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Deliverable 4.1.

Regional reports on the future potential role of small farms and small food businesses in food and nutrition security

WP4 – Participatory foresight analysis

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List of Acronyms

BAU	Business as usual
CC	Climate Change
CSA	Community-Supported Agriculture
FNS	Food and Nutrition Security
NGO	Non-Governmental Organisations
RR	Reference Region
SALSA	Small Farms, Small Food Businesses and Sustainable Food Security
SF	Small Farms
SFB	Small Food Businesses
SSPs	Shared Socioeconomic Pathways
WP	Work Package

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Executive summary

The present document is the first deliverable from SALSA's Work Package 4 which includes, after an introductory section that explains the methodological approach and the workshops' preparatory process, a compilation of 11 reports from each region where the foresight analysis was undertaken. Each regional report contains the main outcomes from these foresight activities on the future potential role of small farms and small food businesses in food and nutrition security.

The objectives of WP4 (Participatory foresight analysis) are: (i) to produce a foresight assessment (2030, 2050) in selected reference regions of what the significance and potential role of small farms might be in terms of future regional food production and supply, and the linkages to food consumption, (ii) to identify the preconditions for an increased role of small farms and small food businesses in regional FNS and (iii) to analyse the potential role of the resilience of small farms and small food businesses in different types of regions in Europe and Africa, and in the face of shocks and foreseen climate changes.

For this purpose, regional foresight workshops were organised in 11 countries, covering a wide diversity of geographical and structural settings. These workshops consisted on scenario-based participatory planning that combined: the development of regional adapted scenario narratives from a common scenario framework, the identification of concrete objectives from visioning exercises and the creation of action plans to achieve those objectives.

Previously to the workshops, and in order to identify the main drivers of change for the future of SF and SFB to be used to shape the common scenario framework, 107 regional experts from 22 RR (20 in Europe, 2 in Africa) were interviewed. Once categorised, these drivers were: (1) degree of access to managerial and technical innovations (research outcomes, knowledge stock) (25% of experts' answers revolved around this topic); (2) concentration in the food chain (16%); (3) social values and cohesion (solidarity, awareness about small producers, willingness to cooperate, collective action) (14%); (4).public budget and expenditure (13%); (5) consumers' values and habits (health, environmental) (11%); (6) public regulations (10%); (7) access to environmental/natural assets (5%); (8) demography (rural/urban) (5%); (9) international trade openness (4%), and (10) poverty levels (2%).

These drivers were used to shape four alternative future scenarios ('BAU', 'mirror', 'enabling' and 'disrupting') which gave rise to the development of 39 regional adapted scenario narratives. These narratives were used to assess the feasibility of the action plans that the stakeholders participating in the workshops developed to achieve a number of objectives regarding the future of or SF and SFB. In total, 32 Action Plans were developed to achieve 53 objectives identified at regional level. Moreover, scenarios allowed for the identification of the main threats for SF and SFB and a discussions about to what extent they are equipped to deal with them.

In total numbers, the regional foresight workshops held as part of this WP involved a total of 184 participants, with women representing 43%. These workshops were facilitated by a total of 58 researchers linked to SALSA, of which 34 were women. In other words, more than 240 persons have been directly involved in these science-policy-society foresight activities.

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In the next stages of the project, the regional reports included in this Deliverable 4.1 will be the object of a comparative analysis to produce a synthesis report (Deliverable 4.2). Moreover, the participatory foresight processes that have taken place regionally will be jointly assessed to evaluate the achievements and shortcomings of this stakeholder interaction. This assessment will be included in the Deliverable 4.3.

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1. Overview of WP4: Objectives, structure and rationale

1.1. Objectives

This Work Package responds to one of the global objectives of SALSA, in particular: to assess the capacity of small farms and small food businesses to contribute to FNS under alternative future scenarios for 2030/50, and to identify the main determinants of the capacity to respond.

For this purpose, and according to the Description of Activities (DoA), the specific objectives of WP4 are:

- To produce a foresight assessment (2030, 2050) in selected reference regions, and to assess what the significance of small farms might be in terms of future food production and supply, and the linkages to food consumption, as well as the preconditions for an increased role of small farms and small food businesses in FNS.
- To assess the potential role that small farms and small food businesses can play in the future (2030, 2050) in FNS. We pay attention to growth in rural population densities in some countries, taking infrastructures and supply chains into consideration.
- To assess the potential role of the resilience of small farms and small food businesses in different types of regions in Europe and Africa, and in the face of shocks and foreseen climate changes.

1.2. WP4 structure

This foresight assessment is built upon SALSA's Conceptual Framework (WP1, D1.1) and Analytical Framework (D1.2) and further elaborates the information produced in WP3. Data integration was mainly based on participatory methods of scenario discussion adapted to the particular needs of this WP. Due to the significant resource demand of participatory processes, we selected a subset of 11 regions representing the different types of food systems. In this selection, particular attention was paid to geographical differentiation and the identification of different types of regional food situations with their particular potentialities (*see section 4.2. Selection of regions*).

Possible shocks and expected climate change impacts were derived from existing scenario studies and publications (*see section 3. Foresight analyses in agriculture, food and rural transformations*).

SALSA's Work Package 4 is structured in four tasks, namely:

Task 4.1 Scenario preparation

Task 4.2 Selection of regions and participants

Task 4.3. Foresight analysis

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Task 4.4 Comparative analysis and synthesis

The present document constitutes the first deliverable from this work package:

D.4.1 – Report from each region where the foresight analysis is undertaken, on the future potential role of small farms and small food businesses in FNS (reports based on a common reporting template).

It comprises the results from Tasks 4.1, 4.2 and 4.3, and provides evidence that the three planned milestones for this work package have been achieved:

M 4.1 Selection and adaptation of scenarios
M 4.2 Selection of regions for foresight
M 4.3 Foresight completed

1.3. Rationale of the participatory approach

WP4 has been based in a strong interaction with stakeholders. In this sense, the design and development of WP4 has followed the criteria for an adequate stakeholder engagement in this foresight activity. Indeed, following Talley et al. (2016)[1], WP4 (1) set clear objectives from its beginning, (2) systematically represented stakeholders to be engaged, (3) used relevant and fit-for-purpose methodologies, (4) created opportunities for co-ownership of its outcomes and (5) make a final reflection on the whole process and its outcomes.

Slunge et al. (2017, section 5)[2] differentiate stakeholder interactions taking place at two phases of research (when defining research problems and questions, and when conducting research). Interestingly, though, the rationale of stakeholder participation in these SALSA foresight activities is actually a hybrid of these two modalities. On the one hand, it is an interaction being carried out as a part of the research project implementation, aimed to create spaces of co-creation and exchange of information (not only between stakeholders and researchers but also between stakeholders). But also, on the other hand, one of the outcomes of this interaction is precisely to identify new knowledge gaps and future research needs. A much deeper analysis and assessment of these participatory foresight process will be carried out in Deliverable 4.3.

Beyond the aforementioned research outcomes, this is also an action-oriented activity. It aims to allow participants to discuss and shape what actions (legal changes, entrepreneurial strategies, policy support…) would be necessary to reinforce SF and SFB, as well as their

[1] Talley, J. L., Schneider, J., & Lindquist, E. (2016). A simplified approach to stakeholder engagement in natural resource management: the Five-Feature Framework. Ecology and Society. 21(4):38.
[2] Slunge D., Drakenberg O., Ekbom A., Göthberg M., Knaggård Å. and Sahlin U. (2017) *Stakeholder Interaction in Research Processes – a Guide for Researchers and Research Groups*. University of Gothenburg, Gothenburg.

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contribution to FNS. In this regard, Bourgeois (2014)[3] distinguishes two types of impacts of foresight:

- A 'soft' impact or 'influence'. This covers raising awareness and fostering debates beyond "doers" of the foresight work, and linking stakeholders who would not have interacted together without the foresight work.
- A 'hard' impact' or 'change', which includes the transformation of the policies/priorities/ orientations or in the organizational/functional dimension of the organizations which initiated or participated in the study that would not have happened otherwise.

Bourgeois also argues that foresight initiated by researchers (as it is the case for SALSA) aims to "generate knowledge". However, when carried out in an inclusive participatory manner (including the relevant public and private stakeholders) it has also potential to respond to what Bourgeois refer as the challenge "to link more effectively the results a foresight investigation/research with its use by stakeholders for decision, both in terms of tools and methods (linking visions to actions) and in terms of processes (including decision makers in the foresight research). This corresponds to a necessary move towards more inclusive or integrative foresight as issues of the futures of food and agriculture are multi-stakeholder concerns". (2014: 13).

2. Foresight analysis: definition and aims

The European Commission defines the concept of foresight as: "*a process which combines three fundamental elements: prospective (long-term or forward-looking) approaches, planning (including policy-making and priority-setting) approaches, and participative approaches (engaging stakeholders and knowledge sources)*" [4].

It is important in this regard to distinguish between forecasting and foresight. The former aims to predict the future on the basis of extrapolations from past trends and the knowledge gained from them. In contrast, foresight (which this WP is about) adopts a wider focus, integrating the main future uncertainties. As stated in McEldowney (2017)[5] "*foresight studies involve identifying alternative images of the future and choices of action based on those images. It is not about predicting the future, rather it is about exploring a range of possible futures supported with analysis of scientific and technological trends*".

[3] Bourgeois R (2014) The state of foresight in food and agriculture. Challenges for impact and participation. Document de travail ART-Dev 2014-01.
[4] Popper, R. (2009) Mapping Foresight: Revealing how Europe and other world regions navigate into the future, EFMN, Luxembourg. http://ec.europa.eu/research/social-sciences/pdf/efmn-mapping-foresight_en.pdf. Quoted in Bourgeois (2012).
[5] McEldowney J (2017) Foresight – Contribution to the debate on the future of EU agricultural policy. EPRS. European Parliament Research Service September 2017.

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There are a number of concepts that are commonly used in foresight and are adopted in this WP. The following definitions are mostly extracted from Forward Thinking Platform (2014)[6].

- **Backcasting**: The process of working backwards from the definition of a possible future, in order to determine what needs to happen to make this future unfold and connect to the present. Backcasting identifies what actions must be taken to get there in terms of policies, programs and international agreements, trade, behavioural changes, technologies and practices, capacity development, etc.

- **Baseline**: A set of reference data used as a basis for comparison. Baseline data refer to characteristics of current conditions as a basis for comparison with future observed conditions, or characteristics of future conditions projected under a reference scenario as a basis for comparison with future conditions under alternative scenarios.

- **Drivers or driving forces**: Factors causing change, affecting or shaping the future.

- **Narrative, Storyline**: A coherent description of a scenario (or a family of scenarios), highlighting its main characteristics and dynamics, the relationships between key driving forces and their related outcomes.

- **Pathway**: A trajectory in time, reflecting a particular sequence of actions and consequences against a background of autonomous developments, leading to a specific future situation.

- **Scenario**: A description of how the future may unfold according to an explicit, coherent and internally consistent set of assumptions about key relationships and driving forces. A scenario consists of two key elements. (1) A description of the end-state, i.e. what does the world look like at the end of the time horizon for which the scenario has been developed (e.g. the world in 2030, 2050, etc.). (2) A storyline (causal logic) explaining how this future came about, describing a sequence of events in a timeline. The selection of a name for the scenario helps with differentiation, communication and memorability. A scenario can be illustrated through images and model based quantification. It can be presented in different formats – narrative, animation, systems maps and story maps.

- **Strategic planning**: Preparing for, or achieving, some future state. Strategic planning is a normative method taking the objectives and aims of the eventual activities as ends for which the most effective means are sought. It is still commonly used as a top-down approach in corporate foresight and tend to focus on shorter-term, more predictable topics.

- **Vision, Visioning**: A compelling image of a (usually preferred) future. Visioning is the process of creating a series of images or visions of the future. The term vision tends to be used to refer to a single and preferred future. Image is more associated with alternative futures. Bringing together the viewpoints of the various actors through the

[6] Forward Thinking Platform (2014) A Glossary of Terms commonly used in Futures Studies. Accessible at http://www.fao.org/docs/eims/upload/315951/glossary%20of%20terms.pdf.

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elaboration of shared visions could be the most important intangible output of a Futures Study. Developing these visions jointly can contribute to a shared sense of commitment and to motivate and guide people toward focusing their efforts on achieving certain goals.

3. Foresight analyses in agriculture, food and rural transformations

Several foresight analyses have been conducted in the last years in the fields of agriculture, agricultural technologies, food and nutrition security or the dynamics of rural areas. These studies address different scales: global, continental (e.g. European, African) or subcontinental, national and regional. Some compilations of foresight analyses in these fields can be found in Jansson and Terluin (2009)[7], Foresight. The Future of Food and Farming (2011)[8], van Dijk and Meijerink (2014)[9], or McEldowney (2017).

At the global level, climate change analysis has also been also a fertile ground for scenario developments. The most relevant is the scenario framework of Shared Socioeconomic Pathways (SSPs) (O'Neill et al., 2014)[10]. Interestingly these "*SSPs are intended to describe worlds in which societal trends result in making mitigation of, or adaptation to, climate change harder or easier, without explicitly considering climate change itself*" (O'Neill et al., 2017: 170)[11]. In this way, SSPs are constructed from a set of drivers such as demographic, economic, technological, social, governance and environmental factors. Another global example are the scenarios developed for the Millennium Ecosystem Assessment[12].

Scenario development has been also part of EU funded research projects in the last years (e.g. VOLANTE, TRANSMANGO), which have been considered in order to carry out this WP (see next section).

[7] Jansson KM, Terluin IJ (2009) *Alternative futures of rural areas in the EU*. Report 2009-057 August 2009 Project code 20807. LEI Wageningen UR, The Hague. Available at http://groupedebruges.eu/sites/default/files/publications/downloads/alt-futures_rural_areas_lei.pdf. Accessed March 2019.

[8] Foresight. The Future of Food and Farming (2011) *Final Project Report*. The Government Office for Science, London.

[9] van Dijk. M. and Meijerink G. (2014) *A review of global food security scenario and assessment studies: results, gaps and research priorities*. FOODSECURE project.

[10] O'Neill, B.C., Kriegler, E., Riahi, K., Ebi, K.L., Hallegatte, S., Carter, T.R., Mathur, R., Vuuren, D.P. (2014) A new scenario framework for climate change research: the concept of shared socioeconomic pathways. *Climate Change*, 122: 387–400.

[11] O,Neill, BC et al (2017) The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global Environmental Change,* 42: 169–180.

[12] Available at https://www.millenniumassessment.org/documents/document.332.aspx.pdf. Accessed January 2018.

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4. Methodology

4.1. Scenario preparation (*Task 4.1.*)

The aim of this task was to provide partners with a common scenario framework to conduct the participatory foresight analysis in the selected RR (Task 4.3). The design of the scenarios was carried out combining both (i) primary information from regional experts collected as part of WP3 (Task 3.1) and (ii) existing foresight studies on agriculture and food and nutrition security for Europe and Africa (see in Annex I the list of studies utilised).

The resulting scenario framework was made up of a number of alternative future scenarios described each with a short narrative that connected the scenario-specific drivers and their possible states in a coherent manner.

For this to be achieved, we followed three steps:

4.1.1. Selection of drivers and states

In order to identify and select SALSA's relevant drivers of change for scenario development two sources were combined:

(i) As part of the interviews conducted to regional experts in SALSA's reference regions (WP3, Task 3.1), the research teams asked three questions to identify the main drivers that would condition the future of SF and SFB as well as their contribution to regional FNS (see Table 1).

Table 1. Foresight questions for preliminary interviews with key informants

Which factors (internal and external to the SF) would condition the increase of the small farms' significance (relative importance) on the overall food production in the RR in the next 20-30 years?
Which factors (internal and external to the SF) would condition an increase of the qualitative and/or quantitative contribution of SF to an adequate diet[13] for the population of the RR (for consumers in general and also for producers themselves) in the next 20-30 years?
Which factors (internal and external to the SFB) would condition an increase of the qualitative and/or quantitative contribution of SFB to an adequate diet for the population of the RR (for consumers in general and also for producers themselves) in the next 20-30 years?

In total, 107 regional experts from 22 RR (20 in Europe, 2 in Africa) provided answers to these questions.

This allowed to assess the relevance that regional and national stakeholders assign to the different drivers, and to what extent there are differences between the drivers identified by different regional and expert profiles.

(ii) A comparative analysis of the drivers of change considered in the rich existing literature on foresight studies on agriculture and food and nutrition security for Europe and Africa was carried out in order to 'name' the categories of drivers stemming from SALSA's

[13] Healthy, balanced, diverse, environmentally friendly.

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regional fieldwork, with the aim to be able to compare them with the categories in the foresight literature.

Table 2 shows the categories of drivers that were finally considered to shape the scenario framework. They are extracted from the experts' answers in WP3's preliminary interviews in the European and African regions. The second column shows their relevance (percentage of times they are cited) according to the number of answers from regional experts included in each category. These drivers are as well included (in similar terms) in several existing foresight studies (listed in the fourth column), which supports their relevance and the possibility to compare our analysis with what has been done in other academic and policy domains.

Climate change was not considered as a variable driver. CC was included in the foresight analysis by providing, together with the scenario's point of departure, a brief description of the foreseen impacts of CC in each region according to existing studies. In other words, CC was considered as a 'constant parameter' across scenarios.

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Table 2. Drivers of change for SALSA's scenario development in European and African selected regions

Driver	Times cited by experts	Explanation	Other foresight analyses (see Annex I)
1. Degree of access to managerial and technical innovations (research outcomes, knowledge stock)	24%	Answers related to the introduction of productive, technological or managerial changes in SF or SFB. It conditions actors' innovation capacity, access to knowledge to undertake changes, accessibility of technical and managerial solutions. This also includes the existence of knowledge transfer mechanisms and training.	1, 3, 5, 7, 10, 11, 12, 13, 15, 16 & 18
2. Concentration in the food chain	15%	Concentration (number and market share) of companies within the food chain. Power concentration, access to markets.	1, 7 & 16
3. Social values and cohesion (solidarity, awareness about small producers, willingness to cooperate, collective action)	13%	Capacity and willingness to cooperate (among SF, SF with SFB), society's solidarity and awareness with SF and SFB	4, 7, 11, 12, 13, 15 & 18
4. Public budget and expenditure*	13%	Public transfers, economic incentives, support measures for economic actors (e.g. SF and SFB, other food actors, consumers)	3, 4, 5, 69, 10, 12, 14, 15 & 18
5. Consumers' values and habits (health, environmental, not necessarily all simultaneously)	11%	Consumers' awareness about the impact of food on nutritional status, new food habits and diets. It includes the effects of food fraud and scandals	1, 4, 6, 7, 4, 10, 11, 13, 16 & 17
6. Public regulations*	10%	Legal requirements conditioning SF's and SFB's activities and access to markets (hygiene, safety, environmental, marketing)	3, 4, 5, 69, 10, 12, 14, 15 & 18
7. Access to environmental/ natural assets	4%	Access to land, quality of natural resources (water, soil, agrobiodiversity), problems associated to natural hazards (pests, diseases)	1, 4, 6, 7, 8, 11, 12, 13 & 16
8. Demography (rural/urban)	4%	This would include demographic dynamics, rural and urban trends, farming population (including farm succession likelihood).	1, 3, 4, 5, 6, 7, 8, 11, 12, 14, 15, 16 & 18
9. International trade openness	4%	Access to foreign markets, competition with imported food	1, 3 5, 7, 9, 12, 14, 15, 16, 17 & 18
10. Poverty	2%	Despite there are not many answers with this driver, based on literature consultation we consider it to be relevant for SALSA aims. Literature includes drivers revolving around economic development and growth, as well as drivers on poverty and inequality. We have decided to select 'Poverty' as economic driver, as we consider it to be more relevant for SALSA's focus on food and nutrition security.	1, 3, 5, 6, 7, 8, 11, 14, 15 & 18

* Most of the existing analyses include drivers related to 'Strong/Weak governance', 'Level of regulation', 'Power of states'… However, regional experts are clearly differentiating two roles of public policies/government relevant to SALSA: **Public budget and expenditure** would allow public transfers, economic incentives, support measures for SF and SFB; and **Public regulations** (hygiene, safety, environmental, marketing) would condition SF's and SFB's activities and their access to markets.

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For the sake of simplification, we opted to set up two possible states for each driver. This 'dualisation' of states is very frequent in the foresight literature and aims to 'lead to the extremes' the scenarios to give rise to the participatory discussions, as well as to cover wide ranges of futures. There are, therefore, 10 drivers with 2 potential states.

4.1.2. Selection of scenario skeletons

In a second step, a set of combinations of drivers and their possible states was selected to be presented to the workshop's participants as the skeletons for the scenarios they would work on. The challenge was to select a reduced number of combinations that were relevant and meaningful for all the selected RR, to make possible the comparative analysis. The scenarios utilised in the existing foresight literature (created by the different combinations of the drivers of change utilised in any case) were consulted within the consortium to decide which combination of drivers had the potential to be more meaningful for the SALSA approach.

The selection of combinations is, unavoidably, arbitrary to a certain extent. However, combinations were designed trying that they: (i) were different enough to cover a wide range of possible futures, (ii) included all the states in at least one scenario, and (iii) were meaningful for workshop participants.

This is the sequence followed to design the combinations:

1. Scenario 1 is based on a combination of drivers in which they adopt their business-as-usual (BAU) evolution. Needless to say that there were several uncertainties, as we were considering a distant time horizon (2050). However, this BAU combination was probably in many stakeholders' mind, so it was interesting to include it within our scenario framework. For some drivers, the selection of the BAU-state was based on literature review. There were other drivers that were more uncertain, but for them the selected state was the most logical according to the combination of the others. The next step was to select new combinations of drivers using the BAU as starting point.

2. Scenario 2. In order to have combinations that covered a wide range of futures and to have all the states in –at least- one scenario, we shaped a 'mirror' scenario, i.e. a scenario in which all the states are the opposite to the BAU's states.

3. Scenarios 3 and 4 respectively derived from those combinations in which drivers adopt the most enabling (Scenario 3) and the most disrupting (Scenario 4) states for SF and SFB.

Table 3 shows the common scenarios that were finally used in all the foresight workshops. The scenarios were aimed to provide a common set of global contexts in which regional stakeholders had to discuss (i) what such a combination of drivers/states in 2050 would mean for SF and SFB and their contribution to regional food production and FNS and (ii) the feasibility of the actions included in the backcasting exercise under each scenario.

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Table 3. Scenario framework for SALSA's foresight analysis

Driver	Scenario 1 (BAU)	Scenario 2 ('Mirror')	Scenario 3 (Enabling)	Scenario 4 (Disrupting)
1. Degree of access to managerial and technical innovations	HIGH	LOW	HIGH	LOW
2. Concentration in the food chain	HIGH	LOW	LOW	HIGH
3. Social values and cohesion	LOW	HIGH	HIGH	LOW
4. Public budget and expenditure	LOW	HIGH	HIGH	LOW
5. Consumers' values and habits	HIGH	LOW	HIGH	LOW
6. Public regulations	HIGH	LOW	LOW	HIGH
7. Demography (rural/urban)	INCREASE IN URBAN (RAPID URBANIZATION)/ DECREASE IN RURAL	INCREASE IN RURAL AREAS	INCREASE IN RURAL AREAS	INCREASE IN URBAN (RAPID URBANIZATION)/ DECREASE IN RURAL
8. International trade openness	HIGH	LOW	LOW	HIGH
9. Access to environmental/ natural assets	LOW	HIGH	HIGH	LOW
10. Poverty	LOW	HIGH	LOW	HIGH

Note: The names of the scenarios were not provided to the participants of the workshops.

4.1.3. Development of short scenario narratives

In order to facilitate the presentation of the scenarios to participants in the regional foresight workshops, short narratives were developed for each combination of drivers and states, giving coherence to the storyline.

All the selected SALSA regions were provided by some common departing explanations for each set, which then was translated by each team to be used in their regional workshops.

Scenario 1 (BAU)

This is a scenario characterised by the high concentration of food chains, which operate in liberalised world markets that facilitate both food imports and exports. The public sector intervenes in the agri-food sector by means of a strong framework of public regulations, although public budget and expenditure are low.

Access to natural assets (land, water, etc.) is constrained due to environmental degradation, but SF's and SFB's access to managerial and technical innovations (research outcomes, knowledge stocks) is very good.

Population presents low levels of poverty, and keeps concentrating in urban centres, at the expense of a demographic decline in rural areas.

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In this liberal environment, in which individualistic behaviour prevails and collective action is generally weak, consumers are aware of the nutritional and environmental implications of their food habits, but do not show great social values in terms of solidarity and awareness about small farms' problems. .

Scenario 2 ('Mirror')

Food chains show a low degree of concentration as also there is low degree of openness of international markets for both exports and imports. There is a remarkable allocation of public budget to the agri-food sector, and the legal requirements conditioning SF's and SFB's activities are relatively weak and flexible.

Access to natural assets (land, water, etc.) is easy for SF and SFB, but SF's and SFB's access to managerial and technical innovations (research outcomes, knowledge stocks) is poor and difficult.

Population presents high levels of poverty, with a demographic increase of population in rural areas.

In this framework, collective action and advocacy of social values are common and practised throughout the society, but consumers are not aware about the nutritional and environmental implications of their food habits.

Scenario 3 (Enabling)

Food chains show a low degree of concentration as also there is low degree of openness of international markets for both exports and imports. There is a remarkable allocation of public budget to the agri-food sector, and the legal requirements conditioning SF's and SFB's activities are relatively weak and flexible.

Access to natural assets (land, water, etc.) is easy for SF and SFB. Likewise, their access to managerial and technical innovations (research outcomes, knowledge stocks) is very good.

Population presents low levels of poverty, with a demographic increase of population in rural areas.

In this framework, collective action and advocacy of social values are common and practised throughout the society, with consumers being quite aware about the nutritional and environmental implications of their food habits.

Scenario 4 (Disrupting)

Food chains show a high degree of concentration as also there is a high degree of openness of international markets for both exports and imports. There are strong legal requirements conditioning SF's and SFB's activities, with a scarce allocation of public budget to the agri-food sector.

Access to natural assets (land, water, etc.) is difficult for SF and SFB. Likewise, their access to managerial and technical innovations (research outcomes, knowledge stocks) is poor.

Poverty is spread among the population of the Reference Region, with a demographic decline of population in rural areas and an increase in urban population.

In this framework, consumers are not aware about the nutritional and environmental implications of their food habits as they are more concerned on having access to food. Solidarity and other social

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values, also in relation to small farms' problems, are a minor concern for the society in the reference region.

These common short scenario narratives gave rise, along the foresight workshops, to regional scenario narratives adapted to each context, and participants in the workshops gave them specific unique names.

The resulting regional scenario narratives will be compared at the end of the WP4 (Task 4.4.).

4.2. Selection of regions (*Task 4.2.*)

The foresight workshops have been implemented in 11 of the 30 SALSA's reference regions (see Tables 4 and 5).

In Europe, nine regions were selected to carry out foresight analysis. The selection tried to cover the diversity of regional contexts for SF and SFB. From a geographical perspective, there are regions from Mediterranean, Eastern and Northern countries. In addition, attention was paid to cover the regional diversity according to other criteria. Indeed, based on the regional typology arising from WP2 and published in Guiomar et al. (2018)[14], the 9 selected regions cover the 3 groups of clusters and 5 out of 8 individual clusters (all the clusters represented in the selection of the 25 SALSA's European regions). They also represent three out of five EDORA's structural types.

Table 4. Selected European regions for foresight participatory workshops

Country	Region	Type of region according to Guiomar et al. (2018)	EDORA structural types
Greece	R9 Larisa	- Region with a balanced distribution between agriculture and other land uses - Region with a low proportion of small farms, which are relatively small and have low incomes	Agrarian
Italy	R11 Pisa	- Predominantly agricultural region - Extremely high number of small farms with very low incomes	Consumption countryside
Latvia	R14 Latgale	- Region with a balanced distribution between agriculture and other land uses - Region with a low proportion of small farms, which are relatively small and have low incomes	Agrarian
Norway	R18 Hedmark	- Region with little agricultural land surface - Small parts of the region are occupied by small farms, which are relatively large and have a medium income	Consumption countryside

[14] Guiomar, N.; Godinho, S,.; Pinto-Correia, T.; Almeida, M,; Bartolini, F.; Bezak, P.; Biro, M.; Bjorkhaug, H.; Bojnec, S.; Brunori, G.; Corazzin, M.; Czekaj, M.; Davidova, S.; Kania, J.; Kristensen, S.; Marraccini, E.; Molnar, Z.; Niedermayr, J.; O'Rourke, E,; Ortiz-Miranda, D.; Redman, M; Sipiläinen, T.; Sooväli-Sepping, H.; Šūmane, S:; Surová, D.; Sutherland, L.A.; Tcherkezova, E.; Tisenkopfs, T.; Tsiligiridis, T.; Tudor, M.M.; Wagner, K.; Wastfelt, A. (2018) Typology and distribution of small farms in Europe: towards a better picture. *Land Use Policy*, 75: 784-798.

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Poland	R19 Rzeszowski	- Predominantly agricultural region - Extremely high number of small farms with very low incomes	Agrarian
Portugal	R23 Oeste	- Region with little agricultural land surface - Small farms exist in large numbers, which are extremely small and have low incomes	Diversified (strong private services sector)
Spain	R26 Castellón	- Region with a balanced distribution between agriculture and other land uses - Region with a low proportion of small farms, which are relatively small and have low incomes	Consumption countryside
Romania	R25 Giurgiu	- Predominantly agricultural region - Extremely high number of small farms with very low incomes	Agrarian
UK	R29 Perth and Kinross, and Stirling	- Predominantly agricultural region - Region with few small farms, which are relatively small and have medium incomes	Diversified (strong private services sector)

In Africa, two of SALSA's reference regions were selected to carry out a foresight analysis.

Table 5. African regions for foresight participatory workshops

Country	Region
Cape Verde	R2 Santiago Island
Ghana	R7 Gushegu District

4.3. Selection of participant stakeholders (*Task 4.2.*)

The selection of participants for these participatory foresight activities is extremely important, and it was a key discussion along the whole process of preparation of the workshops. Following the recommendations contained in the 1st Review Report, for the selection of stakeholders we used some existing guidelines on stakeholder interaction (in particular Durhan et al., 2014[15], and Slunge et al., 2017[16]). The stakeholders' categories used for the selection were:

- Public sector: policy makers and officials from different departments (agriculture, health, economic development).
- Business and industry: farmers' unions, agricultural cooperatives, retailers, food processors, input providers.
- Local communities: Local Action Groups,
- NGOs: environmental groups, consumers' associations, CSA
- Professional groups: (e.g. vets, surveyors etc.)
- Scientists and researchers

[15] Durham E., Baker H., Smith M., Moore E. & Morgan V. (2014). The BiodivERsA Stakeholder Engagement Handbook. BiodivERsA, Paris
[16] Op. Cit. footnote 2.

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The selection of persons to be invited to the foresight workshops was facilitated by the previous work carried out in WP3 (in particular in-depth interviews, focus groups and regional workshop on governance), and the establishment of regional CoPs (WP7).

The workshop guidelines provided to the research teams included specific indications about: (i) the need to secure the diversity of stakeholders' profiles, (ii) how to deal with potential conflicts among stakeholders' views, and (ii) very importantly, how to deal with potential power unbalances (gender, age, expertise, hierarchy) among stakeholders and their impact on their involvement and participation.

In this later sense, participants were not only organisations' representatives, but also individual SF holders and SFB managers/entrepreneurs that could add ideas beyond the official mandates of organisations. Gender distribution was paid particular attention.

As a result of this selection, the 11 regional foresight workshops held involved a total of 184 participants with diverse profiles according to the criteria established. In terms of gender, 43% of the total participants were women.

4.4. Regional Participatory Foresight Workshops (*Task 4.3.*)

The nature of foresight exercises required a detailed preparation of the workshops, in particular regarding the necessity to clearly set up the outputs to be achieved and the facilitation process of these participatory activities.

A workshop implementation guide was elaborated and distributed to all the selected regions for the foresight analysis. This guide provided the structure for these workshops which, after an Introduction, followed these steps:

Step 1: Assessing the potential/desired role of SF and SFB in FNS in 2030 (*Visioning*)

The aim of this activity is twofold. On the one hand, it aims to assess the potential of SF and SFB to contribute to regional food production and regional FNS in 2030. This assessment is a mix of what is realistic (taking into consideration the characteristics of the region and the current situation) and what participants desire (what they want this contribution to be). In other words, this is a visioning exercise that has a normative bias.

On the other hand, it aims at identifying a set of concrete objectives which, in the next step, is used to construct Actions Plans through a backcasting exercise.

The final outcome of this step is the potential contribution of SF and SFB to FNS.

Step 2: Developing Action Plans through *backcasting*

The aim of this activity is to develop Action Plans that would enable achieving the objectives derived from the previous visioning exercise.

This is done through a backcasting exercise which consists in listing the actions needed to achieve an objective and ordering them step by step from the future (2030) to the present. In terms of backcasting what is relevant is the order of the actions, rather than the exact time when they take place.

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The final outcome are the Action Plans developed for the selected objectives.

In total, the 11 foresight workshops carried out have produced 32 Action Plans for 53 objectives identified at regional level.

Step 3: Developing Regional Scenario narratives

Using as starting points the common short scenario narratives developed for SALSA partners from the combinations of drivers and states (see section 4.1.3), participants in the foresight workshops built regionally-adapted scenario narratives for 2050, focusing particularly in the impact of such scenarios on SF and SFB and their contribution to food production and food and nutrition security.

Given that Action Plans were developed for the 2030 time spam, and in order to be able to cross Action Plans and Scenarios (Step 5), although regional narratives were built focusing in the 2050 horizon, they also considered events previous to 2050 which would have led to the 2050 situation.

In the 11 workshops held during the implementation of this WP, participants built 39 regionally-adapted scenario narratives for 2050.

Figure 1 shows Steps 1, 2 and 3 in a graphic way.

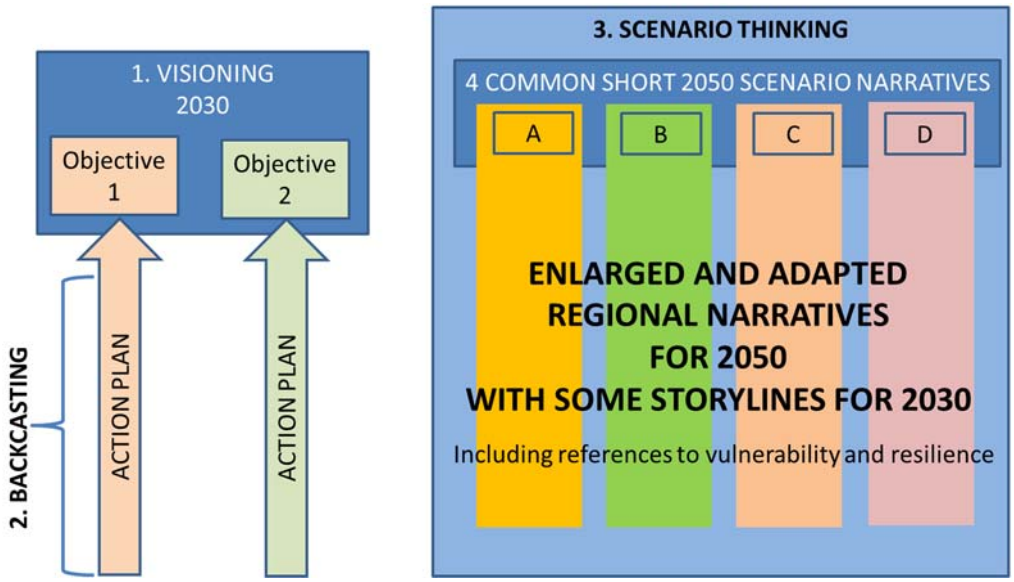

Figure 1. Diagram of Steps 1, 2 and 3 of the Participatory Regional Foresight Workshop

STEP 4: Addressing resilience and vulnerability

This activity aims at identifying, according to the regional narratives, the main future (2050) threats for SF and SFB and for their contribution to food and nutrition security.

Moreover, it explores and analyses the reason for SF and SFB's vulnerability to these threats and to what extent SF and SFB are equipped to resist or respond to them (resilience).

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Step 5: Global workshop assessment

Finally, in a plenary activity, participants were asked to give their opinion and assessment about the workshop. In particular, in terms of what they learnt, what could be useful for their respective activities and what would be needed to effectively turn the workshop's outcomes into actions.

Step 6 (after the worshop): Crossing Actions Plans with Scenarios

This activity consists in assessing the feasibility of the actions proposed in the Action Plans (Step 2) under the different scenarios described in the regional narratives (Step 3). This analysis was carried out ex-pots by the research teams. For this to be done, the actions were assessed one by one under the scenarios considered, classifying them as:

1. Virtually imposible
2. Feasible but conditioned to.. (brief explanation)
3. Directly easible (enabling scenario for that specific action)

Finally, Table 6 indicates the regional workshops held and their dates.

Table 6. Regional participatory foresight workshops held

Country	Region	Date of the workshop
1. Greece	R9 Larisa	7/03/2019
2. Italy	R11 Pisa	20/12/2018
3. Latvia	R14 Latgale	1/03/2019
4. Norway	R18 Hedmark	6/03/2019
5. Poland	R19 Rzeszowski	27/02/2019
6. Portugal	R23 Oeste	7/03/2019
7. Spain	R26 Castellón	20/11/2018
8. Romania	R25 Giurgiu	12/03/2019
9. UK	R29 Perth and Kinross, and Stirling	1/03/2019
10. Cape Verde	R2 Santiago Island	20/02/2019
11. Ghana	R7 Gushegu District	31/01/2019

5. Structure of the regional reports

This deliverable compiles the 11 regional reports containing the main outcomes of the participatory foresight workshops implemented in a subset of reference regions selected as part of Task 4.2.

Following the recommendations made in the 1st Review Report about the need to use common templates to compare, harmonise and analyse together the regional results, the WP leader elaborated a common template for these regional reports. Therefore, all the reports are organised according to the following structure:

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives. This section contains which would be, from the stakeholders' perspectives, the desired situation of SF and SFB as well as their contribution to regional food production and regional food and nutritional security. From this visioning activity, specific objectives are identified and prioritised.

2. Development of Action Plans. In this section, and following a backcasting logic, actions (and in some cases milestones) to achieve the selected objectives are developed and ordered chronologically (from 2030 until the present). The key actors to carry out those activities are also identified.

3. Regional scenario narratives. From a common scenario framework (see below), participants were asked to discuss what would be the implications for their regional SF and SFB of 4 different future settings (2050). This section precisely contains the way regional stakeholders adapted those common global scenarios to their respective regions.

4. Resilience and vulnerability. Participants in the workshops also identified, in each scenario, which would be (and why) the main threats for SF and SFB as well as to their contribution to FNS.

5. Action Plans under different scenarios. As a part of the analysis made by the research teams after the workshop, the feasibility of the actions included in the several Action Plans was assessed.

6. Workshop assessment. Finally, there is a section were researchers explain the feedback that stakeholders participating in the workshops provided in relation to their own activity (lessons learned, potential use, next steps). Similarly, researchers make their own assessment of the workshop. This information will be particularly useful to elaborate Deliverable 4.3.

6. Next steps: towards a comparative analysis and assessment

These reports will be the object of a comparative analysis (Task 4.4) to produce a synthesis report (Deliverable 4.2). Moreover, the whole participatory foresight process that has taken place in 11 different regions will be assessed, taking into consideration the feedback provided by the stakeholders and included in the individual reports, the knowledge gained along the last year in the course of discussion and methodological adaptations within the consortium, and grounded in the existing literature on stakeholder engagement and foresight. This assessment will be included into the Deliverable 4.3.

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7. Regional Participatory Foresight Workshop Reports

7.1. R9 Larisa – Greece

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR9 - Larisa (Greece)

Authors: Pavlos Karanikolas, Giannis Goussios, Elpiniki Oikonomopoulou
(AUA - Agricultural University of Athens)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

Participants' vision regarding SF's contribution to total food production in the region regards SFs' efforts to retain their current contribution in the total production, along with a significant expansion of the traditional varieties cultivation. This shift of the agri-food production is heavily associated with local tradition and history.

To fulfill this vision, agri-tourism activities and concrete marketing actions that contribute to the sustainability of the SFs must be implemented.

In addition, it is important for the farmers to be able to adopt innovations and technological changes to economize on production and management costs.

The participants stressed the role of the local varieties in tackling climate change, the preservation of the landscape and the elimination of variability in the quantity and quality of production.

The financing of the improvement investment plans as well as the implementation of a knowledge information flow system that contributes to on-farm technology adoption (geoinformation system) are neccesary for the expansion of traditional varieties cultivation in the SFs.

It is aknowledged that government should tackle the causes and effects of population decline in the rural areas aligned with the intensified society's awareness and willingness to move towards more sustainable agri-food models.

The goal of expansion of the traditional varieties cultivation through actions and milestones is reflected in the following objectives:

Objective 1: *The cultivation of traditional varieties expands and combines with agri-tourism opportunities in SFs.*

Objective 2: *Improving the economic viability of SFs*

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

The vision refers to the need to substantially increase the regional consumption of quality local products that are produced by SFs. Although local agricultural products are appreciated by the

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local community, however, there is concern about the use of fertilizers and pesticides. It is acknowledged that SFs reflect a more sustainable production model given that part of their production is self-consumed. Therefore, even if, the economic crisis has diminished the social consciousness about food safety and quality, the public awareness on food issues still constitutes a great incentive for SFs to improve their competitiveness through sustainable practices.

The first condition for SFs' sustainability is the diversification of their production in terms of quality, branding, processing etc. This also requires that 'traditional' SFs are capable of incorporating new ideas, products, processes and developments that increase the added value in the farm.

Besides that, the transition to smart, sustainable technologies and renewable energies and natoural resources use can provide a key to competitiveness, the sustainable use of natural resources and integrated development of rural areas of the region.

Almost all participants considered the information and knowledge flow system an important tool for change farm management and helping agricultural systems to meet those challenges. Unfortunately, the few agronomists in the RRs' Departments of Agricultural Economy and Veterinary are in charge to implement CAP measures instead of contributing in the knowledge transfer to the farmers. A proposal was put forward by participants to exploit the accumulated experience of the veteran agronomists who have been retired. The induction of such a novel system of knowledge transfer can help both young and older farmers in adopting good agricultural practices and rational use of inputs without substantial cost.

Although the Rural Development Programme finances the start-up of small-scale farm development (Sub-measure 6.3), bureaucracy usually creates barriers for SFs diversification mainly because of the time-consuming procedures until the investment aid is realized. In addition, agriculture finance strategies and instruments is developing and implementing to crowd-in private sector, enhancing access to suitable financial services to SFs as a way to increase agricultural productivity and income, and facilitating the consolidation/ integration of production and marketing entities in agriculture to achieve economies of scale and stronger presence in markets.

