Female Led Innovation in Agriculture and Rural Areas

Foresight and trend analysis

FLIARA Work Package 2

D 2.1 Research Guidelines for Foresight and Trend Analysis

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This is a living document and will be updated

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[1]   PU= Public, SEN= Sensitive.

Project partners

Galway	NATIONAL UNIVERSITY OF IRELAND GALWAY
TU Delft	TECHNISCHE UNIVERSITEIT DELFT
TEAGASC	TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY
UNICAL	UNIVERSITA DELLA CALABRIA
LWL	LONGFORD WOMEN S LINK CLG
UTU	TURUN YLIOPISTO
UL	UNIVERZA V LJUBLJANI
CE	CONSULTA EUROPA PROJECTS AND INNOVATION SL
HNEE	HOCHSCHULE FUR NACHHALTIGE ENTWICKLUNG EBERSWALDE
ELARD	ASSOCIATION EUROPEENNE LEADER POURLE DEVELOPPEMENT RURAL
UOULU	OULUN YLIOPISTO
ECOLISE	RESEAU EUROPEEN POUR DES INITIATIVES COMMUNAUTAIRES SUR LES CHANGEMENTS CLIMATIQUES ET LE DEVELOPPEMENT DURABLE
MENDELU	MENDELOVA UNIVERZITA V BRNE
LNU	LINNEUNIVERSITETET
HLK	HOGSKOLAN FOR LARANDE OCH KOMMUNIKATION I JONKOPING - HLK SCHOOL OF EDUCATION AND COMMUNICATION

1. General description of WP2: Foresight and trend analysis

1.1 Introduction to foresight and trend analysis

Futures involving human action are open as we have the ability to choose otherwise, at least to a certain extent. Furthermore, we have data from the past but nothing from the future. Theory of the future does not exist either. Many theories and models we use to describe and understand the past may or may not be valid in specific futures. For these reasons, academic futures research as an activity is comprised of <u>planning, design and evaluation of alternative futures</u> rather than forecasting or crafting one future.

The reason for exercising futures research was well defined by Slaughter (1993, 290): 'to the extent that we become aware of different future alternatives, we gain access to new choices in the present'. So, the art of planning and assessing alternative futures serves the process of <u>becoming aware</u> of alternative futures and the task of <u>making choices</u> in the present.

There are many types of <u>manifestations</u> of alternative futures: scenarios, futures images and visions (Figure 1). Scenario analysis mainly focused on the alternative paths toward to future, starting from the present. This can however, run the risk of extending the present to the future without transformations or structural changes. Futures images manifest alternative future states in a certain moment of time and they are more disconnected from the present than scenarios, avoiding the risk of replicating the existing. Finally, a vision is a normative manifestation of certain kind of a future as, for example, post fossil, sustainable or high-tech future of certain place or business. Visions are sometimes connected back to the present by means of backcasting to expose alternative paths the vision can be reached. The type of future to be designed depends on the objectives of the research act.
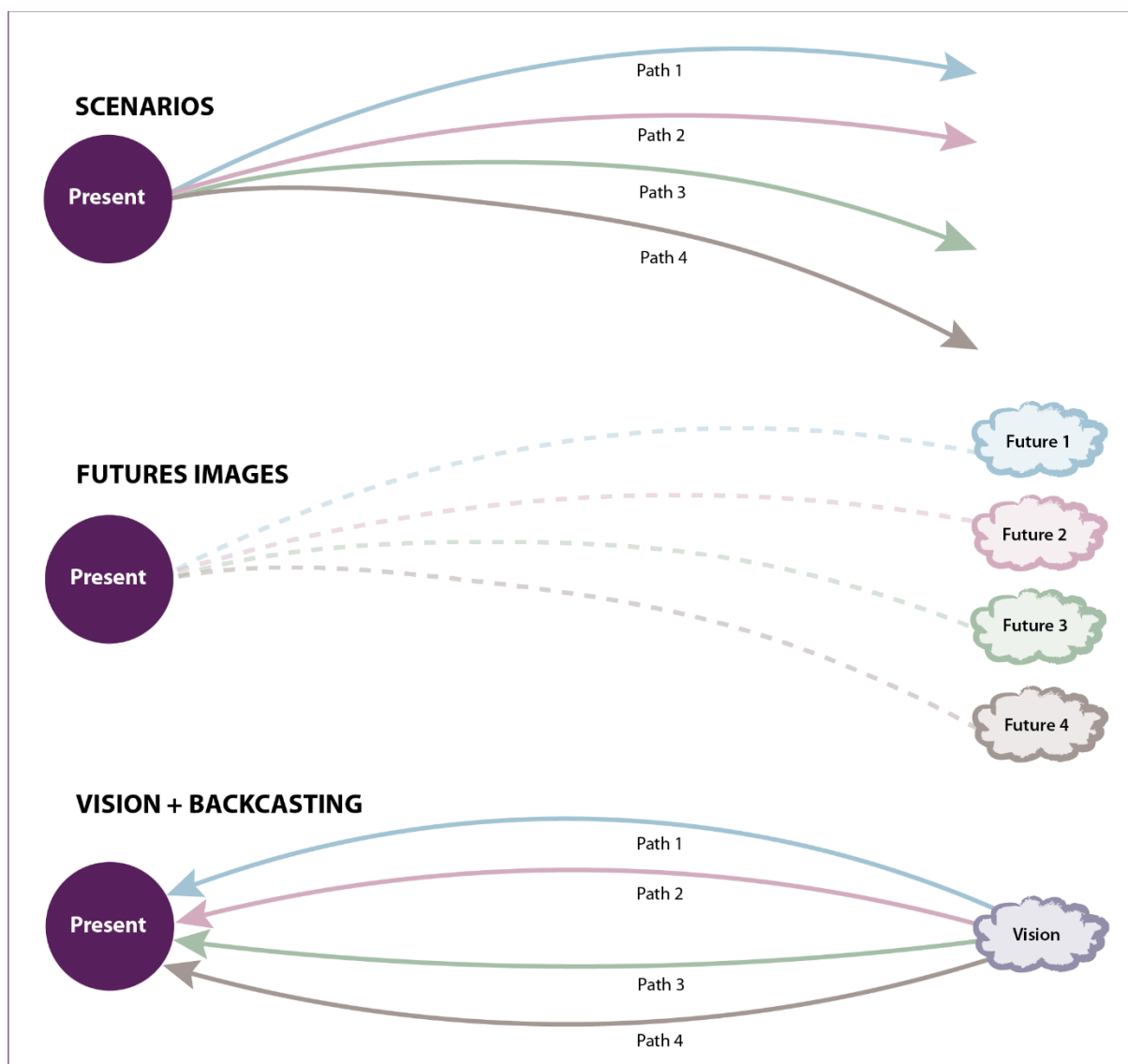
Figure 1. Main types of manifestations of alternative futures in academic futures research. Source: Kuhmonen et al. 2016.

