggregate them and send them to Q-PLAN

2.6. After the Workshop

UCs shall organise the workshop at any date they find more suitable for them and their stakeholders. It should be a day between October and December 2024. A factor that needs to be potentially considered is the busy periods for key stakeholders, such as harvesting time for farmers.

Table 22: Date and venue status by 06/09/2024

	As of 06/09/2024
Date of the workshop	
Workshop venue availability confirmed	

3.3. *Agenda of the Workshop*

UNITN suggests the following agenda to the UCs. However, UCs may make changes according to local circumstances. UCs are also invited to complete the agenda with the names of involved people and organisations and then translate it into the local language.

Table 23: Agenda of the co-creation workshop

Time	Topic
09:45 – 10:00	Doors open, and registration
10:00 – 10:20	Scope of the workshop and discussion on the problems of the area <i>Name of organiser, organisation</i>
10:20 – 10:40	Introduction round of Multi-actor participants
10:40 - 11:25	Session 1: Co-define sustainable practices for the stated problem <i>Name of presenter, organisation</i>
11:25 - 11:40	Break and coffee
11:40 – 12:25	Session 2: Identifying barriers to the adoption of the practices <i>Name of presenter, organisation</i>
12:25 – 13.10	Session 3: Define nudges to overcome the barriers and adopt practices <i>Name of presenter, organisation</i>
13:10 – 13:20	Conclusion and wrap-up of the workshop
13.20 – 13.50	Food, drinks and networking with stakeholders