In 2030, the strengthening of collective schemes (farmers' groups) has become an indispensable factor in enhancing the bargaining power of SFs in the food chain. This requires great effort to be achieved since party-political interventions and clientelism on the part of associated farmers distorted economic policy-making in favour of private or short-sighted interests, causing mismanagement, corruption and inefficiency. Inevitably, many farmers are not in favour of such collaborative schemes. However, successful cooperative efforts (e.g. producer groups in almonds and pulses) constitute examples of enabling the enhancement of SFs' bargaining power via short supply chains.

Action Plan 2 is developed around the overall goal of SF having a prominent role in providing an adequate diet to consumers in Larisa in 2030, and it is structured in two objectives and the actions and milestones necessary to achieve them:

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Objective 1: *Diversification on SFs*

Objective 2: *Rebuilding an Agricultural Knowloedge and Innovation System*

(iii) *Which is the role that participants would like* ***SFB*** *to play in 2030 in terms of* ***providing an adequate diet to both consumers and farm households in the region****? Which are the concrete objectives this vision translates into?*

Participants' vision towards 2030 is the sustainability of small food businesses (SFBs) in order to upgrade their contribution to the adequate diet of the regional population.

In 2030, Larisa region maitains its wide productive base in the agri-food sector, which includes a range of diverse value chains. In this context, SFBs find their way into markets, by responding to changing consumer habits, both within and outside of the region. This requires the adoption of various technological systems by SFBs, such as quality control and tracibility systems. On the other hand, SFBs' close cooperation with research insitutes and market research organizations (for regional, national and selected foreign markets) provides SFBs with all the necessary information on trends in (changing) consumer behaviour.

The overall approach concerns both the processed and primary agri-food products in the region, including one of the most emblematic certified Greek products, namely 'Feta' cheese.

To a large extent, SFBs secure their economic sustainability through well-established relationships with many SFs in the region. So, SFBs in 2030 have created solid nertworks with SFs. Several SFBs have also created their own marketing networks, while they dispose their processed products through own small specialized shops in the capital city of the region (the city of Larisa with 145000 inhabitants); this is the case especially for small and medium-sized dairies. At the same time, super market chains whithin the region favor the promotion of local products, with sufficient space on their shelves for local products.

The realization of the above mentioned vision for 2030 requires the smooth functioning of the agri-food chains incorporating regional SFBs. These chains usually extend to markets outside the region, either in Greece or abroad. In 2030, consumers in the region are interested in the provenance of agri-food products, their production methods, and their impacts on human health and the environment.

All these efforts are based on the valuation of the rich local agri-food traditions; this translates into concerted efforts to add value to various products, emphasizing the specific features and properties of these products. In 2030, SFBs develop stong links with the public agronomic research insitute located in the region (with significant research on local varieties), as well as with the University of Thessaly and the Agricultural University of Athens.

The above-mentioned vision is epitomized by the objective of strengthening SFBs' overall position in the agri-food system of the region, by preserving/enhancing the special identity of local products.

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2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

	Action Plan 1: Contribution of SF to regional food production *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1: The cultivation of traditional varieties expands and combines with agri-tourism opportunities in SFs.***	***Objective 2: Improving the economic viability of SFs***
2030	*Certification of traditional products* [Certification agencies]	*Increasing added value at the farm level* *[Farmers]*
	Finance agrotourism investments by the SFs. *Administration advances the minimum size as an eligible criterion* [Central Administration)	*High quality standards in agri-food products* [Certification agencies, Farmers, SFBs]
	Information Campains and Promotion of traditional varieties in SFs [Research Institutes, Local Administration, agri-food stakeholders]	*Implementation of Certification Schemes (e.g. 'Global G.A.P.', 'Agro 1', 'Agro 2')* [Certification agencies, Farmers, SFBs]
	Establishment of a Propagation Material Deposit with traditional varieties of the area [Research Institutes, Ministry of Rural Development]	*Implementation of Precision Agriculture* *[Central and Local administration, Agricultural Advisors, Farmers, Universities, Institutes]*
	Promotion of local traditional products *Linking production points and points of consumption within short supply chains*	*Creation of interprofessional organizations* [Agri-food stakeholders, Cooperatives, State Agencies]

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	[Private sector actors, Producer Organizations]	
	Educational programs for the beneficial properties of local/traditional products [Central and Local administrations]	*Financial support to SFs through the Measures of the Rural Development Program (RDP).* [Central Administartion]
Present		*Agricultural restructuring/Modernization of SFs. Creation of an innovation network between Universities, Research Institutes and Cooperatives.* [Agri-food stakeholders, Public administrations, Universities, Institutes)

	Action Plan 2: Contribution of SF to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1:*** *Diversification of SFs*	***Objective 2:*** *Rebuilding an Agricultural Knowledge and Innovation System*
2030	*Creation of jobs in off-farm activities in the region* [Private sector, Public sector]	*Development of a web-based knowledge management system that would compile information from all relevant sources* [Private sector, Groups of farmers]
	Agriculture finance instruments [Central administration, Banks]	*Enhancement of secondary agricultural education* [Central administration]
	Applying innovation to meet SFs' diversification needs [Central administration, universities, private sector, Research institutions, Farmer unions]	*Funding public or private organizations and institutions to create applied knowledge* [Central and Local administration, Private sector, Groups of farmers]
	Implementation of integrated or biological production methods [Private sector, Groups of farmers]	*Benchmarking analysis to identify sustainable SFs* [Consultants, Groups of farmers]

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Present	*Collaboration between Groups of farmers for attaining economies of scale in product processing* [Private sector, Groups of farmers]	*Exploitation of the accumulated experience of retired agronomists* [Local administration,, cooperatives, Private sector]
	Simplified investment approval process [E.U. regulations, Central administration]	*Direct interaction of small farmers with other farmers, combined with seeing practical examples of good practice/successful alternatives* [Private sector, Groups of farmers]
	Creating a favorable tax environment for SFs [Central administration]	
	Promote a culture of healthy eating (shcools, tv, internet etc.) [Agri-food sector stakeholders; various administrations in a co-ordinated way; consumer associations; social movements]	

	Action Plan 3: Contribution of SFB to regional FNS
Timing	***Objective: Strengthening the overall position of SFBs into the agri-food system of the region, by preserving/enhancing the special identity of local products.***
2030	*Greater contribution of SFBs to a diversified and quality diet for consumers in the region*
	Full exploitation of the potential of already certified products (e.g. Feta Cheese)
	Effective protection of local products from counterfeiting their fame
	Creation of a special identity for local products, including certification (PDOs, PGIs) and explicit reference to local plant varieties and animal breeds. Integration of local gastronomy and traditions into products of SFBs [Certification Agencies, SFBs Associations, Research Institutes, Universities]
	Super-markets chains in the region provide sufficient space in their shelves for local products [SFBs, Super-market Chains]
	Creation of small specialty food shops [SFBs]
	Cooperation/networking among similar SFBs [SFBs and SFBs Associations]
	SFBs have created a common platform for information sharing and provision of special services, e.g. research on new consumption habits, new market opportunities, product development [SFBs Associations]
	SFBs have adopted procedures and systems to ensure food safety and quality of products [SFBs, Public Authorities]
	SFBs have created solid networks with their suppliers, especially small farmers [SFBs, SFs]

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	Cooperation of SFBs with Research Institutes and Laboratories in the region [SFBs Associations, Management of Research Institutes, Researchers, Owners of Laboratories]
	Enhancement of small entrepreneur's personal and professional networks [SFBs]
	Provision of education and training to SFBs' owners, in order to acquire the know-how needed for production and marketing, as well as skills for networking [SFBs Associations]
	Targeted information campaigns and educational programs to schools and university, as well as to general consumers in the region, for highlighting the special attributes of the local products [Educational Administrations, University Authorities]
	Introduction of local products into school canteens [Educational Administration]
Present	*Expansion of local products' presence in food provisions of military units and hospitals in the region* [SFs, SFBs Associations, The Army, Hospitals' managers]

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario 1: "Between euphoria and dystopia"

In 2050, the continuation of trends of the last three decades has had varied impacts on regional agriculture. On the one hand, the dynamic plain areas of the region, in which large farms prevail, is experiencing a serious crisis; in these areas, the dominant intensive crops are cultivated using high quantities of irrigation water and energy, while they have been heavily subsidized for a long time. However, both climate change and progressive restrictions in the common agricultural policy of the EU (with falling subsidies for conventional intensive crops), have rendered this model unsustainable.

On the other hand, the entire dairy sector of the region retains its relative dynamism, particularly based on the production and processing of sheep and goat milk, into products such as Feta cheese. This cheese is still the spearhead of Greek certified products, although foreign competitors continue to counterfeit its fame. Although the dairy sector has consolidated, several small and

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medium sized livestock farms are still viable (the majority of them located in hilly and mountain areas), owing to their operation through cooperatives.

The cultivation of local plant varieties has expanded, producing quality products, which find their way to consumers in the region, as well as to other markets. This is the case especially of some pulses, with local varieties well adapted to dry climatic conditions and appreciated by consumers. The work of the local research institute has provided a sound documentation in several efforts of creating local products with a special identity. In addition, the region is still a net exporter of agri-food products, with international trade being quite free, although temporary crises are likely to emerge, such as embargos of Russia to food exports from EU countries.

Although public standards concerning food safety and the environment are quite high, the continuing crisis does not allow for a noteworthy public spending for agriculture. For the same reason, applied research on critical issues on behalf of the local agronomic institute is at serious risk. The adverse cosequences of the crisis undermine critical mechanisms of farm survival, especially the inability to borrow money for both operational expenses and investment needs. Moreover, job losses and high unemployment in both rural and urban areas of the region jeopardize the vitality of rural areas, which are still losing their populations. However, some participants noted that in 2050 the crisis would be over and the whole economic environment would be more favourable.

Furthermore, consolidation in the food sector goes on, marginalizing those SFs, which do not exert a countervailing power within this heavily asymmetric system. Nevertheless, some categories of SFs still survive in 2050: (i) those that specialize in fresh fruit production and almonds, exploiting their long-term expertise and attaining profitability, despite their size (up to 5 ha), (ii) SFs that operate through co-ops (for common marketing and/or supply of feedstuffs), particularly in livestock farming and cultivation of traditional pulses varieties, (iii) those that have established viable networks with small food businesses (e.g. supplying milk to small dairies), and (iv) SFs that supply fresh vegetables to urban consumers of the region, who are sensitized to the origin and the attributes of their food, as well as willing to assist SFs through e.g. consumer-producer co-ops.

Finally, divergent views have been expressed as to poverty incidence in the region in 2050. Although the prevailing view seem to be the further deepening of poverty in the region, with all relevant consequences, some participants suggested that in 2050 economic recovery will allow for a serious mitigation in poverty, while others claimed that poverty rates of 2020 will be maintened until 2050.

3.2. Scenario 2: “An ambivalent introversion”

This scenario ensues from a combination of driving forces, including restrictions in international trade and protectionist policies on behalf of the Greek state. Both of these factors will have create in 2050 a relatively favourable economic environment for the development of a highly subsidized farming sector, given also the ability of the state to provide funds to the productive sectors of the economy, after the ending of the prolonged crisis and reversal of austerity policies.

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On the other hand, a series of agri-food products of the region which have been the 'export engines' for decades (especially Feta cheese, fresh fruits, wheat and cotton), now face serious problems, since import restrictions have been applied from EU and third countries. This has lead to a reorientation of production, especially in the plain areas of the region, as we have an expansion of crops producing mainly inputs/intermediate products for two critical sectors. Firstly, fodder plants for livestock, in bothg Larisa and other regions of the country; thus, a major problem of the Greek livestock farming is mitigated, i.e. the deficit in animal feed. Secondly, increase of cotton production, and a subsequent re-develeopment of the textile industries of the country, which had been largely dismantled during the era of liberalization of the previous decades. Obviously, the course of these two evolutions will depend on the existence of generous subsidies, as well as the prospects of the final products (dairy products, cotton, textiles) in international markets, two extremely uncertain factors. As for fresh fruits production, until farmers change to other crops, high quantities will be sold to domestic markets, thus causing price declines and exit from farming, except some farmers who have successfully turned to quality wines production.

This 'introvert' turn has also decelarated the process of structural transformation of agriculture in the region, evidenced by limited farmers' access to technological and organizational innovations, as well as by the re-flourishing of a highly clientelistic functioning of the whole institutional framework of the sector, in particular pertaining to the relationships of the sector with the partisan political system. In addition, the development of small food businesses, producing mainly for domestic markets, has partially re-balanced the asymmetry of power within the agri-food system of the region.

A 'structural' problem in the construction of this scenario derives from the interplay between two opposing trends: on the one hand, the reversal of trade openness and increase of protectionism, on the other the ending of the crisis. Various debatable outcomes could emerge: (i) A relative growth of protected industrial sectors (at both national and regional scales), increase of domestic demand and non-reduction of average incomes, hence high demand for quality agri-food products; as a result, several SFs in the region could survive by supplying urban consumers with quality products. (ii) After a first period of euphoria, there will be decreased international competitiveness of most sectors of the economy, therefore contraction of incomes, and consumption of agri-food products based mainly on the criterion of low price; as a corollary to this, environmental stewardship and prudent use of natural resources will not be prioritized, neither consumers will be aware nor sensitized on the need to maintain small farms.

3.3. Scenario 3: "Diversify or die"

In 2050, Greece's success at beating poverty was aided by a protracted period of economic growth. Although, Larisa did not remain unaffected by the 2010s economic crisis, the significant CAP subsidies (mainly to the large farms) have contributed to the slowing-down of the manifestation of its impacts. The productive intensification of the primary sector continues to create surpluses, support manufacturing, as well as standardization and packaging activities of agricultural products. Potatoes, rice, citrus and beef remain the only basic agricultural products that are in deficit in total local consumption.

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Intensified market controls and better traceability both assure food safety and reduce regulatory requirements. The social awareness to food security benefits those SFs and SFBs that target quality products. The positive economic conditions favor the revitalization of rural way of life since the farm and non-farm incomes are high enough to support it. As a result, self-consumption has increased but higher demand for rural land increases its value and consequently the production cost.

At the same time, the strengthening of the collective action of SFs contributes to the weakening of the position of big retailers (supermarkets) and increases the bargaining power of the SFs in the food chain. Moreover, access to public and banking financial flows facilitates the diversification of SFs in terms of quality, brands and vertical integration ensuring their sustainability.

In addition, an information and knowledge flow system has been established as a result of increasing public expenditures in rural areas. This enables both young and older farmers in adopting good agricultural practices and rational use of inputs. As a consequence, the environmental degradation has reversed and better natural resources management has contributed to reduce environmental problems such as lack of water and growing expenses for irrigation. The only concern is the abandonment of the local varieties that are not productive enough, while there is a fear that new diseases may come up in the local agroecosystem.

There was a controversy among the workshop's participants as to whether the openness of international trade or protectionism is the most favorable environment for SFs. On the one hand, trade liberalization favours the SFs that produce high-quality products (delicatessen) and target either the demand of higher income households or exports. At the same time, the undifferentiated SFs are directly *exposed to competition* of cheaper imported products. The cheap imports reduce prices and provoke the sustainability of the undifferentiated SFs.

On the other hand, protectionism restricts access to technical and management innovations that are necessary for the modernization and sustainability of SFs. In this case, some participants suggested that the development of a central planning strategy is required to increase food self-sufficiency and prevent shortages of some highly demanded products. In this context, production zones at national and local level should inevitably be imposed in order to obtain the maximum production in terms of volume under the prevailed soil and climatic conditions.

3.4. Scenario 4: "Disappearance amidst duality"

In 2050, the concentration in the food chain has huge dimensions and the opening up to international markets has gone a long way. The continuation of economic crisis has led to significant poverty, with a large number of unemployed in both urban and rural areas in the region of Larisa, due to the shrinkage of the industrial base and to the closure of many small and medium-sized enterprises. In fact, under this adverse scenario, all factors synergistically contribute to the disappearance of SFs and SFBs. So, the final result for the rural areas of Larisa is the fact that SFs coexist with a few very large farms, while agriculture presents a dual structure.

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On the one hand, small-scale farming farms represents a small fraction of the whole sector, comprising farms, most of which are not viable. These SFs are not motivated by an enterpreneurial spirit, they use traditional cultivating methods, while they produce mainly for self-consumption and for informal markets. They encounter many problems to access natural assets (except land) as a result of environmental degradation (water scarcity due to over-irrigation and previous contamination). They don't use chemical inputs in their cultivation, due to their low agricultural income, and as expected, they don't seek for any certification.

On the other hand, there are many farms that are very large and modernized. The main features of this type of farms are the high degree of business activity, the large size (access to land due to previous abandonment of agricultural activity by small and medium sized farms), the existence of certification and the production of products destined for large domestic and foreign markets. Additional factors that are decisive for large farm's success are their linkages with research centers and universities, and adoption of innovations and new knowledge.

From the point of view of consumption, similar differentiation is also observed in consumers, where we have two categories of consumers. There are consumers who are concerned about food safety and who are willing to pay the price for a healthy diet, thus benefiting also the environment. While, on the contrary, the above consumers coexist with those who have a great financial difficulty, demanding low-quality products and who are not willing to pay for safe products.

4. Resilience and vulnerability

4.1. Scenario 1: “Between euphoria and dystopia”

The first threat for SFs under this scenario is the continuation of the current crisis, which creates an unfavourable environment for any economic activity, including the operation and reproduction of FSs as explained in the storyline of the scenario.

Another serious threat is the shortage of water for irrigation, which will endanger mainly the large intensified farms of the plain areas of the region. In addition, reduction of precipitation will create the need for a production reorientation with crops less demanding in water, be it new crops in a SF, or new varieties of the same crops. Here is the key role of traditional varieties which could be a viable alternative. Possible pest outbreaks could be a matter of concern, as a possible additional threat.

Reduction of CAP subsidies is another major threat, which will act as a stressor to the whole agri-food system of the region. In addition, the increasing consolidation of the agri-food system will continue to create strong tendencies for the marginalization of many SFs in the region.

Not all SFs are equally exposed to these threats. SFs with the highest exposure are those: (i) cultivating mainy irrigated crops, (ii) producing undifferentiated conventional products from field crops, especially in the plain areas of the region, (iii) relying mostly on CAP subsidies for their survival, with limited or no recourse to off-farm sources of income.

Effective responses to these threats undoubtedly involve the use of a combination of strategies on behalf of SFs to successfully upgrade their businesses and ensure their resilience. These

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strategies include specialization in fresh fruit production and almonds, active engagement in co-ops, establishment of trustworthy/viable networks with SFBs, and direct forms of cooperation with urban consumers.

4.2. Scenario 2: "An ambivalent introversion"

Uncertainty about the evolution of basic factors in this scenario could function as threats for the agri-food system of the region. For example, if protectionism will not cause a significant development of industries, a course of adverse events will set in motion, resulting in decrease of incomes and low demand for quality agri-food products. Likewise, if the current crisis will continue up until 2050, any beneficial effects of protectionism will be eroded by the lack of public financial resources and the maintenance of austerity policies. In the latter case, subsidies will not be available, therefore a substantial part of the income base of many SFs will be lost.

Thus, the overall unfavourable environment will jeopardize the viability prospects of most SFs in the region, especially those with fresh fruit production, as well their prospects of re-orienting production to crops producing inputs for livestock farming of the textile industries, if these sectors face the consequences of the above 'toxic' combination of factors, i.e. overwhelming problems in their growth.

4.3. Scenario 3: "Diversify or die"

A competitive environment favours the business-oriented and diversified production. In this context, interprofessional organizations and strong cooperatives together with new forms of management and marketing in SFs are required in order to address the demand for food. The sustainability of traditional SFs with arable crops or sheep and goats is put at risk by the reduced prices of imports.

Another serious threat is the increased demand for agricultural land as well as the lack of labour and/or even an increase in labour cost, which may occur due to *the favourable economic environment.* Under these circumstances, SFs that lack financial resources and knowledge to adopt new managerial and marketing practices are unlikely to survive.

Also, SFs that produce vulnerable/perishable products with limited storage time should ensure their resilience by extending the production disposal over time. Therefore the diversity of the cultivated varieties should be applied.

The self-sufficient farms are limited or eliminated by 2050 while on the other hand the revitalization of rural way of life increases the number of 'lifestyle' SFs (or 'hobby farmers'). These farms are financed mainly by off-farm household incomes and offer an alternative way of life.

The restrictions in international trade necessitate the empowerment of research institutes to bring new methods of cultivating, in order to ensure national food self-sufficiency. **Finally, t**he need for an increased production at the lowest cost does not favour the traditional SFs and may cause their disappearance.

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4.4. Scenario 4: "Disappearance amidst duality"

The scenario implies huge difficulties for SFs and SFBs in Larisa region. The high concentration in the food chains, the openness of international trade, the strict legal regulations concerning SFs' and SFBs' activities, as well as their low capacity and willingness to cooperate, in conjunction with low social awareness for SFs and SFBs are elements of vulnerability and threat for their existence. If all the above factors are combined with production constraints due to climate change, then there may actually be no possibility for farming, especially for the SFs.

In these unfavourable conditions, the diversification of SFs is vital. That is, products for self-consumption, produced in traditional ways, coexist with non-vulnerable products (e.g. aromatic and pharmaceutical herbs), to support agricultural income. That may be an element for the resilience of small farms.

5. Action Plans under different scenarios

Finally, what actions of the above displayed Plans (section 2) are feasible or, on the contrary, too difficult to accomplish under the different scenarios?

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

In order to facilitate this assessment, taking the Action Plans (1, 2 and 3) developed in Section 2 which combined actions and milestones, we have distilled real actions, eliminating the milestones. Also, we have separated each action in a different line in the following tables, although in the Action Plans they appeared grouped when they shared the same timeline.

The feasibility of each action included in the Plans (Section 2) has been assessed under the four different scenarios detailed in Section 3. A colour code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

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ACTION PLAN 1: Contribution of SF to regional food production

Objective 1: *The cultivation of traditional varieties expands and combines with agri-tourism opportunities in SFs.*	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Certification of traditional products [Certification agencies]				
Finance agrotourism investments by the SFs. *Administration advances the minimum size as an eligible criterion* [Central Administration)	Conditional on the availability of public funds			
Information Campains and Promotion of traditional varieties in SFs [Research Institutes, Local Administration, agri-food stakeholders]				
Establishment of a Propagation Material Deposit with traditional varieties of the area [Research Institutes, Ministry of Rural Development]	Conditional on the availability of public funds	Conditional on the availability of public funds		
Promotion of local traditional products *Linking production points and points of consumption within short supply chains* [Private sector actors, Producer Organizations]				
Educational programs for the beneficial properties of local/traditional products [Central and Local administrations]	Conditional on the availability of public funds	**Conditional on the availability of public funds**		

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Objective 2: Improving the economic viability of SFs	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Increasing added value at the farm level *[Farmers]*				
High quality standards in agri-food products [Certification agencies, Farmers, SFBs]				
Implementation of Certification Schemes (e.g. 'Global G.A.P.', 'Agro 1', 'Agro 2') [Certification agencies, Farmers, SFBs]				
Implementation of Precision Agriculture *[Central and Local administration, Agricultural Advisors, Farmers, Universities, Institutes]*	Conditional on availability of financial resources of SFs	Conditional on availability of financial resources of SFs		
Creation of interprofessional organizations [Agri-food stakeholders, Cooperatives, State Agencies]				
Financial support to SFs through the Measures of the Rural Development Program (RDP). [Central Administartion]				
Agricultural restructuring/Modernization of SFs. Creation of an innovation network between Universities, Research Institutes and Cooperatives. [Agri-food stakeholders, Public administrations, Universities, Institutes)				

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ACTION PLAN 2: Contribution of SF to regional FNS

Objective 1: *Diversification of SFs*	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Creation of jobs in off-farm activities in the region [Private sector, Public sector]	Depending on development prospects of the regional economy	Depending on development prospects of the regional economy		
Agriculture finance instruments [Central administration, Banks]	Conditional on availability of financial resources	Conditional on availability of financial resources		
Applying innovation to meet SFs' diversification needs [Central administration, universities, private sector, Research institutions, Farmer unions]				
Implementation of integrated or biological production methods [Private sector, Groups of farmers]				
Collaboration between Groups of farmers for attaining economies of scale in product processing [Private sector, Groups of farmers]				
Simplified investment approval process [E.U. regulations, Central administration]				
Creating a favorable tax environment for SFs [Central administration]	Depending on public finance conditions	Depending on public finance conditions		
Promote a culture of healthy eating (shcools, tv, internet etc.) [Agri-food sector stakeholders; various administrations in a co-ordinated way; consumer associations; social movements]				

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Objective 2: *Rebuilding an Agricultural Knowledge and Innovation System*	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Development of a web-based knowledge management system that would compile information from all relevant sources [Private sector, Groups of farmers]				
Enhancement of secondary agricultural education [Central administration]	Conditional on availability of financial resources	Conditional on availability of financial resources		
Funding public or private organizations and institutions to create applied knowledge [Central and Local administration, Private sector, Groups of farmers]	Conditional on availability of financial resources	Conditional on availability of financial resources		
Benchmarking analysis to identify sustainable SFs [Consultants, Groups of farmers]		Depending on farmers' willingness to cooperate and to adopt innovative ideas		Depending on farmers' willingness to cooperate and to adopt innovative ideas
Exploitation of the accumulated experience of retired agronomists [Local administration,, cooperatives, Private sector]				
Direct interaction of small farmers with other farmers, combined with seeing practical examples of good practice/successful alternatives [Private sector, Groups of farmers]		Depending on farmers' willingness to cooperate and to adopt innovative ideas		Depending on farmers' willingness to cooperate and to adopt innovative ideas

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ACTION PLAN 3: Contribution of SFB to regional FNS

Objective: Strengthening the overall position of SFBs into the agri-food system of the region, by preserving/enhancing the special identity of local products.	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Greater contribution of SFBs to a diversified and quality diet for consumers in the region				
Full exploitation of the potential of already certified products (e.g. Feta Cheese)				
Effective protection of local products from counterfeiting their fame	Depending on EU and State policies/initiatives for the effective protection of certified products	Depending on EU and State policies/initiatives for the effective protection of certified products		
Creation of a special identity for local products, including certification (PDOs, PGIs) and explicit reference to local plant varieties and animal breeds. Integration of local gastronomy and traditions into products of SFBs [Certification Agencies, SFBs Associations, Research Institutes, Universities]				
Super-markets chains in the region provide sufficient space in their shelves for local products [SFBs, Super-market Chains]				
Creation of small specialty food shops [SFBs]				
Cooperation/networking among similar SFBs (SFBs Clusters) [SFBs and SFBs Associations]				

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SFBs have created a common platform for information sharing and provision of special services, e.g. research on new consumption habits, new market opportunities, product development [SFBs Associations]				
SFBs have adopted procedures and systems to ensure food safety and quality of products [SFBs, Public Authorities]				
SFBs have created solid networks with their suppliers, especially small farmers [SFBs, SFs]				
Cooperation of SFBs with Research Institutes and Laboratories in the region [SFBs Associations, Management of Research Institutes, Researchers, Owners of Laboratories]				
Enhancement of small entrepreneur's personal and professional networks [SFBs]				
Provision of education and training to SFBs' owners, in order to acquire the know-how needed for production and marketing, as well as skills for networking [SFBs Associations]				
Targeted information campaigns and educational programs to schools and university, as well as to general consumers in the region, for highlighting the special attributes of the local products [Educational Administrations, University Authorities]				
Introduction of local products into school canteens				

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[Educational Administration]				
Expansion of local products' presence in food provisions of military units and hospitals in the region [SFs, SFBs Associations, The Army, Hospitals' managers]	Conditional on availability of public financial resources	Conditional on availability of public financial resources		

6. Workshop assessment

In the assessment of the workshop, it was pointed out from stakeholders representing various regional authorities, that the approach followed in the workshop was an original one. In particular, they claimed that, although they serve in agencies with programming responsibilities, they had never been involved in a process like this one before, i.e. it was the first time to see in practice how a foresight approach could be applied. They also said that they entered in a logic of targeted thinking, on different time horizons, under different assumptions.

In addition, a researcher from the agronomic institute argued that the workshop followed an innovative approach. "Given the large number of SFs in the region and the tendency for young people to enter the sector, he said, concerns have been raised about their future". He went on saying that useful conclusions have emerged from the debate in this workshop, e.g. that new entrants in agriculture should diversify and turn to traditional products, while various ways to empower them were identified.

Most of the participants suggested that it is very important the knowledge acquired in the workshop as well as in the whole Project, to be disseminated and shared with them, and not just remain within the academics.

Another indication of the success of the workshop has been the fact that one of the participants – with a strong voice and a plethoric presence - initially was quite ambivalent as to the usefulness of the workshop, nevertheless, at the closing assessment plenary, he expressed his enthusiasm and satisfaction from the whole process.

In addition, during the assessment we had an invitation from 'Active Citizens of Larisa' (a social initiative with lots of activities, including alternative food networks) to participate in the next eco-festival, which takes place every May in Larisa, in order to present our work with SALSA and the results of our analysis for Larisa region.

Finally, very well received was the promise of our team that after the completion of SALSA Project, we will go in Larisa again, to present to a broader audience our findings and have an open debate with various stakeholders in the region. Likewise, participants expressed their pleasure when we informed them that we will transfer all this information gained in the workshop, in the upcoming conference in Brussels, concerning policy proposals for SFs in the Southern European context.

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7. List of participants

1	Karafilli Apostolia	Region of Thessaly, Directorate of Plant and Animal production	FEMALE
2	Antonopoulou Anastasia	Region of Thessaly, Department of Programming	FEMALE
3	Mpasdeki Sevasti	Larissa Prefecture Development Agengy (A.E.N.O.L. S.A.), President	FEMALE
4	Papatzelou Vasiliki	Region of Thessaly, Department of Agricultural Economy	FEMALE
5	Sofologis Dimitris	Agronomist, Free-lance Consultant	MALE
6	Zeikos Giorgos	Agia Agricultural Cooperative, President – Farmer	MALE
7	Bamnaras George	Agronomist – Farmer	MALE
8	Anatolitis Michael	Seed Production & Commerce Private Company, Chairman	MALE
9	Dalosis Ioannis	Active Citizens of Larisa [Citizens' and Consumers' Social Initiative]	MALE
10	Kaloudi Evi	Active Citizens [Citizens' and Consumers' Social Initiative]	FEMALE
11	Noulas Nikos	Agricultural Cooperative in Larisa, Member	MALE
12	Simoulis Thomas	Farmer	MALE
13	Vlahostergios Dimitris	Public Institute of Industrial and Forage Plants in Larisa, Researcher	MALE
	Workshop facilitators		
	Theodore Tsiligiridis	AUA	M

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	Giannis Goussios	AUA	M
	Pavlos Karanikolas	AUA	M
	Elpiniki Oikonomopoulou	AUA	F

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7.2. R12 Pisa – Italy

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR12 – Pisa (Italy)

Authors: Paolo Prosperi, Francesca Galli, Laura Fastelli, Lucia Palmioli, Francesco Di Iacovo, Gianluca Brunori (UNIPI - Universita di Pisa)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

(i) Which is the role that participants would like SF to play in 2030 in terms of contribution to regional food total production? Which are the concrete objectives that this vision translates into?

(ii) Which is the role that participants would like SF to play in 2030 in terms of providing an adequate diet to both consumers and farm households in the region? Which are the concrete objectives that this vision translates into?

(iii) Which is the role that participants would like SFB to play in 2030 in terms of providing an adequate diet to both consumers and farm households in the region? Which are the concrete objectives this this vision translates into?

Note the aspects of SF / SFB's role where there is general agreement amongst participants, and those aspects where different participants / stakeholder groups represented in the workshop disagree on.

(Only 7 participants could take part in the scenario workshop so it was decided not to split them in groups but to carry out a collective work, firstly around one main well-defined objective, and secondly on a shared view on scenarios)

Participants' shared vision forecasts that the regional food system in 2030 will be characterised by a **sustainable agricultural and food production**, including the activities of small farms and small food businesses. In particular, local food production will supply at least 60% of the food needs of local consumers. These food products will be characterised by **high value and quality** in terms of **nutritional** content, **traceability**, **origin** and connection with **territorial traditions**. This local food will be available at **accessible** prices for the local population. 70% of smaller and larger agriculture and food producers of the region will carry out **organic production**. Local small farmers and small food businesses will take advantage of the economic opportunities brought by **tourism** through **sales** of local products to tourists and the consequent development of new market channels for **export**. Export will represent 20% of sales for local producers. Local producers will satisfy 50% of the food products' demand coming from local tourism. This will also contribute to more generally develop the local economy. Within this context **market and coordination arrangements** were developed allowing also the supply of **local restaurants** and **public canteens** which are provided, respectively, for 50% and 20% of their needs by local producers. It is foreseen that 30% of local production will be carried out and organised under established frameworks of **value chain coordination's arrangements** between local stakeholders. All steps of the food value chain in the region will be characterised by an increasing application of **innovative practices and technologies**. Along with this trend, in small farms there will be a generational **renewal** with 50% of people involved in the agriculture sector (farmers and workers) being considered young (under the age of 40).

All in all, the goal identified by this participative visioning exercise is that SF and SFB strongly contribute to the overall sustainability of food production and to food and nutrition security of the region. Hence, participants identified two action plans to achieve this overall goal through a number of actions.

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Overall objective: Local small farms and small food businesses strongly contribute to sustainable food production and adequate food and nutrition security (of local consumers) within a regional food system which is characterised by sustainable and innovative practices, generational renewal and a high level of coordination within local stakeholders (including tourism entrepreneurs and exporters) around the value of local food products.

2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

	Action Plan: Contribution of SF to regional food total production; Contribution of SF to regional FNS, Contribution of SFB to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	**Objective** *Local small farms and small food businesses strongly contribute to sustainable food production and adequate food and nutrition security (of local consumers) within a regional food system which is characterised by sustainable and innovative practices, generational renewal and a high level of coordination within local stakeholders (including tourism entrepreneurs and exporters) around the value of local food products.*	
2030	Action	Action
	The Region of Tuscany enacted a new law on food and nutrition education for citizens [Administrations]	*Trade and logistic platforms established for local agrifood production in the region* [Local stakeholders' consortia; Producers' associations]
	Action	Action
	Developing a critical mass to bring issues, related to the importance of local and quality food and consumption, to the local policy makers (Regional administration bodies for agriculture)	*Agreement of value chain arrangements (e.g. contracts) at a regional and national level* [Producers' associations]

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	[Administrations; Producers; Producers' associations]	
	Action	Action
	Local municipalities sign a pact for implementing common strategies and communication activities for developing local food production and consumption [Administrations; Producers; Producers' associations]	Establishment of rural districts with the involvement of different stakeholders including non-productive actors (e.g. hobbyists) [Administrations; Producers; Producers' associations]
	Action	Action
	Local administrations and different small farmers' organisations find an agreement to create awareness on positive impact of local and seasonal food consumption in the region [Administrations; Producers; Producers' associations]	*Signature of an agreement to establish rural districts, identifying a specific area of interest, defined goals and finding a body (e.g. local administrations) as a referential stakeholders for controlling the activity of the district* [Administrations; Producers; Producers' associations]
	Action	Action
	Farmers, practitioners and scientists of the Pisa province finally join efforts to provide data on local agrifood self-sufficiency [Producers, Administrations, University]	*New RDP measure include resources for sensitive areas aimed at improving value chain coordination around local food products as well as technical and managerial training for local stakeholders* [Administrations]
	Action	Action
	Existence of a number of initiatives aimed at promoting local and high-quality food products through improved forms of coordination [Consortia of agri-food sector stakeholders; producers' associations]	*Integration of additional criteria or quality indicators/signs to origin/quality/traceability labels of local food products* [Producers; Producers' associations]
		Action

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Present		*Existence of a number of initiatives aimed at promoting local and high-quality food products through improved forms of coordination* [Consortia of agri-food sector stakeholders; producers' associations]

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

Three scenarios were discussed during the workshop with all participants as a whole group (seven participants); then the research team further detailed the base inputs of participants building on the context-specific knowledge of the territory.

3.1. Scenario A: "Between wishing and fishing"

"Between wishing and fishing" is a scenario in which participants forecasted that the trends in place in the past 30 years will have progressively consolidated. 'Wishing' stands for the attempts made by some local niche innovators to address everlasting challenges, while 'fishing' stands for the extraction of value carried out by global logistic platforms and retailers.

The impacts of the European level scenario on the Pisa area differ in relation to the diverse sub-areas of the region. For example, the hilly area vocated to **viticulture and wine production** has gained increased visibility on global markets, **boosting exports and competitiveness of wine producers**, whereas the local wine-market has remained much less interesting. Regarding **cereals production**, an opposite situation occurred: the crisis initiated at the beginning of the century has progressively worsened the situation of cereal farmers, **excluded from relevant global import/export markets and**

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circuits. Overall, the cereal sector has undergone a concetration process, with the exception of the area of Santa Luce, where the effective coordination activity done by the cooperative allows to compensate farmers' fragmentation, organise technical services and support product valorization. The role played by Santa Luce Cooperative's (not only for cereals but for other products, as well, e.g. wine, vegetables, honey, legumes) is still critical, as it has been in the past. In fact during the nineties (of the past century) this area was able not to turn to "set aside" measures, which farmers were able to avoid, due to the "buffering" support provided by the cooperative (allowing farmers to adapt). Nowadays, **while land abandonment pregresses**, some farmers are able to re-position themselves within **small niche productions (ancient wheats and small, high quality processing)**.

In relation to the **vegetables sector**, there is an effort made to **re-territorialise production and consumption**, however **large scale distribution's contractual power** still represents the **main obstacle**. The main challenge to innovative distribution is given by '**logistics**'. Initiatives such as **consumers cooperatives** (e.g. solidarity purchasing groups) are less frequent than it happened since the year 2000. Furthermore, it is still **hard to find intermediate actors** between very 'alternative' consumers and more traditional retail channels. **Supermarkets were** able to **capture the demand for high quality**, fresh products, to the detriment of local small producers who cannot afford such high production costs. This is indeed one of the most relevant themes: the intermediate actors between supply and local demand, are generating constraints also for local small business, that are oriented (and have invested significantly) towards qualification processes. These small businesses are facing great difficulties because the retailers (including Amazon) have taken on and absorbed those consumers who showed to be attentive to sustainability values, while able to keeping very low prices. The **'organic shops' are all in vertical crisis**: the **prices of products are not competitive with any large retailer**. This accentuates the risks of lowering remuneration and encourages the proliferation of the **black labour market**, in the attempt to reduce production costs.

Public authorities are keen and supportive of possible coordination solutions between producers and consumers. However, with respect to the innovation necessary for coordination to be effective, there is a recognition of a **'capacity' gap**. The impression is that **human resources** able to implement forms of organizational and social innovation are not available here. The **main innovation to coordination and logistics**, discussed since many years but not yet activated, is establishing a **local platform for local produce exchange**. This has to cope with **insufficient digitization and inadequate tools** available and in place. There are micro attempts to innovation, such as "Ti cucino bio" a small organic catering, which is actually working with local producers. But this isn't enough to manage the economies of the companies that are involved.

Concerning tourism and local catering companies: they are not sufficient to support the economy of companies that could potentially be involved. Very small food business are not so widespread in Pisa, they are rather larger companies or they do not exist (unlike Lucca where the smallest realities are much more vital). Some exception is given by the fruit sector (on the hills of the Val d'Era and the Pisa mountains) where fruit production and processing exists but mainly oriented to self-consumption, therefore poorly market integrated. Nonetheless, these activities still contribute to safeguarding land abandonment and the territory.

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On the **Pisan mountains**, the disastrous consequences of the fire that took place in 2018 (it burned 1600 ha) are still felt. The territory has recently managed to re-start, however the farming system in that area has closed down since many years, while the local **stakeholders and policy makers were not able to put in place an effective coordination** among the possible solutions. The 'Community of the Woods', signed by public administrations right after the fire event, was not effective in supporting private individuals to manage their own land. This because there is a level, that is neither private nor public: management of public goods and effective public private partenrships require new strategic views and principles.

In summary and to conclude: has local food supply directed to local consumption increased? It has always been very low, and in this scenario it can only be lower. **The concentration in logistics (Amazon) increases the vulnerability to food insecurity for the overall local food system**.

3.2. Scenario B: Deeply re-generative

The "deeply re-generative" scenario in Pisa, is partly but not fully aligned with the European 'enabling Scenario'. In relation to concentration of supply chains and markets protection, and despite prevailing EU closed markets and less concentrated supply chains, in Tuscany **the role of intermediate supply chain actors and large retailers remains critical**.

"Deeply re-generative" is an enabling scenario, characterized by **increased flexibility of regulations and norms, also favoring small farmers and processors**. However, despite the general trend to rural re-population, access to resources has not become much more favorable, at least not for everyone. There is a problem of **vulnerable groups and disadvantaged situations**, in rural and marginalized areas persist: labor rules, residents' services, food democracy and production relations are just some of the issues that still affect negatively **marginal territories**.

Tourism, which remains a source of economic value, is also largely characterized by **'extractive' approaches**, and has become intrusive and annoying, especially to the remaining old farmers, who progressively retreat. **Migrants can offer a generational change**, in some areas, but **their rights are not fully recognized**, therefore their potential remains untapped. As **large companies keep prevailing** and import-export rules expropriate rights, the **extraction of resources continues**, although relationships within the supply chain change. What kinds of products come out of the food system? **Mainly wine and industrial processed products**.

Consumers pay attention to quality attributes, origin and sustainability. However, **large retailers offer even fully traceable products**, with significantly **lower prices compared to local productions**. This, in some cases, means exploitation of labor or push towards costs reduction. The same goes for **tourism**: if residents themselves do not manage tourism flows, this overall leads to impoverishment, as translates into a flow of people (external stakeholders) that **leaves no local value** (e.g. if bookings are managed by centralized agencies, as 'booking.com'). If local people are not **owners** of the local facilities, this coordination of local resources is hindered.

A 'Deeply re-generative' scenario means that a revolution in the world of consumption and logistics has taken place. For these purposes, access to knowledge resources is a key, together with the ability

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to interact positively. For example, in relation to the fire that struck the Pisan Mountains in 2018, a successful project on tree branches shredding has been put in place and has become an efficient system, co-governed by public and private actors, to prevent fire spreading.

High skills and technologies must be paid: large investments and public resources have been made available, also in view of developing the necessary abilities to address the nodal points required to make solutions effective. This deeply changed the situation that was in place 30 years ago, at a time when public authorities were financing projects and processes that were not useful or addressing actors that did not have the strategic vision to translate ideas into factual reality.