1.2 Objectives

The key objective of WP2 is to <u>envision the role of women in the innovations demanded for sustainable farm and rural futures</u>. This is supported by three specific objectives:

- To envision sustainable farm and rural <u>futures</u> in nine European contexts
- To identify sustainability <u>innovations</u> necessary to realise these visions
- To identify possibilities to be promoted and obstacles to be removed to allow women's <u>contribution</u> to these sustainability innovations.

The overall aim of WP2 is to ascertain the ways in which women could contribute to the various kinds of innovations that promote sustainable farm and rural futures. The objective is very broad and needs to be specified in many ways. First, the potential contributions are studied in nine regional contexts

to observe the diversity socio-economic, cultural and bio-physical realities in Europe. Each potential innovation and contribution takes place in a certain context. Second, the sustainability innovations serve better, more sustainable futures. For this reason, the futures that they serve need to be specified first, observing the context. The portfolios of sustainable farm and rural futures and the innovations to make them come true are expectedly different in the Mediterranean and in Scandinavia. Putting these aspects together results in a research process that is analogous to a distillation process: starting with diverse ingredient and coming up with a solid product. Once the sustainable futures have been designed, it becomes possible to identify innovations that make them come true and, finally, to assess how women could contribute to these innovations. Each specific objective translates into a task in the research process (Figure 2).
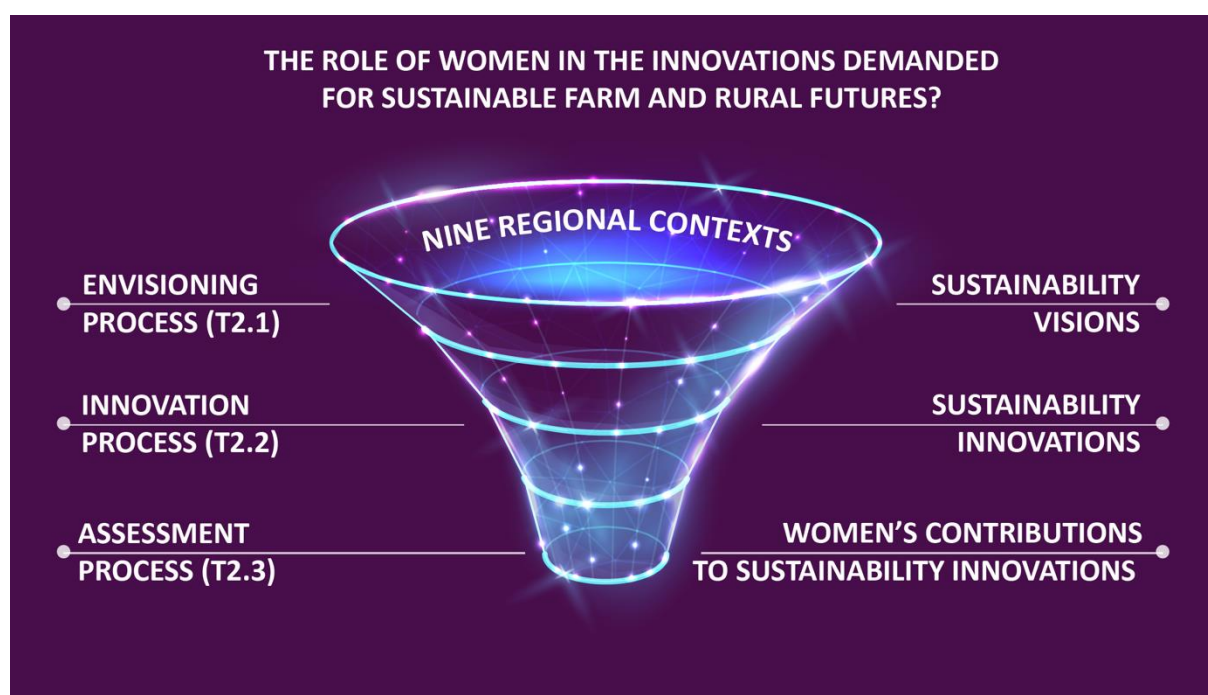

Figure 2. Specific objectives and tasks of WP2.

1.3 Tasks and deliverables

The three tasks are linked together both process-wise and content-wise. The work begins with the envisioning process (Task 1) that results in the visions of sustainable farm and rural futures in various contexts. These visions provide the painting that are coloured with innovations to make them live (Task 2). Once the portfolio of innovations is ready, it becomes possible to iterate ways in which women can contribute to them for women's contributions to them (Task 3). Work in WP2 takes place in the early part of FLIARA project, starting in M1 and ending in M18. The tasks, timelines, contributing partners and deliverables with due dates are provided in Table 1.

Table 1: Summary of WP2 tasks, timelines, participants and deliverables

Task	Timeline	Task leader	Partners participating	Deliverable and due date
2.1, 2.2, 2.3	M2	University of Turku (UTU)	UTU, NUIG, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU	D2.1: Research guidelines for WP2, M2 (February 2023).
2.1 Envisioning process	M1–6	University of Turku (UTU)	UTU, NUIG, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU	D2.2: Future Vision Manifestations, M6 (June 2023).
2.2 Innovation process	M7–12	University of Turku (UTU)	UTU, NUIG, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU	D2.3: Sustainability Innovations, M12 (December 2023).
2.3 Assessment process	M13–18	University of Turku (UTU)	UTU, NUIG, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU	D2.4: Women's Potential Contributions to Sustainability Innovations, M18 (June 2024).

1.4 Resources

Table 2 outlines the resources allocated to WP2 by partner in person months. In total, 64 person months are allocated to WP2 and they are expected to be consumed rather evenly for the three tasks. The indicative breakdown of the person months by task is an estimate.

Table 2: Person months in WP2 by partner and estimated breakdown by task

Partner	WP2: Total months	T2.1	T2.2	T2.3
UTU (WP2 lead)	**16**	**5**	**5**	**6**
Galway	6	2	2	2
TU Delft	6	2	2	2
UNICAL	6	2	2	2
UL	6	2	2	2
CE	6	2	2	2
HNEE	6	2	2	2
MENDELU	6	2	2	2
LNU	6	2	2	2

2. Methodological guidelines for WP2 tasks

In the section, the detailed methodological guidelines for the three tasks of WP2 are presented. As this guideline is a living document, there may be updates in the details as the work goes on.

2.1 Methodology for T2.1 – Envisioning process

University of Turku leads; Galway, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU

Timeline: M1–6 (January–June 2023)

Deliverable: D2.2 Future Vision Manifestations

Visions manifesting sustainable farm and rural futures in nine regional contexts across Europe representing the diversity of biophysical and socio-economic contexts.