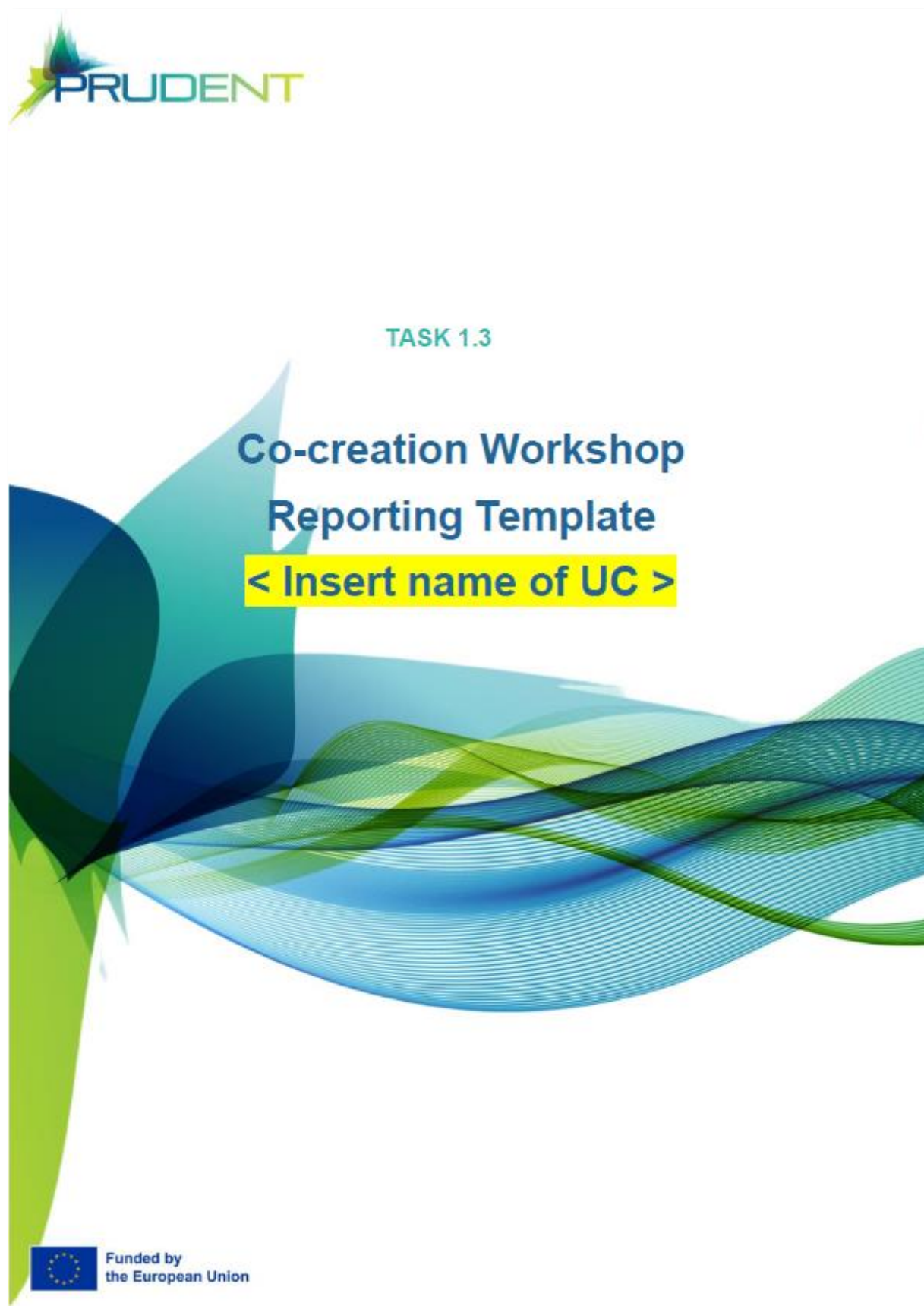


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1. General information and preparatory activities

1.1. Organisational details and achievements

Organisational details and achievements		Description
UC Leader (organiser)		
Date of the workshop		
Digital tools used		
No of stakeholders involved per type of stakeholder	farmers	
	foresters	
	advisors	
	industry	
	investors	
	researchers	
	consumers	
	policy makers	
	Other (please specify)	
	Total	
No of participants (stakeholders + team members)		
Duration of workshop (hours)		
Report Authors		
No	Team member's name	
1		
2		
3		

1.2. Overview of preparatory activities

Please describe (1 paragraph of 10 -15 lines) the approach followed to prepare and organise the workshop, highlighting and briefly explaining any deviations from the suggested methodology included in the guidelines. Mention any preparatory material that you may have used as well!

2. Co-creation results

2.1. Introductory Session & Problem Adjustment

Please here provide a description of the problem as it has been identified in the UC area and around which the workshop revolved (e.g., mismanagement of privately owned forests etc.).

2.2. Main Session 1: Co-define sustainable practices for the stated problem

2.2.1. Identification and assessment of solutions

Please provide an overview of the solutions identified in the workshop, providing also information on their prioritization (ranking) and some basic explanation on why they were selected.

Rank	Solution	Explanation
1		
2		
3		
4		
...		

2.2.2. Key insights stemming from the discussions

Complete this section by summarising the notes that you kept during the session, including any feedback or insights that may have emerged from the discussions (2 – 3 paragraphs max).

...

2.2.3. Images of the session's results

Please here include any photos of the blackboard, post-it notes and dot ranking or screenshots of the digital board you used to engage your stakeholders during this session.

2.3. Main Session 2: Identifying barriers to the adoption of the practices

2.3.1. Identification and assessment of barriers to adopt sustainable solutions

Please provide an overview and ranking of the barriers identified in the respective session of the workshop, along with their influence potential towards adopting sustainable solutions in farming or forestry, as they emerged from the brainstorming exercise.

Ranking	Barriers	Influence on sustainable solutions
1		
2		
3		
4		
...		

2.3.2. Key insights stemming from the discussions

Complete this section by summarising the notes that you kept during the session, including any feedback or insights that may have emerged from the discussions (2 – 3 paragraphs max).

...

2.3.3. Images of the session's results

Please here include any photos of the blackboard, post-it notes and dot ranking or screenshots of the digital board you used to engage your stakeholders during this session.

2.4. Main Session 3: Define nudges to overcome the barriers and adopt practices

2.4.1. Co-defined nudges

Please provide an overview of the green nudges co-defined during this session, grouping the similar ones together in the following table.

Group title	Strategies and Nudges

2.4.1. Key insights stemming from the discussions

Complete this section by summarising the notes that you kept during the session, including any feedback or insights that may have emerged from the discussions (2 – 3 paragraphs max).

...

2.4.2. Images of the session's results

Please here include any photos of the blackboard and post-it notes or screenshots of the digital board you used to engage your stakeholders during this session.

3. Concluding remarks

Complete this section by summarising the notes that you kept during the closing session (1 paragraph).