3.3. Scenario C: "The Bermuda agri-food triangle: overexploitation, abandonment and neo-self sufficiency"

This is a disrupting scenario made of **general abandonment of agriculture**, in which **niche small productions persist** because farmers find some **forms of adaptation**. It is a context in which the small farms can find some form of economic integration. Those who resist cultivate mainly for **self-provisioning** as **agriculture is a social buffer** to supplement income (i.e. subsistence). Extraction mechanisms take place as in the other scenarios. New small farms activate forms of **coordination** that are aimed at **subsistence**. Small farms and small food businesses take hold: those who have difficulty accessing local labor markets, take a piece of land abandoned and start to cultivate it. In fact, even in the most disrupting scenario, the **small farms still continue to exist**, because of local connections and they keep existing and adapting because thay are not totally linked to market mechanism. Even in the worst "disruptive" scenario, the small farm continues to represent a piece of society.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Scenario A: "Between wishing and fishing"

- Exposure to **external powerful intermediaries**: the latter have the power to empty the potential of small scale actors to invest in innovation
- Sensitiveness of the system: **lack of intermediaries** able to compete with large scale distribution and logistics platforms.

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- Sensitiveness. **The capacity gap**: the impression is that **human resources** able to implement forms of organizational and social innovation are not available here. Insufficient digitization solutions and inadequate tools available and in place. This limits the potential of the policy initiatives in supporting network building and coordination mechanisms (limited adaptive capacity).

- Adaptive capacity: Taking advantage of **existing local networks of firms**, institutions and different actors to intervene collectively on value creation and **knowledge communication** on local agricultural products and services.

4.2. Scenario B: "Deeply re-generative"

- Exposure of the system to: **Tourism** is still a source of economic value, but characterized by **'extractive' approaches**: it has become more and more intrusive and owners of facilities are not local but come from abroad, limiting coordination and integration across initiatives.

- Sensitiveness of the system to: **persistence of vulnerable groups** and disadvantaged situations, in rural and **marginalized areas**: labor rules, residents services, food democracy and production relations are just some of the issues that still affect negatively marginal territories.

- Adaptive capacity: **Proposing collective projects** to answer calls and seek public grants (from policies) for structuring network strategies on product and service marketing within the territory.

4.3. Scenario C: "The Bermuda agri-food triangle: overexploitation, abandonment and neo-self sufficiency"

- Sensitiveness and exposure similar to previous scenario

- Adaptive capacity: the remaining small farms that resist cultivate mainly for **self-provisioning as agriculture is a social buffer to supplement income** (i.e. subsistence). Even in the most desrupting scenario**, small farms continue to exist**, because of local connections and they keep existing and adapting because thay are not totally linked to market mechanism.

5. Action Plans under different scenarios

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios? You can copy and paste four times (one per scenario) the tables of section 1 to highlight the actions affected by each scenario. Add any explanation that you consider relevant to understand the reasons behind, as well as additional recommendations to overcome those difficulties.

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Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

The feasibility of each action included in the Plans (Section 2) has been assessed under the three different scenarios detailed in Section 3. A colour code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

ACTION PLAN 1: Contribution of SF to regional food total production; Contribution of SF to regional FNS, Contribution of SFB to regional FNS

Objective : ***Local small farms and small food businesses strongly contribute to sustainable food production and adequate food and nutrition security (of local consumers) within a regional food system which is characterised by sustainable and innovative practices, generational renewal and a high level of coordination within local stakeholders (including tourism entrepreneurs and exporters) around the value of local food products.***	*Scenario 1*	*Scenario 2*	*Scenario 3*
The Region of Tuscany enacted a new law on food and nutrition education for citizens [Administrations]			
Developing a critical mass to bring issues, related to the importance of local and quality food and consumption, to the local policy makers (Regional administration bodies for agriculture) [Administrations; Producers; Producers' associations]			
Local municipalities sign a pact for implementing common strategies and communication activities for developing local food production and consumption [Administrations; Producers; Producers' associations]			

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Local administrations and different small farmers' organisations find an agreement to create awareness on positive impact of local and seasonal food consumption in the region [Administrations; Producers; Producers' associations]			
Farmers, practitioners and scientists of the Pisa province finally join efforts to provide data on local agrifood self-sufficiency [Producers, Administrations, University]			
Existence of a number of initiatives aimed at promoting local and high-quality food products through improved forms of coordination [Consortia of agri-food sector stakeholders; producers' associations]			

ACTION PLAN 2: Contribution of SF to regional food total production; Contribution of SF to regional FNS, Contribution of SFB to regional FNS

Objective : ***Local small farms and small food businesses strongly contribute to sustainable food production and adequate food and nutrition security (of local consumers) within a regional food system which is characterised by sustainable and innovative practices, generational renewal and a high level of coordination within local stakeholders (including tourism entrepreneurs and exporters) around the value of local food products.***	*Scenario 1*	*Scenario 2*	*Scenario 3*
Trade and logistic platforms established for local agrifood production in the region [Local stakeholders' consortia; Producers' associations]		Platforms would be characterised by an "extracive approach" of strong external actors who would pay for highly skilled	

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		human resources	
Agreement of value chain arrangements (e.g. contracts) at a regional and national level [Producers' associations]			
Establishment of rural districts with the involvement of different stakeholders including non-productive actors (e.g. hobbyists) [Administrations; Producers; Producers' associations]			
Signature of an agreement to establish rural districts, identifying a specific area of interest, defined goals and finding a body (e.g. local administrations) as a referential stakeholders for controlling the activity of the district [Administrations; Producers; Producers' associations]	Only if skilled human resources are available, but they are lacking	Only if skilled human resources are available, but they are lacking	
New RDP measure include resources for sensitive areas aimed at improving value chain coordination around local food products as well as technical and managerial training for local stakeholders [Administrations]			
Integration of additional criteria or quality indicators/signs to origin/quality/traceability labels of local food products [Producers; Producers' associations]	Only for wine production	Only for wine production	
Existence of a number of initiatives aimed at promoting local and high-quality food products through improved forms of coordination [Consortia of agri-food sector stakeholders; producers' associations]			

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6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

At the end of the workshop participants were pleased to being involved and participating in such foresight exercise. The participation of a representative of the regional administration (agriculture division) was key to highlight, to the other participants, current and next policy trends for the agri-food sector at a regional level. The workshop was the occasion for some participants to create or keep contacts. Participants were interested to share the collective/network project/initiative that each of them is participating to build (e.g. rural districts, actors and producers' consortia). They agreed on the key role that the University of Pisa could play as a neutral actor facilitating communication, a deeper discussion on crucial issues and the search for shared solutions between different producers' organisation, local and regional administration and single producers. At the end of the workshop participants expressed their hope in a positive outcome of such exercise for activating and triggering network initiatives to gather local producers around a shared "platform".

From the point of view of UNIPI researchers the outcome of the workshop was positive, in terms of the feedback from participants and for the information retrieved. Building on the expectations of participants about a potential coordinating role of UNIPI for collective producers' initiatives, researchers reflect on the suitability of researchers to play such a role and the way researcher can effectively contribute to these initiatives through H2020 projects. The researchers observed a fatigue within the regional stakeholders for taking part in a number of participative events. This might explain the reduced number of participants to this last participatory event in the reference region. It must be considered that the SALSA project is one out of a number of projects led in this area. In any case it really seems that these participatory meetings contribute to feed reflection within stakeholders' networks in the region about the future of local food systems and the problems affecting SFs and SFBs. They also allow many actors to get aware of the different initiatives that are being carried out in the territory. As researchers we think that these foresight methodologies can be further improved in order to get unpredicted findings and new information.

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7. List of participants

Key experts and informants	Position	Institution	Sex
1. Gianluca Barbieri	Civil servant (Responsible of rural districts' activities)	Agriculture division of Tuscany Region	M
2. Francesco Elter	Local representative (President) of producers' association	Confederazione italiana agricoltori	M
3. Giovanni Vezzosi	Member of a local Municipal Council	Municipality of Montecatini Val di Cecina	M
4. Nicola Cantoni	Consortium for local products and tourism (President)	Consortium Terre di Pisa	M
5. Ginevra Venerosi	Wine producer	Tenuta di Ghizzano	F
6. Stefano Berti	Local representative (Director) of producers' association	Confederazione italiana agricoltori	M
7. Marco Veronesi	Technical advisor	Associazione Allevatori Regione Toscana	M
Workshop facilitators			
Gianluca Brunori		UNIPI	M
Laura Fastelli		UNIPI	F
Francesca Galli		UNIPI	F
Lucia Palmioli		UNIPI	F
Paolo Prosperi		UNIPI	M

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7.3. R14 Latgale – Latvia

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR14 – Latgale (Latvia)

Authors: Sandra Šūmane, Anda Ādamsone-Fiskoviča, Emīls Ķīlis, Miķelis Grīviņš, Tālis Tisenkopfs (Baltic Studies Centre - BSC)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

The discussion of the contribution of SF to regional food production in 2030 quickly revealed the diversity and incompatibility of the opinions on how regional food production should be developed. Despite the diverse visions, the following six objectives for the SF role in 2030 were identified.

SFs produce 35% of the food sold in the Latgale region. For the participants, the future of food production in SF was inevitably connected to possible outlet markets for their products. The participants speculated that Riga, the capital of Latvia, is the most promising market for regional farmers. On the other hand, they recognized that this market is already taken by producers living in the proximity to the capital, and the competition is high. Furthermore, the comparatively long distance from Latgale to the capital means higher transportation costs that make the region's products less competitive. Therefore, developing trade within the region and focusing on the local market were seen as the most appropriate market strategies for SF. The participants suggested that it should become a norm for regional retail chains, small shops and HORECA to introduce separate shelves or separate pages in menus clearly offering/ designating local products. Also on-farm trade should be encouraged. The themes raised under this objective were also substantiating the following objective.

90% of SF are members of marketing cooperatives. Establishing or entering new outlet markets is related to SF's production capacity and the surplus they can produce. Typically, SF are selling small and irregular amounts of products. This hampers establishing of any long-term collaboration with retailers. The small irregular surplus would matter less if farmers would convince consumers to engage in on-farm trade and to purchase food products directly from the farmer. Still, a range of problems would need an immediate solution. Firstly, a consumer may need to visit several farms to find all the needed products. One visit to a shopping mall will equate to a long trip with stops at numerous farms, and it is highly likely that a consumer chooses the shopping mall instead of SF. To ensure that consumers get a maximum diversity of food products at the smallest possible number of farms, an informal cooperation among farmers is needed in selling each other's products.

However, on-farm trade was still portrayed as a marginal outlet channel. To increase the share of SF's products in the regional market, SF would need to penetrate conventional supply chains. The participants estimated that local actors operating in local food systems probably would be open to collaborate with local SF. However, most of them still would require a stable supply of large amounts of goods that one farmer cannot ensure on his/her own. Thus, cooperation among regional SF is crucial. Such a cooperative could also help SF to identify and negotiate with new partners the regional food system and beyond.

10-15% of SF's products are processed either on-farm or in SF cooperatives. Even when SF's products reach the market, often the profit margins farmers receive are low. The participants were speculating

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that processing could resolve this problem allowing a farmer to earn more from each unit sold. The second issue regarding SF's products was their short shelf life, particularly for fast perishing products, like milk, vegetables and other. Even basic processing could prolong their shelf life, diversify SF's marketing options (selling to more distant places and via the Internet), resolve logistics of storing and transportation, and increase the value of fast perishing products. Processed products could raise retailers', caterers' and consumers' interest in SF's products.

Diversified and adapted instruments to raise SF' competencies in marketing and trade. While there are SF that have successfully operating in the market, the participants recognised that an average SF merely wants to produce food. These farmers do not want to engage with anything that goes beyond simple farming. Only few regional SF have shown that they have the skills needed to sell their product and the knowledge/ scent to produce products tailored to consumers' desires. Several educational events on marketing and product development have been organised in the region. Although the participants questioned the effectiveness of these events, they also insisted on the development of communication tools that could support SF's need for marketing knowledge. Any further activities addressing these issues should embrace farmers' diversity.

Operational quality scheme allowing to recognise products from the region. Currently, there are no instruments that would help a consumer to recognise a local / regional Latgale product. The participants suggested that the region's public image could be used in marketing the region's products. A quality scheme should be established, putting in value the image of Latgale as a clean and natural region that has managed to maintain also its specific cultural heritage. In some product groups (for instance, artisan spirit – "Šmakovka"), efforts have been made to establish a kind of a quality scheme, and they may serve as an example. None of the participants thought SF could benefit from the three EU schemes of geographical indications and traditional specialities. These instruments were perceived as too bureaucratic and not offering real benefits to the region. However, the participants agreed that Latgale quality scheme could benefit from other quality or origin labels out there. According to them, a trademark indicating the regional origin should ensure traceability of the product and the transparency of the supply chain but focus less on the product's quality or production methods used. Thus, as it was observed quite frequently through the discussion - the participants were mainly concerned with the development of the local economy yet felt less responsible about environmental, social or health aspects of food production. It was suggested, that it is the responsibility of producers to choose either they want to engage with any other scheme signalling consumers that their product holds some additional quality traits.

To return the unused small plots of agricultural land in production systems by redistributing them among small farms looking for new plots of land. This was the highest-ranking issue as well as the most controversial issue. The argument raised by the participants was that often it is difficult for SF to acquire additional land for farming. Even when there is a suitable plot on the market, a SF cannot compete with larger farms willing to buy the same field. Young farmers who are just starting to farm are even more concerned – the aspires of these entrants might be halted by the lack of free land. The participants suggested that there are strips of land owned by large intensified farms that remain unutilized because of their location and difficulties to use any heavy machinery on them. The participants claimed that these small strips could make a difference to small farmers. Still, we have to note here, that this was the only objective that was contested by some participants of the workshop

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saying, that this is not a real issue. Despite this scepticism, the objective received the highest assessment of importance, and therefore it was selected for the back-casting exercise and the development of an Action plan as presented in the chapter 2 (i).

(ii) Which is the role that participants would ***like SF to play in 2030 in terms of providing an adequate diet to both consumers and farm households in the region? Which*** *are the concrete objectives that this vision translates into?*

The central general discourse in the visioning exercise on SF's role in providing an adequate diet to consumers was that it is desirable that the role of SF in the regional consumption increases. Such increased contribution of SF was found to be beneficial both for consumers and producers, as well as for rural areas and the regional FNS. The participants could not quantify an optimal share of SFs' products in the regional consumption in 10 years (often 25% were mentioned, but a participant defending local food self-sufficiency raised 75%), but they pointed to a range of quantitative and qualitative changes in the existing food practices which would mark improved SF's contribution to the regional consumption and adequate diets.

Increased role of SF was associated with improved availability and access to local products to which regional SFs' products belong, and increased their consumption: "*All consumers all across the region consume local SF's products in 2030.*" In addition, SF were seen as contributing to more diverse, ecological and healthier consumption in future. The participants found that SFs' can particularly contribute to consumption of various "special quality" products, such as niche products, organic products, traditional local products, also "simply" fresh and seasonal products. In parallel, the participants pointed to the strong depopulation trend in the region which means that the regional demand for food will continue to decrease. This might have diverse impacts on SF and their contribution to regional consumption, depending on the adaptation strategies they choose (like, specializing in special quality products, selling food out of the region or reducing food production).

There were several interlinked preconditions identified that would increase SFs' role in the regional consumption. It was found necessary to raise regional consumers' food-awareness and solidarity with local small-scale producers. Regional consumers should be better informed about local SFs' products and how to access them, and better educated about nutritional and health aspects of food, and also of social, economic and environmental impacts of different farming practices and systems. Consumption habits of purchasing and cooking food should change. SF's products are more likely to be unprocessed and their cooking demand time and skills that consumers might need to relearn. *"Young people are very educated about healthy and nutritious diets, but they don't know what to do with an entire chicken, how to cook it. It is less easy to prepare a fresh entire chicken than industrial ready-to-cook or -eat small 200g packages from a supermarket."* Consumption of local SF's products should become *"stylish"*. *"The State"* should invest more in informing and educating consumers about food of local origin, its nutritional and other qualities, and also about SF. Such public campaigns would increase SFs' public image and local products' competitiveness against imported and conventional products, which benefit from broad commercial marketing campaigns.

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Next, SF should increase their production capacity and surplus. Cooperation among SF in production, processing and marketing was seen as one solution, even a must, to increase availability of SFs' products. In addition, new market channels for local SFs' products should be created to improve consumers' access to SFs' products. These might be farmers' own initiatives of direct marketing *("small farmers should sell not only at regional farmer markets but open their farms to consumers"*) or developed in cooperation with other food chain actors. Farmers' marketing and entrepreneurial knowledge and skills should be improved for this purpose. The participants were sceptical that dominant conventional food chain actors (particularly supermarkets) would voluntary open their shelves to small producers' products; therefore top-down regulations would be needed. There was a general agreement that regional authorities should introduce support to local farmers and products in all the relevant regional policies and regulations, firstly those regulations of public procurement.

Finally, the discussion regularly addressed a range of national/European regulatory and policy issues which are shaping the contribution of SFs to regional consumption. There were views expressed and examples provided on the current policies and regulations (agricultural, taxation, and other) and attitudes of administrative and controlling bodies that are penalizing instead of accompanying producers, in particular small-scale ones. Therefore, their legal operation, production capacity and even existence are undermined. An extreme vision of this was expressed by the statement *"The whole state policy is aimed at destroying the small-scale sector and keeping only big producers."* The participants estimated that the actual role of SF in the regional FNS and adequate diets could hardly increase, if existing agricultural and food practices and policies continue to prevail. Even more, some of the participants expressed that the aim should be set and efforts made so that *"in 2030, there are still SFs left"*. Therefore, a revision of these regulations, policies and attitudes is necessary to ensure that SF continue to produce food, and more specifically to produce legally. The participants evoked that current food regulations are too restricting and expensive for SF, reducing their entrepreneurial spirit and profitability. As a result, some of SF choose "grey" or semi-legal practices. Legalising would improve food traceability and its safety to consumers.

The vision of SFs' role in provision of an adequate diet to both consumers and farm households in the region in 2030 was translated into two interlinked goals: (1) SFs' products are widely accessible in the region and (2) There is increased regional demand for SFs' products. Action Plan was developed for the first goal, as it is presented below in the chapter 2 (ii).

*(iii) Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into*

At the beginning the participants commented on the time horizon of the anticipatory activity suggesting that 2030 was too far away as actions needed to be taken already now in order to improve the situation of SFB in Latgale. This testified the commitment and keen interest of the participants to address the role of SFB in food systems and FNS. The future role of SFB was seen along the following five key development themes.

Development of SFB in relation to rural tourism: Participants emphasised an opportunity to develop tourist services offered by SFB. This related to an idea to link SFB with non-traditional agriculture and

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craftsmanship and the development of home and small-scale production of special Latgalian products. Specialisation in niche products and maintenance of culinary heritage was seen as an option. There was an agreement that Latgale SFB can offer products with high organoleptic and nutritional qualities. The participants were of a strong opinion that future of SFB will depend on successful linkage between local production, tourism and heritage food products. In particular, tourists and visitors to the region were seen as key target groups of consumers, therefore suggestions were made to organise combined SFB products and tourism marketing campaigns. For example, an idea was proposed to establish product routes in Latgale (e.g. a strawberry route) similar to wine and bread routes in Toscany, Italy. Latgale region is distant from the main consumer markets in Latvia therefore tourism was seen as important driver for SFB.

Another SFB development theme was embedding of SFB in cultural heritage and the environment. Participants suggested that SFB in 2030 should contribute to the preservation of clean and aesthetically beautiful Latgalian environment and landscape. SFB were seen as existing and future nodes of cultural tradition, culinary heritage, local history, and stories of place. It would be beneficial to involve local historians and story tellers as ambassadors of SFB who would communicate stories of specific Latgalian products and places and promote the region to outsiders. Within the theme of cultural embeddedness the participants noted importance of the values of local patriotism and work ethics standing behind the future development of SFB.

The third future direction was development of organic production and processing. In this regard the participants emphasised three important aspects: high ecological qualities of Latgalian products (only a proportion of them are formally certified as organic), a great diversity of food produced by SF and SFB, and a possibility to market SFB products via 'green basket' schemes. Organic certification, although spreading in Latgale is still an issue. First, organic processing is still undeveloped; second, there is a popular belief in 'green' and 'ecological' products without formal certification and environmental standards. Developing the 'green basket' could be a new grass-root standardisation initiative which could become also a part of a marketing strategy for SFB products. A possibility was mentioned to develop green products box schemes in Latgale in collaboration with direct purchasing groups.

The fourth development objective identified was income and employment the SFB would provide in 2030. Ideally, three kinds of income would have increased by 2010: CAP payments and subsidies to SF and SFB, SME income and income of SFB employees.

The final development theme was related to information and knowledge. In order to develop successfully, SFB need to implement effective mutual information exchange activities and marketing activities oriented towards customers. Several information, marketing and knowledge exchange activities were suggested: participation in food fairs, organisation of SFB promotion campaigns, joint development of basket schemes and other. Education of consumers was seen as a part of awareness rising about local and SFB products. It was also noted that SFB may need support from advisory services and development agencies to organise collective marketing initiatives that could include also place branding.

After discussing these five future possibilities of SFB the group selected the main ones and formulated two main objectives or desirable future states of SFB in Latgale in 2030: (i) "SFB in Latgale develop in

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relation to tourism, cultural heritage, environmental protection and organic production" and (ii) "SFB in Latgale provide good jobs and income". Further these objectives were unfolded in consecutive action streams and responsible actors in a back-casting exercise.

2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions?

Timing	***Contribution of SF to regional food production***
	To return the unused small plots of agricultural land in production systems by redistributing them among small farms looking for new plots of land.
2030	*Reduced requirements for SF selling small amounts of produce. This would require a change in regulations and changes in the way how any food-related regulations are introduced. State agencies like the national Food and Veterinary Service, State Revenue Service and local municipalities should be more lenient when it comes to SF. This seemed to be a task that is being resolved all through the discussed period.* [Food and Veterinary Service, State Revenue Service, local municipalities]
	Local processors and local SFs are the main suppliers of products for catering organised in state and municipal institutions. Participation in food procurement ensures the stability of price as well as guarantees a stable and predictable outlet market. [Local processors and SF]
	The national government makes it its priority to create a market for produce coming from SFs (ensuring that most of the products consumed in schools, hospitals, jails and other official institutions must be bought from local, preferably small producers). [National government]
	Processors interest in products originating from small SF is growing. Processing enterprises are buying local products thus ensuring that there is a clear outlet channel that will be able to absorb harvests. [Regional processors]
	Municipality joins farmer cooperative and helps to develop infrastructure that allows improving logistics and thus reduces trips required to sell SF products. This allows SF to trade in cities, with schools, in local buying points more effectively. Furthermore, this allows SF to take larger contracts thus opening a way for collaboration with processors. [Municipalities, farmers cooperatives]

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	State leases small plots of agricultural land to SF. This allows small farms to expand a little and ensures that new entrants have access to agricultural land. [National government, State Land Service]
	Municipalities strengthen its inner structures dealing with procurement, land use and local entrepreneurs. It starts by declaring that these issues will be municipalities priority and that person will be allocated/hired/trained to deal with these issues. The interest in the mentioned policy areas is a response to the pressure from local inhabitants demanding more local food. [Local municipalities]
	State re-assesses its support for young families looking for a way to start their own small farms. [National government, State Land Service, Rural Support Service]
	Overall increase in income, global trends, ever more present environmental threats force local people to rethink their priorities. People are willing to pay more for local quality food and are willing to demand changes in legislation that would support local producers. [Local communities]
	State starts to buy strips of agricultural land that for large intensified farms have become a burden. [State Land Service]
	Reduced tax for plots of agricultural land that are smaller than 5ha. [National government]
	Food and Veterinary Service, State Procurement Monitoring Bureau, local municipalities increase the frequency of inspections in wholesale warehouses testing, can these entrepreneurs deliver the products, they have promised in their GPP proposals. [Food and Veterinary Service, State Procurement Monitoring Bureau, local municipalities]
	The state continues to increase tax for unused agricultural land. [National government]
	Better connected rural spaces attract inhabitants. Rural municipalities actively promote the benefits of rural life. [Rural communities]

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Present	*Rural Support Service shares a database of plots of agricultural land that are not currently farmed.* [Rural Support Service]
	The state and municipalities invest in rebuilding rural infrastructure in Latgale region (repairing roads and houses owned by municipalities, facilitating the development of fast internet connection, restructuring public transport connections, etc.). This helps to connect rural spaces to local urban centres and to ensure that there is a space for families willing to move to the countryside can occupy. [National government, municipalities]
	Municipalities restructure the way they work – initiative is rewarded and encouraged. Municipalities introduce measures that force them to be more proactive, open and transparent. [Municipalities]

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	Contribution of SF to regional FNS		
Timing	**Regional SF's products are widely accessible to regional consumers**[17]		
2030	Sub-objective 1.2: Regional consumers' demand for regional SFs' products has increased	Sub-objective 1.2: All the relevant public policies are supportive to SF and SFB	Sub-objective 1.3: SFs' products are available in diverse market channels
	Consumers have high food awareness and solidarity with local SF, their consumption habits have changed (including purchase, preparation of food), and they give preference to SF's products of local origin. "It is stylish to consume local SF's products." [Consumers]	*Regional and national level policies recognize SF as a key element of sustainable regional development, and this principle is integrated in all the relevant social and economic policies, development plans and regulation. Propositions are made to introduce changes in EU regulations.* [Regional and national governments, policy makers, SF and SFB lobbies]	*SFs, on their own initiative and in cooperation with other market actors and stakeholders, establish and operate a range of new market channels for SF products: on farms, supermarkets, local shops, farmer markets, public institutions' canteens etc.* [SF, food-chain actors, regional governments, NGOs]
	Media, NGOs, schools educate and inform consumers on food, its health, social and environmental aspects, and on the role of SF in producing such food. There are practical courses organised on sustainable consumption (f.i. sustainable cooking). *There is good understanding of these issues among policy makers, and public support is attributed for such educational courses as well as to informative campaigns to promote local SFs' products.* [Media, NGOs, schools, the ministries of health, education and agriculture	*National and regional regulations are better tailored to SF and SFB situations.* *SF receive the needed support from local and regional governments: like, public food procurement gives preference to local and SF's products; regulations to supermarkets to provide space for SF.* [National and regional policy makers, administration]	*SF cooperate in production, processing and marketing. SF are involved in formal cooperation: many SF are members in cooperatives, and / or there are operating many SFs' cooperatives.* [SF, cooperatives]

[17] We tried to quantify the desirable share of local SF's products in regional consumption, but the participants found it impossible. Most often the discussants referred to 25%, but no more than half was found to be realistic.

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	Marketing campaigns and ICT tools to inform consumers about SF and their products are set in place, like, navigation applications: maps with SF and their products); Open farm days organised in cooperation with a NGO Rural Traveler to attract consumers to SF. SF and food receive growing media attention. [The Ministry of Agriculture (funding for marketing campaign, SF, NGOs, IT developpers, Rural Advisory and Training Centre, media, consumers]	*Regional policy makers and administrators are trained on how to better address SF needs and include SF support measures in regional development documents*. [Regional governments]	*Advice and training programs on cooperation (for farmers, and in particular for cooperative leaders / managers), and marketing (in particular direct marketing*) [Cooperatives, Farmer NGOs, Rural Advisory and Training Centre, Latvia University of Agriculture, Agricultural professional schools]
	Networking and meetings between consumers, farmers and other interested parties to discuss food-related issues, exchange experiences, and develop new ideas and solutions. [NGOs, local and regional governments, SF, consumers]	*SF have a powerful lobby that initiates and stands for more favourable to SF policies. There is growing awareness and improving knowledge among policy makers about the role of SF in sustainable development.* [SF and their lobby organisation]	*The knowledge base about cooperation is improved: in-depth research work on cooperation and cooperatives, supported by regional governments is carried out.* [Regional governments, researchers] *Cooperation and positive examples of cooperation are popularised.* [Regional governments, researchers, Rural Advisory and Training Centre, Farmer NGOs and Cooperatives, mass media and professional media] *Current food and other relevant regulations (taxation) are reviewed and better tailored to SF situations and needs; this would increase SF's production capacity and market competition. (See Sub-objective 1.2)* [Policy makers]

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		The membership of the Latvian Farmers Federation (LLF, the only farmer NGO which is explicitly standing for SF's interests) is increasing. LLF is developing collaboration and partnerships with other farmer NGOs, local and regional governments, researchers and consumers to lobby SFs' interests. [SF and LFF, also consumers and their organisations, local and regional governments, farmer NGOs] *Administrative and controlling bodies control and also give advice to farmers (which now is forbidden and often leads to no-advice-at-all situations).* *Existing regulations and their practical implementation are well explained to farmers; there is a special online informative / advice platform for this purpose created.* [Administration]	

	Contribution of SFB to regional FNS	
Timing	*Objective 1* ***SFB in Latgale develop in relation to tourism, cultural heritage, environmental protection and organic production*** *(Key characteristics of the objective: in 2030 there are 2000+ active SFB in Latgale; the region is famous for organic production)*	*Objective 2* ***SFB in Latgale provide good jobs and income*** *(Key characteristics of the objective: in 2030 wages in SFB in Latgale reach EUR 2500 a month (the current average wage in the region is EUR 700); the employees of SFB are well trained, skilled and motivated; SFB have enforced reliable production and quality standards and they are being communicated with consumers)*

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2030	*International accreditation, recognition and marketing of Latgale SFB products* [International consortia, Latgale Region Development Agency]	*Wages in SFB reach 2500 EUR a month* [SFB, Government]
	Enacting nutritional and environmental certification and labelling of SF and SFB products [Latgale Region Development Agency, Business support organisations, Advisory services, Researchers]	*Employees of SFB are well trained, skilled and motivated* [SFB, Advisory services, Employees, Educational institutions]
	Exchange and coordination visits (regionally and internationally) for SFB owners and managers to learn and promote Latgale products [Latgale Region Development Agency, Business support organisations, SFB association]	*Latgale SFB expand on export markets and consolidate their position in the regional market* [SFB]
	Establishment of a regional SFB working group for promotion of Latgale products [Latgale Region Development Agency]	*Latgale region food products branding and labelling scheme is in place* [SFB association, Municipalities, Latgale Region Development Agency]
	Education and training of SFB employees and managers on issues of marketing [Business support organisations, Advisory services]	*SFB ensure quality and consistent stability of production according to adopted standards* *[*SFB, Food and Veterinary Service]
	Ensuring information flow among SFB in Latgale and between SFB and consumers [Business support organisations, Consumer organisations]	*SFB participate in regional and national food fairs* [SFB association, Municipalities, Latgale Region Development Agency]
	Establishment of Latgale SFB association [SFB, Business support organisations, Advisory services]	*Many SFB become innovative, reorient from simple products or reselling to innovating in niche products* [SFB]

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	Increased state support to SF and SFB, support to organic producers [Government, EU]	*SFB establish closer mutual links, share information and cooperate for common purpose* [SFB association, SFB working groups]
	Organisational support to local and farmer markets in Latgale [Municipalities, Advisory services]	*The share of shadow economy (currently 20%) is decreasing* [Government, SFB]
	Improvement of road infrastructure and re-cultivation of downgraded territories [Municipalities, Government]	*Taxation system is improved and it is favourable for SFB* [Government]
Present	*Reforming agricultural policies with greater attention to SF and their role in food security and rural livelihoods* [Government, Saeima (Parliament) deputies and commissions]	*The Government increases the minimal wage* [Government]

Few observations can be made regarding the back-casting exercise and ideating the state of SF and SFB in 2030. First, the objectives set out for SF and SFB in Latgale in 2030 are quite ambitious in terms of quality of products, quantity of production, marketing, branding and product reputation among consumers. Equally ambitious are the objectives related to environmental role of SF and SFB and their contribution to preservation of cultural heritage. Specifically SFB are seen as an important provider of well-paid jobs thereby contributing to wellbeing of employees and rural population in general.

Second, the back-casting exercise and considering actions to reach the objectives implicitly assumed that roadmap towards the ideal future starts with a creation of enabling legal and political conditions, e.g. reforming CAP, improving taxation policies, combating shadow economy, increasing support to small farms and businesses, etc. The main responsibility for these actions holds with the national and

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the regional government and EU authorities. An equally important precondition is establishing an adequate infrastructure for SF and SFB operation – improve quality of roads, secure access to land, re-cultivate abandoned territories, etc. For these activities the main responsible actors are local municipalities and the national government.

Third, attribution of responsibilities to achieve desirable situation in 2030 is distributed rather evenly among various types of food system actors – SF, SFB and their associations, policy makers, government institutions, municipalities, business organisations, development agencies, AKIS actors, consumers, media, NGOs and other. Practical implementation of actions in most cases presumes collaboration of several stakeholder groups. This is important suggestion in terms of governance as achievement of SF and SFB development objectives may depend on multi-actor collaboration that calls for appropriate institutional arrangements.

Fourth, regarding levels of governance, the group discussion suggests that responsibility over development of SF and SFB is distributed between national and EU level institutions (the government, ministries, state control institutions), local and regional administration (municipalities, regional development agencies) and also business organisations and AKIS institutions (advisory services, researchers).

3. Regional scenario narratives

3.1. Scenario A: (Changing) with the times

This was deemed a realistic scenario that arises from the continuation of current demographic and policy trends, and results in the depopulation of rural areas and increasing urban sprawl. Differentiated support measures that favoured bigger producers have gradually reduced the number and significance of small farms and SFBs. Official requirements and regulations became an ever-greater burden on small farms and small producers, and many did not see the point in following them. While some small farmers tried to cooperate and pool their resources, these attempts failed and reinforced the idea that it is better to fend for oneself. This was not practicable for many of the farmers and producers, leading to the closure of their farms and businesses. However, some farmers and SFBs have adapted to the new conditions, and the rural landscape has managed to survive, albeit in a closer relationship to urban centres.

Lack of appreciation for the need for environmentally friendly farming practices has lead to a degradation of farming land. Due to the farmers' unwillingness to implement environmentally friendly solutions on their farms, the land has gradually become less useful for farming. This development, however, was not necessarily motivated by ignorance. In some cases, farmers simply did not see the point in introducing costly measures as their children (and young people in general) were more inclined to move to the city, so there was no successor to take over the farm.

The number of small farms has significantly declined. As result of the changes listed in the scenario overview (depopulation being the most significant), the number of small farms have become less prominent in the rural landscape. Their fates have been different, but in almost all cases the changes

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have lead to the dissolution of small farms. Many farms have been absorbed into bigger farms, companies and even urban settlements. The reason for this is that small farmers no longer found it realistic to practise commercial farming as individual units and sold their land. There have been attempts at cooperation, but these have largely failed. Some of the land previously occupied by small farms is used for farming or the production of food. Some land has also been claimed by urban sprawl as farmers and entrepreneurs adapt to the changing conditions determined by global processes.

The remaining small farms are either hobby farms or specialise in niche products, with an emphasis on efficiency and development. The gradual decline of the significance of small farms had lead to a situation wherein people maintain rural holdings mainly for the purposes of health and leisure. In such cases, food is grown seldom and primarily for self-consumption or exchange with close friends or relatives in urban areas where most of the owners work and live, though some food is also sold. The maintenance of small holdings is often motivated by a desire to live a healthy and active lifestyle that is environmentally friendly and provides food products for a healthy diet. More commercially oriented and resilient farms and SFBs have been forced to adapt, but they have taken advantage of the easy access to managerial and technical innovations to increase the efficiency of their production and diversify the products and services they offer. These may include the production of niche products and the provision of (rural) tourism services, which may include activities such as mushroom hunting and other forms of gathering food.

The contribution of small farms and SFBs to regional food production has become more specialised overall. The majority of the food consumed by regional inhabitants has been either imported or produced by big companies and on bigger farms (that may or may not employ foreign workers). Small farms are seldom seen as valuable, and consumers no longer see the purpose of purchasing mundane, everyday products directly from farmers. Nonetheless, small farms and SFBs are still perceived to offer special quality products that the large producers simply cannot match. However, the stringent regulations as regards food safety and hygiene mean that such businesses often operate in the informal economy, and their reputation travels via word of mouth.

A shift in values placed less emphasis on direct communication, though purchasing power is sufficient to allow consumers to purchase quality goods. Technological innovations and cultural shifts have allowed consumers to become more comfortable purchasing products without knowing the producer in person, and modern postal and delivery services allow them to purchase food anonymously and have it delivered to them. Demand for quality food products is high, but the mediated nature of the interaction between consumers and producers has lead to a small decline in quality.

Bigger companies have started to be more mindful of quality and environmental impact, though not all are transparent about their practices. Consumer demand for responsibly grown and produced food has encouraged big companies to offer locally-sourced products that have a smaller environmental impact. Consequently, supermarket chains can now fulfil the role that was previously the domain of small, organic farms. Nonetheless, some big companies cheat to appear to be more environmentally responsible than they actually are.

The disappearance of small farms and SFBs has had a negative effect on prices. The disappearance of small farms has lead to market consolidation in the hands of a small number of bigger producers. This

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has limited competition and made food more expensive, as price is determined by a small number of producers.

Rural areas have become considerably less densely populated, though the rural lifestyle has not been completely abandoned. People have, in great numbers, moved to live and work in the city. This is mostly due to the costliness of living in rural environments and the lack of opportunities and services nearby. This has further exacerbated the condition of the material infrastructure in rural areas, but, paradoxically, people are financially better-off in the city as the cost of consumer goods has decreased. Nonetheless, some people continue to maintain their rural holdings. These are patriotically- and environmentally-motivated individuals who provide a positive example to others.

3.2. Scenario B: Encapsulation

The participants found that the scenario B pictures future when Latvia has become a nationalistic dictatorship and has left the EU. In overall, it was perceived that this future scenario poses much more challenges than gains both for the population and SF.

Structurally, in this scenario at least some SFs are in an advantageous situation – they receive State support and are much better off than the rest of the society. Furthermore, due to the poverty, public meals have become an essential mechanism to deal with food poverty and keep some standards of living. Most of the food served in these meals is coming from small farms. With reduced pressures from global chains, SF can put what they consider to be a fair price for their products. Finally, because of the growing willingness to cooperate, at least some SFs have managed to establish a successful cooperative that allows them collectively to fulfil the contract they have with caterers operating in public institutions.

However, this is just a side of the story. The country is getting ever poorer and Latgale – as it always has been, is the region where this can be felt harsher than elsewhere. Locally, the only functioning SF's strategy is to sell food to local institutions which have accumulated an unprecedented power over SF as their principal customer. The procurement is buying products from just a handful of farmers while the bulk of SF can just hope, that they will be invited to participate in the scheme sometime in the future. This has created an elite of SF, which is much wealthier than other farmers and the population in general. There are growing tensions between the general population and prosperous farmers because of the privileged situation of the latter.

The remaining supply chains are broken. Within the region, consumers do not have money to buy the amounts of food that would ensure farmers' livelihoods. In the situation of non-existent global trade, there is no competition with very cheap import products, on one hand, but there is no access to markets that could bring some finances in the region, on the other. Meanwhile, the growing poor rural population is fuelling social tensions. Lack of trade pushes the region into deeper poverty.

The region might consider rebooting and empowerment of the regional food system. However, the groups benefiting from current arrangements are opposing to this. In addition, rebooting requires access to knowledge, innovation skills and learning opportunities. Farmers lack access to any of this. Consequently, there is a general feeling among people that the situation cannot be changed. Many farmers who used to have commercial aspirations have shifted to subsistence farming. For these

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farmers, barter is the main form of trade. However, with the growing population and dropping welfare levels, their fields are robed regularly. People justify thievery by pointing to the discontent they have with the small group of wealthy farmers. Although it is just a small group of farmers who benefit from public funds, public aversion is felt by everybody. Only those, who are wealthy enough can afford to introduce protection measures. Others are trying to protect their fields as well as they can.

The land is being slowly accumulated by wealthy farmers, which increasingly broadens the gap between various groups.

3.3. Scenario C: Fairyland

At the first glance this scenario looked suspiciously favourable to small farms, and the participants had difficulties to settle down in it. They have used to problem-saturated situations, but within this scenario the problems and as follow the themes of discussion seemed to have ceased out.

Considering the easy access to knowledge and innovation and the considerable public support to small farms, the small-scale sector is modernised and technologically advanced. Therefore, a smaller number of farms has a sufficient production capacity to meet the regional food demand, even if the population and demand for food is increasing. In some product groups there could be a temporary overproduction, and competition between the small farms remains quite high. Due to the saturated regional market and limited possibilities to export, the number of market-oriented small farms (particularly those producing staple products) is declining. A part of these farms is shifting to different branches, develops new products (food and non-food) or services. Good cooperation with scientists, access to advice and available public support facilitate such diversification and on-farm innovations.

Small farms have a quite easy market access due to favourable public food chain regulations, fragmented food market with no dominant market actors (retailers, processors) and their strict quality and quantity requirements. The lack of competition with cheaper imported food makes their market position even more comfortable and profitable. Short food supply chains and (individual) direct selling are proliferating, and the importance of marketing skills has increased. Supportive regulations have led to a drastic decrease of the number and range of illegal food practices, and the overall transparency and traceability in the food chain have improved.

There is a certain pressure on regional farmers to produce sufficiently diverse food to ensure nutritionally balanced and diverse diets. However, taking into account the consumers' high food awareness, their solidarity with local producers and the limited access to imported food products, it is likely that consumers have adapted their diets to the regional conditions and local farmers' production possibilities. They are consuming typical regional products.

In the meantime, the close link between consumers and producers is reciprocal, and it results in increasing consumers' influence on farmers' decision-making, production and also marketing strategies. Consumers are well-educated about food, its environmental and social impacts. They have contributed to the growth of organic agriculture in the region, dissemination of various sustainable solutions on farms (like, use of solar energy). Consumers' direct control over production has increased as they are willing to be ensured of the quality of food they consume. As regards marketing strategies, close relationships between consumers and producers are facilitating direct selling. Direct on-farm

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selling is popular and has contributed to the amelioration of rural and farms' infrastructure, in particular roads – as each small farm has to be accessible to customers.

The role of science in the food system has increased, this regards both production and consumption. The scientists are more engaged in developing new sustainable solutions to practical farming problems and are proactively addressing also causes of those problems. Farmers are better aware of the scientific 'offer' and capable to pay researchers. But there are two conflicting scientific developments in agricultural and food science which may enforce also two opposite producers' and consumers' communities – (1) the defenders of the "natural" farming and food (originating in organic agriculture) and (2) the high-tech branch (standing for genetically modified, molecular food, scientifically approved diets and alike).