Deliverable due date: M6 (June 2023)

Short task description: *Sustainability innovations serve sustainability visions. Manifestations of sustainable farms and rural areas are not similar across Europe due to differences in land use, economic structure, population density, accessibility, endowment of natural resources and socio-cultural institutions. Thus, it is necessary to create visions manifesting sustainability transitions related to 1) farms and 2) rural economies and communities in several rural contexts across Europe. For this purpose, nine contexts will be selected; these locate in Germany, Ireland and The Netherlands (Atlantic); Czech Republic and Slovenia (Central/Eastern); Finland and Sweden (Nordic/Baltic) as well as Italy and Spain (Mediterranean). The visions will be crafted by means of interactive foresight processes involving diversity of local stakeholders who are able to connect the local context with sustainable futures observing all four dimensions of sustainability (environmental, economic, social and cultural). The processes will be supported by the analysis of previous studies and projects (done in WP1 Context for Research and Innovation), existing sustainability-oriented visions, plans and policies (e.g. EU long-term vision for the rural areas, Green Deal) and trend cards developed in RURALIZATION H2020 project.*

Detailed task description: This tasks consists of the delimitation of the nine contexts, operationalisation of key concepts (vision, sustainability) as well as specification of the envisioning process. These will be elaborated next.

Delimitation of the nine contexts

The nine national contexts for the visions have been already defined in the proposal (Figure 3) and are largely based around clustering of EU countries in macro-regional groups is an approach taken in European networks (ENRD, 2021) and EC funded projects (e.g. LIAISON) as a geographic basis for cooperation and learning exchanges. Drawing on these approaches, WP2 will operate in four European regions (Figure 3) (Atlantic, Nordic Baltic, Mediterranean, Central and Eastern) which represent a variety of different EU locations. Using regional groupings of EU countries ensures a diverse yet balanced geography is represented. These national contexts bring in a large diversity of rural areas and farming types, from year-round green areas to half-year snow covered areas and from farm vineyard farms to reindeer husbandry.

Figure 3. Regional and national contexts for the sustainability visions.

Finding a feasible geographical scope for the visions is a challenge. While it is important to include not only different socio-economic and bio-physical contexts in general, it is also important to include different types of rural areas. Sustainability visions and innovations on urban-adjacent areas are expectedly different from community-oriented rural villages and remote rural areas dominated by farming. In all countries, these three types of rural areas[2] exist. Selection of a certain type of rural area comes with certain types of sustainability challenges and visions to resolve them. Further on, sustainability innovations serving the visions take place is varying scales and networks. Some business innovations may be farm specific whereas some social innovations may involve a large regional network of actors: advisory organisations, entrepreneurs, educational organisations, NGOs, LEADER groups etc. If the geographical scope for the visions is too small, there is a risk that certain types of

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[2] These three types of rural areas were successfully used in H2020 RURALIZATION project as destinations for the futures dreams of young people, see https://ruralization.eu/wp-content/uploads/2022/10/D4.3-Inventory-of-futures-dreams-by-the-youth-technical-report.pdf

innovations will be selected out at the outset. To observe all these aspects, the matrix presented in Table 3 will be used to define the geographical regions for which the visions will be designed. In this way, four types of different socio-economic and bio-physical contexts, nine national contexts and three types of rural contexts will be covered. For each type of rural context, the partner in charge may choose the appropriate geographical location observing also the possibility to involve stakeholders for the workshops, interviews and surveys. It could be feasible to use some administrative units (e.g. a municipality or group of municipalities, a small town within a larger region or a county) to be able to describe the region by means of simple statistics. The areas should be designated by 15th of March 2023. Examples of delimiting different types of areas are illustrated with a stylised map in Figure 4.

Regional context	National context	Rural context
Atlantic	Germany	Rural village
Atlantic	Ireland	Remote rural area
Atlantic	The Netherlands	Rural area close to city
Central/Eastern	Czech Republic	Rural village
Central/Eastern	Slovenia	Rural area close to city
Nordic/Baltic	Finland	Remote rural area
Nordic/Baltic	Sweden	Rural area close to city
Mediterranean	Italy	Rural village
Mediterranean	Spain	Remote rural area

Table 3. Matrix with three dimensions of rural contexts for the visions.

RURAL AREA CLOSE TO CITY
– Siilinjärvi municipality,
21,000 inhabitants, 53 inh./km2,
23 km to province capital town

REMOTE RURAL AREA
– Sonkajärvi municipality,
4,000 inhabitants, 2.5 inh./km2,
23 km to regional center town,
105 km to province capital town

Town (regional center)
21,000 inh.

Province capital town
117,000 inh.

RURAL VILLAGE
– municipality center
village in Suonenjoki,
5,000 inhabitants
(77% of the population)

Town (regional center)
20,000 inh.

Urban area
Rural area close to urban area
Rural heartland area
Sparsely populated rural area
Region: Province of Northern Savo
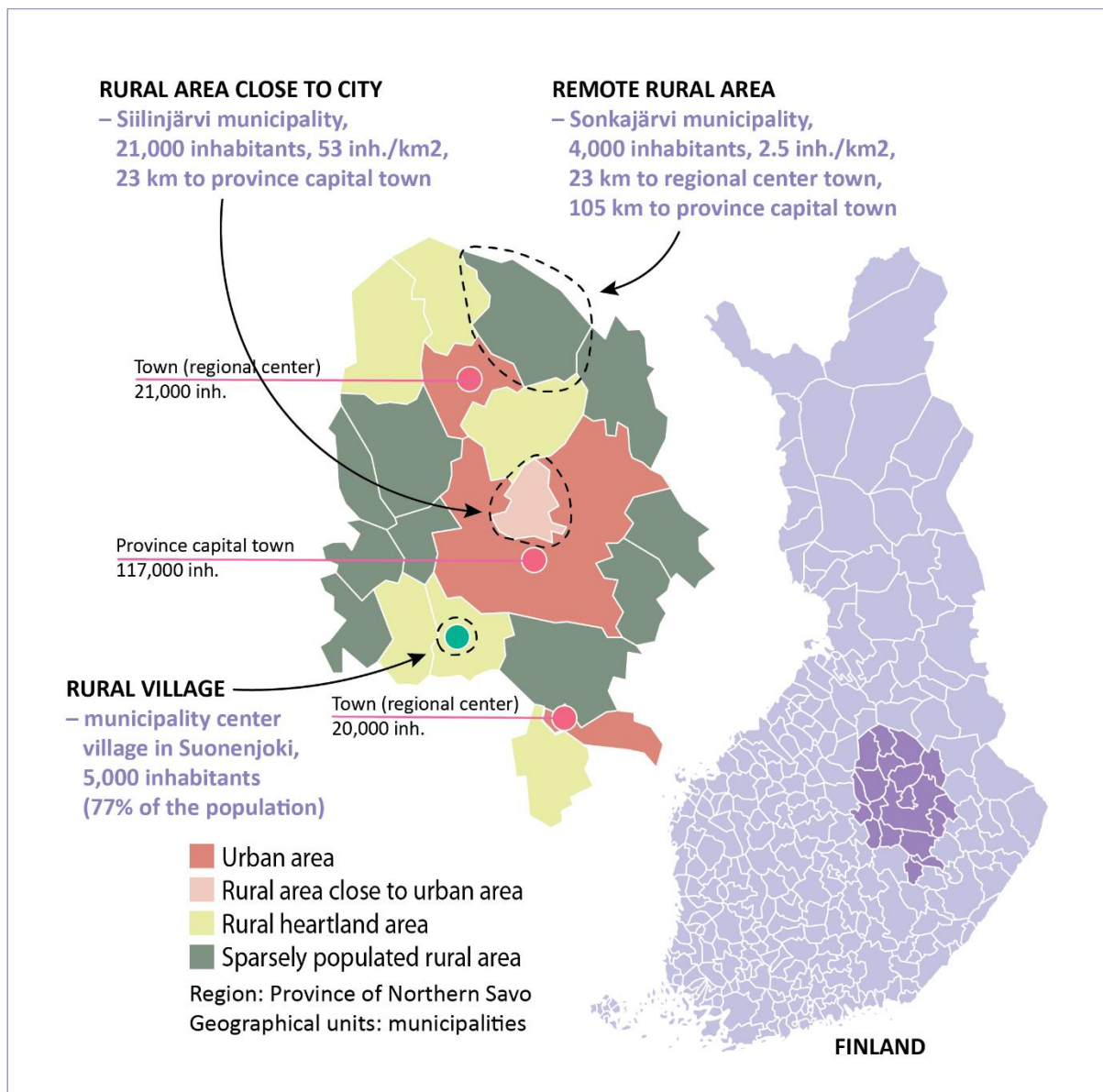Geographical units: municipalities