4. Annex – Co-creation Workshop Agenda

Please provide the workshop's final agenda, as sent to the participants before the event.

5. Annex – Photos of the co-creation workshop

Please provide a couple of photos from the workshop. Please make sure beforehand that the participants have provided their consent to be photographed (otherwise take photos where no faces are seen).

Annex III: Co-creations workshops' agendas

Lithuanian UC - Agenda of the co-creation workshop



Seminaras apie žaliuosius postūmius ir tvarius sprendimus ūkininkavimui
2024-12-17 09:00 Hotel PACAI Didžioji g. 7, Vilnius, 01128 Vilniaus m. sav.

Laikas | Tema

08:30 – 09:00
Dūrys atidaromos ir registracija

09:00 – 09:20
Įvadas: Seminaro tikslai ir diskusija apie vietovės problemas
Kristina Šermukšnytė-Alešiūnienė, Matas Budriūnas, AgriFood Lithuania DIH

09:20 – 09:40
Dalyvių prisistatymas

09:40 – 10:25
1 sesija: Tvarios praktikos bendras apibrėžimas sprendžiamai problemai
Matas Budriūnas, AgriFood Lithuania DIH

10:25 – 10:40
Pertrauka ir kava

10:40 – 11:25
2 sesija: Kliūčių, trukdančių taikyti praktikas, nustatymas
Matas Budriūnas, AgriFood Lithuania DIH

11:25 – 12:10
3 sesija: Paskatų apibrėžimas, siekiant įveikti kliūtis ir pritaikyti praktikas
Matas Budriūnas, AgriFood Lithuania DIH

12:10 – 12:20
Seminaro išvados ir užbaigimas

12:20 – 12:50
Maistas, gėrimai ir tinklaveika su suinteresuotomis šalimis

Belgian UC - Agenda of the co-creation workshop

Time	Topic
12:30 – 13:00	Doors open, and registration, lunch
13:00 – 13:20	Scope of the workshop and discussion on the problems of the area <i>ILVO</i>
13:20 – 13:40	Introduction round of Multi-actor participants
13:40 - 14:25	Session 1: Co-define sustainable practices for the stated problem <i>Boerennatuur Vlaanderen</i>
14:25 - 14:40	Break and coffee
14:40 – 15:25	Session 2: Identifying barriers to the adoption of the practices <i>Boerennatuur Vlaanderen</i>
15:25 – 16:10	Session 3: Define nudges to overcome the barriers and adopt practices <i>ILVO</i>
16:10 – 16:20	Conclusion and wrap-up of the workshop
16:20 – 18:00	Drinks and networking with stakeholders

Italian UC - Agenda of the co-creation workshop

Time	Topic
10:15 – 10:30	Door opening and registration
10:30 – 10:40	Institutional greetings <i>Dr. Andrea Berti, Asnacodi Italia</i>
10:40 – 11:10	Introductory session – presentations and problem definition <i>Avv. Paola Grossi, Asnacodi Italia - Prof. Simone Cerroni, University of Trento</i>
11:10 – 12:10	Session 1: Co-defining sustainable practices for the identified problem <i>Avv. Paola Grossi, Asnacodi Italia - Prof. Simone Cerroni – University of Trento</i>
12:10 – 13:10	Session 2: Identifying barriers to the adoption of the sustainable practices defined in Session 1 <i>Avv. Paola Grossi, Asnacodi Italia - Prof. Simone Cerroni, University of Trento</i>
13:10 – 14:10	Lunch
14:10 – 15:10	Session 3 – Defining nudges to overcome the barriers and adopt sustainable practices <i>Avv. Paola Grossi, Asnacodi Italia - Prof. Simone Cerroni, University of Trento</i>
15:10 – 15:40	Conclusions and acknowledgments <i>Avv. Paola Grossi, Asnacodi Italia - Prof. Simone Cerroni, University of Trento</i>

Finnish UC- Agenda of the co-creation workshop

Time	Topic
09:00 – 09:30	Coffee and food (a bit of salty and sweet), alongside the introduction of PRUDENT and today's workshop
9:30-11:00	Co-creation activity and cooperative work
11:00-11:30	Conclusion and wrap-up of the workshop
11:30-	Networking and independent lunch

End of Document