3.4. Scenario D: Phoenix

The original scenario pictured a very gloomy future for SF and SFB in 2050. During the scenario exercise its narrative was appropriated to Latgale region and converted almost in an opposite narrative depicting rather well-off situation of SF and SFB in Latgale in 2050. According to the participants, small farms will adapt to the difficulties described in the original scenario and become stronger due to developing an economic resilience and through innovation and collaboration. Participants proposed several mottoes for a changed scenario narrative: "Small farms will live!", "Hit hard get stronger", "Crisis inspire revival". In the end it was decided to name the adapted scenario "Phoenix".

Altogether 10 predefined project level drivers were assessed during the discussion with regard to their feasibility and relevance for Latgale region as well as their anticipated influence on SF and SFB in 2050. In the following paragraphs we describe how different drivers may work in scenario "Phoenix".

The most negative influence will be exerted by driver 'Demography' or processes of population decline, outmigration and abandonment of rural areas. These processes may lead to extinction of many SF in Latgale, land abandonment and grabbing of agricultural land and forests by foreign investors.

Another driver 'Concentration in the food chains' which was portrayed as quite obstructive for SF in the original scenario was turned into its opposite and interpreted as an incentive for SF to become economically more resilient, diversify production, open side activities (such as rural tourism or ecosystem services) and offer niche products on export and regional markets. Participants commented that domination of big food companies and big farms will urge small producers to seek novel business models, apply distant work, develop internet marketing, practise part time farming.

'Consumers' values and habits' were perceived as driver acting in two ways: on the one hand, poor eating habits and spread of unhealthy diets may deteriorate health of population; on the other hand, SF will show innovativeness in producing special quality foods for special dietary requirements (e.g. products that strengthen human immunity). Producers together with consumers may also develop certification and marketing schemes for healthy products and exert other initiatives. This would partly counterbalance massive domination industrial foods promoted by big business.

Two other drivers – 'Public regulation' and 'Public budget and expenditure' in the original scenario were described as having very restrictive impact on SF. In scenario appropriation the influence of these drivers was termed in more neutral terms. Participants agreed that legal and regulatory requirements

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for SF in 2050 may have even toughened while the public support may remain minimal. However discussants anticipated a shift in policy orientation towards greater recognition of the role of SF which may lead to increased support levels. At least the currently largely neglecting political attitude towards small farms was seen as largely outdated.

The driver 'Degree of access to managerial and technical innovations' which in "Disruption" scenario acted as a blocking factor for SF, in a reworked "Phoenix" scenario was radically reinterpreted as a positive driver. An explanation was given – if access to research outcomes and knowledge stocks are poor and innovation advisory services are absent or difficult to access, SF and SFB will undertake innovation brokerage and knowledge transfer roles themselves. SF will engage in mutual learning, establish innovation demonstration farms, share and spread knowledge about certain innovations in mutual communication among peers. A new innovation culture and culture of creativity will be on the rise and may result, for example, in resource saving technologies of production.

Finally, the negative functioning of driver 'Social values and cohesion' in "Disruption" scenario (such as lack of solidarity, unawareness about small producer needs, unwillingness to cooperate), was reinterpreted in positive sense in "Phoenix" scenario. Difficult external conditions will urge SF and other food system actors to collaborative, become friendlier in order to survive in globalised markets. SF will intensify collaboration with consumers to improve the quality of products. New spirit of collaboration will even improve the overall quality of society and even improve socio-demographic profile of Latgale region as many migrants will return to the region and controlled immigration will add to the social fabric.

The main events that will favourably condition the materialisation of scenario "Phoenix" according to stakeholders are: (i) absence of military conflicts and peace among nations; (ii) value oriented and value driven socio-economic development and putting general human values at the basis of development; (iii) technological progress and innovation; (iv) sustainable use of natural resources, application of recycling technologies and use of renewable energy. An event or rather process that creates the greatest vulnerability to food systems in the future is climate change, greenhouse gas emissions and ecological problems.

Overall, SF and SFB in "Phoenix" scenario are a well-integrated part of regional and international food systems. The number of SF is decreased comparing to the current situation, but they continue to play an important role in food provision supplying consumers with good quality and healthy food produced in environmentally sound ways. SF contribute also to rural society in diverse forms – taking advantage of urban-rural connections, experimenting with various business models, innovating in green technologies and offering smart growth solutions. The SFB products are linked to places and cultural heritage and technologies used in their production provide also ecosystem and climate goods. New patterns of mobility and residency and new work cultures allow SF to develop various economic and marketing styles. In this situation SF and SFB are flexibly embedded in various markets (local, regional, international), various consumer and value communities, and territories of various scales. SF are economically, socially and territorially fit to contribute to food and nutrition security.

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4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats?

Scenario 1 (Changing) with the times

Big farms – the value of small farms may no longer be recognised by consumers, and the inability of small farmers to cooperate will make it hard for them to compete with big farms on price. This may lead to many farmers selling their land to big companies or their neighbours who want to expand and become bigger.

Environmental degradation – insufficient care has been taken of the environment, which may lead to small farms not having access to good quality farming land. Small farms do not have sufficient resources to purchase new land.

State policies and regulations – differentiated support measures that favour big farms, and requirements that small farms find hard to implement and follow, make the continued existence of small farms increasingly difficult.

Depopulation and urbanisation – people move to urban centres and farmers have no successors, leading to dramatic changes in the rural landscape. While some farms will be able to adjust to these changes, produce niche products and offer tourism services, many will stop their activities.

Scenario 2 Encapsulation

Poverty: price-wise - small farms cannot compete with specialised large farms and products produced by conventional supply chains. Poverty and low purchasing power would force consumers to choose the cheapest products.

Corruption: corruption is beneficial to those who are already in power positions or for those, who can afford to pay for desired decision. Small farms are neither powerful nor particularly wealthy.

Scenario 3 Fairyland

The principle threats under this scenario are linked to the closed market:

Food diversity - in the situation of closed food market and limited imports, the small farms face a challenge to ensure sufficiently diverse food products for regional consumers. In the meantime, the available public support and access to scientific knowledge and advice help farmers to diversify production and develop new products. Also, consumers' solidarity with regional consumers and their awareness of environmental and social impacts of food production will result in regionally-adapted diets. So, this is also the question of consumers' adaptation.

Access to agricultural production inputs and genetic material - nowadays a considerable share of agricultural inputs is imported. So does genetic material, especially of farm animals, has to be imported. The state has to invest more to support animal breeding in the region. Right now, animal

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breeding is too expensive for small farms, but in the Fairyland 2050 it is likely that the needed support measures will be operational. The question of agricultural production inputs remains open.

In addition, together with the increasing production capacity, overproduction and competition are possible. Therefore, a certain number of small farms will need to shift to other branches or develop new on-farm services or products to gain revenues. Good access to public support, knowledge and advice are supporting such transitions and innovations.

Scenario 4 Phoenix

The main threats impeding fulfilment of scenario "Phoenix" are: demographic decline, poverty, afforestation of agricultural lands and massive acquisition of productive agricultural land by foreign investors.

SF and SFB undertake various resilience strategies to address these vulnerabilities.

(i) One of the strategies is strengthening economic resilience which which manifests through development of new products, diversification of markets, improvements in marketing, adoption of flexible business models.

(ii) Another strategy to address threats is enhancing social resilience. This happens by engaging in social innovation, developing collaborations between SF and SFB and other food system stakeholders, embedding production in social and cultural assets of the region. Interestingly, the participants related enhancement of social resilience also to return migration of population to Latgale and a controlled immigration from other countries (China and other Eastern countries were mentioned as example). Enrichment of ethnic and social composition of the population will give additional impetus to SFB.

(iii) Finally SF and SFB will enhance their robustness by deepening territorial embeddedness or territorial fitness of farms and businesses. Small farms and food businesses will become more resilient by (re)discovering and valorising specific natural resources available at various territorial scales (on the farm, in proximity, in the region), by innovating in ecologically sustainable and resource saving production technologies, embedding. SF will learn to embed their products and technologies in so called territorial asset assemblages.

The group discussed also the anticipated impact of scenario "Phoenix" on different types of SF as identified in SALSA research in Latgale region – hobby farms, lifestyle farms, market oriented farms with low self-supply and market oriented farms with high self-supply. The participants found that scenario "Phoenix" provides opportunities for all types of farms to survive and even flourish.

Hobby farms will develop in two contrasting directions: limited access to land and other productive resources will reduce the number of SF, whereas new forms of employment and distant and part-time work will increase popularity of hobby farming.

Lifestyle farms will remain a stable segment as older generation farms will cease operation whereas residential patterns will change and many return-migrants will engage with life-style farming.

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The share of market-oriented farms with low self-supply will increase and many farms will specialise further and innovate in niche products demanded by health and nutrition quality concerned groups of consumers.

Market oriented farms with high self-supply will retain importance for health and dietary concerns of producers who will consume special quality and nutritious self-produced food.

5. Action Plans under different scenarios

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios?

The following codes of colours are used in the table:

1. Virtually impossible

2. Feasible but conditioned to…

3. Directly feasible (enabling scenario for that specific action)

ACTION PLAN 1: Contribution of SF to regional food production

Objective 1: To return the unused small plots of agricultural land in production systems by redistributing them among small farms looking for new plots of land.	***Scenario 1 (Changing) with the times***	***Scenario 2 Encapsulation***	***Scenario 3 Fairyland***	***Scenario 4 Phoenix***
Reduced requirements for SF selling small amounts of produce [Food and Veterinary Service, State Revenue Service, local municipalities]				
Local processors and local SFs are the main suppliers of products for catering organised in state and municipal institutions. Participation in food procurement ensures the stability of price as well as guarantees a stable and predictable outlet market. [Local processors and SF]				

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The national government makes it its priority to create a market for produce coming from SFs (ensuring that most of the products consumed in schools, hospitals, jails and other official institutions must be bought from local, preferably small producers). [National government]				*This activity may be implemented rather by producer associations and CSO than national government*
Processors interest in products originating from small SF is growing. Processing enterprises are buying local products thus ensuring that there is a clear outlet channel that will be able to absorb harvests. [Regional processors]			*Even if there is no direct interest from processors, there are public regulations that prioritize SF's products*	
Municipality joins farmer cooperative and helps to develop infrastructure that allows improving logistics and thus reduces trips required to sell SF products. This allows SF to trade in cities, with schools, in local buying points more effectively. Furthermore, this allows SF to take larger contracts thus opening a way for collaboration with processors. [Municipalities, farmers cooperatives]		*This process most likely will be used to strengthen the interests of small group of farmers.*		
State leases small plots of agricultural land to SF. This allows small farms to expand a little and ensures that new entrants have access to agricultural land. [National government, State Land Service]				

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Municipalities strengthen its inner structures dealing with procurement, land use and local entrepreneurs. It starts by declaring that these issues will be municipalities priority and that person will be allocated/hired/trained to deal with these issues. The interest in the mentioned policy areas is a response to the pressure from local inhabitants demanding more local food. *[Local municipalities]*		*This process probably will take place. However, there is a threat that it will be organised so that only a small group of stakeholders will benefit from it.*		*Administrative capacity of municipalities will lag behind the readiness of SF and SFB to innovate and introduce positive changes in regional food system*
State re-assesses its support for young families looking for a way to start their own small farms. *[National government, State Land Service, Rural Support Service]*				
People are willing to pay more for local quality food. *[Local communities]*				
State starts to buy strips of agricultural land that for large intensified farms have become a burden. *[State Land Service]*			*If there are large intensified farms left, then this is likely to happen*	*It is unlikely in the context or rather liberal land policies*
Reduced tax for plots of agricultural land that are smaller than 5ha. *[National government]*				
Increase the frequency of inspections in wholesale warehouses. *[Food and Veterinary Service, State Procurement Monitoring Bureau, local municipalities]*				
The state continues to increase tax for unused agricultural land. *[National government]*			*If this does not go against*	

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			farmers' interest	
Better connected rural spaces attract inhabitants. Rural municipalities actively promote the benefits of rural life. [Rural communities]			*Rural areas are well populated, and does not need active promotion*	
Rural Support Service shares a database of plots of agricultural land that are not currently farmed. [Rural Support Service]				
The state and municipalities invest in rebuilding rural infrastructure in Latgale region. [National government, municipalities]				
Municipalities improve the way they work – initiative is rewarded and encouraged. [Municipalities]				*There is strong resistance to change among municipal servants*

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ACTION PLAN 2: Contribution of SF to FNS

Objective 1: Regional SF's products are widely accessible to regional consumers	***Scenario 1 (Changing) with the times***	***Scenario 2 Encapsulation***	***Scenario 3 Fairyland***	***Scenario 4 Phoenix***
Sub-objective 1.2: Regional consumers' demand for regional SFs' products has increased				
Consumers have high food awareness and solidarity with local SF, their consumption habits have changed (including purchase, preparation of food), and they give preference to SF's products of local origin. [Consumers]				
Media, NGOs, schools educate consumers on food, its health, social and environmental aspects. There are practical courses organised on sustainable consumption (f.i. sustainable cooking). [Media, NGOs, schools]		This very much depends on how schools will see their role in the particular scenario		
Policy makers have good understanding of health, social and environmental aspects of food and of the role of SF in producing such food; public support is attributed for educational courses on food, and for informative campaigns to promote local SFs' products. [Policy makers, the ministries of health, education and agriculture]				Policy style may have changed and become more favourable towards health and environmental aspects of food production but this would have required a change in culture of policy making (more openness and policy mixes)

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Marketing campaigns and ICT tools to inform consumers about SF and their products are set in place, like, navigation applications with SF and their products; open farm days. [The Ministry of Agriculture (funding for marketing campaign, SF, NGOs, IT developers, Rural Advisory and Training Centre, media]				
Networking and meetings are organized between consumers, farmers and other interested parties to discuss food-related issues, exchange experiences and develop new ideas and solutions. [NGOs, local and regional governments, SF, consumers]				This is very likely but will require an intensive facilitation and boundary work between organisations and stakeholders
Sub-objective 1.2: All the relevant public policies are supportive to SF and SFB				
Propositions are made to introduce changes in EU regulations. [Regional and national governments, policy makers, SF and SFB lobbies]			It is not clear if in the situation of closed national / regional markets, EU regulations are still valid.	This will require an open-mindedness on the part of policy makers and a continuous persuasion and coalition building for advocacy of the SF and SFB contribution to FNS
Regional and national level policies recognize SF as a key element of sustainable regional development, and this principle is integrated in all the relevant social and economic policies. [Regional and national governments, policy makers, SF and SFB lobbies]				

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National and regional regulations are better tailored to SF and SFB situations. SF receive the needed support from local and regional governments: like, public food procurement gives preference to local and SF's products; regulations aimed at supermarkets to provide space for SF. [National and regional policy makers, administration]				
Regional policy makers and administrators are trained on legal ways how to better address SF needs and include SF support measures in regional development documents. [Regional governments]				
SF have a powerful lobby that initiates and stands for SF policies that better address SF' needs. There is growing awareness and improving knowledge among policy makers about the role of SF in sustainable development. [SF and their lobby organisation]		*Not all SF are represented by lobbyists. Instead lobbyists work with a small group of elite SFs.*		
The membership of the Latvian Farmers Federation (LLF, the only farmer NGO which is explicitly standing for SF's interests) is increasing. LLF is developing collaboration and partnerships with other farmer NGOs, local and regional governments, researchers and consumers to lobby SFs' interests. [SF and LFF, also consumers and their organisations, local and regional governments, farmer NGOs]		*Again, for this scenario it would mean that LFF works to increase possibilities for just some SFs.*		
Multi-actor (SFs – NGOs – policy makers...) meetings and events are organized to improve understanding of SF's situation. [SF and farmer NGOs, also consumers and their organisations, local and regional governments, policy makers, farmer NGOs]				

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Administrative and controlling bodies control and also give advice to farmers (the latter is forbidden now and this often leads to no-advice-at-all situations).				
Existing regulations and their practical implementation are well explained to farmers; there is a special online informative / advice platform created for this purpose. [Administration]				
SF are aware of the importance of social and political participation. They join professional organisations, NGOs. [Small farmers, farmer organisations]				
Administrative and controlling bodies change their attitude from penalizing to accompanying farmers; their personnel receive training / guidance on good client-focused service. [Administration]				*Organosational culture of controlling institutions will need to change from penalising to enabling, but it in not so easy; the personnel has to be thoroughly trained*
Sub-objective 1.3: SFs' products are available in diverse market channels				
SFs, on their own initiative and in cooperation with other market actors and stakeholders, establish and operate a range of new market channels for SF products: on farms, supermarkets, local shops, farmer markets, public institutions' canteens etc. [SF, food-chain actors, regional governments, NGOs]		*Cooperatives cover just a group of farmers.*		
SF cooperate in production, processing and marketing. SF are involved in formal cooperation: many SF are members in cooperatives, and / or there are operating many SFs' cooperatives. [SF, cooperatives]				

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Advice and training programs on cooperation (for farmers, and in particular for cooperative leaders / managers), and marketing (in particular direct marketing) [Cooperatives, Farmer NGOs, Rural Advisory and Training Centre, Latvia University of Agriculture, Agricultural professional schools]				
Local and regional governments support SFs' cooperation (f.i, subsidize cooperative managers).				
SF produce more food with more surplus to market. [SF]				
The knowledge base about cooperation is improved: in-depth research work on cooperation and cooperatives, supported by regional governments is carried out. Cooperation and positive examples of cooperation are popularised. [Regional governments, researchers, Rural Advisory and Training Centre, Farmer NGOs and Cooperatives, mass media and professional media]				
Food and other relevant regulations (taxation) and support measures (for cooperation) are better tailored to SF situations and needs in order to increase SF's production capacity and market competition. (See also Sub-objective 1.2 and corresponding actions) [Policy makers]				*There might be political resistance (including from big farmer organisations) to introduce specific taxation and other support measures for SF and SFB*
There is designated a public institution which actively promotes and supports cooperation in agriculture. (Policy makers, national / regional governments)				

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Credit lines, credit unions for SF [banks, regional/national government, SF]				*Commercial banks are seeking new business and lending streams, however SF may prove to be an interesting clients for banks if they cooperate in production and marketing.*
Communication between SF and local / regional governments is improved, there are meetings and discussions organized, governments are attentive to SFs' needs, SF are socially active. (Local / regional governments, SF, NGOs)				

ACTION PLAN 3: Contribution of SFB to FNS

Objective 1: SFB in Latgale develop in relation to tourism, cultural heritage, environmental protection and organic production	***Scenario 1 (Changing) with the times***	***Scenario 2 Encapsulation***	***Scenario 3 Fairyland***	***Scenario 4 Phoenix***
Enacting nutritional and environmental certification and labelling of SF and SFB products				Environmental and nutrition certification will depend on effective work of

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				multi-stakeholder consortia
Exchange and coordination visits (regionally and internationally) for SFB owners and managers to learn and promote Latgale products			In the situation of closed markets, export is a weak option.	
Establishment of a regional SFB working group for promotion of Latgale products				
Education and training of SFB employees and managers on issues of marketing.				
Developing a joint marketing strategy for Latgale SFB				Path dependency of weak cooperation may hamper joint strategies
Ensuring information flow among SFB in Latgale and between SFB and consumers				For this activity a fluent communication between SFB and consumers will be needed and there might be a shortage of facilitators and brokers of this process
Establishment of Latgale SFB association				

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Increased state support to SF and SFB, support to organic producers				Political shift towards recognition and support of SF and SFB might be slow and insufficient to combat marginalisation
Organisational support to local and farmer markets in Latgale				Inadequate administrative capacity of local governments may impede farmer markets,on the other hand, the planned administrative reform might remove this barrier
Improvement of road infrastructure and re-cultivation of downgraded territories				This activity is resource consuming and public funds are insufficient. However, there are targeted funding programmes in place for improving roads in rural areas
Reforming agricultural policies with greater attention to SF and their role in food security and rural livelihoods				The current revision of CAP preparations for national rural programme for the next EU funding period is a favourable time to introduce new policy objectives related to agriculture climate, food and health

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6. Workshop assessment

Participants' assessments

Based on the feedback provided by participants, it appears that the workshop has contributed to a heightened awareness of the fact that action and initiative are required to be able to shape the future in accordance with one's wishes. The seminar has also stimulated broader reflections regarding the future and significance of small farms and small food businesses, and allowed participants to expand their range of contacts.

From a practical perspective, participants noted that this workshop has provided them with new arguments and insights that could be used in the context of debating agricultural policy and stressing the importance of small farms and small food businesses. The workshop has persuaded them that action should be taken locally by developing projects and implementing policies at the municipal level. In addition, more care should be taken when planning the future in order to avoid making the same mistakes as in the past. Planning in general should be based on a careful consideration of current trends.

Participants indicated that, in order to make a tangible impact, such workshops should be organised more often. A wide range of different audiences and institutions have to be engaged (e.g. NGOs, municipalities, entrepreneurs, state institutions) and encouraged to discuss and reflect upon potential future scenarios. This is necessary in order to emphasise the value of locally-grown food and small farms in the context of food security, rural development and national security (as Latgale is located on the EU border with Russia). Specific policy recommendations should be prepared and submitted to the relevant institutions (e.g. Ministry of Agriculture) so that the findings can make a practical difference.

In general, the format of the workshop was positively received. It allowed participants to discuss various issues of interest, reflect on possible future developments and the actions required to bring about desirable outcomes, and, crucially, it gave participants a chance to voice their position and be heard.

Researchers' assessments *after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

The whole scenario workshop process was smooth with high level of interest and engagement of the participants. BSC researchers followed the general scenario workshop guidelines. There were no specific limitations or problems arising due to the common scenario framework. While all the general statements in the scenarios were kept, each scenario was "translated" into the regional context, some examples were provided and the region's name used to make them more realistic.

Regarding the content of the workshop, there were many tasks scheduled with intensive discussions, and the working day seemed to be a bit too charged and long. A couple of participants left before the final part, because of other commitments or the long travel back home. The discussions and visioning

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were fuelled by the participants' rich individual experiences and knowledge. While all of them demonstrated relevant competence and provided significant contributions, some knowledge and opinions appeared to be contradictory which complicated development of sound action plans.

For the participants, the workshop was a valuable learning event in which they had an opportunity to learn about SALSA research findings, express their viewpoints about SF and SFB today and in the future, communicate with food system stakeholders from other organisations and experience practically some of the forecasting methods. We were positively surprised of the participants' interest, engagement and positive feedbacks.

In order to run a scenario exercise successfully, the research team/facilitators have to be well trained and quite experienced with the method. This experience is gained after several trials of actual scenario workshops. Before the workshop, we had played a simulation game which helped to clarify the overall flow of discussion and, in particular, the expected outcomes.

As the participants witnessed, the exercise reminded them the complexity of realities shaped by many different drivers and the importance of planning actions to arrive at specific desirable futures. From this point of view, such an exercise is helpful in any strategic planning, be it in policy or farming. Among the participants, there were several persons who are actively engaged in policy making. The scenario workshop was prominent in terms of high-level representation as the member of the Latvian Parliament participated in it. The MP informed that two new parliamentary committees have been established after the recent parliamentary elections in October 2018 – the Committee for the Development of Small Enterprises, and Latgale Committee. The MP emphasised that the scenario workshop provided valuable evidence and support for new policy propositions that will be brought to the attention of parliamentary committees. *"Contribution of small farms and food businesses should be more recognised in public policies and these businesses deserve more support, not only big ones. Without small farms Latvia will fade,"* said the member of the Parliament.

7. List of participants

NAME	Profile	Affiliation	Gender
1. Edgars Linde	Advisor	Latvian Rural Advisory and Training Centre	M
2. Elīna Ozola	Advisor	Latvian Rural Advisory and Training Centre	F
3. Agita Hauka	Farmer NGO	Latvian Farmers' Federation	F
4. Aiga Kuzma	Farmer NGO	Latvian Farmers' Federation	F
5. Andris Kucins	Administration	Latgale Planning Region, Centre of Entrepreneurship	M
6. Alberts Mendriķis	Farmer	Farm "Sēlija"	M
7. Juris Grustāns	Farmer	Farm "Smilgas"	M
8. Aija Skuķe	Farmer	Farm "Meža Skuķi"	F

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9. Ruta Grustāne	Administration	Joint State and Municipal Service Centre, Daugavpils office	F
10. Zanda Lisovska	Farmer	Farm “Darbmīļi”	F
11. Guntis Skuķis			M
12. Māris Bozovičs	Administration	Latgale Region Development Agency	M
13. Ināra Mikijanska-Jakupāne	Farmer	Farm “Akmeņi”	F
14. Elza Spodra Elste	Advisor	State Rural Network	F
15. Jolanta Augšpūle	Advisor	Latvian Rural Advisory and Training Centre	F
16. Rita Artiševska	Farmer	Farm “Inoliņi”	F
17. Janīna Kursīte	Farmer / Parliamentary deputy	Farm “Ziediņi” The National Parliament	F
18. Guntars Melnis	Advisor	Latvian Rural Advisory and Training Centre	M
19. Regīna Januševksa	Advisor	Latvian Rural Advisory and Training Centre	F
20. Agnese Hauka	Farmer NGO	Latvian Farmers’ Federation	F
Workshop facilitators			
Anda Ādamsone-Fiskoviča	Researcher	Baltic Studies Centre	F
Miķelis Grīviņš	Researcher	Baltic Studies Centre	M
Sandra Šūmane	Researcher	Baltic Studies Centre	F
Tālis Tisenkopfs	Researcher	Baltic Studies Centre	M

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7.4. R18 Hedmark – Norway

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR18 – Hedmark (Norway)

Authors: Zahl-Thanem, A., Brigham, M., Hansen, L. , Almaas, H. and Bjørkhaug, H.(CRR - Center for Rural Research)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives[18]

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

The participants' vision for small farms' contribution to regional food production in 2030 is that small farms coexist with larger farms and provide a relevant share of regional food production. This scenario is somewhat similar to the present situation for small farms. However, considering the current agricultural policies, food production from small farms is expected to decrease within 2030. The participants stressed the importance of countering this development by promoting small farms through policies and making farmers more competent.

Hedmark has a potential for increased food production, especially within vegetables and berries in the mountainous areas of the region. Greens and berries are less space dependent compared to cereals and grass and require nothing to little refining after being harvested. This makes them ideal for small farmers allowing them to more easily distribute their produce. Additionally, the mountainous areas have a fair amount of tourism during both winter and summer. Small farms could potentially feed into this by delivering products to hotels, restaurants, supermarkets and/or from the farm itself. This would generate unique experiences for tourists as well as for locals, and have positive ripple effects within the region as a whole.

In order to promote this kind of development and small farms in general, there is a need for more targeted financial support schemes. The existing support schemes mostly cater to larger farms by requiring a certain amount of expected turnover in order to grant support for a project. The amount of expected turnover is often too high for small farms resulting in many farmers being excluded from receiving any economic support for their projects. Additionally, all farmers who apply for government subsidies are obligated to pay a fixed fee to the government regardless of the amount of subsidies they are receiving. This fee is relatively small but has a greater effect on small farms because they pay the same amount as larger farms.

The workshop participants suggested implementing a financial support scheme more in favor of small farms. The scheme should not require high turnovers for farm projects and should offer financial support for cultivating small fields (<1.5 ha). Alternatively, there could be a differentiated support scheme with different requirements for farms in certain areas. These types of arrangements have been successful in Germany and Austria where farms in the mountainous areas are compensated for providing products and services to the tourism industry.

In addition to increased food production from small farms, the workshop participants envisioned increased farmer competence and knowledge sharing among farmers in 2030. Being a farmer requires a wide set of skills exceeding knowledge of plants and animals. The farmer has to be a mechanic, a businessman and a manager as well. Skills regarding the distribution of products, sales, and prices are

[18] See STEPS 1 & 2 in the Training Guide to address the two questions included in each point.

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often hard earned and new farmers shouldn't have to make the same mistakes their predecessors made. Currently, there is insufficient access to these sources of knowledge. Farmers must cooperate and share their knowledge with each other if as many as possible are to succeed. The participants also pointed out the importance of the local municipalities involving themselves in increasing farmer competence.

Objective 1: A significant share of food production comes from small farms.

Objective 2: Small farms are prominent in knowledge and competence sharing.

(ii) *Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

The participants' vision for 2030 in terms of providing an adequate diet to consumers and farm households in the region is that small farms should contribute to healthy regional products. In this vision, small farms should be the 'image' of Norwegian agriculture, representing traditional regional healthy food. However, in order to fulfill this vision, consumers must be aware what is healthy Norwegian food, products produced by small farms have to be available through different distribution channels, and small farms have to be marketed as a brand representing healthy food.

Agriculture is mentioned by the participants as the cornerstone of settlement in the districts, which keeps both the schools and shops open. A utility structure with small farms provides a short value chain for local food and is considered beneficial for FNS. In Hedmark, as in rest of Norway, there has been a tendency over the last couple of decades that small and medium-sized farms have a more rapid farm closure compared to larger farms, and a policy shift toward production on larger farms. In this vision, small farms are marketed as a brand for healthy food and short value chains.

Objective 1: SF contributes to strengthening the value of Norwegian and regional healthy food

Objective 2: SF are important contributors to food security on a regional and local level

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*(iii) Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

The participants' vision for 2030 in terms of providing an adequate diet to consumers and farm households in the region is that small food businesses contribute to invigorating villages that care of local fauna and employment, and at the same time represent strong role models inside these villages and in the broader society. This vision is strengthened by the two-sided acknowledgement that small food businesses' have an important role to play in utilizing local resources and creating value, and creating jobs and settlement in viable rural communities.

In this vision small food businesses are role models or "brokers" that create excitement, and thus are able to influence decision makers and politicians through doing, not only "preaching". In 2030 small food businesses also play an important role for tourism in Hedmark.

The participants seemed to agree that consumers increasingly want to know where products come from. Small food businesses can answer to this as they have the potential in developing the short value chains and thus close proximity to customers through a local market. Local and short-travelled makes food more sustainable. Small food businesses are able to offer diverse food with high quality, goods with local values, and should also be able to produce better quality than larger businesses, thus SFBs' also facilitate that consumers are able to make a good/informed choice.

The participants suggested that farms and small food businesses can be considered as a learning arena because they have an important role in holistic thinking - society, organization and well-being, taking into account of economics and ecology at the same time.

This makes it important to build competence through courses and networks, and get public support and advice for assisting good small business development.

This vision for small food businesses can help challenge an industry strongly driven by profit if food chains become more open for sale without year-round access, and through contributing to alternative distribution outlets. The role of or hopes for better opportunities for SFB produce in the mainstream food chains, were an issue of "conflict" among the participants, representative from mainstream food-chain were more optimistic.

Public procurement and regulations can assist here through maintaining food systems with less volume, and by making foods with varied shapes and sizes more open for utilization through the market.

Objectives 1: Invigorating villages that care for fauna and workplaces

Objective 2: We have strong role models in invigorating villages

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2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives – starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

	Action Plan 1: Contribution of SF to regional food production *Needed actions and* [responsible for completing the action][19]	
Timing	**Objective 1: A significant share of the food production comes from small farms.**	**Objective 2: Small farms are prominent in knowledge and competence sharing.**
2030	*Small-scale agriculture is included in policy goals for Norwegian food production* *[National agricultural policy makers]*	*Small farmers are often entreprenaures* *[Small farmers; advisory service]*
	There is a focus on increased national and regional food production *[Farmers and sivil society; National agricultural policy makers]*	*Small farmers arrange study trips and courses* *[Small farmers; Farmers organizations]*
	Public administration is a driver of small-scale production *[National and regional agricultural administration]*	
	Small famers collaborates with tourism agencies to promotes their products as part of a package: 'food and stories' *[Small farms; Tourism agencies]*	*Social networks for small farmers cover the whole region* *[Small farmers]*
	Consumers are familiar with regional and Norwegian food *[Health departement; Food safety authority]*	*It is a widespread sharing culture where there is an awareness for mutual dependence* *[Small farmers]*

[19] Responsibilities were not in discussed in depth in this session and hence do not represent an exhaustive list of possible responsibility.

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Present	*Extra subsidies are given to farms with fields below 1.5 ha* *[National agricultural policy makers]*	*There are available courses for small farmers all over the region* *[Norwegian agricultural advisory Concil]*

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	Action Plan 2: Contribution of SF to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1: Small farms contribute to a focus on the use of Norwegian and regional healthy food***	***Objective 2: SF are important contributors to food security on a regional and local level***
2030	*Small farms are marketed as a brand for healthy food (?)* *[Health authorities' guidelines; sertification bodies (public)]*	*The population is aware of the effects of possible crises on access to food* *[Agricultural athorities; Authorities for secuity and prparedness; Farmer' organisations]*
	Small farms are pioneering in producing healthy food. This includes… *[Farmers]*	
	Produced products are available though different distribution channels at a decent price *[Policy makers; small farmers; actors..]*	*There are short/local value chains from small farms to consumers, which includes sales in the local area.* *[Farmers; Local retailers; Farmers' Markets]*
	Consumers are aware of what is healthy Norwegian food *[Actors working to promote information about healthy food (e.g. Opplysningskontoret)]*	*Settlement in rural areas is facilitated, which includes keeping public services such as schools, stores, and health services.* *[Local and national policy makers]*

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	Action Plan 3: Contribution of SFB to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1: Invigorating villages safeguard biodiversity and employment***	***Objective 2: We have strong role models within invigorating villages***
2030	*The children from 2019 now make decisions based on their childhood experiences and disregard everything that harms the environment negatively.* *[The young public; Climate strikes]*	*Business development strategy: help SFB build solid businesses.* *[Advicory programs; Role model to role model programs]*
		Back to the 'old' way with 'seasonal products'. Thus, imported products have to be reduced in the season. *[Knowledge program; agricultural authoriteis; food education programs (public/private]*
	New flexible Rural development program *[Government, Innovation Norway]*	
	Innovation Norway develops a program for alternative business models *[Innovation Norway]*	Politicians are influenced by consumers who have changed their choices of sustainable food [Civil society organisations; Public]
	Changed support schemes from growth to economic stability *[Agricultural authorities]*	*"Rural developer" – for industry, agriculture, people*
	The climate challenges have given us less options: Environmentally harmful 'industrial food' is no longer chosen by the consumers. *[Crisis; Retailers; Consumers]*	*Consumers understand and act in line with what good role models of 'invigorating settlements' stand for (public information (folkeopplysning))* *[Role models; Local, regional and national authorities]*
	Creation of role models that create excitement *[Farmers; Learning programs]*	*Support program for enthusiasts (role models)* *[e.g. Innovation Norway]*

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Present		*Designated work positions at the municipal level that work interdisciplinary and bridge-building with manufacturers and consumers [Public administtion; National and or municipal budgets]*

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario A: The Liberalistic Scenario

The drivers in this scenario represents to a large degree a continuation of the current social, economic, and political trends surrounding SFs and SFBs today. In short, these drivers are a high degree of access to managerial and technical innovations (research outcomes, knowledge stocks); a high concentration in the food chain; the relative absence of social values and cohesion with respect to solidarity and awareness about small scale producers, and the willingness to cooperate and to collective action; low public budget and expenditure, but a high degree of public regulation; consumers are highly aware of how values and habits affect health and the environment; rapid urbanization and a decrease in the rural population; high openness to international trade, low access to environmental/natural assets; and finally, a low poverty level.

The relative absence of the awareness of the challenges that small farms face, and a lack of solidarity towards smallholders, in combination with a high degree of openness to international trade means that there isn't a preference for small scale products and most people buy imported food at the supermarket.

Most small farms have therefore become economically unsustainable, and closed down their production, resulting in an agrarian structure of mostly very large farms with large scale production

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for the market. The few small farms that have survived are located near the big cities, supplying a rich as well as health and environment conscious urban population with clean and healthy food. There is likewise only a very few small food businesses left, and these are also close to the bigger cities. The food from these small farms and small food businesses are expensive specialty products, and comes with a story about where in Norway it originates from, how the animals and the land are treated, and so on. These stories represents an added emotional value for the consumers, and an added economic value for the small producers.

Most people outside of the urban centres, have little access to locally produced food. The general consumer has little knowledge about food production, creating an opportunity for the large supermarket chains to use deceptive marketing to mislead them into thinking that their products are as environmentally friendly and healthy as those originating from small, local farms and food businesses. There is consequently no preference for small scale produce.

Long food supply chains have increased the risk of food shortages and food insecurity in crisis situations such as war or extreme weather events, as it can be difficult to get food from urban wholesale centres and supermarkets to rural consumers. Since a lot of agricultural land is left fallow, it is also difficult to alleviate the food shortages and food insecurity by increased production of local food in the short term.

The lack of solidarity towards small scale producers, in combination with low public expenditure means that there is very little political will to implement programmes in support of small farms and small food businesses. In the absence of local food producers and businesses, so called “food tourism”—where tourists travel to rural areas to experience the origins of local food—has declined. A negative spiral of fewer small farms and food businesses and less rural tourism has lead to a situation of ever more small farm closures and vacated houses. Schools and health care facilities close down, making rural living harder and harder, pushing more and more small farmers and small food business owners to leave for the cities.

Closed down farms means less grazing and the cultural landscape has become overgrown with brush and trees, and people’s access to nature has become more difficult.

This combination of drivers will, all in all, lead to a situation where small farms and small food businesses contribute very little to food production and food and nutrition security in Norway.

3.2. Scenario C: Thriving Local Communities

The drivers in this scenario are a low degree of concentration the food chain and restricted international exports and imports. There is also a notable allocation of public funds to the agri-food sector, and the legal requirements conditioning SF’s and SFB’s activities are relatively weak and flexible. Access to natural assets (land, water, etc.) is easy for SF and SFB. Likewise, their access to managerial and technical innovations (research outcomes, knowledge stocks) is very good. There is furthermore a low level of poverty, and the rural population is increasing. In this framework, collective action and advocacy of social values are common and practiced throughout the society, and consumers are very aware of the health and environmental implications of their food habits.

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In this scenario, the large public budgets for the farming sector have paved the way for the removal of the minimum production requirements for access to farm subsidies, and it is easier for SFs and the SFBs to receive production subsidies. Import restrictions have laid the foundation for favourable conditions for sustainable food production based on local resources. It is therefore relatively easy to get access to a range of locally produced food products of high quality. Health and environment conscious consumers with considerable purchasing power, influence farmers to shift to the production of healthy, "clean" food. There is less demand for meat, and especially for meat produced with the help of grain concentrates. The demand for grass fed meat from sheep and goat is high. The meat producing animals are no longer fed grain concentrates that contains soy, but are mostly fed locally produced grass, and to a lesser degree concentrates containing nationally produced insects (for protein). Hence, the import of soy is reduced, and there's an increased demand for domestically farmed insects for feed. There is a growing conflict between industrial and neo-pastoral farming systems/farmers.

A revitalised cooperative movement improves the production conditions and market access of small SFs and SFBs. The public procurement market has also opened up for SFs and SFBs, as the minimum quantities and tough quality standards have been eased.

Weaker regulations have led to the conversion of farmland to other uses, reducing the land available for food production. AirB&B-style businesses have also taken over a considerable amount of small farms, further reducing the amount of land available for food production. Luxurious cabins are popping up everywhere, contaminating pristine landscapes. It is harder to find a quiet piece of untouched nature—the sort of nature that Norwegians are immensely fond of.

Favourable conditions for SFs and SFBs makes it easier for them to survive economically, and they have become less innovative. There is therefore a trend towards a more homogeneous supply, without the local and farms specific characteristics. On the other hand, low poverty levels combined with health and environmental conscious consumers means that there is a rich local food culture, and rural "food and farm" tourism is flourishing. Rural areas are attracting new residents, as well as visitors, and the rural local communities are thriving. This is setting the stage for ever more growth in rural settlement, and local food produced by SFs and SFBs are important for food and nutrition security in Norway.

3.3 Scenario D: Back to Basics

The 'Back to Basic' scenario tells the story of outcomes of a societal crisis that have happened and replaced prosperous times in Norway. The poverty level is back to end of 18th century, meaning high. The crisis challenged values and the willingness to cooperate and to collective action that was a feature of the Scandinavian 'model' in the late 19th century and beginning of the next has disappeared. The public budget and expenditure is low, but the degree of public regulation has remained high. Norway opened its boarders to international trade in food, but the concentration in the food chain has remained high. A long trend of urbanization means most people live in cities. The crisis however relocated people with rights to land back from urban centers to the village, and to take up cultivating land on the small farms that have been closed down for decades, but only kept as holiday properties for relatives of previous farmers. They are also taking back land that has been leased out to larger farms since the close down. The scenario is further driven by high competition to natural and

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environment resources together with lack of awareness among consumers on how values and habits affect health and the environment and solidarity and awareness about small scale producers is low. For farmers, access to knowledge and research is now low, hence there is little managerial and technical innovations.

While traditional thinking that have prioritized innovation in managerial and technical aspects, the 'Back to basics scenario' poverty challenge the established and have enforced innovation in many new, or maybe very old, forms. In urban areas there is an increased production of food. Food is being grown on lawns and porch roofs and land on the fringes is all utilised for food production. The population is growing du to climate immigration from the south. Society is increasingly facing unrest and conflicts.

In the previously remote areas (mountain and valleys) of Hedmark, climate change has been favourable and led to increased food production in the region, and provides jobs to local people.
It is very good to be a landowner who can produce their own food. Food chains are subject to greatly reduced purchasing power. Even though food produced in Norway is much cheaper now, imported food is competing in the global grocery retailers (with less interest in Norwegian agricultural policy (living settlements) that have established in Norway. The major retailers concentrate on the denely populated areas and there are fewer stores in rural areas. Impaired environmental focus at the consumer weakened interest in short-travelled food. Few SF and SFB manage to contracts with the major retailers. Strict food safety regulation on food production is one of the reasons for this, and new SF and SFB cannot afford to comply with the standards set. Together with less retail outlets, lack of access for small producers has led to a great variation in alternative (and sometimes illegal) markets.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Scenario A: The Liberalistic Scenario

The main threat for small farms and small food businesses under the Liberalistic Scenario for 2050 is the depopulation of rural areas. When there are very few people living in rural areas, there will not be any schools or stores etc., and the small scale producers cannot live there. The small farms and small food businesses will there for be shut down. The lack of awareness of, and solidarity with, the small scale producers is the single most important negative driver in this scenario. People do not make an effort to buy locally, and there is little popular support for government programs directed at making small farms and small food businesses economically sustainable. Consequently, there is a lack of political will to push for policies that make rural communities liveable, and small scale food production viable.

The small scale farmers and food businesses are badly equipped to face these challenges because they lack the right type of competence. The outreach organizations advising small scale farmers and small food businesses, whether they are public or private, must adopt a perspective that is wider than just constraints and possibilities for production. They need to adopt an interdisciplinary approach, and look

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at all the factors that affect these farms and businesses, including, for instance, marketing and financing. The public administration in rural communities should also have at least one person that has an interdisciplinary perspective on rural community development, so that all factors that are relevant for sustainable small scale food production, such as access to schools, health care, infrastructure, as well as specific production, marketing and financing needs for sustainable small scale food production are met.