FINLAND

Figure 4. Examples of delimiting different types of areas.

Operationalisation of the sustainability vision

Vision is a normative manifestation of a specific future. In this case, we are looking for the sustainable farm and rural futures. These will partly overlap as farms are the backbone of vital rural areas in many regions. Sustainability is a tricky concept as it evolves over time and hosts several alternatives between 'sustainable' and 'non-sustainable'. After 10–20 years of advances in science, technology and knowledge, our understanding of the extremes of the continuum will differ from the present. Sustainability is a journey (Elkington 1997). Even well informed stakeholder may find it difficult to define manifestations of 'sustainable'. They might be well capable to identify prevailing shortcomings and possibilities for improvements in contemporary sustainability of affairs, however. For this reasons, it is empirically feasible to consider 'future sustainable' as 'more sustainable than in the present' and

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define the concept by means of addressing current sustainability problems. Each improvement that addresses contemporary sustainability issues is a step toward 'sustainable'.

Besides the sustainability issues itself, also timespan is important. If the sustainability transition (Loorbach et al. 2017) was considered to be a transformation of the existing food, energy, settlement, transportation etc. systems, it was a systemic change. If sustainability was considered to be just an incidental improvement in some practice and process, it was a stand-alone invention or innovation. The first one takes decades to happen, the second one may take place in months or years. As the general objective of FLIARA project is to find ways in women's involvement and contribution to (more) sustainable futures, the first approach is emphasised also in WP2: the approach of sustainability transition or even transformation (Hölscher et al. 2018). For this reason, the time span for the visions should be long enough, possibly 15–20 years rather than 5–10 years.

Besides considering sustainability as an improvement that addresses current sustainability problems or challenges and taking a long-term view (15–20 years), the visions also have to cover both important domains: farms and rural areas. In this regard, a vision in its very essence is a portrait of a specific future including the elements that this future is made of. While transition implies a 'change in the underlying structures' (Svensson & Nikoleris 2018, 472), these elements are different from today. In this case, these elements compose a picture of farms and rural areas that are more sustainable in 15-20 years than they are now.

Specification of the envisioning process

The envisioning process consist of organisation of the vision work, definition of the contemporary sustainability problems, planning of the futures that remove or address these problems and reporting of the results.

As soon as the geographical regions are defined in each country, the vision work can be organised involving stakeholders related to these regions. If the region is, for example, a rural village, the relevant stakeholders having capacities to plan for the future of the village may include local farmers and entrepreneurs, local policy makers, active citizens as well as representatives of various NGOs, development or advisory organisations, research and educational organisations and LEADER groups but also representatives of regional or national administration and policy making having intimate knowledge of the village. Diversity of stakeholders results in diversity of visions.

Target number of visions per region is 10. This may be achieved in several ways: by organising workshops and/or by making personal interviews (either option may be most preferred for specific stakeholders) – both can be physical or online events, depending on most promising possibilities to participate in each case. Workshop processes tend to reduce diversity, and for this reason it is recommended to have also personal interviews, some with women in order not to exclude a special female perspective on the sustainability issues. In a workshop, maybe two visions may be crafted per group whereas in a personal interview one is enough.

The envisioning session starts with a brief introduction to FLIARA project and purpose of the envisioning process; also consent needs to be approved by the informants before proceeding. Consent forms will be devised and distributed to partners prior to the work commencing. Organisational status (e.g. administration, finance, farming) and gender of each participant will be recorded so that we can

characterise the pool of involved stakeholders in reporting. FLIARA Vision Cards (Figure 5) will be provided for the participants for inspiration, including empty cards for new ideas; the cards will be sent to the participants before the session to help in accessing the futures field, emphasising that these are just for inspiration. Then, the participants of each group (or the interviewee) will identify and agree on <u>3–4 most important sustainability problems</u> related to farms and rural areas in the region, for example in the particular village. If the session was a personal interview, the person will be asked to craft a vision that removes most of these problems. The interview should be possible to conduct in one hour. If the session was a workshop for 2–3 hours, the participants will be allocated to groups to craft visions that removes some of the problems. Two consecutive sessions can be organised (i.e. two visions per group), starting with new problems to be addressed and proceeding to design of a new vision.
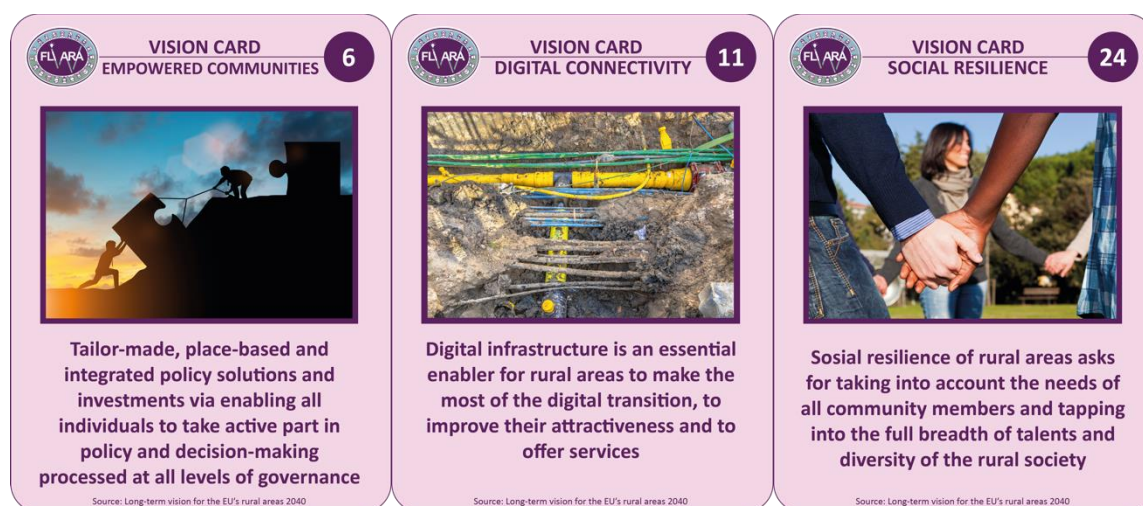

Figure 5. Examples of generic FLIARA Vision Cards.