4.2 Scenario C: Thriving Local Communities

The most considerable threat to small scale farmers and food businesses in this scenario is the realtively weak and flexible legal requirements conditioning SF's and SFB's activities. Under these conditions it is easier to convert farmland into other uses such as industrial and residential areas. It furthermore makes it easier for people to sell their farms to people who will use the farms for AirB&Bs-style operations and sell of the agricultural land to people that will build cabins/second homes. Increased tourism also poses threaths of environmental contamination of farm land.

The scenario do on the one hand provide SF and SFB great opportunity to thrive with the support of consumers. Their ability to handle risk and protect their land is however individualised and privatised, and hence assesed weak in competition with urban capital.

4.2. Scenario D: Back to Basics

In the Back to Basics scenario, social unrest and increased insecurity is a threat. Insecurity is connected to lack of stable conditions for producing and accessing markets for food produce. Climate change has with increasing temperatures increased opportunities through longer seasons and for new produce. However, there is a constant risk for severe weather event such as drought, ruining crops and/or heavy rainfall causing flooding and landslides, both challenging infrastructure and transport of food out of and into the region.

It is very difficult for SF and SFB' to access conventional markets. However, need for income trigger new solutions. In the highly regulated Back to Basics scenario, the emergence of illegal sales channels is one solution to this for SF and SFB's. Hence SF and SFB' are increasingly important securing FNS in the region.

Owning land has proved to be very important in the Back to Basic scenario. Those holding land titles, also to small farms have moved out of challenged urban areas to take up farming. This created some tensions with farmers who had grown their operations through the leasing of neighboring farmland in previous decades.

The inherent traditions of SF and SFB's depending on multitude and multifactional production and income structure have proves the small to be less vulnerable to some shocks than their colleagues on larger farms with one large production operation. This traditional of creativity in *mangesysleri*, puzzling with many things (some farming, some forestry, some hunting & fishing, some tourism activity etc.) has again proved to lease the exposure to external challenges and to employ a huge degree of creativity to survive.

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5. Action Plans under different scenarios[20]

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios? You can copy and paste four times (one per scenario) the tables of section 1 to highlight the actions affected by each scenario. Add any explanation that you consider relevant to understand the reasons behind, as well as additional recommendations to overcome those difficulties.

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

In order to facilitate this assessment, taking the Action Plans (1, 2 and 3) developed in Section 2 of this Report - which combined actions and milestones, we have distilled real actions, eliminating the milestones. Also, we have separated each action in a different line in the following tables, although in the Action Plans they appeared grouped when they shared the same timeline.

The feasibility of each action included in the Plans (Section 2) has been assessed under the four different scenarios detailed in Section 3. A colour code has been assigned according to this assessment:

1. Virtually imposible
2. Feasible but conditioned to.. (explain briefly)
3. Directly easible (enabling scenario for that specific action)

Objective A: **A significant share of the food production comes from small farms.**	***Scenario 1***	***Scenario 2***	***Scenario 4***
Extra subsidies are given to farms with fields below 1.5 ha			
Consumers are familiar with regional and Norwegian food	High level of consumers' values and habits, but low social values and cohesion, high International trade openness		

[20] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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Small famers collaborates with tourism agencies to promotes their products as part of a package: 'food and stories'			
Public administration is a driver of small-scale production			
There is a focus on increased national and regional food production			
Small-scale agriculture is included in policy goals for Norwegian food production			

Objective B: **Small farms are prominent in knowledge and competence sharing.**	***Scenario 1***	***Scenario 2***	***Scenario 4***
There are available courses for small farmers all over the region			
It is a widespread sharing culture where there is an awareness for mutual dependence			
Social networks for small farmers cover the whole region			
Small farmers are often entreprenaures			

Objective C: ***Small farms contributes to a focus on the use of norwegian and regional healthy food***	***Scenario 1***	***Scenario 2***	***Scenario 4***
Consumers are aware of what is healthy Norwegian food			

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Produced products by SFs are available though different distribution channels at a decent price	High concentraion in the food chain, but low poverty makes prices on less important		
Small farms are pioneering in producing healthy food	High degree of access to managerial and technical innovations, but low public budget and expenditure for production restructuring		
Small farms use healthy food branding			

Objective D: ***SF are important contributers to food security on regional and local level***	***Scenario 1***	***Scenario 2***	***Scenario 4***
Settlement in rural areas is facilitated, which includes keeping public services such as schools, stores, and health services.			
There are short/local value chains from small farms to consumers, which includes sales in the local area.			
The population is aware of the effects of possible crises on access to food			

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Objective E: ***Villages safeguard biodiversity and employment***	***Scenario 1***	***Scenario 2***	***Scenario 4***
Creation of role models that create excitement			
The climate challenges have given us less options: Environmentally harmful 'industrial food' is no longer chosen by the consumers.			
Changed support schemes from growth to economic stability			
Innovation Norway develops a program for alternative business models	High degree of access to managerial and technical innovations, but low public budget and expenditure		
New flexible Rural development program			
Sollia (place in Hedmark) welcomes new delegation from Brussel who will learn about local food production			
The children from 2019 now make decisions based on their childhood experiences and disregard everything that harms the environment negatively.			

Objective F: ***We have strong role models within villages***	***Scenario 1***	***Scenario 2***	***Scenario 4***

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"Rural developer" – for industry, agriculture, people			
Designated work positions at the municipal level that work interdisciplinary and bridge-building with manufacturers and consumers			
Support program for enthusiasts (role models)			
Consumers understand and act in line with what good role models of 'invigorating settlements' stand for			
Politicians are influenced by consumers who have changed their choices of sustainable food			
Back to the 'old' way with 'seasonal products'. Thus, imported products have to be reduced in the season.			
Business development strategy: help SFB build solid businesses.	High degree of access to managerial and technical innovations, but low public budget and expenditure		

6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the*

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workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?

The participant evaluation of the workshop was overall very positive. One participant said that is was very useful for her work on developing small farms and small food businesses. The tasks in the workshop gave her a new awareness about strategic thinking, and made her think about where they are today, where they want to be, and how to get from where they are to where they want to be. This is in contrast to the way she usually thinks, which is only about the day to day business. She appreciated that she was forced to think about the concrete solutions and instruments that are needed in order to achieve her goals for small farms and small farm business development. She also became more convinced of a need for a person with an interdisciplinary perspective on rural development in every/most rural public administration(s). She ended the workshop being even more convinced than before of the need to give small scale farmers and small food business owners better access to managerial and technical skills and innovations.

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

The WP4 training (Valencia), guidelines and support, together with the well developed implementation framework was an excellent point of departure for conducting a successful foresight workshop. The different steps and their purposes were well described and yet strict, included enough room to allow for some flexibility when the groups did not turn out as hoped (many last minute cancellations due to unforeseen events (illness etc)). The framework, scenarios and drivers were translated into Norwegian and interpreted in the Norwegian context. Planning and facilitating the workshops rests on us, the convening team, and hence some flaws and misses might occurred undertaking all steps in the different groups.

The limitation to the work is the major difficulties we have recruiting members. This is an increasing problem in other projects / activities too. Time is precious for all (of course) and some key stakeholders (e.g. some SF and SFB role-models) experience "participation-fatigue".

What could be changed? The numerous number of drivers might create some confusion, or lack of ability to handle all at the same time. Fewer (maybe even two very important) might be easier to work with, to develop clearer or more logical distinctions in the different scenarios and their narratives.

What did we learn? We find participatory frameworks most useful as part of our research. Not only limited to co-creating outcomes for the tasks, but also the added value of bringing people together who do not meet elsewhere for a targeted discussion of a topic of their interest or related to their work. Both for us, the researcher team and participants – this dimension of cross-fertilization of knowledges and perspectives, turned out to be very valuable.

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7. List of participants

NAME	Filiation/Profile
1. Rebekka Bond	Project leader for 'Matnyttig' / Association for small farmers
2. Hans Bondal	Small farmer / Association for Norwegian Sheep and Goat
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4. Jørn Haslestad	Norwegian agriculture advisory
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7.5. R19 Rzeszowski – Poland

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR19 – Rzeszowski (Poland)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

In response to the question about the role of SF in 2030 in terms of contribution to the regional food total production, a number of key recommendations by local experts from the Rzeszów region were received. Visions presented by the participants of the meeting indicated the future of SF in the region, can be reduced to the common denominator, which was considered as continuation of food production by them. All the experts' replies emphasized not only the need to maintain SF in the region, but above all the need for them to implement the basic agricultural function to which they were established - production of agricultural commodities (food). The visions of the future of SF in the region presented during the meeting were grouped into four main clusters. Each of them was based on maintaining the productive function of these farms, but with an indication of its different character.

The first cluster emphasized the need for the existence and functioning of SF in terms of maintaining their vitality. These visions were associated with the traditional perception of SF as food production place in the conventional system. The issues of ensuring food security for agricultural families running these farms, but also (at least to a minimum extent) other inhabitants of the region. This security was seen in agricultural production for own needs and in the partial sale (preferably direct sales) of agricultural commodities (foods) on the local market. However, it was emphasized that maintaining the SF role in the traditional approach, without the support of public administration may led to the liquidation of a large part of SF, which would be eliminated from the market by large farms (holdings).

Taking into consideration, that SF in traditional approach will not be able to compete in the future with large farms, the second visionary cluster pointed to the need of SF to continue agricultural production but with a slightly different character, i.e. production focused on specialization. It was considered that in order for SFs to be competitive, they should specialize in food production:

- of high quality (production on a smaller scale without the intensification, (increasing fertilizer doses, etc.), including organic production,
- regional, including production according to traditional recipes (including return on farms to conservative breeds of cattle, old varieties of fruit and vegetables), with designation (logos) of regional origin
- niche production (such as honeys, local cheeses, herbs, wines, etc.)

This vision in the expert assessments should allow SF not only to survive and maintain their productive lives, but also strengthen their competitiveness in the market, thus ensuring an improvement of farmers' income. According to experts' estimates, such a role of SF would allow these farms to participate in total food production in the region at around 50% (currently, this share is estimated at approx. 10-12%). Considering the number of indications, the participants' involvement in the discussion and the time devoted to discuss that vision, it was adopted as the main aim in the later discussed action plan.

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The validity of the vision adopted for the SF, proposed in the second cluster, was also highlighted in the other two clusters, which indicated the interrelationships and connection between the productive function of farms and the diversification of agricultural income and environmental aspects. It has been pointed out, that small farms specializing in niche / regional / organic production, precisely on this basis, can simultaneously perform the function of educational, experimental and training farms, promoting new eating patterns. Additionally it was also noted, that the SF - through the implementation of the production function in the region - are the main creators of the local landscape, they allow maintaining the land in good agricultural culture, contribute to the preservation of biodiversity and provide agri-environmental-climate services.

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

At the beginning of discussion participants paid attention to the changes of climate and indicated that they observed in RR 19 changes in agricultural production as a result of climate change. They wonder (because we explain them that we will discuss about SF situation in 2030) how the weather will influence SF production in 2030.

One of the first roles indicated by workshop participants for SF in RR 19 in 2030 was that they would deliver only high quality products (as producer or as processor). High quality food is, according to the participants, organic food (not always from certified farms), "healthy" food, traditionally produced. Such high quality food will be offered at adequate (high) price. Consumers will be looking for such products among SF and they will trust small food producers. Building consumers trust to the local producers will be a long process, but it will be possible mainly thanks to the elimination of problems related to food counterfeiting and thanks to the change of population awareness. As a result consumers is going to better appreciate and respect local producers.

Mentioned above high quality products from SF will be produced in such amounts, that will partly feed regional demand for high quality food. Food production will be still designated for self consumption, but surplus production will be so high, that it will be enough to meet significant part of the regional demand for high quality food.

Stakeholders indicated that number of SF will be the same in 2030 (or only slightly decreased). Although there are problems which occur in 2019 with succession and lack of young people on agricultural areas, in 2030 people will still appreciate benefits associated with owning SF. SF in 2030 will be still perceived as inheritance, which can not be sold.

In 2030 in RR 19 there will be a significant number of new SF. New SF will be set by people who do not have tradition of agriculture production in family. Such new comers will have other (than agriculture) source of income but they will work and produce food for themselves in SF because they like it, and want to eat products which are healthy and high quality (participants of meeting indicated, that they observe such farmers now in region). Such hobby SF will be run mostly by older people with adult children, who stay in towns.

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All SF that process food will do it officially. Institutions that are responsible for controlling processing in SF (especially veterinary and sanitary services) will be more "friendly" to SF.

Important issues for all participants were simplification of regulation concerning food production in SF. Those regulations will be better adjusted to SF owners needs and possibilities.

(iii) *Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

Participants of the working group agreed that local food production of SFB is only a small part of food necessary for local population but is important as additional source of income for local farmers (if they sell row materials to SFB) and for SFB and people employed there.

Most of the food consumed in the region comes from other regions or countries. It creates a certain risk and should be solved by higher regional production and higher share of consumption of local products. The level of regional self-sufficiency increased offering safe and quality food to local population and tourists. The collaboration among SF and SFB and SFB among themselves is still far from the desirable state. The best SFB are those that process their own raw materials.

In 2030 SFB can operate in much better legal conditions. After many years of changes and gradual improvements of legal framework of SFP activity, law requirements are simpler and easier for SFB owners-operators to accept. Bodies responsible for education and consultancy (advisory systems for farmers and small businesses) in rural areas worked out the scope and way of rational and practical system of education necessary for farmers and SFB owners, managers to cope with all regulations, economic aspect of activities, marketing and potential consumers demand and requirements.

Legal regulations allow SFB and farmers to create their own system of direct marketing. Internet–courier system seems to increase sell of local specific, traditional products.

SFB operating in such fields as gastronomy, catering, food festivals play a role in the preservation of local culture, local traditional gastronomy, specific diet being a result of specific local agricultural production in certain conditions. Local traditional food is also important as part of more complex tourists' attraction of a region. Tourists' participation in local economy makes SFB safer and allows their development. Redistribution of funds through consumption on spot or sell is important element of food safety but also of local economy.

Contribution of SFB to regional FNS depends on the level of their production and ability to fulfil consumers needs and requirements.

2. Development of Action Plans

(ii) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

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	Contribution of SF to regional food production *Needed actions and bodies responsible for completing the actions*
Timing	*Objective: Food produced in SF have important share of the regional market of food, thanks to the specialization of production and high awareness of consumers about the health (nutritional) values of food produced in SF*
2030 *Constant:* *Consumer education about the value of local products** *Promotion of local food** *Food quality control** *Present*	*Cooperation* *Promoting cooperation between farmers (horizontal integration), as well as between farmers and local food businesses (vertical integration).* *Popularising and showing the benefits of such forms of cooperation as cooperatives, groups of agricultural producers, farmers' associations.* *Assistance in organization / creation of various forms of cooperation.* *Reconstruction of local agricultural markets through cooperation established between local agricultural producers and food businesses (processing plants).* *[Public administration, local administration producers' organizations, leaders of farmers]*
	Financial support *Introduction of additional (national / regional) support instruments for SF (eg co-financing of niche productions).* *Granting to farmers who are getting a loan to start / develop the activities of an agricultural state guarantee.* *SF support through the banking system (especially by local banks) in the form of preferential loans (with a low interest rate, with a fixed interest rate).* *[Public administrations, (Local) bank's system]*
	Advisory *Professional agricultural advisory (specialist consultancy - legal, financial, administrative) available to farmers (a team of advisors working in one place together with a farmer).* *Organization of practical training - presentation of good practices aimed at encouraging farmers to take activities.* *Industry trainings (specialized) for farmers who continue production activities, who want to develop.* *Study trips for farmers - the opportunity to exchange experiences, transfer good practices to farms, establish cooperation.* *[Public administration, local administration and producers' organizations]*
	Institutional support *On the basis of newly created (adapted to SF) legal provisions, review and change of tasks entrusted to the existing support and control institutions in the field of food production.* *Coordination of activities between the existing support and control institutions in the field of food production and advisory units.* *Appointment of the Security and Food Quality Inspection Organization.* *[Public administrations]*
	Legislation *Review and change of existing national and EU laws.* *Simplification of procedures for SF actions (eg in the field of sanitary inspection, animal identification, farm hygiene, plant protection, etc.).* *Emphasizing the role - importance of local food in national legislation (eg introducing minimum thresholds for the share of local food in the total production of the region).* *Changes in the criteria for granting direct payments (payments to the production volume, payments for the pro-environmental department).* *[EU administrations and Public administrations]*
	Contribution of SF to regional food production *Needed actions and [responsible for completing the action]*

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*According to participants' opinion, those activities should be implemented all the time.

	Contribution of SF to regional FNS *Needed actions and* [responsible for completing the action]
Timing	*Objective: Food produced in SF is an important element of the diet of the inhabitants of the region thanks to the high awareness of consumers about the health (nutritional) values of food produced in SF*
2030	*Educated SF owners, who produce healthy food are more wiilling to cooperate and decided to work together in differnet areas (for instance joint selling platforms are set SF sell their product together in bigger amount, they launch marketplaces with local high quality food)* [Cooperatives and producers]
	Trainings for society about principles of healthy eating. Majority of adulsts (especially older people)still do not know principles of appropriate diet and rules of healthy eating [Public administrations]
	More and more SF decide to product healthy products which satisfy growing demand for such products. Financial support that approach, and high price for healthy products builid economic efficency of SF [SF]
	There are still not enough farms which produce healthy food, so Ministry of Agriculture and Rural Development made decisions about new training programmes for SF: trainings about rules of high quality food production. [Ministry of Agriculture and Rural Development; Public administrations; Agricultural Advisory Centers; Local Action Groups, Agriculture Chambers]
	Financial support for SF who produce high quality food as a result of growing demand for healthy food. What is more, it was recognized that SF are the best (but also the cheapest consumer) supplier of such products [Ministry of Agriculture and Rural Development; Public administrations]
	Implementation of Polish law introducing the obligatory program of education in schools concerning principles of appropriate diet and healthy eating. Such education helps shape correct eating habits among children and adolescents [Ministry of Agriculture and Rural Development; Public administrations]
Present	*Public put high attention to growing problems of civilization diseases (mainly thanks to information in public media which underline that appropriate habits – also healthy eating – can significantly reduce the risk of those diseases)* [Public media; Ministry of Health; Public administrations]

	Contribution of SFB to regional FNS
Timing	Objective: SFBs ensure a significant share of the food supply for the region's population and seasonal flow of tourists, preserve the local culture, local products and traditions
2030	Regional dependence on food imports/food supplies from outside slightly decreases
	Education actions have succeeded in training/raising awareness of society to change their consumption habits and diets. Administration, educational system in particular
	Local food producers and SFBs have more or less stable demand for their products. Value of those products as local and traditional is appreciated.

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	consumers
	The ways of marketing of food products and processed food by SFBs has been improved.
	Specific regulations for SFB are established and are applied (in the fields of health, administrative procedures, taxation). *SFB associations work together with the administrations to overcome difficulties on various issues (regulatory framework, economic aids, promotion and dissemination)* Administrations, SFBs and their associations
	Establishing of local food promotion cells, Internet websites and local markets for local food producers and processors City councils, communities administration, SFB and their associations
	Agrifood businesses associations are created in which SFBs play a decisive role Agrifood businesses, SFB
	Traditional Polish cuisine, especially regional, is appreciated by consumers and tourists. Traditional products processing and meals are included in hotel, gastronomic and catering schools curricula. Vocational Training Schools promote handling and using local products, especially in traditional way. Administration, education in particular
	Promotion measures for native livestock breeds and plant varieties, also protective measures for local agriculture and animal production established by Administration Agricultural administration
	Consumers are well informed about the right feeding pattern and local products. Educational and promotion campaigns have been carried out supported by the Administration, advisory bodies and local associations. Administration, local associations
	Educational actions help to change eating habits. Administration, Ministry of Agriculture, medical services
Present	*Local products are consumed in school canteens, their delivery is supported by EU programmes, they are also delivered to other public centres.* Administration, education in particular

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario 1: "New Consumer"

A significant reduction in public funds supporting small farms results in a reduction in the number of entities operating on the market that can not withstand competition. The group of small farms is decreasing, but it is still significant. Functioning small farms implement a strategy of action appropriate to their capabilities. They focus on specialization in the field of vegetable growing, herbal growing, planting and cultivating orchards of old varieties and breeding of conservative animal species. There is a category of hobby farms run by people from the city. In addition, small farmers undertake other activities, mainly

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processing of products on the farm. As a result of the increased interest of urban residents in non-urbanized areas, the development of rural tourism, many small farms can develop (investments in the development, detention of young people in the countryside). javascript:void(0);

Changes in the crop structure in small farms and in the production profile of small processing plants are also caused by climate change. The average temperature increase extended the vegetation period and enabled the cultivation of plants with larger thermal requirements in small holdings. There is a dynamic development of viticulture, especially for wine-growing purposes. The produced wine is of high quality. The openness of international trade makes it possible to export wines to other countries, replacing wines from Greece, Spain or Portugal, where wine growing has become impossible due to climate change and rising temperatures.

Changing consumers' eating habits, their high awareness of the quality of purchased products and the fact that consumers are increasingly looking for food produced with respect for the natural environment create a high demand for organic products. Due to the above, small farms specializing in organic farming are dynamically developing. At the same time, there is a growing demand for products purchased straight from a farmer. The consumer receives fresh products and small farmers receive a higher price. Shortening of marketing channels is observed.

In order to ensure stable sales of products and reduce production costs, small agricultural producers are merged into groups. The high level of integration also occurs in small processing plants, which favours the implementation of new technologies and modern management methods (high innovation availability in the discussed scenario), improvement of the quality of processed products and strengthening of the market position. The presented situation of small farms and small processing plants in 2050 is the result of the reorganization of agricultural advisory system in the previous years, training of highly qualified agricultural advisors, amendments to the legislation and ensuring an adequate system of food quality control in the region.

3.2. Scenario 2: not discussed

3.3. Scenario 3: “Unreachable dreams”

In 2050, in the sphere of agriculture and agribusiness, a low degree of concentration in food chains can be observed, resulting from the growing participation of small farms and small food businesses in these chains. Such favourable for small farms and small food businesses changes are the result of different parallel and synergistic processes.

A large scale of public support and public expenditures for the agribusiness sector, also for small farms and small food businesses, as well as new, less restrictive and more flexible public regulations supporting small farms’ and small food businesses’ operations and their integration with the market, gradually have brought long-awaited, positive changes. Some part of public financial support has been absorbed by farms and food businesses with pro-development orientation, resulting in their restructuring and modernization. These investments have allowed increase slightly the quantity, and primarily the quality of produced food. They have also resulted in the increase of diversity of the offer. At the same time, some visible changes have appeared as a result of supporting measures directed to small farmers, who want to leave the agricultural sector. The arable land resources released as a result of these measures have been managed in three ways. A relatively small part of the land has been taken over by neighbouring small farms, thus increasing only slightly its area. Part of the land resources have been taken over by the so-

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called "New farmers" - new, exogenous residents, migrating from urban areas, characterized by higher degree of education, greater entrepreneurial competences. Running a small farm in a region with low level of urbanization, high values of the natural environment and very low prices of real estates (comparing to urban areas) has become for them a new way for a living away from the city and corporate reality. The settlement of new residents has caused that new directions of agricultural production have been undertaken in the region, what was very important for increasing the diversity of available food in the situation of limited international trade. As a result of the arrival of new residents, the number of abandoned land has also decreased. Unfortunately, the large part of the released agricultural land resources has been used for other, non-agricultural purposes, primarily agritourism, that has a good development prospects due to the high natural values of the region. Easy access to financial support for small farms, however, also has brought a negative effect - a large group of small farms has been maintained, that includes farms dependent on social assistance from public funds, unable to function without it or farms operating thanks to financial support on the verge of profitability, producing food exclusively for subsistence. All the trends described above have caused that the number of small farms in the region has remained rather stable.

The positive for rural areas in the region migration trends were the result of problems observed in urban areas, that were impossible to solve in a quick and simply way (i.e. very high air pollutions' level, urban transport problems, very high real estate prices), and limited trade exchange with foreign countries, that was a result of pursuing a policy focusing on national interests. Not without significance were huge changes in social awareness of the young and older generations. Growing awareness about environmental threats and health issues where the consequences of objective phenomena observed in the region and in the whole country (inevitable climate changes resulting from the dominant way of life and improper management of environmental resources, growing number of civilization diseases, accompanied by the poor condition of the healthcare sector in the country), but it was also the consequence of systematically conducted public education policy. The situation on the labour market and the economic-social policy conducted on a national scale (pressure on wage increase due to shortages in labour resources, favourable tax solutions, social programs) have translated into low level of poverty, also in the region, favouring the increase in demand for healthy, organic, traditional food, produced in small farms and small food businesses. Increased demand for healthy food, popularization of attitudes of local consumer patriotism in connection with limited trade exchange have revived small local trade, supplied by small farms and small food businesses, and increased the pressure on the inclusion of their products to the commercial offer of large chain stores (greater regional differentiation of the commercial offer and introduction of shelves with food from local suppliers).

The economic recovery and the increasing involvement of small farms and small-scale processing in the food chain were also supported by the new approach to the sphere of science and innovations, initiated in the second decade of the 21st century (reform of higher education, national industrialization plan, new approach to innovation policy). The greater emphasis have been put on dissemination and commercialization of research results, including new cultivation and breeding technologies, new techniques of food production and food processing, as well as new methods of organization and management in agriculture and agribusiness. Changing expectations towards research institutions and universities have forced them to intensify their cooperation with the socio-economic environment of agriculture and agribusiness. This has resulted in greater access of small farmers and small food businesses to the research outcomes and knowledge stocks, translating into an increase in the scale and quality of production. The ability to absorb the innovations has been strengthened by the growing awareness of the

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benefits of cooperation between agricultural producers and small processors. Both of these factors (innovations, cooperation) have led to the increase in profitability of small-scale production

3.4. Scenario 4: "Hope for better future"

The food chains in agribusiness show a high degree of concentration in 2050. This means that many small food producers and processors (SF and SFB) currently operating have ceased their activities. People who have previously worked in small farms and are employed in small processing plants in rural areas are looking for employment in cities. The range of international trade in agri-food products is still growing, both in the sphere of imports and in food exports, which leads to increased competitiveness. A wide range of food products is available on the market.

Increasing the sanitary and hygienic requirements in the field of food production increases the costs of production and processing, which results in a price increase visible on a regional scale. Small-scale food producers incur even higher costs of production and are forced to use higher prices relative to larger manufacturers.

There are violent climatic phenomena whose course has a local character. Larger farms have made efforts to protect themselves against the negative consequences of these phenomena. Climate change is most severe for small producers.

Consumers' awareness of food production and its impact on the environment is very low. They focus on having food, while their cosmopolitan attitudes cause that they are not interested in its origin (which is supported by the increase in the scale of international exchange) and how it is produced.

Small food producers are aware of the cooperation and the benefits of cooperation. Their knowledge on this subject increases as the concentration processes taking place in agribusiness grow. Increasing awareness in this matter is unfortunately not correlated with the small producers' actions. Lack of trust and the deficit of social capital continue to prevail in their views, which prevents them from undertaking a joint effort to effectively oppose the growing competition from large producers.

In order for small farms to continue their activity, it is postulated to link the amount of support they receive from public funds with the requirement of production, not the fact of land ownership.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Scenario 1: "New Consumer"

One of the main threats to small farms in the region is the lack of successors. Young residents of the village want to learn and work in cities. At the same time, they do not see the prospects for the future of farms, which may result in the liquidation of many entities.

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Another threat is the poor image of food from the region. Some of the food producers / processors violate the provisions regarding the commercial quality of agri-food products. Therefore, it is necessary to ensure a tight system of food control, intensify cooperation of institutions dealing with food safety and strengthen the promotion and image of regional, traditional and organic food.

The next negative factor is climate change manifested by a change in the rainfall system in the region, strong storms, more frequent and longer periods of drought, the emergence of new diseases and pests. The negative effects of climate change are the greater risk of yield loss and deterioration in quality. Adaptation to these changes may be difficult and expensive for small farmers (e.g. installation of appropriate irrigation systems), especially in conditions of limited financial support from the state budget.

4.2. Scenario 2: not discussed

4.3. Scenario 3 "Unreachable dreams"

1) Dependence of small farms on financial support

High financial transfers from public funds intended for small farms lead to the maintenance of a group of social farms, which are dependent on public aid, unable to function without it, have no ability to adapt to market requirements and to implement innovations. This group includes also farms (and, to a lesser extent, also small food businesses) that implement projects that would be unprofitable without public support. Such a group of small farms already exists in the region and is very numerous. Their existence results from individual attitudes of farmers, who use the public transfers as a source of incomes allocated for current consumption, and not for development projects. Increasing financial transfers for such a group of small farms will maintain them in the region for years. It should be noted that such farms do not perform their economic functions properly and their contribution to regional food security is very small, but it does not preclude them from performing their social or environmental functions in a proper way. All restrictions to prevent such farms from benefiting from public support will increase the restrictiveness of granting support to other small farms.

2) Innovative methods of operating, commercialization of activities - the threat that small farms will become similar to large ones

The potential of small farms is significantly related to the small scale and the way they operate (traditional methods of production, traditional organization of production). Attempts to commercialize their activities, increase sales on a larger scale or introduce innovations (e.g. modern product packaging, modern production methods) may have the opposite result - food is no longer perceived by the consumers as healthy and traditional.

3) Lack of openness to the market; lack of adaptation skills - human resources limitations

Despite many favourable development factors (non-restrictive regulations, high level of financial support, easy access to innovations, etc.), some farms will continue to produce only for self-supply, contributing little to food security.

4) The resilience of small farms to the regulatory functions of the market mechanism

Small farms are durable. It is the result of their greater resistance to various economic factors, lower vulnerability to more and more frequent fluctuations on agricultural markets, lower dependence on political changes and unstable agricultural policy. They are maintained also by favourable national

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solutions, (e.g. in the field of social security or taxes), as well as the fact that they are often not the only source of income for their owner. The durability of small farms is also the result of individual attitudes of the farmers themselves - their attachment to the land (duration on the "fatherland"). These farms block the access to agricultural land and the possibility of more efficient use of it.

4.4. Scenario 3 "Hope for better future"

The main threat for SF and SFB under this 2050 scenario is the dominance of big retailers and processors. The chains of supermarkets with their wide offer and liberal open hours attract rural and town dwellers.

There is still lack of trust and cooperation between farmers and small food businesses causing competition with bigger units much more difficult and it is generating higher costs.

There is also a strong threat, for the whole economy not only in agribusiness, and especially anticipated in rural areas – it is the irreversible depopulation of Polish population (in 2050 from 38 to 32 million). It may also mean for instance easy access to non-agricultural jobs. With higher costs of agricultural production in small farms, lack of cooperation to reduce those costs, lower number of local consumers, may speed disappearance of SF and SFB.

To cope with such processes there is need for very thoughtful decisions and investments in infrastructure and systems of rural areas support.

The results of climate change can be much more severe for SF. It may cause higher loses in production and higher costs of production additionally influencing reduced number of SF.

5. Action Plans under different scenarios

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios? You can copy and paste four times (one per scenario) the tables of section 1 to highlight the actions affected by each scenario. Add any explanation that you consider relevant to understand the reasons behind, as well as additional recommendations to overcome those difficulties.

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

The feasibility of each action included in the Plans (Section 2) has been assessed under the three different scenarios detailed in Section 3 (we did not discuss Scenario 2). A colour code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

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ACTION PLAN 1: Contribution of SF to regional food production

Objective: Food produced in SF have important share of the regional market of food, thanks to the specialization of production and high awareness of consumers about the health (nutritional) values of food produced in SF	***Scenario 1***	***Scenario 3***	***Scenario 4***
Promoting cooperation between farmers, as well as between farmers and local food businesses. Popularising and showing the benefits of such forms of cooperation as cooperatives, groups of agricultural producers, farmers' associations.Assistance in organization / creation of various forms of cooperation. [Public administration, local administration producers' organizations, leaders of farmers]		*Possible if SF decide to cooperate*	*Only big farms cooperate*
Reconstruction of local agricultural markets through cooperation established between local agricultural producers and food businesses (processing plants). [Public administration, local administration producers' organizations, leaders of farmers]			*Only big entities cooperate*
Introduction of additional (national / regional) support instruments for SF (e.g. co-financing of niche productions). Granting to farmers who are getting a loan to start / develop the activities aof an agricultural state guarantee. SF support through the banking system (especially by local banks) in the form of preferential loans (with a low interest rate, with a fixed interest rate). [Public administrations, (Local) bank's system]	*Change financial support rules*		
Professional agricultural advisory (specialist consultancy - legal, financial, administrative) available to farmers (a team of advisors working in one place together with a farmer). Organization of practical training - presentation of good practices aimed at encouraging farmers to take activities. Industry trainings (specialized) for farmers who continue production activities, who want to develop. Study trips for farmers - the opportunity to exchange experiences, transfer good practices to farms, establish cooperation. [Public administration, local administration and producers' organizations]	*Extension and strengthening of the advisory system*		
On the basis of newly created (adapted to SF) legal provisions, review and change of tasks entrusted to the existing support and control institutions in the field of food production. Coordination of activities between the existing support and control institutions in the field of food production and advisory units. Appointment of the Security and Food Quality Inspection Organization. [Public administrations]			*Only big farms get support*
Review and change of existing national and EU laws. Simplification of procedures for SF actions (e.g. in the field of sanitary inspection, animal identification, farm hygiene, plant protection, etc.). [EU administrations and Public administrations]	*Possible only if "friendly"regulation for SF will be implement*		

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Emphasizing the role - importance of local food in national legislation (e.g. introducing minimum thresholds for the share of local food in the total production of the region). [EU administrations and Public administrations]		*Possible if there are provisions regarding the amount of local production in the region*	
Changes in the criteria for granting direct payments (payments to the production volume, payments for the pro-environmental department). [EU administrations and Public administrations]			

ACTION PLAN 2: Contribution of SF to regional FNS

Objective: Food produced in SF is an important element of the diet of the inhabitants of the region thanks to the high awareness of consumers about the health (nutritional) values of food produced in SF	***Scenario 1***	***Scenario 3***	***Scenario 4***
Educated SF owners, who produce healthy food are more wiilling to cooperate and decided to work together in different areas (for instance joint selling platforms are set, SF sell their product together in bigger amount, they launch marketplaces with local high quality food) [Cooperatives and producers]			
Trainings for society about principles of healthy eating. Majority of adulsts (especially older people)still do not know principles of appropriate diet and rules of healthy eating [Public administrations]			
More and more SF decide to product healthy products which satisfy growing demand for such products. Financial support for it, and high price for healthy products builiding economic efficency of SF [SF]	*SF must get support*		
There is still no enough of farms which produce healthy food, so Ministry of Agriculture and Rural Development made decisions about new training programmes for SF: trainings about rules of high quality food production. [Ministry of Agriculture and Rural Development; Public administrations; Agricultural Advisory Centers; Local Action Groups, Agriculture Chambers]			

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Financial support for SF who produce high quality food as a result of growing demand for healthy food. What is more, it was recognized that farms are the best (but also the cheapest consumer) supplier of such products [Ministry of Agriculture and Rural Development; Public administrations]			
Implementation of Polish law which introduce the obligation of education in schools about principles of appropriate diet and of healthy eating. Such education helps shape correct eating habits among children and adolescents [Ministry of Agriculture and Rural Development; Public administrations]			
Public put high attention to growing problems of civilization diseases (mainly thanks to information in public media which underline that appropriate habits – also healthy eating – can significantly reduce the risk of those diseases) [Public media; Ministry of Health; Public administrations]			

ACTION PLAN 3: Contribution of SFB to regional FNS

***Objective:* SFBs ensure a significant share of the food supply for the region's population and seasonal flow of tourists, preserve the local culture, local products and traditions**	***Scenario 1***	***Scenario 3***	***Scenario 4***
Regional dependence on food imports/food supplies from outside slightly decreases			
Education actions have succeeded in training/raising awareness of society to change their consumption habits and diets. [Administration, educational system in particular]			
Local food producers and SFBs have more or less stable demand for their products. Value of those products as local and traditional is appreciated. [Consumers]			
The ways of marketing of food products and processed food by SFBs has been improved.	*Improving the image of regional food*		
Specific regulations for SFB are established and are applied (in the fields of health, administrative procedures, taxation). [Administrations, SFBs and their associations]		*If SFB decide to cooperate*	
SFB associations work together with the administrations to overcome difficulties on various issues [Administrations, SFBs and their associations]		*If SFB decide to cooperate*	
Establishing of local food promotion cells, Internet websites and local markets for local food producers and processors [City councils, communities administration, SFBs and their associations]			*Alternative sales networks*

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			for local products
Agrifood businesses associations are created in which SFBs play a decisive role [Agrifood businesses, SFBs]		*If SFB decide to cooperate*	
Traditional Polish cuisine, especially regional, is appreciated by consumers and tourists. Traditional products processing and meals are included in hotel, gastronomic and catering schools curricula. [Administration]			
Vocational Training Schools promote handling and using local products, especially in traditional way. [Administration]			
Promotion measures for native livestock breeds and plant varieties, also protective measures for local agriculture and animal production established by Administration [Agricultural administration]			*Possible only if SF survive*
Consumers are well informed about the right feeding pattern and local products. Educational and promotion campaigns have been carried out supported by the Administration, advisory bodies and local associations. [Administration, local associations]			
Educational actions help to change eating habits. [Administration, Ministry of Agriculture, medical services]			*Possible only if SFB survive*
Local products are consumed in school canteens, their delivery is supported by EU programmes, they are also delivered to other public centres. [Administration, education in particular]	*Financial support social campaigns*		

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6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

Participants who took part in a final plenary discussion made a positive evaluation of the workshop in the final plenary.

Three issues were highlighted in this regard. Firstly, participants appreciated the interaction with other actors they did not know, or they knew but did not have opportunities to talk to. Some asserted they were able to find there people they wanted to meet but had no previous opportunities to do. This allows to know about "parallel realities", i.e. others' knowledge or views about some topics. This space of collective interaction and reflection represents, on its own, a highly appreciated outcome, together with the networking arising from the interactions. Secondly, some participants indicated that they appreciated that each of them took part in discussion as the way of meeting preparation enabled it. Thirdly participants pointed out the interest of being asked and of discussing about their closest reality.

From the point of view of UR Krakow researchers, some impressions arose from the final discussion. Firstly, the usefulness of this kind of activity is not immediately evident for participants. This would be so because stakeholders (including public representatives) are not usually involved in strategic planning. For almost all of participants it was first opportunity to participate in such workshop. None of them met with backcasting methodology.

It was interesting to observe participants who start stick notes on a sheet of paper, and in the first minutes they were not convinced that we would be able use it in anyway. Then, when moderator started to classify similar answers together and create clusters from them, participants were flabbergasted and astonish. Also the scenarios exercise aroused much controversy, as not all participants were convinced about proposed change/factors influencing on SF situation. They not always agreed with proposed situation, indicated that it will be impossible in RR 19.

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7. List of participants

Key experts and informants	Position	Institution	Sex	
			M	F
1.	Farmers	Farmers	4	2
2.	Advisers	Podkarpackie Agricultural Advisory Center in Boguchwała	2	4
3.	Associate Professor (dietician)	University of Rzeszów	-	1
4.	Members	Podkarpackie Chamber of Agriculture	2	1
5.	Deputy Director	Podkarpackie Voivodship Office in Rzeszów, Department of Environments and Agriculture	1	-
6.	Department Managers	Marshal's Office of the Podkarpackie Voivodship: Department of Agriculture and Rural Development; Department of Hunting and Fishing; Department of Multifunctional Village Development and High-Quality Food.	2	1
7.	Input suppliers		2	-
8.	President	Provincial Union of Farmers and Agricultural Organizations in Rzeszów	1	-
9.	Inspector	Voivodship Sanitary and Epidemiological Station	1	
Workshop facilitators				
Marta Czekaj		UR Krakow	-	1
Aleksandra Płonka		UR Krakow	-	1
Łukasz Satoła		UR Krakow	1	-
Monika Szafrańska		UR Krakow	-	1
Ewa Tyran		UR Krakow	-	1
Katarzyna Żmija		UR Krakow	-	1

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7.6. R23 Oeste - Portugal

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR23 – Oeste (Portugal)

Authors: Paola A. Hernández, Ana Fonseca, Catarina Esgalhado (UEVORA – Universidade de Évora)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

Participants in this group identified five clusters of ideas to describe the role they would like small farmers (SF) to play in 2030, regarding their contribution to the total food production in the Oeste region.

First cluster hints at the role of SF as land keepers, with special interest for increased biodiversity of agricultural varieties (e.g. seeds, crop types, etc.), hand-in-hand with the protection of traditional and ancient varieties. For instance, SF's could become key actors in ecological sustainability, by spearheading efforts for environmental conservation and increased diversity of food products – including native and traditional plant and animal varieties.

Second cluster highlights the role of SF in securing consumers' trust and in raising their awareness about food issues. Specific examples include: a) re-establishment of the link and trust between producers and consumers, through increased visibility of SF in retailing processes and by letting consumers know who is behind the products they are consuming, and where and how food is being produced so they know they can trust small farmers; b) increased dissemination and identification of SF and their products through campaigns and labels; and c) SF help raise the consumers' awareness regarding their food purchases, despite any economic, technical and social difficulties undergoing in the sector.

Third cluster focuses on regional identity. Group members would like SF to contribute to the cultural memory of Oeste, including its cycles, specificity and local habits, plus to help maintain the structure of the landscape and territorial identity. Gastronomic identity, regional food recipes, and local agricultural practices were also suggested as sources of regional identity.

Fourth cluster indexes participants' vision to see SF having a raised access towards independent, adequate and personalised technical support. An issue brought up during the discussion was the current heavy reliance of SF on companies selling chemical inputs, thus the need for independent technical support grounded on scientific knowledge and not linked to the interests of a company. This shift would improve the quality of SF's final product beyond its appearance, namely in terms of its flavour and the positive effects in consumers' and environmental health.

The last cluster foresees the collective use of natural resources by SFs, through associativism and trust building. Specifically, participants would like to see an increased capacity of SF to associate by 2030. This way, they could share resources – such are farming equipment, raw inputs or knowledge, get together to exchange experiences and lessons learnt, and be dynamic participatory forces in cooperatives for mutual support. Participants claimed that SF collaborative work could help them

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connect to the market more favourably and plan food production, while allowing them to respond to consumers' food demands and reducing overproduction.

The concrete objectives identified by participants to translate their vision for SF in 2030, in terms of their contribution to the total food production in the Oeste region, are:

- To broaden the number of crop and seed varieties, including the protection of ancient varieties, and the promotion of genetic biodiversity and ecology
- To increase mutual trust and mutual accountability among SF

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

The group of participants in this group identified six themes, when asked to envision the role they would like SF to play in 2030, in terms of providing an adequate diet for consumers and farm households in Oeste.

The first refers to SF attaining improved socio-economic conditions so they can stimulate the economy in the region at the small-scale. Participants considered it would be imperative for small food producers to attain a fair income for their activities, thus the relevance to increase the profitability of SF in the sector.

Second theme suggests the adoption of polyculture by SF, as a widespread mixed-crop and livestock production system. Punctually, participants focused in the need for SF to supply differentiated food products, resist the trend toward product standardisation, and include regional crop varieties. Participants would like to see that more and varied food products by SF are sold at local farmers' markets and in small businesses by 2030.

A third set of ideas envisions SF's capacity to increase the supply of organic food products, with or without certification. Suggestions refer not only to an increase in quantity of items, but also in making organic foods more accessible and cheaper. Distribution and trust were identified hindrances by participants, which the State should help overcome to promote these products and make them more available.

Fourth, participants would like SF to contribute towards the equilibrium and safety of agrifood systems, with preference in non-synthetic farming inputs and with the goal to support native ecosystems. SF would also be promoters of food safety because they would respect the interdependence of organisms promote the equilibrium among human, animal, and environmental health.

A fifth cluster includes SF's role in consolidating the region's short food circuits. Participants envisioned small farmers having direct contact with consumers and freedom to adapt their production systems,

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which would be the result from more availability of and easier accessibility to these channels. With a shorter food chain, SF would also play a role in reducing food waste.

The last theme by this group sees SF's role in building up increased cooperation between producers and consumers. Ideas discussed among participants include SF's active role in developing collective projects within and for small-scale farming in Oeste, and in modifying the food system's current dynamic, turning it more community-based. To attain this, participants highlighted the need of SF to collaborate with each other

One concrete objective arose from the visions participants identified for SF in 2030, in terms of their role in providing an adequate diet for consumers and farm households in Oeste. Bearing in mind SF's difficulty to compete with larger farms, this objective defined was:

- To increase the profitability of small farmers.

*(i) Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

Note the aspects of SF / SFB's role where there is general agreement amongst participants, and those aspects where different participants / stakeholder groups represented in the workshop disagree on.

Five categories were identified by participants in this group, where small food businesses (SFB) could play a significant role in the provision of an adequate diet for consumers and farm households by 2030 in Oeste region: legal provisions, food distribution, well-being, identity and training.

Under the first cluster, legal provisions, participants envisioned SFB to have the right to produce/sell/transform whatever they want, without restrictions or bureaucratic burden, to access the market.

Second cluster focuses on SFB's role in the realm of food distribution. Participants mentioned SFB could secure the provision of proximity foods, especially through the distribution of regional and safe food products in the regional market.

The third category identified by the group refers to SFB's function in promoting the well-being of consumers and farm households in the region. This category was perceived by participants in two sub-groups, or concepts: i) sustainability and ii) health. The former hints at SFB's ability to produce in an economically and sustainable way, and also at SFB's capacity in nurturing environmental sustainability and in maintaining the countryside. The latter emphasizes in the adequate use of agricultural resources, avoiding excesses and producing only what is strictly necessary, as well as in maintaining an equilibrium between what is supplied to the market and what is beneficial for human and the soil's health. If a cross-sectorial equilibrium is attained, argued group participants, then SFB would be able to produce healthy and nutritious foods.

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Number four identifies the key role of SFB in the promotion of regional identity. Envisioned tasks include to guarantee diversity in food products, which means opposing homogeneity and considering the use of local and heirloom varieties in food production, as well as promoting distinctiveness and regional identity through the production/transformation/distribution and retail of linked to Oeste.

Training and qualification was the last cluster of ideas. Under this category, participants envisioned improved technical skills for SFB, in order to address any food safety and animal welfare concerns, enhance the promotion of locally-produced quality foods, and to target better SFB's market strategies.

The group had difficulties coming up with a clear objective to transform their visions for SFB in 2030. At the end, one that overarches a number of various spheres was defined:

- To achieve an economic equilibrium for SFB vis-à-vis of a human and environmental well-being

2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

	Contribution of SF to regional food total production	
Timing	*Objective 1: To broaden the number of crop and seed varieties, including the protection of ancient varieties, and the promotion of genetic biodiversity and ecology*	*Objective 2: To increase mutual trust and mutual accountability among SF*
2030	*Small farmers and urban small food producers use more native crop varieties and less pesticides, guaranteeing more diversity and health in the ecosystem*	*School canteens use local products*
	Local associations carry out awareness-raising campaigns in restaurants to promote local food products	*National and regional authorities modify public procurement criteria for food purchases in school canteens, so that they can source locally-produced food*
	Public entities define the criteria to allocate public funds for the promotion of knowledge on ecological protection	*Local development associations create fora and assemblies to deliberate about the difficulties that SF face, in terms of meeting consumers' expectations*

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	SF and the National Association of Food Producers get back the possibility to apply for financial support under the Rural Development Programme	*Farmers' Associations organise field visits, in which SF to visit each other and exchange knowledge*
	City and town councils facilitate the inclusion in local markets of young farmers interested in producing ecologically	*Schools develop curricula that entail students visiting farms and talking to SF. During the school break period, schools carry out various activities open to the community aimed at the development of knowledge and awareness raising about food*
	Parish councils raise consumers' awareness on food issues through workshops and collective actions with other associations	*Farmers Organisations declare seed varieties autonomous and free*
	Farmers and SF associations create production plans to alternate and rotate crops	*The Agency for Environmental Issues labels for "false" and "dubious organic" foods that do not meet the standards*
	Ministry of the Environment/Agency for the Environment grants SF support to install riparian vegetation to protect their plots, boost biodiversity and control pests	*Farmers associations identify local products with the producer and place of origin they come from, for consumers to easily recognize them*
	Cultural organizations organize gastronomy events that enhance local and traditional foods	*DOP certifying entities define trustworthy application criteria for local foods*
	Agricultural centres (e.g. agrarian schools) provide training to SF about the advantages of using native plants, including their medicinal, nutritional attributes, as well as the potential integration of these plants in the myriad of SF's products	*Local radio and TV networks develop farmer talks where SF promote their products, and educate about farming conditions, etc.*
	Agricultural centres (e.g. agrarian schools) fight the preconceived judgements and lack of information by farmers, in terms of the relevance of wild plants	*Town and city councils develop campaigns to promote a local economy, local markets, and cultural heritage, among others.*
	Town and city councils engage consumers in events for the defense of traditional and local crops, through tertulias and get-together campaigns targeted to consumers	

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	to increase their awareness about these varieties	
	Town and city councils create local action groups for the promotion and safeguarding of traditional seed varieties	*National associations for citizenship building lead a campaign for the development of soft skills for the build-up of a culture of democracy and cooperation in producers' organisations*
	SF in urban gardens revitalise trainings on the safeguarding of seeds, following organic farming principles	*Parish councils develop mechanisms to certify local products to increase consumers' trust*
	SF and associations already working in seed-keeping implement seed exchanges, hand-in-hand with the development of knowledge about feasible food production with native and autochthone seeds, seed collection and seed conditioning	
	Farmers associations and universities promote and sensitise SF on the genetic heritage of seeds	*Agricultural centres (e.g. agrarian schools) get acquainted about participative certification processes promoted in other places of the world – e.g. South America*
Present	*Rural development offices promote the de-bureaucratisation of the support given to small and family farms*	

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	Contribution of SF to regional FNS	
Timing	*Objective 1: To increase the profitability of small farmers*	
2030	*SF valorise their products, by investing in image and product differentiation*	*Town and city councils design policies on public procurement by school canteens with organic and locally-produced foods*
	A group of members from the SF association and the consumers' association join forces and create pro-consumer cooperatives	
	SF form a SF's association in line with agroecological principles	*The Portuguese State loosens laws on public procurement, in justification of social and ecological values*
	Seeking to reduce reliance on farming inputs, farmers intervene timely in their crop production, based on their learnt and acquired knowledge	*The Ministry of Education coordinates consumers' education campaigns about purchasing responsibility, food planning, eating habits, food waste, which are that are then implemented by the town and city councils and schools*
	Small farmers identify and use seed varieties adapted to the region's soil and climate conditions	*The Ministry of Agriculture grants direct support to SF using polyculture in holdings up to 5 hectares*
	A collaborative team composed of citizens, universities, parish councils, regional authorities defines bio-regions to identify their specific social, ecological, economic attributes, to promote the local economy and to protect the environment	*The regional Office for Agriculture rethinks the regional food market system, by revising the regional strategy for the regional food chain, to address unfair practices and protect small-scale food production (e.g. increasing the role of farmers' markets, limiting the role of supermarkets, and discouraging food resale, etc.)*
	SFs lower their costs of production, by using organic residues from their own farm and relying more on renewable energies	*The Ministry of Agriculture reconsiders the existing food laws enforced by the Portuguese Authority for Economic and Food Safety*

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Present	*Farmers associations provide training to SF on closed-loop farming, reduction of fossil fuel use, agroecological practices in ca. 10 year-programme to help them achieve their objectives*	*The Portuguese Office of Planning and Policy publishes minimum food prices for crops at the regional level and farmers' associations are firmed in their application to protect SF's bargaining capacity*
	SFs share production costs after identifying synergies and normalising collaborative work (e.g. service provision)	*The Ministry of Agriculture revise eligibility criteria for small farmers applying for funding, based on the objectives defined by each SF*
	SF define their objectives and define what it means for them to increase profitability, namely what it entails to lower production costs and what it is necessary to increase production	

	Contribution of SFB to regional FNS
Timing	*Objective 1: To achieve an economic equilibrium for SFB vis-à-vis of a human and environmental well-being*
2030	*SFB are solidly established in the market*
	Consumers' awareness is raised about the benefits of local food consumption, especially of proximity foods and products with origin and production system certification.
	Local municipalities coordinate the functioning of local markets
	The Portuguese State designs fiscal incentives to support SFB, to avoid large companies taking advantage of this setup
	The Portuguese State liberalises the right of use of vegetal and animal substances
	The already existing small businesses association disseminates products produced by SFB
	The small businesses association and/or certification companies that are then overseen by the State monitor and regulate SFB (e.g. right use of labels, transformation processes, etc.) for food safety and environmental well-being

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	Large retailers and/or private businesses/ consumers' organizations survey the availability of raw materials in the region to foresee how by-products can be utilised by SFB and then create added value products
	The private sector (e.g. universities, independent businesses, etc.) surveys food markets (more in a micro-scale) to identify what are or should be the distribution channels for SFB products and promote them
	Rural extensions and/or small businesses associations train SFB owners permanently about well-being and health issues in the food system, to complement their existing skills
	Businesses organizations oversee that all bodies responsible for the coordination of businesses articulate with each other to work in synchronism and, then, avoid a climate of distrust among each other
	The Portuguese State declares a SFB charter in line with the current Portuguese family farming charter
	The Ministry of Economy raises awareness about the social and environmental concerns of food production beyond the economic profits, changing the mindset and ideology for doing business at the local level
	The Portuguese State gears up the existing businesses associations to assist SFB with information and training sessions
	The Ministry of Agriculture takes up the extinguished rural extensions to promote rural revitalisation, while at the same time assisting SF and providing initial support to SFB to secure their place along the food chain
Present	*The Portuguese State (e.g. Ministry of Agriculture, Office of Planning) and/or research institutions (e.g. universities) carry out an initial study of the market for SFB to identify consumers' preferences, from a macro-national perspective*

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3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario A: Agri-future: Innovation and differentiation

This is a scenario with high concentration of the food chains, in which supermarkets would dominate set prices imposed over producers. In an open food market, big producers and foreign producers would also be able to provide big quantities of food at low prices, whilst SF and SFB would have difficulties in complying with these demands. All of these factors would contribute to a gradual dismissal of products from SF and SFB.

Small farmers would tendentially disappear, either by being put out of business for the difficulty in making a profit from their activity, or by being incorporated into larger production schemes. The strong regime under this scheme would smother most SF and SFB to such a degree that most would search for alternative means to market their products to persist. Others would have found in the informal food trade a way to circumvent any legal constraints and remain alive.

The few SF and SFB that still manage to penetrate in the food chain would do so mainly as a secondary, complementary activity and not a full-time profession. Further, small farming would be more for self-provision than being market/profit oriented. They would seek continuation in a concentraded maket by differentiating themselves. Farmers would have to find a niche, to which they would cater directly, whether in terms of the quality of their products or due to their utilised production method (e.g. biodynamic agriculture).

In this scenario dominated by a globalised food market, traditional foods would progressivelly be lost, which could become an opportunity for SF and SFB to bet on. Differentiated products could be a response by SF and SFB to the needs of a conscious consumer, who would then demand for higher quality and unique food products (e.g. items with high nutritional value, anti-oxidant properties, traditional and native, etc.). Such niche markets could be potentiated by SF and SFB's adequate use of the available technology at the time, making it possible for some SFs and SFBs to resist.

The easy access to knowledge and innovation would have led to some contrasting effects. On one hand, due to the difficulty to access natural resources and the need of a differentiated offer, SF would have to be creative in their farming systems. Contrasting, SF would be in disadvantage, with a lower capacity for investment in new technologies needed for precision agriculture. These side effects could

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lead to the prevalence of retro-innovation and other non-capital-intensive technologies and innovation in SF and SFB.

Although consumers would be aware about food production issues, they would still privilege the comfort of having all the wanted products close by and, in the same place. As collective action is generally weak in this scenario, the few individual actions spearheaded by consumers to support SF and SFB would be inspired more by the public recognition of their own actions – namely, their self 'right-doing' – and less with the intend to benefit SF and SFB. The latter would have to take advantage of this trend in consumers' selection process and form of social contribution, by developing creative ways to sell the "rural" and "exotic" in the countryside, while responding to consumers' increased demand in higher value products.

In this set up, the remaining SF would be able to survive if they bet in establishing proximity linkages, with the creation of food circuits and farm visits. These could brand small farming and offer consumers unique experiences with the products they are looking for. However, in this highly competitive scenario such "alternative" schemes could be absorbed by the conventional market and lose their characteristics of "small" and "unique". Conversely, they would be dismantled if thought to be a threat.

3.2. Scenario B: (not explored)

This scenario was not explored during the Workshop due to a limited number of participants (12). With the aim of giving priority to fuller discussions, the research team decided to leave 3 tables of 4 members each, as 2 of the event participants indicated they would have to leave during the afternoon session.

3.3. Scenario C: On the way to Utopia

The sequence of events in this scenario would have occurred due to a dramatic climate change accompanied by the worsening health conditions of the population. Due to a widespread contamination of food and soil by agrochemical inputs, which also led to a high biodiversity loss, legal requirements conditioning SF and SFB were weakened and made more flexible. The state would have been forced to take strong measures to change the type of agriculture practiced and to promote the reoccupation of the rural world. Therefore, rules to stimulate small agriculture in organic mode of production would have been created. These circumstances would have produced different impacts depending on the type of agriculture.

By 2050, small farming had accompanied the proliferation of the population in the region. Some SF, pressed to produce more food, would have continued using agrochemical inputs, despite a majority of SF and SFB producing in organic mode of food production. Food systems were structured to meet consumers' demands, who in this scenario had become conscious and concerned about food issues. Therefore, the majority of the food being produced would have come from small farming.

With a low degree of concentration of the food chain, farmers would have created various forms of collaboration to overcome some of the constraints. In particular they would have created spaces for the exchange of knowledge about more sustainable modes of production, of indigenous and more rustic seeds, as well as on information about regular markets for the sale of their products. Excessive

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food production would have no longer existed and waste would have been reduced to a minimum in this scenario. Producers would be able to share production plans with each other to meet the needs of a demanding population.

Forms of participatory certification of organic production would have been created, as consumers would be closer to producers. SF, SFB and consumers would have known each other well, working in collaboration and having a mutual concern over health and living conditions.

This scenario presents a limited number of food imports in the region, possibly due to high import prices, causing food diversity loss and reduction. This situation would have led to a greater concern to take advantage of bioclimatic niches. There would have been small designated areas for the production of bananas, coffee, tea and other exotic products. Agricultural authorities would have also invested in recovering different crop varieties – many of them endangered species, to compensate for this loss of diversity.

Participants affirmed that farmers would have a better standard of living under this scenario (e.g. higher incomes and, thus, a higher purchasing capacity), following the remarkable allocation of public budget in the agri-food sector, easy access to natural assets, and the low levels of poverty throughout the population. Similarly, SF and SFB would have also become more culturally informed and aware of social and economic issues, but also more technologically specialised, thanks to the smooth access to knowledge and technical innovations.

Low levels of poverty by 2050 would have also been attained through the production of enough food for all, as a result of collaborative work between SF and SFB. The increased protection of the environment and communities would have been reached after the use of chemical fertilizers and pesticides were dropped and replaced by greening techniques, such as intercropping, crop diversification, green manuring, shorter cycle yields, plant companionship, among others.

The widespread increase of the population in rural areas would have occurred hand-in-hand with the reduction in forest fires. This situation would have encouraged urban citizens to dislocate to safer and greener areas in rural spaces, reducing concentration of jobs and services in urban centres.

A nutritionally and environmentally aware citizenry about its food habits would have been possible by 2050 in the region, because food products had: a) been consumed preserving their seasonality; b) been of a higher nutritional quality; and c) been safer in terms of being chemical-free. This situation would have also prompted reduction of obesity and food-borne diseases and a widespread healthy population.

3.4. Scenario D: Hyper-bio capitalism

This scenario in 2050 is characterized by a high degree of concentration in the food chain, strong legal requirements conditioning the activities of small farmers (SF) and small food businesses (SFB), and scarce allocation of public budget to the agri-food sector.

The scenario would have been possible following the lack of policies holding up small farmers, which led to the abandonment of agricultural lands and cease of their activity. Additionally, the support that

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had formerly been granted to small food businesses weakened, and awarded to big retailers instead. These privatised large companies would have become the dominating actors with full and vertical control over the processes and decisions in the food chain. Industrialisation and monopolisation had also turned into the main goals of the food system, focusing on results rather than means.

Access to natural assests such are land, water, etc. by SF and SFB would havehad been made difficult given the strong militatization of the State and the reforms in the legal framework. The State had not only stripped away the rights and freedoms of the natural individuals in favour of protecting legal persons; but had also increased working hours for civilians. By the same token, access to managerial and technical innovations by SF and SFB would have diminished, as these players had lost any bargaining power in the food system after food patents – once again, concentrated in the few hands of large companies – had become the norm.

Poverty would have had spread among the population in Oeste under this scenario, by cause of a population decline in the rural areas and an increase in the urban centres. To this, an overall instability by an increasing majority, emigration, and land abandonment would have added. The rise of societal apathy toward small farmers' concerns and small groups' issues in the region had become symptomatic in a precarious environment of struggle and self-preservation. Only the big and powerful would have been able to call the shots and hold a stake in the regional food system.

Food poverty would have also been spearheaded after abandoning the national food strategy that had been developed earlier, which was meant to guarantee access to healthy and nutritous foods to all citizens regardless of their social condition. Consumers could not have afforded to consider the nutritional and environmental implications of their food habits, due to lack of time and capacity to see beyond meeting their basic needs. Food policies gave also priority to intensive food production and promoted a food system tailored to produce more, compromising food quality in this scenario. Food safety concerns and food-borne diseases would have increased, after the codex alimentaris had been dropped out once the national food strategy ceased to exist.

Under these circumstances, spaces for alternative food access would have become marginal and just a few would have been able to resist the socio-economic and political challenges of the time. Only a handful of small networks of proconsumers (producers plus consumers) would have been created secretly to avoid retaliation.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

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4.1. Scenario A: Agri-future: Innovation and differentiation

Threat 1: Difficulty in keeping up with new technologies

Despite the ease of access to knowledge and innovation, SF and SFB would be in disadvantage compared to larger business due to the need of initial capital. Technology is evolving to allow precision agriculture, optimizing the use of resources and lowering production costs. Thus, adding increases in production costs, which are already higher in operations due to scale, could lead to an eventually drop in SF and SFB ventures and move onto other sectors.

Participants suggested that the design of subsidies targeted especifically to SF and SFB could lower the impact of this vulnerability and help them cope with high demanding market pressures.

Threat 2: Legal and bureaucratic burden over farming

The strong framework on public regulations in this scenario would disproportionally affect SF and SFB compared to large-scale producers. The former, for instance, would have less flexibility to guarantee they meet all funding application demands, while larger farmers and businesses could hire third party services – e.g. enterprises specialized in designing projects, consultancy agencies and associations – to ensure they apply for the right investments and comply with all of the application requirements.

This menace would not only increase SF and SFB's dependency on third parties actors - costing them money, but could also discourage continuation of their activities, if they cannot comply with the expected application demands. All of this could lead them to miss their chance of receiving funding and remaining viable.

Threat 3: Decrease in the number of SF and SFB

The decrease in number of small projects would: i) cause them to be more disperse throughout the territory, ii) reduce SF and SFB's visibility, iii) make more difficult their self-organization; iv) hinder their access to markets. Many small-scale producers would merge with larger operations or bet in further investments to remain profitable.

The absence of social values, in terms of solidarity and awareness about small-scale food production, would also prompt SF and SFB to fight alone the competitive markets and the incrased food demand in urban centres.

Under this scenario, SF and SFB's adaptative capacity to endure such circumstances would likely be low compared to bigger size farms and companies, given the liberalised world food environment.

4.2. Scenario B (not explored)

No vulnerabilities were drawn out from this Scenario, as it was not take up during the Workshop.

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4.3. Scenario C: On the way to Utopia

Threat 1: Difficulty in producing enough food for the market, due to imports' reduction and to the shrinkage in dimension of the production units.

The low degree of concentration in the food chains, plus the remarkable allocation of public budget into the agrifood sector, could have led to an increase in close-looped small-sized farms and businesses able to produce food more sustainably and efficiently. This could make SF and SFB more sensitive to compete in a market flooded with foodstuffs, which would limit them to produce mainly for self-provisioning/family-run operations.

This threat could be overcome thanks to the enabling environment of collaboration and social values among farmers. SF could exchange knowledge about more intensive but sustainable production and partner up with others to sell larger quantities. This way, SF and SFB would be more likely to adapt to changes in market demand because they could easily adapt their production systems as needed. SF would occupy small lots available for small-scale production in this scenario, motivating them to take advantage of production inputs produced in the farm or close to it, such as compost and animal manure, and produce competitively for the local market.

Threat 2: Reduced access to diversed foods, due to limited imports of exotic foods such as bananas, pineapples, yucca, coffee, and tea, among others.

With reduced and limited food imports, the diversification of plant and animal varieties available regionally would shrink. This threat was detected by participants, in a situation where SF and SFB lacked the adapting capacity to strengthening their local markets, especially in a social environment in which consumers were used to and had unlimited access to food year-round.

Ways for SF and SFB to overcome the apparent lack of diversity could be by taking advantage of bioclimatic niches and using greenhouses to produce small quantities of bananas, coffee, tea and other foods often produced in different climates. Otherwise, they could privilege native food varieties and substitution crops to compensate for this loss of diversity.

Threat 3: The dispersion of farmers in rural areas leads to a greater difficulty by consumers to acquire food products produced by SF and SFB

For a larger rural population under this scenario by 2050, food production by SF and SFB could become harder to be coordinated. Thus, getting their foods to reach the markets and consumers could be difficult, if they lacked the proper infrastructures. This means that SF and SFB would then be more sensitive to the types of partnerships and collaborative networks in support of their activities within the scenario's relatively loose legal framework.

Getting over such limitations could be through the creation of cooperatives, producer-consumer organizations, and by developing stronger associativism. They could also rely more on short food circuits, given the increased food demand in rural areas. This way, they could collaboratively put the products in the market, mainly through frequent local markets and fairs, collective shops and cooperatives, etc.

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Threat 4: The increased demand for food by consumers puts pressure onto a few SF to rely in chemical fertilizers and pesticides to guarantee food production.

In a relatively diffused concentration of the food chains, participants identified that a few SF and SFB could potentially be exposed to a wider range of actors and pressures to produce in large quantities. Under this scenario most food production would be satisfied locally, thus urging SF and SFB to meet market needs at any cost. Soil health, human and animal diseases could stem from the unregulated use of agrochemicals under a relatively weak and flexible legal environment.

A way to move beyond this possible threat is for SF and SFB to bet in product differentiation, in terms of food production systems (e.g. use of native varieties) and product quality (e.g. organic foods). This would not only combat concerns in peoples, soil, and ecosystems' health, but would also secure a niche market for them to sell their products.

4.4. Scenario D: Hyper-bio capitalism

Threat 1: Monopolisation of the food chain

The concentration of power in the food chain under this scenario hints to the vertical control of all food production processes in a few hands, threatening SF and SFB's survival and bargaining power in the food system. Particularly, these large companies would have enough power to set up the prices to guarantee their own profits and wealth, increasing the costs in food production for smaller actors. This would lead to decreased gains for the activities carried out by SF and SFB, thus reducing their capacity to compete in an uneven market. Many would quit, while a few others might continue operating independently in a small scale; however, the lack of support would quickly prompt abandonment of their activities.

Threat 2: Failure of the State vis-à-vis the agrifood industry/markets

With a food system succumbed to the food production rules dictated by the international market, as well as for imports and exports, food quality and price regulation could banish. This is dangerous not only because the success of the State would be reduced to its capacity to standardise food production, but also in view of jeopardising the future and protection for SF and SFB. Under these circumstances, the State would be unable to guarantee wealth distribution and the weaker actors would have a lesser adaptive capacity to cope with food market shocks.

Threat 3: Social oppression and loss of fundamental rights

This scenario perceives an oppressive State determined to silence alternative paths, criminalising those not fitting the status quo by shortening their rights and freedoms. This is the consequence of a State that would have surrendered to the rules imposed by food monopolies. Small farmers and SFB would then be defenseless against the protection granted to big food enterprises, prompting their extinction and pressure to increase in size to survive in the chain. Bearing this in mind, the reduction (in number) of actors, markets, channels, food products, etc. along the food system would reduce too.

Threat 4: Jeopardy of human, animal and environmental health and welfare

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Given the full dependence on agrochemical companies for the supply of seeds, farming inputs, technology and innovation - plus the concentration of the food chains, access to clean water and healthy soils for food production by SF and SFB, their animals, families and neighbors could be restricted. This situation would expose them to food-borne illnesses, compromise their health and induce poverty.

Scenario D participants consensually agreed that almost none of the SF nor SFB would be equipped for facing the above-mentioned threats, because no clear strategies would have been planned to overcome and cope with such circumstances. Importantly, partipants signalled that the absence of sensitiveness to deal with the vulnerability factors in this Scenario could systematically be challenged, if the Oeste region:

- promoted cooperation among small farmers (e.g. created a SF's Union);
- pushed for increased municipality support;
- designed a legal framework that promotes rural food markets;
- increased training, not only in farming but also in food chain issues (incl. food consumption, and citizens' awareness) through assemblies like the citizens' jury (already existing in other places).

5. Action Plans under different scenarios[21]

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios? You can copy and paste four times (one per scenario) the tables of section 1 to highlight the actions affected by each scenario. Add any explanation that you consider relevant to understand the reasons behind, as well as additional recommendations to overcome those difficulties.

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

In order to facilitate this assessment, taking the Action Plans (1, 2 and 3) developed in Section 2 of this Report - which combined actions and milestones, we have distilled real actions, eliminating the milestones. Also, we have separated each action in a different line in the following tables, although in the Action Plans they appeared grouped when they shared the same timeline.

The feasibility of each action included in the Plans (Section 2) has been assessed under the four different scenarios detailed in Section 3. A colour code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

[21] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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5.1. Action Plan 1: Contribution of SF to regional food total production

Objective 1: To broaden the number of crop and seed varieties, including the protection of ancient varieties, and the promotion of genetic biodiversity and ecology	***Scenario 1***	***Scenario 3***	***Scenario 4***
Small farmers and urban small food producers use more native crop varieties and less pesticides, guaranteeing more diversity in the ecosystem	*Could be attained if SF work in collaboration to promote local seed varieties*		
Local associations carry out awareness-raising campaigns in restaurants to promote local food products	*Unlikely due to the lack of solidarity and awareness about SF/SFB issues*		
Public entities define the criteria to allocate public funds for the promotion of knowledge on ecological protection			
SF and the National Association of Food Producers get back the possibility to apply for financial support under the Rural Development Programme	*Lobby work by SF could pursue this*	*Possible if SF are interested enough, as there is significant public budget allocated for supporting the agrifood sector*	
City and town councils facilitate the inclusion in local markets of young farmers interested in producing ecologically	*Unlikely, but possible if enough environmental lobbying is pushed for*		

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Parish councils raise consumers' awareness on food issues through workshops and collective actions with other associations			
Farmers and SF associations create production plans to alternate and rotate crops			
Ministry of the Environment/Agency for the Environment grants SF support to install riparian vegetation to protect their plots, boost biodiversity and enhance pest bio-control			
Cultural organizations organize gastronomy events that enhance local and traditional foods			
Agricultural centres (e.g. agrarian schools) provide training to SF about the advantages of using native plants, including their medicinal, nutritional attributes, as well as the potential integration of these plants in the myriad of SF's products	*Feasible if enough interest in promoting SF and sustainable farming methods*		
Agricultural centres (e.g. agrarian schools) fight the preconceived judgements and lack of information by farmers, in terms of the relevance of wild plants			
Town and city councils engage consumers in events for the defense of traditional and local crops, through tertulias and get-together campaigns targeted to consumers to increase their awareness about these varieties			
Town and city councils create local action groups for the promotion and safeguarding of traditional seed varieties	*Unlikely due to the lack of collective action*		

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SF in urban gardens revitalise trainings on the safeguarding of seeds, following organic farming principles	*Unlikely due to the lack of collective action*		
SF and associations already working in seed-keeping implement seed exchanges, hand-in-hand with the development of knowledge about feasible food production with native and autochthone seeds, seed collection and seed conditioning	*Unlikely due to the lack of collective action*		
Farmers associations and universities promote and sensitise SF on the genetic heritage of seeds	*Unlikely due to the lack of social awareness, but possible if strong privatised lobbying*		
Rural development offices promote the de-bureaucratisation of the support given to small and family farms			

Objective 2: To increase mutual trust and mutual accountability among SF	***Scenario 1***	***Scenario 3***	***Scenario 4***
School canteens use local products			
National and regional authorities modify public procurement criteria for food purchases in school canteens, so that they can source locally-produced food	*Unlikely due to the lack of social awareness, but possible if strong privatised lobbying*		
Local development associations create fora and assemblies to deliberate about the difficulties that SF face, in terms of meeting consumers' expectations			

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Farmers' Associations organise field visits, in which SF to visit each other and exchange knowledge			
Schools develop curricula that entail students visiting farms and talking to SF. During the school break period, schools carry out various activities open to the community aimed at the development of knowledge and awareness raising about food	*Unlikely, due to the lack of interest in social and environmental awareness*		
Farmers Organisations declare seed varieties autonomous and free	*Unlikely in a liberalised food market*		
The Agency for Environmental Issues labels for "false" and "dubious organic" foods that do not meet the standards	*Unlikely in a liberalised food market*		*Possible in an environment of political repression*
Farmers associations identify local products with the producer and place of origin they come from, for consumers to easily recognize them			
DOP certifying entities define trustworthy application criteria for local foods	*DOP is supported as a marketing and value-adding strategy in a competitive market*		
Local radio and TV networks develop farmer talks where SF promote their products, and educate about farming conditions, etc.	*In a free market, this is possible*		
Town and city councils develop campaigns to promote a local economy, local markets, and cultural heritage, among others.			
National associations for citizenship building lead a campaign for the			

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development of soft skills for the build-up of a culture of democracy and cooperation in producers' organisations			
National associations for citizenship building lead a campaign for the development of soft skills for the build-up of a culture of democracy and cooperation in producers' organisations			
Parish councils develop mechanisms to certify local products to increase consumers' trust	*Possible as a marketing strategy*		
Agricultural centres (e.g. agrarian schools) get acquainted about participative certification processes promoted in other places of the world – e.g. South America	*Unlikely due to the lack of advocacy for social action*		

5.2. Action Plan 2: Contribution of SF to regional FNS

Objective 1: To increase the profitability of small farmers	***Scenario 1***	***Scenario 3***	***Scenario 4***
SF valorise their products, by investing in image and product differentiation	*As a marketing strategy, this is likely*		
A group of members from the SF association and the consumers' association join forces and create pro-consumer cooperatives			*Unlikely, but doable by a minority group seeking to overcome poverty*
Town and city councils design policies on public procurement by school canteens with organic and locally-produced foods			
SF form a SF's association in line with agroecological principles	*Feasible by a few*		

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	environmental activists		
The Portuguese State loosens laws on public procurement, in justification of social and ecological values			
The Ministry of Education coordinates consumers' education campaigns about purchasing responsibility, food planning, eating habits, and food waste	*These campaigns would be more geared toward healthy and nutritious eating, and less on purchasing responsibility*		
Farmers intervene timely in their crop production, based on their learnt and acquired knowledge			
Small farmers identify and use seed varieties adapted to the region's soil and climate conditions			
The Ministry of Agriculture grants direct support to SF using polyculture in holdings up to 5 hectares			
A collaborative team composed of citizens, universities, parish councils, regional authorities defines bio-regions			
SFs lower their costs of production, by using organic residues from their own farm and relying more on renewable energies			
Farmers associations provide training to SF on closed-loop farming, reduction of fossil fuel use, agroecological practices in ca. 10 year-programme to help them achieve their objectives			

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The regional Office for Agriculture rethinks the regional food market system, by revising the regional food strategy			
The Ministry of Agriculture reconsiders the existing food laws enforced by the Portuguese Authority for Economic and Food Safety		*Done only if necessary. Not a priority*	
The Portuguese Office of Planning and Policy publishes minimum food prices for crops at the regional level		*Done only if necessary. Not a priority*	
The Ministry of Agriculture revise eligibility criteria for small farmers applying for funding, based on the objectives defined by each SF		*Unlikely, as the scenario's environment already allocates support to SF*	*Likely as a poverty reduction strategy and to combat rural desertification*
SFs share production costs after identifying synergies and normalising collaborative work (e.g. service provision)			
SF define their objectives and define what it means for them to increase profitability			

5.3. Action Plan 3: Contribution of SFB to regional FNS

Objective 1: To achieve an economic equilibrium for SFB vis-à-vis of a human and environmental well-being	***Scenario 1***	***Scenario 3***	***Scenario 4***
SFB are solidly established in the market			
Consumers' awareness is raised about the benefits of local food consumption	*Unlikely, but doable by a minority group seeking to promote local food markets*		*Unlikely, but doable by a minority group seeking to overcome poverty*

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Local municipalities coordinate the functioning of local markets	*Feasible only if enough lobbying for short food circuits*		
The Portuguese State designs fiscal incentives to support SFB, to avoid large companies taking advantage of this setup			
The Portuguese State liberalises the right of use of vegetal and animal substances			
The already existing small businesses association disseminates products produced by SFB			
The small businesses association and/or certification companies that are then overseen by the State monitor and regulate SFB (e.g. right use of labels, transformation processes, etc.) for food safety and environmental well-being			
Large retailers and/or private businesses/ consumers' organizations survey the availability of raw materials in the region to foresee how by-products can be utilised by SFB and then create added value products			*Unlikely, but possible only because it is an action led by the private sector*
The private sector (e.g. universities, independent businesses, etc.) surveys food markets (more in a micro-scale) to identify what are or should be the distribution channels for SFB products and promote them			
Rural extensions and/or small businesses associations train SFB owners permanently about well-being and health issues in the food system, to complement their existing skills			
Businesses organizations oversee that all bodies responsible for the coordination of			

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businesses articulate with each other to work in synchronism and, then, avoid a climate of distrust among each other			
The Portuguese State declares a SFB charter in line with the current Portuguese family farming charter	*Unlikely in an environment of high concentration, but possible if SF and SFB are to be protected as a niche market*		
The Ministry of Economy raises awareness about the social and environmental concerns of food production beyond the economic profits, changing the mindset and ideology for doing business at the local level			
The Portuguese State gears up the existing businesses associations to assist SFB with information and training sessions			
The Ministry of Agriculture takes up the extinguished rural extensions to promote rural revitalisation, while at the same time assisting SF and providing initial support to SFB to secure their place along the food chain		*Feasible since the funds do exist but no rural revitalisation is necessary. However, doable in light to promote food security*	
The Portuguese State (e.g. Ministry of Agriculture, Office of Planning) and/or research institutions (e.g. universities) carry out an initial study of the market for SFB to identify consumers' preferences, from a macro-national perspective			*Likely as a poverty reduction strategy*

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6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

We received positive feedback from the **workshop participants** about the event. Highlights included the interesting theme and the innovative methodologies used throughout the day, the diversity and heterogeneity of the group, and the effective development of the workshop. In general, participants expressed their satisfaction of having participated in a session that was able to gather all small farming issues and enabled to see the big and complex picture for the region. Participants also embraced the discussions shared with other sectoral members, getting to know new faces and meeting old friends as well.

During the final plenary, participants praised the issues brought up during the event, which –without being ground-breaking – were argued to have been presented differently, drawing special attention to the need to envision action plans in the future hand-in-hand with reality and the present-day. Two key concepts were presented by participants as take away lessons: the importance of freedom of choice and associativism for the survival of small farmers and small food businesses in the region and in Portugal.

Workshop participants claimed they take with them the awareness raised during the reflective discussions. Topics mentioned contain: food security issues, the impact of their purchasing and eating habits, and SF and SFB's social, environmental, cultural and social leverage, which is in need to be kept. They argued sensitisation campaigns are to start now, either at schools, at work, in the household or through citizens' juries, to join collective efforts and meet the challenges ahead. In addition, the workshop served as a reminder about the limitations faced by SF to access new technologies, thus exposing their risk of extinction. Therefore – as one of the participants suggested, it would be imperative to bet on sustainable agriculture and farmers' training in this direction, as well as to promote collaborative work via producers' associations.

Two questions were brought up during this final discussion: i) *what is stopping small producers and consumers from meeting up, if they both have the same goals?*, and ii) *what could/should be the effective methodologies to unify all stakeholders and develop mutual trust between farmers and producers, who are inherently neighbors?*

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Participants also expressed they enjoyed learning the methodologies used during the workshop and hoped to be able to pass the message across through their activities and in their work places. Broad suggestions for the organising team consisted of the continuation of knowledge-sharing platforms – like this one created during the Foresight Workshop, as well as the active dissemination of SALSA's results in Oeste. Workshop participants were so enthusiastic that also extended their unconditional support and will for any upcoming activities in this direction.

Researchers' assessment on the workshop was in general very positive. Despite the limited number of participants, we all agreed we had a myriad of representatives representing all food sectors, which did not limit the production of useful outcomes. Similarly, those who attended the event knew well their region and most were already acquainted with the SALSA project. Participants' diversity in activity and expertise enriched the discussions, turning the session very interesting.

Success of the workshop, we think, lied on the very good and well-structured workshop template from WP4 leaders, and coordination among team members. One key contribution to this was a previous training session organised internally to clarify questions among crew members. This helped all table moderators to be prepared to guide the discussions and exercises properly. Additionally, table participants and materials (i.e. flipchart papers, markers, voice recorders, post-its, etc.) used during each activity were well-adjusted beforehand allowing for a smooth development of the session. A previously defined tasks division, a clear agenda for the day, and having enough crew members eased up an already complex workshop.

The venue used to host the event facilitated the smooth development of the Workshop as well. A formerly wine-cellar in the countryside had been turned into an event house and consisted of two separated main rooms. One room was the 'working' room with round-tables and a screen projector, while the other was the dining area where lunch was served. An additional space for coffee breaks and an outdoor hang-out area was linked to the house, which made the event very pleasant overall.

One of the main challenges of the workshop was to assist participants with exercises that entailed different thinking processes from what most people are used to. For example, the back-casting and threat identification exercises demanded from facilitators not only a good understanding of the activities, but also having the capacity to be able to foresee any difficulties to help participants timely. Keeping participants on track, in terms of time and of the activity's expected tasks was also arduous. Table moderators had to be firm keeping discussions in line with the activities and within the timeframe, while making sure instructions were thoroughly understood so outcomes would be as intended.

Nevertheless, participants collaborated always and asked questions when things were unclear. We lucked out by having enthusiastic and motivated stakeholders who were eager to contribute with fruitful and well-informed discussions. At the end of the session, some of them even stayed to converse with others and express their appreciation.

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7. List of participants

Stakeholder typology	Nº of participants			Affiliation
	Foresight Analysis Workshop			
	Men	Women	Total	
Farmers	1	1	2	- Pear small producer; - wine grape small producer
Producers' cooperatives		3	3	- COTHN – Centro Operativo e Tecnológico Hortofrutícola Nacional; - Adega Coop. de S. Mamede da Ventosa, CRL; - Associação de Produtores Agricola da Sobrena, APAS
Advisory services	1	1	2	- LEADER Oeste; - CVRL, Comissão Vitivinícola da Região de Lisboa
Agricultural administration/Ministry of Agriculture	1	1	2	- DRAPLVT - Direcção Regional de Agricultura e Pescas de Lisboa e Vale do Tejo; - Direção Regional Núcleo de Alimentação e Veterinária de Caldas da Rainha
Other programs/initiatives		3	3	- CoopCASA – Cooperativa para a Acção Social e Artística; - GAIA (Grupo de Acção e Intervenção Ambiental)
Total	3	9	12	

Workshop facilitators	Affiliation	Sex
Ana Fonseca	University of Evora, Portugal	F
Catarina Esgalhado	University of Evora, Portugal	F
María Rivera	University of Evora, Portugal	F
Paola Hernández	University of Evora, Portugal	F
Teresa Pinto-Correia	University of Evora, Portugal	F

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7.7. R26 Castellón – Spain

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR26 – Castellón (Spain)

Authors: Ortiz-Miranda, D.; Moreno-Pérez, O.; Martinez-Gomez, V.; Cerrada-Serra, P.; Arnalte-Alegre, E. and Arnalte-Mur, L. (UPV – Universitat Politècnica de València)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

The participants' vision regarding SF's contribution to total food production in the region is that SF should be able to coexist with greater farms, thus providing a relevant share of total food production in the region. The working group set the desired contribution of SF to regional production at 50%. Compared to the current situation, achieving this aim would mean the maintenance of SF and their contribution to regional food production. To fulfil this vision, young farmers should enter the sector, attracted by a profitable activity that would in turn require skills and a certain degree of on-farm technological implementation.

Food production under this vision would be based on two main and sometimes complementary features. On the one hand, the products should incorporate non-tangible assets valued by consumers, such as contribution to the preservation of the landscape and environment in the region, or products with a specific quality designation, such as territorial or bio labels. On the other hand, part of this production should be sold through short marketing channels, like direct distribution to hotels and restaurants. Participants point out that environmental, social and territorial services rendered by the smallest farms should also contribute to their economic profitability via public payments.