<u>The visions will be created by grouping together elements of the vision that address the sustainability problems</u>. Each vision will be given a name. For example, if one of the sustainability problems was a large amount of waste, the vision could include manifestations of circular economy (named e.g. 'Circular village') – if one of the sustainability problems was monocultures in agriculture, the vision could include manifestations of diversification and alternative food systems (named e.g. 'Soil Nurturing'). It may be helpful to look at the sustainability problems per sustainability dimension besides 'mixed' or general sustainability problems; placeholders for these will be included in the templates (Table 4).

Region: Ruraliztan (remote rural area in Finland)			
Sustainability dimension	**Sustainability problem**	**Sustainability vision elements**	**Name of the vision**
Economic	Small farms are not profitable and have difficulties to survive – but they would be hotspots of biological diversity	• Network of numerous small 'diversity farms'	The revival of local and small
Economic	Economic vulnerability due to high dependence on external inputs with volatile prices	• Farms and farm groups that are self-sufficient in nutrients and energy	
Environmental	Eutrophication of the river crossing the village	• Additional subsidies for filter strips, organic farming, biogas ands recycled fertilizers	
Social	Group x of the local residents is in danger of marginalisation	• New involvement policies and practices adopted in the community	
Cultural	Local art is rich but not visible and not enriching the local community	• Weekly festivals promoting local food and local culture organised in PP partnerships	

Table 4. Illustration of the process running from identification of sustainability problems to sustainability vision elements (example).

More detailed instructions for running the envisioning process will be provided by UTU along with the templates. For the online interviews or workshops Google Jamboard templates will be provided by UTU, and for the physical interviews or workshops printed sheets to be filled will be provided by UTU. UTU will also provide the partners with generic FLIARA vision; these cards help in choosing elements for the visions. Finally, UTU will provide the partners with Excel template to report the results. All these materials will be provided in early March 2023, the interviews or workshops will be organised in March-April 2023 and the Excel files should be submitted to UTU before 5th of May 2023. The results will be analysed in May-June 2023 and reported at the end of June 2023 (D2.2). Figure 6 summarises the envisioning process.

Figure 6. Summary of the research process in T2.1.

2.2 Methodology for T2.2 – Innovation process

University of Turku leads; Galway, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU

Timeline: M7–12 (July–December 2023)

Deliverable: D2.3 Sustainability innovations

Sustainability innovations needed to realise the visions in each context, analysed using a the PESTE framework and detailed in terms of their contribution to sustainable farm and rural futures.

Deliverable due date: M12 (December 2023)

Short task description: *As soon as a set of context-sensitive visions has become crafted in Task 2.1, it becomes possible to identify innovations to realise these visions. These sustainability innovations are identified by means of causal maps. By putting the manifestations of the sustainable farm and rural futures to the core of the causal maps and by asking why they would be realised, it becomes possible to identify necessary innovations, institutional changes, policies and practices to make them come true. Co-creation of the causal maps with stakeholders will generate novel insights. As several causal maps will be crafted in each studied context, there will be a rich dataset to be investigated for feasible political, economic, social, technological and environmental innovations (PESTE). It is expected that realisation of the sustainability visions asks for a broad range of innovations since sustainability transition is a systemic change.*

Detailed task description: This task consist of a generation of innovations needed to realise the sustainability vision. Along with this logic, they are 'sustainability innovations'. A concept of sustainability has been operationalised in T2.1, but what remains to be operationalised for the purposes of this task is the concept of innovation. In addition, the innovation process needs to be specified.

<u>Operationalisation of the innovations (needed to realise the visions)</u>

The concept of innovation is multifaceted. Schumpeter (1934, 66) illustrated new sources of raw materials, new markets, new goods (products or services), new organisations and new methods of production as main types of innovations. Many variants of these have been manufactured, e.g. product, process, marketing and organisational innovations (OECD & Eurostat 2005). Further on, innovations may be radical or incremental (Van de Ven et al., 1999). A very strict and limiting operationalisation of an innovation is a patent (Roper & Hewiitt-Dundas, 2015). In general, innovations are manifestations of novelty and different types of entrepreneurs (business entrepreneurs, corporate entrepreneurs, institutional entrepreneurs) are key actors in bringing forward this novelty (Acs & Audretsch 1990; Drucker 1985; Garud et al., 2007; Leca & Naccache 2006; Phan et al., 2009; Sharma & Chrisman 1999). A straightforward way to classify innovations is to make a distinction between political, economic, social, technological and environmental innovations – sometimes added with legal and/or cultural innovations – resulting in PESTE/L/C framework.

Purpose of T2.2 is to <u>identify the portfolio of potential innovations that bridge the present and the vision</u>. This resembles a backcasting process (Figure 1). To achieve this goal in a co-creative setting with relevant stakeholders it is wise not to start with the jargon of innovation vocabulary. Innovations bridging the present and the vision may be whatsoever type: radical, incremental, services,

organisations etc. – depending on the context or starting point and content of the vision. Definition which are too limited will leave out important elements. Open approaches regarding the type of innovations is a feasible approach, but teasing out necessary innovations may be supported and inspired by using the PESTE framework as a benchmark or guideline. Depending on the vision, <u>all or some PESTE domains will be filled with various types of innovations, which are different types of novelties in the specific context</u>.

<u>Specification of the innovation process</u>

The innovation process consists of organisation of innovation specification process and reporting of the results.

In this task 2.2, the work is related to the same 9 regions as in T2.1. The innovations will be specified with <u>stakeholders</u> who know the context and have capacity to generate processes, practices, technologies, products, services or other novel things that fill in the gap between the vision and the present state of affairs in the region. Stakeholders may live in the region or have an intimate relationship with the region which contributes to their understanding of what is possible and necessary. Diverse backgrounds results in diverse pool of innovations: farmers, entrepreneurs, civil servants, local and regional policy makers, people working in development projects, researchers, NGO activists, bankers and many others may contribute.

In T2.1, 10 visions (target number) have been designed for each region. Each of these should now become connected to the present with innovations to make them come true. This may be achieved in several ways: by organising <u>workshops</u> and/or by making personal <u>interviews</u> (either option may be most preferred for specific stakeholders) – both can be physical or online events, depending on most promising possibilities to participate in each case. Workshop processes tend to reduce diversity, and for this reason, it is recommended to have also personal interviews, some with women in order not to exclude a special female perspective on innovations. In a workshop, two visions may be processed per group whereas in a personal interview one is enough. In order to have a rich diversity of innovations, two different sets of causal maps per vision should be achieved by means of workshops or interviews, i.e. <u>20 sets of causal maps per region</u>.

The innovation session starts with a brief introduction to the FLIARA project and purpose of the innovation process; also consent needs to be approved by the informants before proceeding (again a common consent forms will be devised and distributed). Organisational status (e.g. administration, finance, farming) and gender of each participant will be recorded so that we can characterise the pool of involved stakeholders in reporting. Generic FLIARA Innovation Cards (Figure 7) will be provided for the participants for inspiration, including empty cards for new ideas; the cards will be sent to the participants before the session to help in accessing the futures field, emphasising that these are just for inspiration. The concept of innovation in this exercise is explained with some examples to provide the informants with an idea what to propose.

Figure 7. Examples of generic FLIARA Innovation Cards.

Then, the participants of each group (or the interviewee) will be given a predefined vision to be elaborated in a causal map – observing that in the end all visions will be processed in two sessions. For the general overview and illustration of the underlined causal map method, see e.g. Goodier et al. 2010, Montibeller & Belton 2006, Narayanan & Armstrong 2005 and Scavarda et al. 2006. The vision with its name and elements is introduced first.

First, a longer list of potential innovations – maybe 5-15 – is created that contribute to the realisation of the vision. After this initial screening, 3–4 key innovations (processes, practices, technologies, products, services or other novel things in this context) will be selected for further analysis by means of voting, compromise or judgement.

Second, the selected 3–4 key innovations will be placed on the inner circle of the causal map next to the vision title. After in 'inner circle' has been filled with these items, each of them is processed one by one by asking consecutive why-questions. If, for example, the vision was 'the revival of local and small' with its elements, the informants might have come up with, for example, local bioenergy co-operative (converting local raw materials into biogas, biofertilizer, biodiesel and electricity), novel green belt initiative (making up a coherent corridor with agroecological farms, protected areas, cultural heritage sites and ecotourism facilities) and consortium of local NGOs to attract support and to organise monthly craft food and art festivals (featuring local artist performances, food wagons, pop of restaurants, sales art & craft exhibitions and pop up camping sites). Each of these innovations are taken for further processing one by one. Regarding the first one (local bioenergy co-operative), the question 'why does such exist' could result in responses as, for example, 'lots of suitable raw materials without profitable use', 'high fuel prices', 'strong local tradition of co-operation', and 'knowledge and promotion provided by local advisory organisation'. Next, each of these is taken for processing by asking why-questions: 'why are there lots of raw materials without profitable use', 'why the fuel prices are high', 'why there is a strong local tradition of co-operation' and 'why does the local advisory organisation provide knowledge and promotion' – and so on.

Some causal chains may end soon without a long chain, whereas some causal chains may be very long (see Figure 8). If there is time left, additional 'inner circle' innovations may be added in the end, with

their respective causal chains. The experience with crafting causal maps hints that maximum 4–5 innovations with their causal chains is a possible and feasible output in this type of an exercise. As there is a limitation of both time and space in the creation process, it makes sense to use some time in the beginning to tease out the 'key innovations' (a compromise in a workshop, a personal judgement in a personal interview).

The maps reproduce a causal texture for the innovation systems underlying each vision. They also provide insights not only to the innovations as such (inner part of the causal map) but also to the 'root causes' underlying them (at the outskirts of the causal map) that afford or constrain the emergence or adoption of the innovations. The innovations can be analysed in many ways (incremental vs. radical; process, product, marketing, organisational etc.).
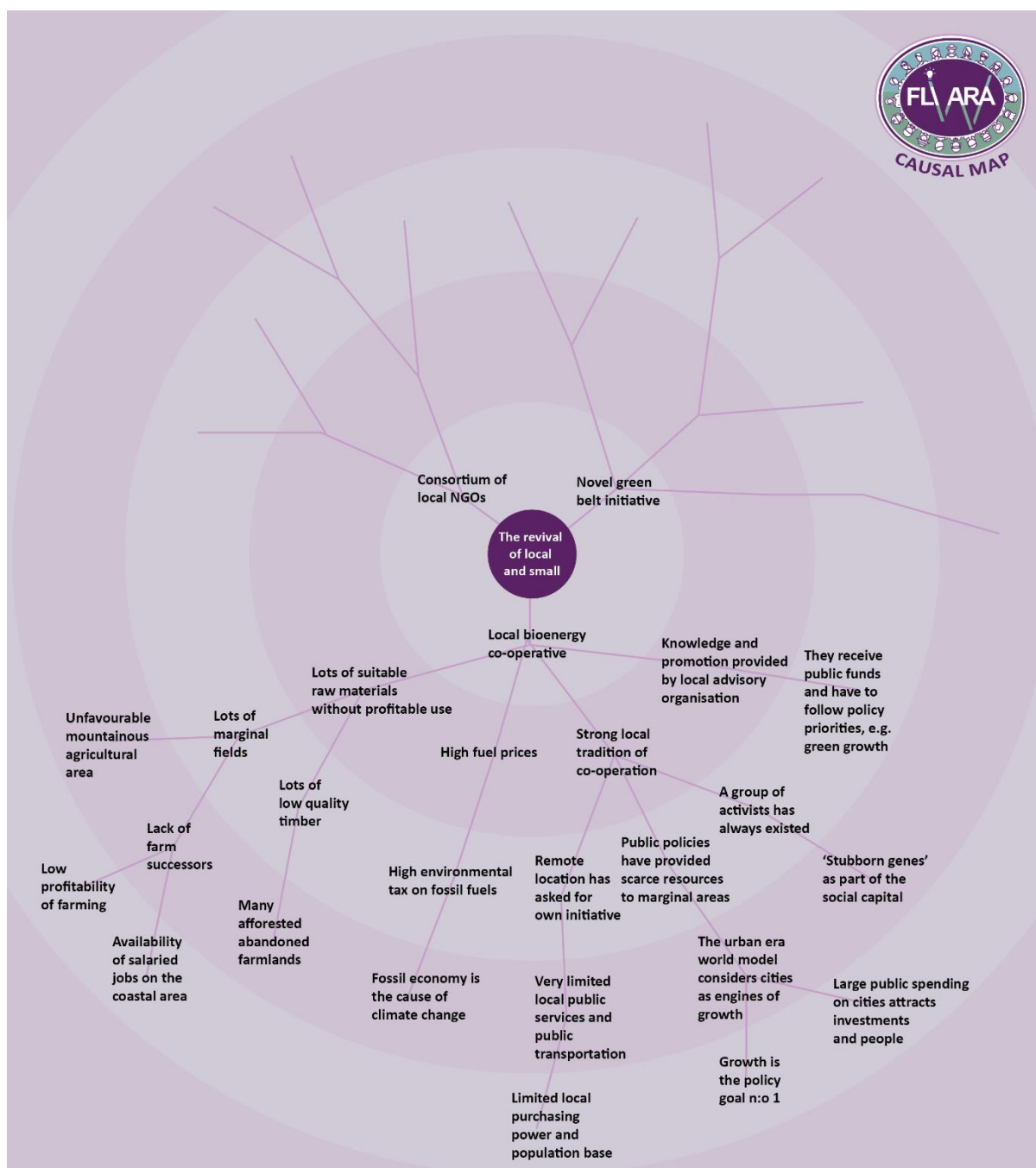
Figure 8. Hypothetical example of a causal map produced by means of consecutive why-questions.