To this end, public administrations should pay special attention to some roles played by SF, mostly the environmental stewardship and their role of keeping population in less-favoured and mountainous areas. Among the specific support measures suggested, it was proposed to foster the use of internet to shorten distances and easing technical matters, also related to relations among SF and the administration. Besides public administration, the role of collective action was stated as crucial for SF, both in production and commercialization areas, and in the provision of specialised technical services to SF.

All in all, the goal of this visioning exercise is that SF maintain a remarkable share of food production in the region. Participants agree that a precondition for this to happen is that SF have to be profitable in the time horizon proposed (2030). Hence, Action Plan 1 aims at achieving this overall goal through actions and milestones necessary to fulfil two objectives:

Objective 1: Small farms have a relevant market share in certain niches;
Objective 2: Small farms have substantial power and participation in the food chain.

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

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The vision revolves around the need to substantially increase the regional consumption of local products where small farms may play a prominent role. For some products, local food production should satisfy all consumers' demand. A first condition pointed out for this is the need for the population to better appreciate and respect its local producers. In fact, it is pursued that small farms' production reflect the values of the *new society* that gives renewed relevance to certain food aspects (what we eat, the origin of food, its composition, the effect on health, etc.). Within this vision, some participants include that an important part of the food production (30%) should be organic in 2030, although not all participants share this priority. .

There is, however, a certain pessimism among the participants when assessing the ability of small farms to be sustained over time in a business-as-usual approach. This is the reason why participants consider necessary to maintain, or even increase, the number of SF in the region, and to incorporate young new farmers (for which it is recognized the need to improve access to land). The revitalization of small farms requires the profitability of the small production model. Stakeholders also indicated that together with the intrinsic profitability that SFs should be able to achieve, the administration must also contribute to ensure the viability of the model through regulations and grants (e.g. rewarding the environmental services provided). In the necessary quest for profitability, an challenge for new farms is to diversify and increase the added value of their production. In participants' view, SF products should be synonym of quality and a reference for those consumers aiming at adopting new consumption habits (responsible, healthier). The various differentiation forms include quality brands, processing, agrotourism, etc.

Coordination and synergies both between producers and with consumers, are also considered essential for small farms. An example of this intersectoral coordination and integration of a circular economy is the use of by-products for livestock feed (e.g. solid waste from olive oil production or from citrus pruning), collective production strategies or the modernization of farms (e.g. digitization).

The viability of small farms is based in the development of new and diversified business models by 2030. Some differences among the participants appear in the way of interpreting this diversification: either at the level of the production structure, diversifying the farm and guiding the offer in different business lines; or from a demand-side perspective, adapting production to consumer's demands.

Finally, a majority of participants would like small producers to have greater involvement in decision-making and in the drafting of community regulations that affect them and that usually create barriers for small-scale farms. A generally shared complaint is that current regulations are out of touch with producers' realities (e.g. prohibiting a phytosanitary product without offering alternatives). There is a certain wish that the agri-food regulations drafted from Brussels take territorial specificities into account. At the domestic level, it is stressed the relevance that administration facilitates small producers' participation in public procurement.

Action Plan 2 is developed around the overall goal of SF having a prominent role in providing an adequate diet to consumers in Castellón in 2030, and it is structured in two objectives and the actions and milestones necessary to achieve them:

Objective 1: Small farms have a relevant market share in certain niches

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Objective 2: New business models emerge for small producers

(iii) *Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

Participants of the working group appeared to agree that regional food supply depends excessively on food coming from outside (other regions and countries), a situation that leads to certain risks and should be reversed. For this reason, the vision revolves around a considerable increase (up to 50% in 2030) of the regional food self-sufficiency, offering safe and quality food to regional population and tourists. This would have been achieved in 2030 thanks to (1) an increase of the participation of SFB in food supply, (2) a strong collaboration among SFB and (3) the establishment of ties between SFB and provider SF.

Within this vision, regional food supply chains in 2030 are diverse and innovative, with direct SFB-consumer relations, short supply chains, local markets or more 'innovative' modalities like peddling (a van offering diverse SFB-sourced products) in place. Online marketing has also developed and helped SFB increase sales, but still has some logistic problems in rural areas.

In 2030, SFB are acknowledged to play a role in the preservation of local culture (e.g. traditional gastronomy), local products and traditional agricultural practices and diets, as well as traditional food-related jobs. In particular, the valorisation of local products have helped preserve local resources, contributing to the maintenance of agricultural production, especially based on autochthonous crops and animal breeds. This contributes to avoid the disappearance of the "rural setting".

The relevant role of SFB in regional food security, together with other functions (e.g. territorial) and synergies with other activities, is acknowledged and appreciated by public administrations and the whole society. Thus, SFB become the model to pursue, so that public administrations support their activity, not by means of financial aids, but mostly by tailoring the legal and administrative framework to their characteristics.

Within this vision, Action Plan 3 details the actions and milestones necessary to achieve the objective for 2030: SFBs ensure a significant share of the food supply for the region's population and preserve the local culture, local products and traditions.

2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

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	Action Plan 1: Contribution of SF to regional food production *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1: Small farms have a relevant market share in certain niches***	***Objective 2: Small farms have substantial power and participation in the food chain***
2030	*Payments are granted for the provision of environmental services* [Public administrations]	*A strong second layer cooperative is implemented and participates actively in food markets* [Cooperatives] *Joint selling platforms are set* [Cooperatives and producers]
	Administrations reviews existing regulations with a view on small producers, for example on small trails or rebuilding of old buildings for food transformation purposes *New and specific legal requirements are designed for SF in terms of traceability and higyene.* *Environmental services are clearly defined and valued* [Administration with producers' organizations]	*Collective action entities pay their members on a quality-based scheme* [Cooperatives] *Interprofessional entities are powerful and the decisions taken there are respected by all the sector* [Agri-food sector stakeholders; administration as catalyst]
	Proximity requierements are set in public purchases of food (schools, hospitals, prisons). [Public administrations] *A marketing plan is developed to make general consumers and tourists aware of the attributes of SF products* [Administration with producers' organizations]	*Collective action entities have professional teams and take decissions based on market criteria* [Cooperatives]

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Present	*Hubs to foster contacts between SF and hotels and restaurants in the region are set* [Administration and agri-food sector stakeholders]	
	Proximity markets continue being bolstered. *Children are educated at school on the values of local products.* [Public administrations]	*Regulations on unfair commercial practices are enforced and the fines/punishment for not fulfilling them are severe. Sales with losses and purchases with no previously agreed price are specially prosecuted* [Public administrations]

	Action Plan 2: Contribution of SF to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1: Small producers are involved in drawing up the regulatory framework and remove existing barriers to small-scale farms***	***Objective 2: New business models emerge for small producers***
2030	*Farming organizations modify European regulations to take into account small-scale producers*	*The agrarian sectors promote new businesses based on the local and quality production and the circular economy* *New business models emerged in the region are made visible (e.g. training programs, visits, media)* *Business incubators help new projects to develop* [Administrations; agri-food sector stakeholders; academia; social movements]
	Food production is a matter of state importance and is in the forefront of discussions	
	Administrations consider the productive specificities eschewing a one-size-fits-all approach	

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	The revision of the regulation (in force or at a proposal stage) leads to the repeal / stoppage of the ones that negatively affect small farming *Regulations are reviewed together with small producers* *There are formal bodies for the review and adaptation of regulations* *A "Producers' Ombudsman" body is created* [Administrations; *Producers' Ombudsman*]	*Producers and consumers work out co-participated production models together* *Producers coordinate to foster inter-sectoral synergies* [agri-food sector stakeholders; social movements; academia; Administrations (norms)]
	Administrations review existing regulations with a small producers view *A culture of small producers participation is increased* *The implications of the application of the new regulations for small scale farming is analysed together with small producers groups* [Inter-administrative coordination body]	*There are multiple institutional supports in place facilitating the development of new business models: A support network aiming at small producers in developing new productive models is created; public aids & training and technical advisory for new business models have been introduced; hospitals, soup kitchens, public procurement... are supplied from local SF producers; EU rewards the environmental services of small scale farming* [Administrations]
	Sectoral working groups are created to collect proposals on new regulations in favour of SF *Producers are aware of the need to take part in the policy making process* [Agri-food sector stakeholders; consumer associations; Administration]	*Periodic meetings take place between producers and consumers (helps to arise new ideas and identify needs)* *Dynamization activities are carried out to stimulate inter-sectoral joint actions* [Academia; agri-food sector stakeholders]

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Present	*Consumers are made aware on the issues related to agri food (e.g. through specific information in market stalls, tasting of local products, etc.)* *Politicians are made aware and trained on the issues related to agri food* *Most small-scale producers / consumers join a producer / consumer association* *Improve and promote a culture of associationism: e.g. information and awareness-raising campaigns targeting producers & consumers* *Specific bodies have been created to ensure effective coordination between administrations* [Agri-food sector stakeholders; various administrations in a co-ordinated way; consumer associations; social movements]	*Knowledge about new successful business models from other territories is shared and farmers are aware of them* *Producers training to help the exploration of new business models is promoted and reaches all municipalities* [Administration; agri-food sector stakeholders] *Informative talks to consumers and future consumers (schools) about new productive models are carried out (e.g. health and environmental benefits of agroecological production)* [Administration; agri-food sector stakeholders; social movements]

	Action Plan 3: Contribution of SFB to regional FNS
Timing	***Objective: SFBs ensure a significant share of the food supply for the region's population and preserve the local culture, local products and traditions.***
2030	*Regional dependence on food imports/ food supplies from the outside decreases.*
	SFBs have succeeded in training/raising awareness society to change their consumption habits.
	Measures to promote local agriculture and to support SFBs have succeeded in maintaining the occupation of agricultural land and in fixing the rural population.
	Some supermarkets have closed down; all food stores offer local products. The number of SFB linked to local production has grown (cheese dairies, small county slaughterhouses ...). Production of local processed products has been increased.
	SFBs have succeeded in having a stable demand for their products ensuring their viability. *Products from SFBs are valued in the market as differentiated products.*

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	SFBs have adequate and diversified marketing channels. *Regional platforms for the sale of artisanal food products (agricultural products and processed products) have been created.* [SFB, farmers]
	SFBs benefit from tax credits because of their implementation in rural areas. [Administrations: Treasury, Agriculture]
	A specific regulation for SFB is established and is applied (in the fields of health, administrative procedures, taxation). *SFB associations work together with the administrations to overcome difficulties on various issues (regulatory framework, economic aids, promotion and dissemination).* [Administrations, SFBs and their associations]
	City Councils (in collaboration with SFBs representatives) have Information Offices about local production. *City Councils stablish farmers' markets for local producers.* [City councils, SFBs and their associations]
	Agrifood business associations are created in which SFBs play a decisive role [Agrifood business, SFB]
	The traditional old cuisine is introduced in hotel and catering schools. *Promotion of Vocational Training in various aspects related to SFB:* *- Handling and using local products.* *- Recovery of traditional elaborations from local products.* *- Specific training in marketing their products.* [Administrations, education in particular]
	Promotion measures for native livestock breeds and plant varieties, together with protective measures for local agriculture and livestock are stablished by the Administration. [Agricultural administration]
	SFBs prioritize local products in their shop windows.

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Present	*Consumers are well informed about local products; promotion campaigns have been carried out supported by the Administration and local associations.* [Administrations, SFBs and their associations]
	Food education is included in schools. *Local products are consumed in school canteens and other public centres (hospitals, ...) (Application of a decree of the Valencian regional government already approved)* [Administrations, education in particular]

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario 1: "Lost in liberalisation"

This is a scenario that results from the continuation of the same trends during the last 30 years. The liberalization of the economy and the several difficulties faced by SF and SFB to compete with large actors (in particular large retailers) have sustained the process of disappearance of these small actors.

A key factor that has importantly affected the agricultural landscape of the region and the situation of SF in 2050 is climate change. The increase of average temperatures and the decline of precipitations and water availability have provoked changes in production methods, leading in particular to the adoption of drought-resistant crop varieties. There have also been land use changes, like the move of traditionally coastal productions to inland areas, where temperatures are lower. Therefore, the consequences of climate change would have been worse for SF in the coastal plain, meanwhile inland SF would have benefited from higher temperatures allowing the growth of new crops.

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Regarding SFB, climate change impacts have been more negative for those more territorially embedded, as larger food companies have been able to relocate food production to other countries less affected by CC.

The pace of this trend during the previous decades has been parallel to the gradual effects of climate change on agricultural areas, SF and SFB. The rhythm of the other key factor for transformations undergone until 2050 –the process of liberalization and concentration- has taken place at a more regular pace.

The several circumstances that concur in this scenario (need of CC adaptation, difficult access to natural resources, and compulsory adaptation to restrictive agri-food regulations) have demanded strong investments in all farms and food business. For SF and SFB, despite the accessibility to technical and managerial innovations, those necessary investments have become an important barrier, due to their difficulties for self-financing and the low public budgetary support in this scenario. These difficulties to undertake financial efforts have meant an obstacle for their survival, and can be considered the reason for the disappearance of many of them.

Under all these circumstances in 2050, the main positive factor for SF and SFB would be the willingness of urban consumers, with relatively high income level, to pay for healthy and quality products. In addition, social awareness of urban population about environmental and territorial preservation has led to a higher demand for other services (agroturism, leisure) that territorially embedded SF and SFB can offer.

As a consequence, SF and SFB that remain and are still viable are those able to take advantage of these new opportunities. For that purpose, 'survivor' SF and SFB are those which have differentiated their production, in particular regarding the products offered as well by large retailers. Other have specialized in certain markets, targeting alternative urban markets and short supply chains, also sometimes taking advantage of the development of increasing agro-food tourism in rural areas.

For this objective to be achieved, SFB have made important efforts to train workers to produce artisanal products. Likewise, both SF and SFB have made an important effort in terms of cooperation and collective action, in order to produce collectively and to link SF and SFB for marketing or promotion. That scaling–up by means of collective action has sometimes been crucial to compete with large retailers.

3.2. Scenario 2: "Bye bye globalisation"

In 2050 there is a low degree of openness to international markets. We have reached this point due to a progressive rise of economic nationalism on the part of the big international powers, whose first signs were the Brexit, the triumph of Trump and the resurgence of the extreme far-right parties in Europe that occurred decades ago. These are political forces opposed to globalization that have ended up disintegrating the EU and reversing the processes of industrial relocation that took place in the past.

There are high levels of unemployment due to the dismantling of large multinational industries that were located in the region and also of old export-oriented national industries. The salaries are low,

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there is a high poverty rate and very high levels of inequality. Over time, there has been a progressive democratic deterioration and an increasing militarization of the country. Part of the urban population has returned to rural areas to ensure their subsistence. The number of farms has increased, given the easy access to land. An important part of the production of small farms goes to self-consumption.

In this political and demographic context there is a power shift towards rural areas. The State, which is willing to allocate public funds to agricultural policies, subsidizes the food production. The total agrarian production increases due to an increase in the cultivated land, thus contributing to increase food self-sufficiency.

There is a low business concentration in the production and transformation of food. Small agricultural enterprises have increased in number and are the predominant business model. Low wages, together with difficulties in accessing technology, have led small farms and small agricultural enterprises to be labour-intensive.

Trade protectionism has brought about a significant productive reorientation of agricultural holdings, including the small ones. Given that the export of citrus fruits is hindered by import barriers from other countries - and that our market also imposes custom duties on food imports - agriculture has diversified into basic products for domestic consumption. Citrus production has decreased considerably. Small farms cultivate genetically modified drought-resistant varieties of second or third generation, developed decades ago, as they have difficulties to access the most recent ones. Varieties from other latitudes, better adapted to the new climatic conditions, are also cultivated.

Restrictions on the import of feed have profoundly changed the composition of the livestock. The production of poultry, pork and cattle, that are soybeans-dependent, has been considerably reduced, and the production of small ruminants for domestic consumption has increased - particularly of the most rustic native breeds.

The population allocates more proportion of their income to food, because their income is low and the products are more expensive than in the times of industrial relocation. On the other hand, there has been a diet change particularly characterized by a decrease in meat consumption (due both to the lower production of meat and the low purchasing power of the population).

People are aware and defend their social values, but the environment is not among their priorities. Access to food and food production are their essential concerns, but not the environmental or nutritional implications of their consumption habits, which are now secondary issues for them. The population is supportive and willing to help each other, the local consumption prevails, but not of healthy and high quality products.

3.3. Scenario 3: "Resurgence of *agro-ruralisation*"

In 2050 the opening of international markets is very restrictive for both exports and imports. Among other factors, this measure was intended to increase food self-sufficiency and reverse the recent times' trend of relocating a large proportion of production in very unstable and food unsafe third countries. In addition, economic crises have intensified society's awareness and willingness to move towards

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more sustainable and nearby productive models that lead to reformulate approaches in the use of own resources.

The consequences for the agri-food sector in the region of Castellón have been very important[22]. In order to increase self-supply capacity it has been necessary to carry out a process of diversification and productive intensification as well as optimise the use of resources (one of the consequences is that there is no more abandoned land). At the same time, this process has required the development of a common planning strategy and coordination efforts (among producers and between producers and consumers and producers and the agri-food industry) that have benefitted by a culture of collective action present in all the sectors of the population.

A widest agricultural diversity and a better territory management have both contributed to reduce environmental problems (e.g. forest fires and many of the common pests have diminished). However, production intensification has caused new issues that had not been observed until now (for example, after the generalization of irrigation, new problems have appeared in traditionally rain-fed areas) and there is fear that new pests may arise in the new agroecosystem.

As a consequence of the higher productive capacity the supply levels for some products far exceeds local demand. The generation of production surpluses has triggered the development of a powerful agro-food industry capable of managing the abundant supply through mechanisms of transformation and use of by-products. These mechanisms include the development of innovative ways of using surpluses that go beyond food use. The expansion of agro-food companies (of self-regulated growth due to the limitation imposed by a restrictive international market) mainly occurs in rural areas and stimulates economic activity also in other related industrial and service sectors (machinery repair / industrial refrigeration / catering...) acting as a business hub and generating employment.

As a result of all that, the primary sector has acquired great relevance throughout the Castellón region, with a significant increase of the relative weight of agriculture in the regional productive structure. This sector now has more economic means, offers more training and is more professionalised. The labour market has become more diversified. The notable increase in the workforce dedicated to the agri-food sector has also been favoured by the growing social recognition of local production, which enables a greater economic value.

There has been a certain mobilization and transfer of population from urban centres to the countryside that is explained both by the greater resilience (more food self-sufficiency and better ability to adapt) that the inhabitants of rural territory has shown in a context of trade restrictions on international markets and the socio-economic revaluation of the agri-food sector, which has developed strongly in the rural territory.

[22] It has been assumed that the low degree of market openness affects mainly the agri-food sector, but not so much the machinery and technology that may be required by the sector for which there is no problem in access (there is good access to technical and management innovations).

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From the consumption point of view, the closeness to the offer enhances consumer confidence on the food system and reduces regulatory requirements. While fewer controls are carried out, food safety assurance has increased due to better traceability.

Self-consumption has increased, especially among rural population. Although food prices have risen (especially for those products in great demand and reduced availability either because they are not produced locally or their production is low), most of the population enjoys a sufficient economic level and is not affected by food insecurity issues. However, the price increase does have food security consequences for those low-income families. Despite the joint production planning, which has enabled to greatly diversify the available offer, the low rate of commercial exchange has restricted access to some foods that cannot be locally produced, leading to shortages of certain kind of products that would better complement the current food availability. Population is missing some of those products.

The food system is now more vulnerable and may compromise population's food security if a catastrophic climate event, some type of crop pest or livestock disease outbreak that threatens food production and supply were to happen.

It is recognised the need to increase external relations favouring the import (of food that is not locally produced) / export (of surpluses) as well as the exchange of knowledge.

3.4. Scenario 4: "Zombie apocalypse"

The food chains show a high degree of concentration as also there is a high degree of openness of markets to international competitors. The underlying reason is that the general food policy has put the focus only on ensuring availability of products irrespective of their origin and method of production. In addition, as consumers are only concerned about having access to food, with lack of solidarity and other social values, the society is not able to defend itself from the neo-liberal policies. One outcome is that there is not food soveriegnty in the region. Generally speaking, there is a lack of real democracy in this society.

The food markets have become differentiated, with a segment of high quality food for a minority and another major segment –in size- of staples for which people are striving to have access, since food purchases account for a relevant share of households' budget. In this framework, informal markets and barter trade plays some role to have access to certain food products.

Access to natural assets (land, water, etc.) is difficult for SF and SFB. Likewise, their access to managerial and technical innovations (research outcomes, knowledge stocks) is poor. Besides, climate change is playing a role with more scarce rainfall in the region. This way, any agricultural production becomes really difficult and there is just some room for some animal husbandry adapted to semi-arid conditions –sheep and goat-, while traditional cereals come back to the region, as other crops suited to these difficult agronomic conditions have appeared. Even bigger farms, which used to be specialised on export crops, have faced huge difficulties to adapt to these new climatic and agronomic conditions. However, the opening of markets allows for a handful of export crops in the best favoured areas, which has reduced biodiversity. In general terms, most SF have become semi-subsistence and self-consumption farms and participate in the informal markets mentioned above. There are initiatives of

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grouping small farms for common farming here and there, but they face a general reluctance as common action is not a social priority, nor they have public support.

Poverty is spread among the population of the region, with a demographic decline of population in rural areas and an increase in urban population. This leads to a widespread abandonment of the smallest villages and the arable land, with a general trend to desertification of the territory in areas of the region. There are not many territorial planning initiatives to reverse this trend, however, the few ones in place emphasise that being a semi-subsistence farmer in these areas can be preferable to be a poor urban inhabitant.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Scenario 1: "Lost in liberalisation"

The main threat for SF and SFB under this 2050 scenario is the dominance of big retailers and the progress of market liberalization, that give rise to increasing difficulties to be competitive and stay in the sector. This overall factor translates, for instance, in the liberalization of commercial opening hours, which bears very high costs for SFB.

A second threat is the lack of public support to the necessary investments SF and SFB have to confront. The role of public administration is widely discussed, as in the one hand it forces SF/SFB to observe a strict regulatory framework, but on the other hand it does not provide the necessary financial support to adapt to that framework. In any case, most of the participants in this group do agree on the need of all business to observe the same health regulations to guarantee food safety.

A third relevant threat is climate change (and its differential impact on SF), as well as the demographic decline in rural areas, as it could be linked to the disappearance of SF.

SFs' and SFBs' vulnerability mostly stems from their difficulties to adapt to the changes (lower capacity to self-finance investments, difficulties to compete in a frame of liberalised opening hours, less capacity to outsource production of raw material for those more embedded in the territory).

4.2. Scenario 2 "Bye bye globalisation"

The most vulnerable small farms in this scenario will be those that are export-oriented (i.e. the myriad of small farms producing oranges, khakis and, to a lesser extent, avocado), as the scenario is protectionist. These small farms should reorient their production to new crops more demanded in the

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domestic market. Participants agree that the transition will be harder for those farmers who have lost the traditional know-how about crops such as cereals or potatoes.

However, not all participants are pessimistic about the possibilities of adaptation of these farmers. One participant point out the possibility of farmer-to farmer learning. Likewise, there are participants who think that, given that in this scenario there is public spending for training farmers, small farmers will be able to learn new techniques adapted to the scenario (e.g. management of new pests due to climate change, or new animal diseases).

Regarding resilience, in general the participants maintain that the small farmers who produce vegetables, practice organic farming, or cultivate diversified crops will be more resilient, because they will maintain the traditional know-how about these crops.

However, some actors remark that there will be more vegetable producers in this scenario and also many people cultivating vegetables in kitchen gardens for self-consumption, what may push vegetable producers to diversify to other crops. In addition, perishable foods such as vegetables, which are nowadays the best valued in the market, could be worth less in this scenario, while non-perishable agricultural products (olive oil, grains, almonds) that can be stored to be sold in winter will be more valuable in a context of poverty and import limitations.

Regarding livestock production, there is consensus that industrial livestock will not adapt well to this scenario, given that it depends on imported feed. Small producers who practice grazing and have agriculture integrated on the farm will depend more on their own resources and will be more resilient- although crop yields may be diminished by climate change. Participants indicate that there will be numerous small farms with a few goats to have milk for self-consumption and to make cheese and keep it (both for self-consumption and for sale). Additionally, a participant suggests the possibility that transhumance will be practiced again, although due to climate change, livestock should move to colder areas of the peninsula.

In general, there is a consensus that the farms that are most linked to the territory (with a minimum farmland) will be the most resilient ones, as well as the more diversified farms (given that they will have less new knowledge to acquire). Likewise, the use of indigenous breeds, which are more rustic, will give farmers greater capacity to adapt to the new environmental conditions. Disagreeing opinions exist regarding the usefulness of traditional crop varieties, as one participant think they will no longer be productive in the climate change scenario, and that it will be necessary to import traditional varieties from other latitudes.

There is consensus that small food businesses will be more resilient in this scenario. Given that there is limited access to technology, it is the big companies that will suffer the most, while small food businesses will benefit from the fact that the technologies they use are very simple.

4.3. Scenario 3 “Resurgence of agroruralisation”

The restrictions in international markets under scenario 3 raise the need to significantly increase the capacity for regional food self-sufficiency. This poses several challenges. In a context of limited

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production and with difficulty of growth in terms of volume of food produced, there will be difficulties to meet specific demands for certain products. There will be shortages of some highly demanded products. On the contrary, for other foodstuffs there will be an excess of supply that will force a good management of surpluses, which in a context with difficulties to export can be quite a challenge.

These factors affect SF and SFB in several ways. Market restrictions limit their growth. In addition, the generalized increase in demand can be considered an extra challenge for some farms that could "die from its success" if excess demand is not well managed. To address the surpluses generated requires new forms of management that entail production planning and coordination with other actors (producers, industry) and requires consumer awareness. It is not considered a simple task and several basic issues would need to be resolved. For example, the question as to who organises/coordinates and based on what criteria? And how to ensure a fair balance (e.g. distributing market opportunities) between different producers?

Regarding the response mechanisms to threats, the market itself represents a mechanism of natural "self-regulation" that will make the less well adapted SF and SFB (less efficient at dealing with vulnerabilities) disappear. Those ones with greater capacity for adaptation and innovation (more agile) will survive. In particular, two key aspects determining this agility/flexibility are highlighted: (i) economic resources (the availability of financial resources to carry out the necessary investments and thus respond to market demands) and (ii) human capital (those more trained/skilled/professional farmers have greater capacities for innovation and adaptation).

4.4. Scenario 4 “Zombi Apocalypse”

The scenario supposes enormous difficulties for SF and SFB in the region. The extreme openness of markets, the concentration of food chains, the adverse climate, agronomic and technical conditions mean a huge threat for the survival of all kinds of farms, inclusive of SF who enjoy from less skilled managers and a weaker financial position. Also SFB will need to meet several retailers’ requirements in order to keep a market share.

The limited opportunities for SF will arise from adopting strategies like cropping or breeding species adapted to the difficult climatic conditions and suitable for subsistence and self-consumption. Also, participating in informal and barter exchanges will be another strategy for SF and SFB. However, these strategies will just allow for a minimum generation of surplus and will not mean a remarkable generation of income.

Moreover, the lack of solidarity and social cohesion within the society will also hamper the possibilities of collective action.

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5. Action Plans under different scenarios[23]

Finally, what actions of the above displayed Plans (section 2) are feasible or, on the contrary, too difficult to accomplish under the different scenarios?

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

In order to facilitate this assessment, taking the Action Plans (1, 2 and 3) developed in Section 2 which combined actions and milestones, we have distilled real actions, eliminating the milestones. Also, we have separated each action in a different line in the following tables, although in the Action Plans they appeared grouped when they shared the same timeline.

The feasibility of each action included in the Plans (Section 2) has been assessed under the four different scenarios detailed in Section 3. A colour code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

ACTION PLAN 1: Contribution of SF to regional food production

Objective 1: Small farms have a relevant market share in certain niches	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Payments are granted for the provision of environmental services [Public administrations]	Public expenditure constraints, modalities of private funding instead			
Administrations reviews existing regulations to tailor them to small producers, for example on small trails or rebuilding of old buildings for food transformation purposes [Administration with producers' organizations]				

[23] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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New and specific legal requirements are tailored to SF in terms of traceability and higyene. [Administration with producers' organizations]				
Environmental services are clearly defined and valued [Administration with producers' organizations]				
Proximity requierements are set in public purchases of food (schools, hospitals, prisons). [Public administrations]		Regulations are flexible and tend not to add many requirements. Also, logistic and managerial constraints due to low innovation		
A marketing plan is developed to make general consumers and tourists aware of the attributes of SF products [Administration with producers' organizations]				
Hubs to foster contacts between SF and hotels and restaurants in the region are set [Administration and agri-food sector stakeholders]	Only for a niche of consumers who could associate SF with quality food	High poverty, so this would be so for a niche of consumers. There would be needed to overcome the low innovation		
Proximity markets continue being bolstered [Public administrations]				They may exist to supply the poor, but are not bolstered by public

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				admnimistration
Children are educated at school on the values of local products. [Public administrations]				

Objective 2: Small farms have substantial power and participation in the food chain	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
A strong second layer cooperative is implemented and participates actively in food markets [Cooperatives]	This exists but it does not include all SF coops	There are second level coops but not very strong	There are second level coops but not very strong	
Joint selling platforms are set [Cooperatives and producers]		Low tech and local scale platforms		
Collective action entities pay their members on a quality-based scheme [Cooperatives]				
Interprofessional entities are powerful and the decisions taken there are respected by all the sector [Agri-food sector stakeholders; administration as catalyst]		The sector is atomised, so this would constrain interprofessional organisation	The sector is atomised, so this would constrain interprofessional organisation	
Collective action entities have professional teams and take decissions based on market criteria [Cooperatives]	Few big market-led coops are able to compete internationally	Public expenditure targeted to profesionalise coops' staff	Few incentives / little need for strong	

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			market orienation	
Regulations on unfair commercial practices are enforced and the fines/punishment for not fulfilling them are severe. Sales with losses and purchases with no previously agreed price are specially prosecuted [Public administrations]				

ACTION PLAN 2: Contribution of SF to regional FNS

Objective 1: Small producers are involved in drawing up the regulatory framework and remove existing barriers to small-scale farms	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Farming organizations modify European regulations to take into account small-scale producers		The EU is no longer a so relevant decision level in this more protectionist and de-regulated scenario	The EU is no longer a so relevant decision level in this more protectionist and de-regulated scenario	
A "Producers' Ombudsman" body is created [Administrations; *Producers' Ombudsman*]				
Administrations review existing regulations with a small producers view [Inter-administrative coordination body]				
The implications of the application of the new regulations for small scale farming are				

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analysed together with small producers groups				
An inter-administrative coordination body is created for the review and adaptation of regulation to SF				
Sectoral working groups are created to collect proposals on new regulations in favour of SF				
Consumers are made aware on the issues related to agri food (e.g. through specific information in market stalls, tasting of local products, etc.)				
Politicians are made aware and trained on the issues related to SF				
Most small-scale producers / consumers join a producer / consumer association *Improve and promote a culture of associationism: e.g. information and awareness-raising campaigns targeting producers & consumers*				
Specific bodies have been created to ensure effective coordination between administrations [Agri-food sector stakeholders; various administrations in a co-ordinated way; consumer associations; social movements]				

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Objective 2: New business models emerge for small producers	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
New business models emerged in the region are made visible (e.g. training programs, visits, media)		Only few examples of success are made visible		
Business incubators help new projects to develop [Administrations; agri-food sector stakeholders; academia; social movements]	Public budget limitations can constrain their development	There is an enabling environment for networking but not to adopt innovations		
Producers and consumers work out co-participated production models together	There are though few cases due to weak collective action			
EU rewards the environmental services of small scale farming [Administrations]	Public budget constraints; little public support only for large-scale farms (ecs of scale to provide env services)			
Public procurement and soup kitchens are supplied from local SF producers				
Dynamization activities are carried out to stimulate inter-sectoral joint actions [Academia; agri-food sector stakeholders]	These activities would be constrained by public budget limitations	There is an enabling environment for networking but not to adopt innovations		

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Producers' networks are created to share knowledge about new successful business models from other territories	Access to innovation tends to be more individualised	There is an enabling environment for networking but access to innovations is limited		
Producers training to help the exploration of new business models is promoted and reaches all municipalities [Administration; agri-food sector stakeholders]	Led by big agri-food companies and oriented for instance to vertical integration	Public sector has resources for training programs, but access to innovation is limited		
Informative talks to consumers and future consumers (schools) about new productive models are carried out (e.g. health and environmental benefits of agroecological production) [Administration; agri-food sector stakeholders; social movements]	Agri-food companies play a relevant role on this			

ACTION PLAN 3: Contribution of SFB to regional FNS

Objective: SFBs ensure a significant share of the food supply for the region's population and preserve the local culture, local products and traditions.	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
SFBs adequate and diversify marketing channels, and create regional platforms for the sale of artisanal food products (agricultural products and processed products). [SFB, farmers]	Despite the weak collective action, this action can be a survival and growth strategy for SFBs	There is an enabling environment for networking but access to innovations is limited		

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SFB associations work together with the administrations to establish a specific regulation for SFB in order to overcome difficulties on various issues (regulatory framework, economic aids and taxation, promotion and dissemination). [Administrations, SFBs and their associations]				
City Councils (in collaboration with SFBs representatives) have Information Offices about local production and establish farmers' markets for local producers. [City councils, SFBs and their associations]	Agri-food companies lobby against this			
Agrifood business associations are created in which SFBs play a decisive role [Agrifood business, SFB]				
The traditional old cuisine is introduced in hotel and catering schools.				
Promotion of Vocational Training in various aspects related to SFB: *- Handling and using local products.* *- Recovery of traditional elaborations from local products.* *- Specific training in marketing their products.* [Administrations, education in particular]				
Promotion measures for native livestock breeds and plant varieties, together with protective measures for local agriculture and livestock are stablished by the Administration. [Agricultural administration]	Private schemes could appear instead of public promotion			
SFBs prioritize local products in their shop windows.				

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Promotional campaigns about SFB's local products are carried out supported by the Administration and local associations. *[Administrations, SFBs and their associations]*				
Education administrations include food education in schools. [Administrations, education in particular]				

6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

Participant who intervened in a final plenary discussion made a positive evaluation of the workshop in the final plenary. Three issues were highlighted in this regard. Firstly, they appreciated the interaction with other actors they did not know, or they knew but did not have opportunities to talk to. Some asserted they were able to find there people they wanted to meet but had no previous opportunities to do. This allows to know about "parallel realities", i.e. others' knowledge or views about some topics. This space of collective interaction and reflection represents, in its own, a highly appreciated outcome, together with the networking arising from the interactions. Secondly, some participants also pointed out the interest of being asked and of discussing about their closest reality. They argued that, in other participatory processes (in particular within policy processes) the scale of analysis and focus uses to be larger than the region where they are based (Castellón), and that "everything is so general that we do not end up finding solutions for a concrete territory". This closer focus could give rise to the identification of potential synergies. Thirdly, the foresight thinking was appreciated by one participants as it is "interesting to be able to dream about how it could be". According to other participant "those who manage businesses project the future to try to anticipate, to know how to act. To reflect about a

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possible scenario is something we use to do, but individually. I never would had thought to do it collectively". In addition, this collective foresight thinking allows to discover that some situations someone could initially consider to be very positive for SF and SFB, could not be so enabling after a collective discussion.

There was also a general interest in knowing not only the outcomes from the regional analysis, but particularly the outcomes from the comparative analysis, i.e. how "from these same questions they [other regional workshops] have developed, what conclusions they have reached". This means that participants' expectations go much beyond the knowledge about their region, and that the outcomes of the comparative analysis are of particular interest for them. Moreover, some argue that to have similar outcomes from several countries could contribute to steer EU policies towards more SF/SFB focused policies.

From the point of view of UPV researchers, some impressions arose from the final discussion. Firstly, the usefulness of this kind of activity is not immediately evident for participants. This would be so because stakeholders (including public representatives) are not usually involved in strategic planning. Secondly, there is time gap between the expectations of research outcomes and policy recommendations and the delivery of such outcomes. Stakeholders seemed to want these outcomes as soon as possible. This contrasts with the months needed to elaborate and deliver the policy recommendations or the comparative analysis. Finally, participants' main expectations relate to the policy impact of their contribution to the process (which is not in the researchers' hands). In order to respond to these expectations, we (researchers) need both to produce tailored and new (not obviousness) policy recommendations, and to show participants how we have put these recommendations at the disposal of decision-makers.

7. List of participants

Key experts and informants	Position	Institution	Sex
1. Tomás Verdejo Rodríguez	Officer responsible for the Agrarian Studies Section in Castellón	Regional Agriculture Department - Conselleria de Agricultura, Medio Ambiente, Cambio Climático y desarrollo Rural – Dirección Territorial Castellón	M
2. Eva Mestre	Technician	Regional Agriculture Department - Conselleria de Agricultura, Medio Ambiente, Cambio Climático y desarrollo Rural	F
3. Joaquin J. Porcar	County delegate	Farmers and livestock keepers association. La UNIÓ de Llauradors i Ramaders	M

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4. Vicent Estruch	Associate Professor	Universitat Politècnica de València. UPV	M
5. Myriam Mestre Froissard	Rural Development Officer	Federation of the Agricultural Cooperatives of Valencia Region (it includes Castellón province) (Federació de Cooperatives Agroalimentàries de la Comunitat valenciana)	F
6. Ana Roca	Coopertative's Director	Cooperativa olivarera de Viver. Small olive oil mill and cooperative	F
7. Pedro A. Andrés Beltrán	Head of Livestock farming Section in Castellón Province	Regional Agriculture Department - Conselleria de Agricultura, Medio Ambiente, Cambio Climático y desarrollo Rural – Dirección Territorial Castellón	M
8. Alberto García	Agricultural technician	Organic production section. Regional Agriculture Department - Conselleria de Agricultura, Medio Ambiente, Cambio Climático y desarrollo Rural – Dirección Territorial Castellón.	M
9. Llum Querol	Olive grooves and citrus organic farmer		F
10. Mª Luisa Albiol	Head of Food Industries Section in Castellón Province	Regional Agriculture Department - Conselleria de Agricultura, Medio Ambiente, Cambio Climático y desarrollo Rural – Dirección Territorial Castellón	F
11. Irene Beltrán	Small butchers' owner	*Carnicería Remigio Beltrán*	F
12. Mª Carmen Chinillach	Technician	Regional Health Department. Food Safety and Public Health Laboratory. Conselleria de Sanidad Universal y Salud Pública.	F
13. Fernando Robres	Livestock farmer and butcher	*Carniceria Robres*	M
14. Beatriz Goudin	Farmer and small food processor	*La ferme de Serapio*	F
15. Ángel Valeriano	Artisan cheesemaker	*Quesería Artesana Los Corrales*	M
16. Vicent Querol	Associate Professor	Universitat Jaume I de Castelló. UJI	M

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Workshop facilitators			
Eladio Arnalte		UPV	M
Pedro Cerrada		UPV	M
Francesc Cervera		UPV	M
Víctor Martínez		UPV	M
Olga Moreno		UPV	F
Dionisio Ortiz		UPV	M

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7.8. R25 Giurgiu – Romania

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR25 - Giurgiu (Romania)

Authors: Raluca Barbu; Irina Toma; Alina Alexa; Elena Palau; Ioana Stanciu (HIGHCLERE CONSULTING)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

The composition of the participants at the workshop was very diverse, with representatives of small farmers, cooperatives, researchers, NGOs, retailers and small food businesses. Regardless the type of participant, everybody acknowledged that the importance of SF to the regional food production, at the both household and market level. Having in mind the production potential of the region for vegetables, cereals, eggs and poultry, the case of vegetable growers was analysed in particular during discussions.

During this session, the discussions turned for short while into a self-evaluation exercise for the SFs present at the workshop - a self-evaluation of themselves as individuals ("we would like SF to still exist in 2030 and to be let it be"), but also as a part of a community. Beyond the initial pessimism regarding the future of SFs in the region, the participants' vision was that SFs' contribution to the food production has increased, based very much on the persistence of the community of SF in 2030, family farming concept being used in conjunction with SFs one. SF present in the workshop see their role in producing food being achieved throughout the cooperative. Such a context creates premises for a better generational renewal, taking further farming and food production in the region.

Participants also identified that a better trained young generation in food production, but also with a better understanding of financial aspects of the farm lead to better relationships and interaction of SFs with the actors within the food system in the region (retailers, processors etc). This would increase the potential for SFs to be in charge more with the governance of their own territory (incl. access to production resources, esp. soil, water, inputs), to become a sounder voice in the development of their own communities.

A higher level of association (cooperatives, producers' groups etc) of the SFs based on mutual benefits was identified as an important element contributing to SFs producing for the market, as well as improved and innovative the connections between products supplied by small farmers and small food businesses (farm shops, local restaurants etc), strengthening the collaboration between producers and processors in the region. In this way, new products (i.e organic baby food was mentioned) produced by SFs become niche products.

The food produced by SFs plays an important role in preserving landscapes and traditions (cultural heritage) by farming practices and use of traditional varieties. By 2030, based on an increased awareness among consumers, the food price is more adequately incorporating the price for public goods. Also, schemes such as Community Supported Agriculture are more common in the area than used to be.

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On another hand, Giurgiu region has a very polarised structure with a significant number of small farms (with very fragmented land holdings) alongside some of the biggest farms in Romania. If vegetables are produced in small farms (1.8% of UAA), the big ones are specialised in cereals production. By 2030, the big farms set up processing units and sell the added-value products in the region. Contracts conditions are providing mutual and fair benefits for both big farms managing the land and for the small farmers, ensuring fair revenues when renting their land. A certain level of scepticism was expressed regarding the access to land of SFs, competing with big and powerful farms – the big recipients of public funding in agriculture.

Participants identified that the SFs' representation within decision making forums at regional/national level, can influence the public policies designed for providing support of food production. Participants are expecting that in 2030, public funding to be targeting the support and the recognition within the society of SFs and their role in providing healthy and nutritional food (local and traditional). The support should include also better environmental conditions and adoption of a sustainable agriculture, protecting the production potential. The provision of an adequate and functional AKIS and advisory system targeting the specific needs of SFs have been identified by the participants as key elements for the active role of SFs to food production in 2030.