The interview should be possible to conduct in one hours. If the session was a workshop for 2–3 hours, the participants will be allocated to groups to craft innovations that realise the visions. Two consecutive sessions can be organised (i.e. two visions per group), starting with new problems to be addressed and proceeding to design of a new vision.

More detailed instructions for running the innovation process will be provided by UTU along with the templates. For the online interviews or workshops Google Jamboard templates will be provided by

UTU, and for the physical interviews or workshops printed sheets to be filled will be provided by UTU. UTU will also provide the partners with FLIARA innovation cards; these cards help in elaborating the innovations. Finally, UTU will provide the partners with Excel template to report the results, together with pictures of the causal maps. All these materials will be provided in July 2023, the interviews or workshops will be organised in July-September 2023 (giving space for the summer breaks) and the Excel files should be submitted to UTU before 5th of October 2023. The results will be analysed in October-December 2023 and reported at the end of December 2023 (D2.3). Figure 9 summarises the envisioning process.

Practice meetings will be held with FLIARA partners implementing the process prior to this work taking place to ensure all partners are comfortable with the process and fully understand the correct methodology.
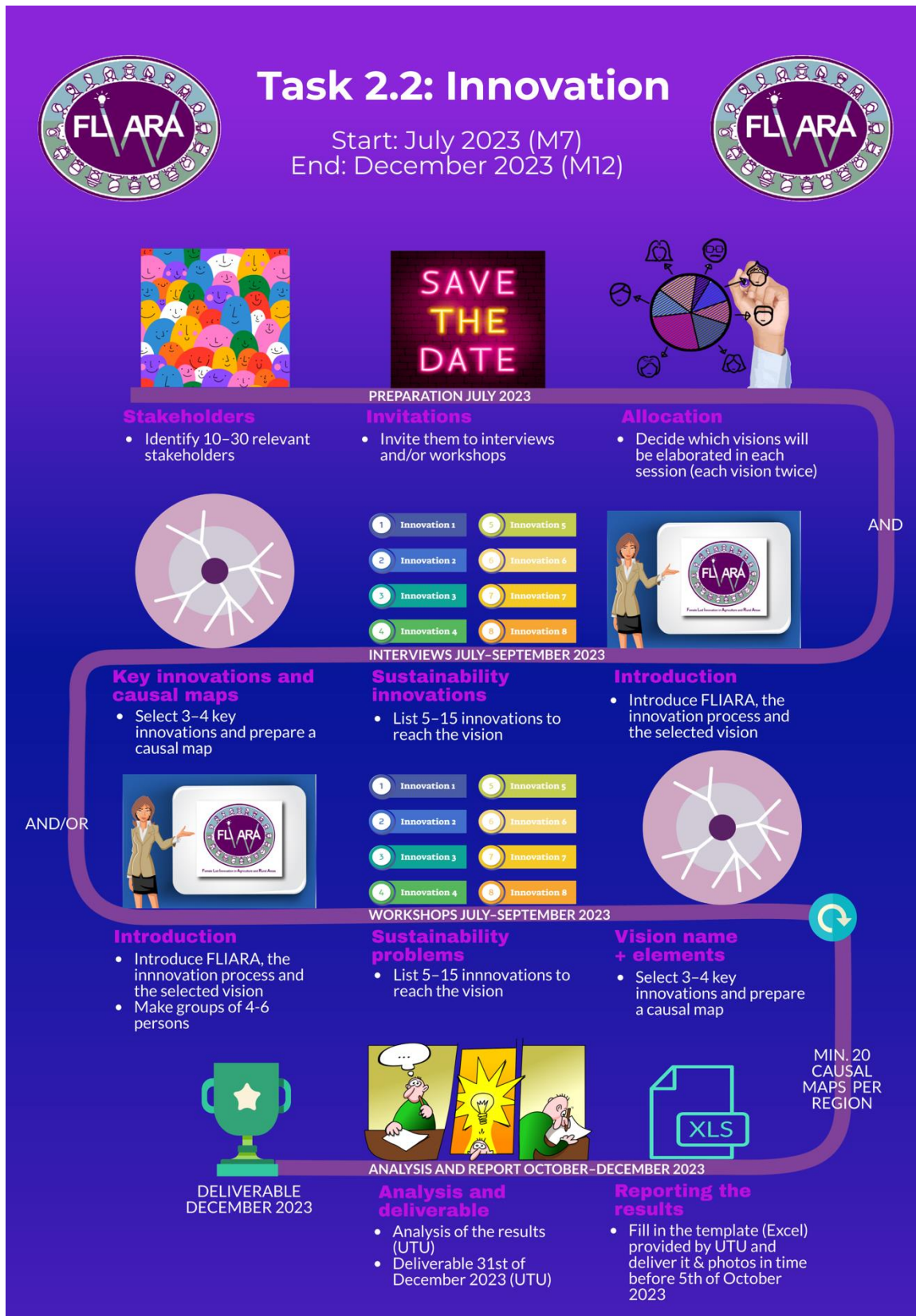
Figure 9. Summary of the research process in T2.2.

2.3 Methodology for T2.3 – Assessment process

University of Turku leads; Galway, TU Delft, UNICAL, UL, CE, HNEE, MENDELU, LNU

Timeline: M13–18 (January–June 2024)

Deliverable: D2.3 Women's potential contributions to sustainability innovations

Specification of women's contribution to the sustainability innovations in each context. The assessment will detail various context-sensitive policies and practices which promote the women's contribution to sustainable futures through innovative activities or remove obstacles from it; these will also feed WP6 (Policy Design and Assessment). The results will be reported in a Summary report in which they are contrasted with the visions and the sustainability innovations.

Deliverable due date: M18 (June 2024)

Short task description: *Rich set of prototypic sustainability innovations defined in Task 2.2 provides several options for women's contribution. Interactive assessment process will be organised to ascertain how women can contribute to sustainable futures on farms and the broader rural economies and communities. By studying the sustainability innovations needed to promote sustainability transition in each of the studied context across Europe from gender perspective, it becomes possible to identify ways through which women can contribute to specific types of sustainability innovations. It is expected that both the innovations and the ways women can contribute will vary a lot across the regional contexts. Assessment of women's contributions will be carried out by means of surveys and workshops in order to reach a rich understanding of the possibilities to be promoted and obstacles to be removed.*

Detailed task description: This task consist of assessment of women's potential contribution to the sustainability innovations specified in T2.2. There will be – existing, possibly not identified or promoted – possibilities for women to contribute and obstacles that prevent them from contributing to the specified innovations. The assessment will be based on triangulation strategy in which the role of women will be analysed with several methods and by several informants (Denzin 1989, Jick 1979).

First, a rather extensive assessment workshop for 2–3 hours will be organised in each region; target number of participants is 15-30 but the actual amount may, of course, fall below or exceed these limits for many reasons (activity level in the region, cancellation of intended participation, physical distance etc.). Objective of these workshops is to identify possibilities and obstacles for women's contribution to the key sustainability innovations analysed in T2.2. Relevant stakeholders to be invited for the workshop should have some capacity to evaluate both innovations and gender aspects as well as represent diverse actor groups (farmers, entrepreneurs, local, regional or national policy makers, researchers, advisors, representatives of development projects and organisations etc.). As there will be about 20 causal maps for each region and each of them contains 3–4 key innovations, there will be a list of key 60–80 innovations for each region (some overlap exists and in the analysis phase some innovations can be combined, so probably the list will include 30–40 innovations). This list will be a starting point for the workshop, physical or online.

The assessment session starts with a brief introduction to FLIARA project and purpose of the workshop (identification of possibilities of women to contribute to the predefined key innovations); also, consent forms will be provided and consent need to be approved by the informants before proceeding.

Organisational status (e.g. administration, finance, farming) and gender of each participant will be recorded so that we can characterise the pool of involved stakeholders in reporting. The participants are provided with a list of the sustainability innovations that contribute to the sustainability visions in the regions. They first familiarise themselves with these and assess each of them individually using a Likert-type scale: −2 extensive obstacles for women to contribute, −1 some obstacles for women to contribute, 0 difficult to say or no gender specific aspects, +1 some possibilities for women to contribute, +2 extensive possibilities for women to contribute. After this assessment, the results will be quickly collected into a simple excel file and average value for each innovation will be counted (time for a coffee break!).

Participants of the allocated to groups of 4–6 persons and each group will be given two innovations to be assessed starting from the lowest and highest average values, i.e. each group will have one innovation in which there are extensive obstacles for women to contribute and one innovation in which there are extensive possibilities for women to contribute. If there are, for example, 15 participants and 3 groups in the workshop, three lowest and three highest-ranking innovations will be analysed. If there will be 25 participants and 5 groups, 5+5 innovations will be analysed. The workshop will fill in a simple table by listing factors that make each specific innovation possible or difficult for women's contribution (why is there an obstacle or a possibility) and how the possibility could be realised or the obstacle removed by means of some practice or policy. Having 9 regions, this exercise might result in the analysis of 30–40 promising innovations and 30–40 innovations with extensive obstacles plus a ranking of +/−300 innovations in terms of the possibility of women's contribution.

UTU will provide the synthesised list of the innovations for each region (a similar grouping and level of abstraction will be secured); each innovation will be briefly described in the list. After translating the list into local language, a simple print of the list can be provided for the participant for the rating exercise (−2, −1, 0, +1, +2). UTU will provide an Excel template in which the individual rating results will be stored (to observe the diversity of ratings) and which can be used for calculating the average values. UTU will also provide a printed and online version of the sheets in which the affording and constraining factors as well as the practices and policies will be filled in. The excel template will include also a sheet to document these results and report them to UTU for the analysis. The workshops should be organised in January–February 2024 and reported to UTU before 5th of March 2024.

Second, an online survey targeted to policy relevant actors will be organised to provide more insights on the policies and practices that were identified in the workshop. Target number of respondents is 20-50 to have a diversity of views and experiences, also depending on the size of the region (observe that response rate may be low) – the more, the better. Nonetheless, as representative sample of the base population is neither feasible nor possible, rich insights and arguments are sought for in the survey. There are several options for user-friendly software to make the survey, which can be discussed amongst partners prior to a decision being made. As the portfolio of policies and practices will be quite wide, the potential respondents could represent a wide array of policy actors: mayors and local policy makers, people working with the CAP in various levels, LEADER groups, policy relevant NGOs, bankers, opinion leaders and change makers etc. observing that gender sensitive practices are not changed by policy measures only but also by means of public dialogues, publicity campaigns and provision of information. A list of promises and practices identified in the workshop will be presented in the survey with three questions for each: how 'possible' a wide implementation and/or adoption of

the policy or practice will be in the specific region within the next few years (1 = very difficult … 5 = very easy), how effective the policy or practice would be in promoting women's contribution to the innovation in question (1 = not at all effective … 5 = very effective) and by which steps the implementation, adoption and impact could be realised (open question). A brief introduction to the FLIARA project and purpose of the assessment process will be explained in the beginning of the survey; also, consent needs to be approved by the informants before proceeding. Organisational status (e.g. administration, finance, farming) and gender of each participant will be recorded so that we can characterise the pool of involved stakeholders in reporting.

More detailed instructions for running the assessment process will be provided by UTU along with the templates. UTU will provide the questions for the survey for each region (based on the harmonised analysis of the workshop output) and an Excel template for reporting the results. The survey should be organised in April 2024 and reported to UTU before 5th of May 2024. Summary of the research process is T2.3 is illustrated in Figure 10.

Figure 10. Summary of the research process in T2.3.

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In this way, it has become possible to implement a research process that starts with the sustainability challenges in each of the nine regions, runs through the sustainability innovations needed to make the visions come true and ends up with assessment of the possibilities of women's contribution to these innovations as well as policies and practices making this contribution more possible than it is today. Summary of the tasks and schedules for the partners is illustrated by the Figure 11.

Figure 11. Summary of the tasks and schedules in WP2.

3. Guidelines for data management in WP2

3.1 Data management plan for WP2

The activities of WP2 include acquisition and analysis of three main types of data: workshop data, interview data and survey data. These do not contain any personal information about the informants as only organisational status (e.g. farmer, entrepreneur, NGO, administration) and gender will be recorded as a background information. The data as such is completely anonymous and cannot be traced back to any person. This data is published open access in the research reports. Data management in brief is explained in Table 5.

Table 5: Summary data management in WP2

Task	Activity	Type of data	Purpose of data	Format of data	Expected size of data	Accessibility of data	Availability of data
2.1	Visions	Workshop and interview data	Identify sustainability visions for 9 regions	Excel file	90 visions	Open access	Published in annexes of the report (D2.2)
2.2	Innovations	Workshop and interview data	Identify sustainability innovations for 9 regions	Excel file	540–720 innovations	Open access	Published in annexes of the report (D2.3)
2.3	Assessments	Workshop and survey data	Assess the potential for women's contribution to sustainability innovations	Excel file	60–80 assessments	Open access	Published in annexes of the report (D2.4)

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