Concluding, the image of SF in 2030 is that they will persist and continue to provide food for the region and not only. SFs producing for the market, who will professionalise the production processes, are most likely to be the ones contributing greatly to the food production. Nevertheless, participants found that SFs communities' persistence is equally important for the SFs maintenance in the region and in the food production. Action Plan 1 aims at achieving this overall goal through actions and milestones necessary to fulfil two objectives:

1) SFs have a strong representation and influence within the food production sector
2) SFs' communities have the public funding support for developing attractive living conditions

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

Participants at the workshop consider that, an important role of SFs in Giurgiu region is feeding themselves and their families. In 2030 Giurgiu region benefits of schemes for supporting premium vegetable varieties, strengthening the connection with research and the development of premium nutritious products. Also, a better promotion of the SFs from Giurgiu among consumers (esp. Bucharest capital city – 45 min distance) would contribute to further support the vegetable growers to continue the tradition and applying sustainable farming practices.

The region has high potential for producing organic or high quality products. The participants mentioned that, in 2030, SFs producing for the market, have the potential to be partly certified in organic farming. Due to the proximity to Bucharest (main consumers' market), the SFs products are

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sold through the local products shops and not on the big retailars shelves anymore, by entering/developing certification schemes, or branding the products – develop niche premium/quality market schemes for small producers. Also, SFs adopting a more entrepreneurial behaviour would help connecting them more directly with the consumers or adopting new market and businesses approaches, including diversification and tourism.

In 2030, public funding should better support the research institutes (investments, well paid researchers) and encourage them to consolidating the relationships and cooperation between SFs/SFs' associations to obtaining the most performant and climate resistant varieties, increase the profile of small farmers on the market, use the best research results.

In 2030, the connections between urban and rural areas are expected to improve and in this way the food banks can interact directly with SFs to collect the production wasts or surplus and redistribute it to urban based establishment, including marginalised categories of consumers (elder people, poor families etc).

Traceability of SFs products should be clear and legally established based on a labeling system by 2030, while public procuremnet procedures are including SFs as providers of safety and good quality food products.

The actions and milestones identified by the participants for the SFs to be contributing to an adequate diet for both consumers and households in Giurgiu region in 2030 are listed in the Action plan 2 and are reflecting the objectives:

1) SFs have a clear market share within the food chains;
2) SFs develop new market approaches.

(iii) *Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

The presence of SFBs in the workshop was relatively low, which influenced the direction of the discussions more towards SFs role.

However, the discussions about SFB could be easily approached by SFs present as some of them can qualified as SFB as well. Currently, there is a high turnover of SFBs acting within the food chains. The participants appreciated that by 2030, SFB will be more solid and resilient. Ensuring the funding/cash-flow, building consumers commitments to the SFB brand – the main challenges of SFB – will be overcome by 2030.

The manner of conducting small business in 2030 is expected to be very tech-depended, based on dissemination of experience ensuring in this way also the awareness among consumers and accompanied by multiple interaction with other stakeholders along the food chain. Diverse, niche

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(artisan), high quality products are the type of products SFB will be offering in 2030. SFB represent the main connectors and innovation brokers within the food chain in 2030.

2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

	Action Plan 1: Contribution of SF to regional food production *Needed actions and* [responsible for completing the action]	
Timing	***1) Objective 1: SFs have a strong representation and market share***	***2) Objective 2: SFs' communities have the public funding support for developing attractive living conditions***
2030	*At governance level - creating a mechanism/form of SF representation and increasing its influence so that it may become part of the consultation mechanisms organized by the ministry* [Public administrations/farmers associations]	*Developing the infrastructure and services in rural areas in order to encourage their repopulation by urban dwellers, young farmers or the Romanian diaspora who might want to come and invest back in their homelands* [Public administrations/ social movements]
		The smart village approach has produced effects and created premises for robust synergies within SFs communities
	A CAP with a clear menu of measures for SF, including specific subsidies, enhancement of the LEADER progra [Public administrations/farmers associations/agri-food sector stakeholders/researchers]	*Promote the LEADER approach as a useful method amongst Romanian authorities and farmers, as well as integrated and multi-funded project al local regional level* [Public administrations/farmers associstions/local NGOs or social movements]

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Present	*Promotion of cooperatives, as well as FAS & AKIS tailored to the needs of SF (including better education in agricultural vocational highschools) in order to maintain the access of SF to new technologies and sustain the development of local/regional markets* [Public administrations/farmers associations/agri-food sector stakeholders/researchers]	*Promoting and developing centers to equivalate experience and competences gained abroad for the Romanian disapsora* [Public administrations/media]
	Conduct research into previous forms of FAS/AKIS systems in Romania in order to identify lessons learned and suggestions for good practices; *Gather all relevant stakeholders and formulate a proposal for organizing FAS and AKIS systems in Romania, so that they may be useful to SF*	*Lobby for maintaining projects focused on funding diaspora start-ups throgh funds such as the Operational Programs for Human Capital (which was available in the previous programming period)* *Promote Smart village concept and its integration and implemnetation throughtout national strategic programme* [Public administrations]

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	Action Plan 2: Contribution of SF to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	1) ***Objective 1:*** SFs have a clear market share within the food chains	2) ***Objective 2:*** SFs develop new market approaches
2030	*EU and national legislation reflects and support better the needs of SFs and small producers*	*Small producers are an active player of the cooperation along the food chain contributing with high quality and niche products*
	Food production and ensurement of healthy diets are a priority of EU policies	
	Prioritizing knowledge and vocational training as well as the financing and cooperation rural development measures when implementing the strategic programmes [Public administrations]	*Small producers and consumers co-create production models targeting directly the food demand and consumer preferences* [Agri-food sector stakeholders; farmers associations, social movements; academia; administrations]
	Small producers are a dialog partner for the policy decision makers and their needs and interests are well represented	*There is a distinctive brand/label for the food produced by SFs*
		Cooperation between SFs and other stakeholders along the food chain (on line applications for production, supplying,distribution, deliverying)
	Reverse taxation, as well as encouraging the following strategies which support SF integration into food supply chains: (1) niche products with high value added, (2) promotion of traditional Romanian products, (3) the development new online distribution channels [Public administrations/farmers associations/marketing organisations]	*Producers are part of a system of synergies contributing to circular economy* [Agri-food sector stakeholders; farmers associations, social movements; NGOs, administrations]
		Small producers are benefiting of training and technical advisory for new business approaches; [Administrations/social movements, agri-food stakeholders]

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Present	*Small producers are considered for the public procurement for food purchasing (kindergardens, hospotals etc)* *[Agri-food sector stakeholders; farmers associations, social movements; NGOs, administrations]*	*SFs recognized and rewarded as stwerds of public goods in the society* [Public administrations/media/social movements]
	Processing units are available in the region and small producers can gain fair revenue for their entire production [Agri-food sector stakeholders; farmers associations, administrations]	*Platforms of interaction between small producers and consumers or other stakeholders at regional level* [Academia; agri-food sector stakeholders]
	Increased awareness of consumers regarding local products provided by SFs [Agri-food sector stakeholders; various administrations in a co-ordinated way; consumer associations; social movements]	*Higher level of willingness to associate* *More dinamic interaction between small producers and other stakeholders within the food chains* [Administration; farmers association, agri-food sector stakeholders; social movements]

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	Action Plan 3: Contribution of SFB to regional FNS
Timing	***Objective: SFBs represent the main connector and innovation driver along the food chain for the region, supporting small scale farming and a responsible consumer behaviour***
2030	*SFBs trained to run viable and profitable small businesses based on diversification and connectivity (local production with local consumption)*
	SFBs have raised awareness among society to change their consumption habits
	Main connectors within the food chain in the region, supporting continuation of farming
	The range of high-quality products have increased with SFB taking off
	Consumers are committed to SFB brands
	SFBs are functioning as innovation brokers for SFs
	Taxes on food have decreased as a result of SFBs active implications in policy making
	Local brands are promoting local traditions and cultural heritage through the activity of SFBs
	Cooperation between SFBs at regional level is leading to protection of SFs, but equally to import free food for consumers
Present	*Cooperation between SFBs and horreca sector is leading to retro-innovation of traditional recipes*

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

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3.1 Scenario A: Back to the Future

The things are not really very different from today's situation in the region. After 30 years, SF and SFB are not having the support needed from the public budget or from the society, but they still manage to adapt their "survival strategy" to the various challenges related to the free market and all. The public money are not yet focused on SM and SMB directly. Still, because there is a wide range of new technologies at hand, some founding can be accessible for innovation in farming and agriculture. The BIO market is on the constant growth, the urban clients are having good incomes and they are interested in their health, so they're keep on buying bio products, encouraging this part of the market. There are some special programs for accessibility to health food for the vulnerable categories: children, old or ill persons.

Due to the continuous growth of opportunities in the urban areas, the exodus from the countryside is still on the rise. Especially the easy access to technology, determined a decreasing need for raw labour force. The farmers' helps are now the smart machines, hi-tech robots or drones, computers and some few very well prepared employees. In the urban areas, life is good, and is still a challenge to solve the issue of keeping a demographic balance in the rural areas.

The most important change in 30 years will be for sure the rise of technology and innovation in every aspect of our lives, including the situation of SM and SMB. Even the traditional methods of growing crops will change (peat buckets or pools, special coconut soils, etc.). Also, is necessary to find other solutions because the soil is degraded in some areas and is not fit anymore for efficient agriculture. The labour force is well prepared to use all the technologies and innovations available. The education is more focused on this new paradigm and prepare specialists to make the most use of that.

Even if the number of SF and SFB will decrease in 30 years, the ones that carry on, have better incomes, a direct effect of technology use. That help them to have a better life, even if they are continuing to work independently. There are still some good practice of the past present, like the short food chains maintained by farmers' families that have members living in the urban areas.

Legislation and governance are not that different from 2019 situation. Some measures are taken, but the SF and SFB are not directly encouraged or supported. There is still some major changes in advisory systems and, combined with governmental programs, they help the accessibility to the technology and innovation. Some of the private sector can be interested to assist SF and SFB (banking systems or supermarkets).

In the region, the effect of damaged environment are visible, but not so concerning. Due to the lack of high infrastructure there are a lot of places with still some accessibility to good soil and water. Still, in the areas where the environment is to damaged, the new solutions for agriculture, especially the ones based on alternative methods of growing food, will lead to a lost in taste and/ or quality of the products.

Maybe that can create a context for a better understanding of the role of the SF and SFB for the health of people and environment and some more supportive measures will be created and implemented. And maybe some of them will have even higher incomes (FORBES 500).

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3.2 Scenario B: "Story times"

In 2050, although challenged by numerous nationalists waves militating against globalization for decades, the European Union still exists, protecting and suporting rural areas. SFs' needs and interests are now reflected in the public policies, with adequate funding. The national economies are fluctuating, but they are predictible.

There are numerous social movements and community supported agriculture schemes that consumers and society have established for supporting SFs along the last decades, and the day of Small Farmers day si celebrated at national and european level. The food products, unlike products from large scale agriculture, are healthy and of high quality. The research instutues have developed climate resistent plant varieties, based on a long term collaboration with SFs.

In Giurgiu region, the active population engaged in agriculture has degreesed, due to high technologisation of the sector. Rural areas now fully equipped with broadband, robust access roads infrastructure, medical and educational services by easy to access, is now the place for living and leisure, with multiple options for young people to spend their free time – cinema and theather are part of the weekly life of small farmers' life. Their neighbours are working in services, broadband infrastructure. The communities are part of a "smart villages" network for some time, and the needs of SFs are addressed through a very democratic local governance, including community funding schemes, including compensations for the impacts of climate changes effects.

The living costs decresed as a result of circular economy principle (recycling, recirculating, zero emissions etc) and the budgets of municipalities have incresed as a result of attractiveness of villages created also through diversification and multifunctionality of rural areas. The level of unemployment is relatively low. SFs are involved directly in the decision making processes at regional level, especially in tenure governance.

Weekly, there are farm visits organised by for the consumers coming from Bucharest and elsewhere, where children learn directly about the true costs of real food and food production.

The SFs cooperatives are now professionalised, being run by highly trained managers and marketing experts. The cooperation with SFBs and other agri-food stakeholders is very productive, creating many synergies in co-creation processes leading to less inputs for production, more targeted consumption demands, eliminating food waste, creating fair working environment for farmers and SFBs, low emissions for distribution and supply. SFs are selling all the vegetable production based on a very efficient and precise production plan, using solely local traditional varienties, climate change resistent, reintroduced as a long term collaboration with the research institutes. Consumers preference for plant protein food has influence the range of plants produced by SFs.

Both farmers and consumers are placing environment at the hart of their day-by-day activities. Climate change and securing the natural resources remain the main vulnerability, but with willingness and cooperation challenges can be tackled.

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3.3 Scenario C: "The Green Pharmacy – with Chicken Flavour" or "Globalized Communism"

By 2050 the existence of European Union has been shaken up by various nationalistic movements, emerged about 40 years ago. The EU still exists, but it's purpose has been significantly dilluted and underminded, taking more a military defence orientation.

Bucharest – the capital city – 45 minutes distance from Giurgiu region, consumes most of the water resources of Giurgiu, its neighbouring district, due to a massive population exodus to the capital city.

Due to the lack of water in Giurgiu, crops are drying up, and only big farmers who have money for deep forage (for up to 30m deep) or developing their own irrigation infrastructure are able to still cultivate crops. There are only a few seed varieties in use, probably genetically modified/patented ones which can withstand drought. There is huge loss of biodiversity.

Without state support in terms of governmental policies, but also due to lack of human capital in the countryside, small farmers and existing cooperatives have not been able to create collective action systems that would have allowed them to develop their own irrigation infrastructure.

Also, without protection measures for small farmers, the market has been taken over by big farmers. What used to be a majority of small farms in Giurgiu has now disappeared. Their farms have been sold and consolidated into big farms, and the remaining small farmers in the countryside have now become employees on big farms. There are now only two big supermarket chains, owned entirely by foreign capital, who have a highly integrated production system – from seed production to retail outlets.

The highly integrated production systems, as well as the newly developed technologies for agri-food supply chains lead to raising food health and hygiene standards, which prevent the market entry of smaller new players.

If urban populations become poorer, but urban demand increases, their access to healthy food will decrease. Consumers are now served with low quality highly processed "meats" like bologna, or with "nutritious/artificial pills" sold in supermarkets.

4 Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

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4.1 Scenario A: Back to the Future

The biggest threat for the SF and SFB will be the lack of financial support for the public budget. Compared with the big retailers, it will be harder to compete on the free market, without this kind of support. Also, combined with the struggle to adapt to new technologies and innovations, the number of SF and SFB will decrease.

The ones that can find a way out and manage to have a stable business, they still need to find solutions for climate change challenges. This can be as important as the first threat, because the effects will have a bigger and visible impact as time goes by.

The demographic factor is still important as a threat. Even if the technology will be for most of the situations a better option, most of the sustainable and environmental friendly traditional practices will be jeopardised and maybe even disappear. Maintaining the high quality of food will be also a big issue especially due to this fact.

4.2 Scenario B: "Story times"

The main vulnerabilities of the rural population that adversely affect their adaptive capacities are: dependence on agricultural resources, obsolete agricultural technologies, underemployment, lack of occupational alternatives, low level of education and poverty. The small farms and their own consumption have been a resilient response to the negative socio-economic effects of transition, helping to maintain social security by supporting food security, acting as a buffer against poverty and as a supplier of jobs.

The potential ways to increase resilience are generally subsumed to the intervention need through public policies and consumers awareness targeting: (a) increase of the stock of knowledge and professional abilities and their diversification, so as to allow the increasing occupational mobility of the rural population in a modern knowledge-based society and to break up the opacity to technical and technological innovation; (b) support to increase technical performance while maintaining agricultural production structure diversity, which proved to best meet the domestic food consumption needs; and (c) reduced dependence on agriculture through on-farm activity diversification and increasing the value added of agricultural products through processing. SFs also should be the subject of social policies.

There are some 'smart' solutions for turning the vulnerabilities of the Romanian rural area into a comparative advantage. The Romanian SFs could be supported to become providers of (environmental) public goods and services through the development of 'green' agriculture, agri-tourism services, traditional agri-food products delivered through short supply chains, production of raw materials for 'green'/circular energy and other alternative uses such as slow food etc. The result would be a mixed agrarian structure, economically and socially viable, that includes small farms with cultural, landscape, touristic attributes and capable to provide traditional food and large farms that specialise in supplying raw materials for the food industry.

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4.3 Scenario C: "The Green Pharmacy – with Chicken Flavour" or "Globalized Communism"

In scenario D, small farmers seem to be the most vulnerable, primarily due to the increasing climate pressures, which are requiring larger scale investments in water infrastructures in order to keep crops viable. In a context where these pressures are also leading to rural depopulation, small farmers would be confronted with labour shortages, pressuring them to further sell the land to the few players from the highly concentrated markets in this scenario.

The opportunities and strengths of small farmers under this scenario lie in their ability in the present moment to organize themselves through collective action in order to build the types of infrastructures able to support them in thirty years' time. Secondly, at the time when the scenario would be operational, one of the few foreseeable opportunities of small farmers who would still be producing then would be to offer high quality produce to the richer nearby urban market of Bucharest, as this would clearly differentiate them in a market dominated by low-quality produce.

5 Action Plans under different scenarios[24]

Finally, what actions of the above displayed Plans (section 2) are feasible or, on the contrary, too difficult to accomplish under the different scenarios?

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

In order to facilitate this assessment, taking the Action Plans (1, 2 and 3) developed in Section 2 which combined actions and milestones, we have distilled real actions, eliminating the milestones. Also, we have separated each action in a different line in the following tables, although in the Action Plans, they appeared grouped when they shared the same timeline.

The feasibility of each action included in the Plans (Section 2) has been assessed under the four different scenarios detailed in Section 3. A colour code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

[24] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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ACTION PLAN 1: Contribution of SF to regional food production

Objective 1: SFs have a strong representation and market share	***Scenario 1***	***Scenario 2***	***Scenario 3***
At governance level - creating a mechanism/form of SF representation and increasing its influence so that it may become part of the consultation mechanisms organized by the ministry [Public administrations/farmers associations]	theoretically, the representation of SF within decision-making forums should be possible at any time, but there is no association or entity to be the voice of the SFs, and the authorities overlook constantly to the representation of a significant category of SFs in RO in working groups on national programs		
A CAP with a clear, articulated menu of measures for SF, including specific subsidies, enhancement of the LEADER type program [Public administrations/farmers associations/agri-food sector stakeholders/researchers]	Representation of SFs within the worksing groups, public institutions willingness to aknowledge the presence and important role of SFs for food security, social buffer, public goods provision		
Promotion of cooperatives, as well as FAS & AKIS tailored to the needs of SF (including better education in agricultural vocational highschools) in order to maintain the access of SF to new technologies and sustain the development of local/regional markets [Public administrations/farmers associations/agri-food sector stakeholders/researchers]	The knowledge and vocational training measures have been prioritized in the previous programming period but haven't been implemented up to present – again the willingness of public institutions to implement national		

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	programmes efficiently/effectively		
Conduct research into previous forms of FAS/AKIS systems in Romania in order to identify lessons learned and suggestions for good practices; Gather all relevant stakeholders and formulate a proposal for organizing FAS and AKIS systems in Romania, so that they may be useful to SF	Reinventing the AKIS and advisory services system in RO would catalize a better integration on the market of SF		

Objective 2: SFs' communities have the public funding support for developing attractive living conditions	***Scenario 1***	***Scenario 2***	***Scenario 3***
Developing the infrastructure and services in rural areas in order to encourage their repopulation by urban dwellers, young farmers or the Romanian diaspora who might want to come and invest back in their homelands [Public administrations/ social movements]			
The smart village approach has produced effects and created premises for robust synergies within SFs communities	There are timid initiatives to introduce the concept in the coming programming period		
Promote the LEADER approach as a useful method amongst Romanian authorities and farmers, as well as integrated and multi-funded project al local regional level [Public administrations/farmers associstions/local NGOs or social movements]	LEADER has achived good progresses in the last years, but mostly experinece among LAGs staff to expend their approaches when funding and looking for solutions to address local development stratgies		

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Promoting and developing centers to equivalate experience and competences gained abroad for the Romanian disapsora [Public administrations/media]	Timid attempts – more efforts, media promotion and funds for re-integrating the ones coming back home		
Lobby for maintaining projects focused on funding diaspora start-ups throgh funds such as the Operational Programs for Human Capital (which was available in the previous programming period) *Promote Smart village concept and its integration and implemnetation throughtout national strategic programme* [Public administrations]	Not coherent/effective initiatives		

ACTION PLAN 2: Contribution of SF to regional FNS

Objective 1: SFs have a clear market share within the food chains	***Scenario 1***	***Scenario 2***	***Scenario 3***
EU and national legislation reflects and support better the needs of SFs and small producers	Depends how strong the influence/lobby of big farms is	High chances for the EU perspective to get dillute on this topic	
Food production and ensurement of healthy diets are a priority of EU policies	Possible if big farms are not pushing for "Only we feed the world"	High chances for the EU perspective to get dillute on this topic	
Prioritizing knowledge and vocational training as well as the financing and cooperation rural development measures when implementing the strategic programmes [Public administrations]	Not just programming, but also implementing the measures		Depends on funding priorities

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Small producers are a dialog partner for the policy decision makers and their needs and interests are well represented	Willingness of public instuitutions to get SF on board		Pending on public institutions willingness
Reverse taxation, as well as encouraging the following strategies which support SF integration into food supply chains: (1) niche products with high value added, (2) promotion of traditional Romanian products, (3) the development new online distribution channels [Public administrations/farmers associations/marketing organisations]	Partly happening, but very effectively at the moment No reprezentation of SFs		Depends on funding priorities and representation of SF
Small producers are considered for the public procurement for food purchasing (kindergardens, hospotals etc) *[Agri-food sector stakeholders; farmers associations, social movements; NGOs, administrations]*			Depends on funding priorities and representation of SF
Processing units are available in the region and small producers can gain fair revenue for their entire production [Agri-food sector stakeholders; farmers associations, administrations]			
Increased awareness of consumers regarding local products provided by SFs [Agri-food sector stakeholders; various administrations in a co-ordinated way; consumer associations; social movements]	It's happening but both sides still need a better understanding, awarness, dissmenination about each other		

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***Objective 2:* SFs develop new market approaches**	***Scenario 1***	***Scenario 2***	***Scenario 3***
Small producers are an active player of the cooperation along the food chain contributing with high quality and niche products	There are already cases of SF active on the market (esp. raw products), but the initiatives are timid. The adoption of quality schemes by SFs should be better promoted and disseminated		Market dominated by big producers might pertubate the effective cooperation within food chain
Small producers and consumers co-create production models targeting directly the food demand and consumer preferences [Agri-food sector stakeholders; farmers associations, social movements; academia; administrations]	Sector is too fragmented - additional experience and expertise on workshing together in partnership is still required to be engaged and encouraged		
There is a distinctive brand/label for the food produced by SFs	There have been initiatives, but due to lack of representation of SF at the table of discussion with institutions nothing happend		The sector requires leadership and a strong lobby activity
Producers are part of a system of synergies contributing to circular economy [Agri-food sector stakeholders; farmers associations, social movements; NGOs, administrations]			
Small producers are benefiting of training and technical advisory for new business approaches; [Administrations/social movements, agri-food stakeholders]	There are timid attempts on supporting SFs start-up initiatives in rural areas, but there is no technical support for them to compete with aplicants from urban areas		

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SFs recognized and rewarded as stwerds of public goods in the society [Public administrations/media/social movements]	AE is the only measure within national programmes rewarding SFs for maintainnace of HNV areas (landscape and traditional practices)		Funding availability my not prioritize the SFs role in creating public goods
Platforms of interaction between small producers and consumers or other stakeholders at regional level [Academia; agri-food sector stakeholders]	There are already virtual platforms for SFs interaction with other stakeholders, but without clear benefits or added value		
Higher level of willingness to associate [Administration; farmers association, agri-food sector stakeholders; social movements]	The reticence for associating handed over by communist regime is still present in some areas, but there is a clear trend merging to pick up on association		

ACTION PLAN 3: Contribution of SFB to regional FNS

Objective: SFBs ensure a significant share of the food supply for the region's population and preserve the local culture, local products and traditions.	***Scenario 1***	***Scenario 2***	***Scenario 3***
SFBs trained to run viable and profitable small businesses based on diversification and connectivity (local production with local consumption)	There is not enough experience and expertise in running sustainable and viable small businesses		

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SFBs have raised awareness among society to change their consumption habits	Timid initiatives merging		
Main connectors within the food chain in the region, supporting continuation of farming			
The range of high-quality products have increased with SFB taking off	There are initiatives merging that need support		
Consumers are committed to SFB brands			
SFBs are functioning as innovation brokers for SFs	There are initiatives merging that need support		
Taxes on food have decreased as a result of SFBs active implications in policy making			
Local brands are promoting local traditions and cultural heritage through the activity of SFBs	There are initiatives merging that need support		
Cooperation between SFBs at regional level is leading to protection of SFs, but equally to import free food for consumers			
Cooperation between SFBs and horreca sector is leading to retro-innovation of traditional recipes	There are initiatives merging that need support and better promotion		

6 Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

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*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

We had a very diverse group of stakeholders: SF, SFM, retailers, researchers, policy makers, movie makers, etc., and they were all very active and involved in the discussions, keen to share the information with the group. We have also a very active group of SF that were very eager to contribute and to express also their vison of the future for all the scenarios (2030 and 2050).

They all admitted that was a very complex exercise and they are not used to analyse in this way to perspective of their work, but also a helpful one. The exercises pushed the participants to think more in details not just about the state of tomorrow or the next 7 years programming period, but about what they individually but also collectively would want to achieve in the next years, how the interactions with other players on the market would be like: SF, SFB, retailers, supermarkets, politicians, policy makers, general public.

Workshop participants started the reflection session by saying that they now realize much better that the decisions we take today will be the consequences with which future generations of farmers and consumers will have to deal with. In this context, one of the main vulnerabilities mentioned by one of the participants was the current disconnect between the voices and needs of small farmers from and the policies and practices implemented by ministries. This points out the need for better representation of small farmers, as well as inclusion in the ministries' consultation mechanisms. An essential aspect in direct connection with this point is the support for SFs communities – participants don't se the future of SFs in food production and contribution to the food security without viable rural communities. Many of them are working with their families, without the public policies to aknowledge or support such type of households. The social statues of SF in the rural economy (salary, pension), just as services (medical and educational) at the local level would be a good start.

Discussions during the workshop mentioned that over the last quarter of a century the organisational and operational strategies of SFs in Romania have been characterised by inertia and even resistance to change, a situation that continues today. These patterns are well established, being replicated between generations, and were not induced by the changes in the transition period after the collapse of communism. Despite the expectations of some academics and policymakers of a gradual decline in importance of small farms and/or their market integration following Romania's accession to the European Union (EU), the process of structural change has been slow.

Another point raised was of evaluating the results of previous Farmer Advisory Systems (FAS) in Romania (currently inexistent), in order to formulate a new and well targeted proposal, and how it could be organized in the upcoming CAP programming period. The fragmented FAS were identified as representing a key vulnerability for SF, as the lack of access to appropriate information about policies, markets and innovative agronomical practices was seen as one of the main barriers preventing SF from fully benefitting from all the opportunities designed for them. Furthermore, the members of the SF

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cooperative who were present at the meeting mentioned that any legislation or policies affecting their activity should be formulated in understandable terms for the general population, as currently the responsibility to inform the population is understood by state authorities as just publishing thick legal texts on their websites, without further interpretation. At the same time, participants also highlighted that one of the strengths of SF is their flexibility and their ability to quickly change their production practices, so as to adapt to changing consumer preferences and trends. In order to reinforce this strength, participants proposed developing storytelling and awareness raising campaigns about the value of small farmers, of the rural communities that they manage – ones which would focus on connecting consumers to producers.

In a context in which Romania is likely to experience administrative reform in the coming decades due to rural depopulation, one participant mentioned the importance of highlighting the fact that encouraging this trend directly or indirectly (by neglecting rural community and farmer support measures) will come at a significant cost to the resilience of Romanian food systems. Much essential knowledge about farming practices and community management will be lost, and, considering the growing trends towards digitization and automation, integrating rural populations in cities are likely to bring little value added to the societies of the next twenty-thirty years.

From the side of the researchers in the room, the general remark was that there was a lot of very valuable interaction during the workshop, which was due both to the fact that the format was the workshop encouraged conversation, but also due to the fact that both farmers and more policy and research type stakeholders were for the first time in the room. While this meant at times that discussions got easily carried away into discussing current or past problems, rather than focusing on the future, it was nevertheless a valuable outcome of the workshop. Future visioning, long-term strategies and scenario-planning are exercises that are seldomly, if at all done. At the same time, it would have likely been very useful to combine the foresight workshop with additional sessions regarding regulatory mechanisms or other strategies through which SF and other stakeholders who work directly with them could be used to actually influence the state of play.

Secondly, some of the researchers noted the fact that the difference between the two exercises, of engaging with the 2030 and 2050 visions, could have been further punctuated (more specific), in terms of the influence of both internal and external factors to a SF's agency. Also, while scenario 3 was supposed to be the most disruptive scenario, most farmes found it quite realistic. A truly disruptive scenario might have been one where the CAP and its subsidies will have completely disappeared. But EU membership has not succeeded in changing the role of these farms in the Romanian economy. To those who argued that direct payments under the Common Agricultural Policy (CAP) contributed for far to the rise in the number of small farms in Romania after EU accession, it should be pointed out that only the farms with more than one hectare are eligible for these subsidies – all of the SFs present at the workshop not being eligible for (i.e. just over one million of the 3.6 million farms) and that over 90 per cent of the Romanian beneficiaries received less than EUR 500 per year due to their small agricultural land area (Alexandri and Luca, 2012). Most small farmers have not benefited from financial support through the CAP.

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Regarding the emotional connection of consumers with the rural areas and the food produced by SFs, participants mentioned that the Romanian SFs preserve the traditions and culture of the Romanian people and provide traditional food that is perceived as a 'high quality' product by all Romanians. Some countryside is 'real' organic food and that, in terms of quality, food from villages is well above the food bought in supermarkets and which is mostly imported. For this reason some urban households prefer to procure their food directly from the producers through semi-formal supply chains, such as rural relatives, free peasant markets, at the farm-gate and roadside buying or through 'local wholesaling'. Formalising this type of interactions between consumers and SFs, between urban and rural on a concrete market framework would contribute to create enabling conditions for SFs to persist and produce food and public goods.

Concluding, SFs will not soon disappear from the Romanian rural picture, they only need to become more resilient. In order to face the changes and challenges, SFs need to be invested with new abilities to adapt and to find new equilibrium levels. As a result, SFs should be supported in order to overcome its vulnerabilities and the simple condition of 'socio-economic buffer' and to become a factor of progress, as detailed under 4.2.

A suggestion that was received from different participants side was the need to develop better visual and participatory help making very abstract topics more understandable for wider /non-policy oriented stakeholders. The farmers present faced particular challenges in understanding various terms used.

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7. List of participants

Key experts and informants	Position	Institution	Sex
1. Cornelia Alboiu	Researcher on agriculture and market studies	Institute for Agricultural Economy	F
2. Serban Georgescu	Film director – rewarded for production of "Potatoes, Cabbage and other Demons" – about the life of small vegetable producers in Romania	Kolectiv Film	M
3. Valentina Ion	Small food business - bakery	Grain Trip	F
4. Alexandru Chiper	Fruits-vegetables department specialist	Lidle Romania	M
5. Elena Istrate	Communication expert within the Technical Assistance project funded by Ministry of Agriculture and Rural Development on setting up and support cooperatives in Romania	EGIS – rural development consultancy company	F
6. Rodica Matei	Rural Development Expert	Free-lancer (former head of rural development directorate of Ministry of Agriculture and Rural Development in Romania)	F
7. Nicolae Mihai	Cooperative's Director	Varasti region vegetable and herbs cooperative – Giurgiu Region	M
8. Buturuga Dorel	Cooperative's Administrator	Varasti region vegetable and herbs cooperative – Giurgiu Region	M
9. Daniela Giurca	Agriculture and rural development researcher	Institute of Agricultural Economy	F
10. Cristian Negoita	Artisan Baker	Grain Trip – Artisanal Bread small food business	M

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11. Alexandra Toderita	Association and Consultancy in Agriculture - Researcher	Romanian Center for European Policies	F
12. Radu Constantin	Vegetable and herbs producer	Producer – Giurgiu Region	M
13. Sacal Lorelai	Rural Development expert	*Association of Consultants for European Funds*	F
14. Dinca Constantin	Vegetable producer	Producer - Giurgiu Region	M
Workshop facilitators			
Raluca Barbu		HCC	F
Elena Palau		HCC	F
Irina Toma		HCC	F
Ioana Stanciu		HCC	F
Alina Alexa		HCC	F
Tiberiu Cazaciuc		HCC	M

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7.9. R29 Perth and Kinross, and Stirling - United Kingdom

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR29 – Perth and Kinross, and Stirling (UK)

Authors: Dominic Duckett and Christina Noble (JHI – The James Hutton Institute)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

Our workshop was divided into 3 subgroups to consider questions 1.1, 1.2 and 1.3 separately. The first of subgroup considered the future of small-scale agricultural production within the reference region and more widely. The general mood aspired to increasing the contribution to the region's food system by 2030. Any future success was envisaged to be strongly connected to quality. Only through high quality can small farmers compete and thrive. It isn't so much that quality itself needs to be improved, according to our scenario planners, but rather that consumers' interest and appreciation of quality needs to be raised. Quality is already and likely to continue to be the unique selling point (USP) of the small-scale farmers and small holders in this region.

This subgroup also stressed the importance of variety. Small farms are well-placed to deliver variety, and this comes in various forms. There can be varietal diversity in horticultural produce with small growers able to produce "10 different sorts of lettuce" for example. Increased husbandry of heritage and rare breed livestock might also lead increased varietal choice in the meat market, although this may remain niche in respect of the total meat market. One participant noted that diets may become more flexitarian driven by environmental concerns related to the carbon cost of extensive grazing, health concerns around red meats, and animal welfare sensitivities. These issues could limit the opportunities for livestock expansion.

In general terms, a broader redefinition of the current foodscape whereby less monoculture and more seasonal foods and varieties of food are prominent was something these scenario planners aspired to by 2030 although they did not all agree about the precise form of this transformation.

A positive vision involving greater localism was in evidence with participants pressing for "local food for local people" and "more local fruit and veg". One participant summarized with the single word 'respected' a future hope for enhanced appreciation for SF and SFB contribution. These aspirations extended to livestock for which a return to the situation when local abattoirs were more widespread was called for. The decline has particularly challenged those wanting small batch and single kills. Abattoirs were said to be too consolidated and too geared towards high throughput serving larger farms and longer supply chains. The complexity of abattoir arrangements was not overlooked but the continuing closure of facilities, marked recently in this RR by the closure of the family-run Dunblane abattoir (this time last year), only weeks after the closure of a small facility in Orkney (outside this RR) was a recurrent issue at the workshop and throughout Salsa's Scottish fieldwork in both R29 and R30.

The whole localism agenda pivoted around a greater societal value, said to be emerging, for local, short supply-chain produce and an aspiration that this can gain momentum. There was some disagreement around claims that nutritional value is necessarily higher for a short supply chain foodstuff particularly

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where there is little or no processing. Animal welfare superiority was uncontested by this group, but it should be noted that counter-claims are regularly made by larger livestock enterprises. Likewise, participants claimed that shorter food supply networks would enhance the resilience of the food system to external shocks.

For people to value small-scale produce, an essential step underpinning any expansion of the sector will be education reform, according to the subgroup. Consumers were singled out as needing more relevant education and more knowledge. Farmers themselves can play a role marketing local food. Restaurants too can drive the message. Closely connected to 'knowledge' is traceability. For people to value local food they need confidence about where it comes from. Lamb was highlighted as an issue in this regard. With the store lamb system many animals go away for fattening and finishing (from this RR mainly to Aberdeenshire) or alternatively travel to a large, often remote abattoir, both channels resulting in a loss of local provenance as produce is black-boxed within a centralised, national supply chain. If value can be established, it is hoped that small farmers can become price makers, exerting control over the market through uniquely valued produce.

Environmental concerns were held to be critical in enhancing future short supply chain provision to the regional food system. Discussions around 'carbon footprint' revealed a general view that small farms inputting to a local food system, can have a lower environmental impact in terms of reduced logistics. There was said to be intrinsically greater sustainability within SF where stewardship of land outweighs exploiting land for maximum yield. By 2030, rebalancing production in favour of smaller farms could lead to improved environmental outcomes. The concept of 'stewardship' entailed a duty of care beyond productivism. Organic production methods might become the default as producers and consumers turn away from conventional agri-chemical approaches. Again, opinions differed, and no consensus is claimed.

Economic factors were, unsurprisingly, highlighted as critical to future expansion by 2030. For progress to be made there must be realisable profits to the farmer. This could come through increased alternatives to supermarkets including greater integration with public procurement including school meals. It was hoped that all schools will be sourcing food locally as much as possible. One participant championed new online platforms that will enable selling to farm shops and butchers. Expansion could be supported through land reform such as the Land Reform (Scotland) Act 2003 which is anticipated to have made positive impacts by 2030 as with the Open Reach project targeted to enhance digital rural services significantly by 2022. A more cooperative model could help farmers access supermarket channels more effectively. There was also held to be the possibility that middle-sized farms would be the losers by 2030 with a 'hollowing-out' effect being driven by reduction in subsidy post Brexit and lack of adaptive capacity and investment opportunities for these mid-level players.

Technology will be needed for a positive future and our scenario planners discussed using new on-line platforms for marketing and distribution. Some higher-tech innovations were also discussed: satellite technologies for precision farming and block chain technologies to exploit the value chain particularly around provenance.

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Participants compared the strong voice of the Crofting Federation, which represents a specific form of landholding geographically limited to NW Scotland, to the much weaker voice of Smallholdings Scotland, who seek to represent smallholders (not necessarily crofters) from across the country. At the policy level, a bigger voice can be achieved by developing a platform equal to the one crofters currently enjoy, allowing a better interface with policy makers. Brexit was seen in a mixed way, with a clear sense that there may be opportunities arising out of the crisis. For example, in the event of a liberalisation of food regulations post-Brexit, participants suggested that this could lead to a consumer backlash against large-scale food suppliers and a turn towards SFs and SFBs. Subsidy also features as an unknown post Brexit. Existing area-based payments are not thought to promote small scale agriculture and there is an opportunity for 'stewardship' models, environmental and/or quality based alternative structures to be more supportive of small producers. In other words, payments might be better directed to encourage small-scale production, an aspiration that also emerged at the Salsa regional workshop for R29. Current land reform was also identified as a source of hope that land access will be much better in 2030 with lower land prices facilitating a boom for small holders. The degree to which all or any of these positive policy reforms might be realised was perceived to be strongly related to the degree of lobbying on the part of organisations representing SFs and SFBs.

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

Participants identified the need for radical change in the underlying food culture and policy environment for the region and throughout Scotland. Existing attitudes to consumption need to be challenged beginning with formal education currently seen as failing to establish effective links between food, nutrition and environment. Participants wanted more effort applied within schools around fostering an understanding of where food comes from and what the broader effects of the food system are. Children need a solid foundation in their knowledge about nutrition. In terms of utilisation of food there is a perceived lack of even the most fundamental skills with one participant highlighting basic ignorance about units of measurement for food preparation. Learning to cook, farm visits for schools and accessing good food, things that the Royal Highland Education Trust were recognised as supporting already, can be extended. People need to make a big change from buying on appearance to buying on taste – an attitude around which Scotland was said to lag behind France and Spain according to one participant.

The population also needs better appreciation of the interconnections between the food system and the environment particularly around sustainability and climate change, issues that were said to be negatively impacted by long supply chains, excessive food waste and damaging agricultural practices, all linked with mass production. Environmental concerns were prevalent in this subgroup. Promotion of local, small scale production must be accomplished in a way that is compatible with wider environmental goals, one participant stressed, and our scenario planners hoped that current initiatives might play a part in emboldening small farms and enabling change. Perth and Stirling can be Sustainable Food Cities by 2030 and the Market Towns initiative can, with commitment from policy makers, support the creation of more hubs throughout the region. Public buildings and civic spaces

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can be made more available for farmers' markets and food assemblies. Councils can do more to facilitate 'grow-your-own' projects. New channels will be important and a regional on-line shop with delivery capability could showcase local, small scale produce.

Regarding policy, the group considered centralized food systems and top-down thinking about national and international scales to be fundamentally damaging to the sort of thriving, local food system they aspired to. Policy, at all levels, needs to put local and small-scale at the forefront and to connect currently disjointed thinking. Centralised, remote policy making fails to recognise the importance of locally produced food as an integral part of broader societal challenges and small farmers do not feel represented. As a counter-example, crofting in other parts of Scotland was held up as an exemplar of how a louder voice can be given to the small-scale and lessons can be learned and applied to small-holdings more generally. Policy further needs to be enabling rather than obstructive. The notion of 'pink tape not red tape' was proposed as a metaphor for softening bureaucratic barriers. A clear objective comprising a 'support package for small-scale' was discussed. This could be a national initiative that recognises local differences at the regional level. It would support business incubation units appropriately and recognise the need for local abattoirs and other infrastructure. There was also some agreement 'growth' ought not to be the only mark of esteem for small-scale enterprises. Current indicators for successful policy are missing metrics that appreciate outcomes beyond growth for example freshness and quality. National awards could help provide needed recognition.

A separate aspiration emerged around branding and identity. More can be done to create a regional identity for R29. Other regions have branded more successfully for example 'Taste of Arran', but there is little coordination between the various public and private agencies that occupy this space. Addressing this fragmentation and promoting the local food of this area is one important factor in getting good, locally sourced produce from small producers to consumers.

Finally, it was recognised that the challenge is a complex one and engendering a cultural change supported by a more sympathetic policy environment is not a switch for which simple solutions are readily available. The failure to value the eating experience, as they do in Portugal for example, according to one participant, is connected to national ideas around 'convenience', a supermarket dominated retail sector, a long-standing disconnect between farmer and urban consumer and a loss of even the most basic utilisation skills beginning in early years education. "A lot of things have to happen at the same time", as one scenario planner put it.

*(iii) Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

This group commenced by discussing the monopoly of supermarkets in R29 as one of the biggest barriers currently facing SFBs in R29. The current norm for consumers to purchase most of their food from supermarkets, was considered to be a significant constraint for SFBs to be able to contribute more towards the region's diet. An over-reliance on imported food produce from outside the region and Scotland as a whole, was also acknowledged by the group as something that they wished to see

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change by 2030. This translated into a specific objective for 2030 to reduce the current imbalance of consumers buying most of their food from supermarkets and to increase sales of local food from SFBs.

As supermarkets stock food that is sourced from outside the region, participants discussed the pressing need for consumers to become more reliant on and interested in small food businesses and locally grown produce. Some participants felt that more education was needed in order to achieve this objective namely within schools and at the community level with local authorities taking over the management of farmers markets. This measure, some believed, would make it cheaper for SFBs to participate and showcase the diversity of produce available in the region. The group also shared concerns around the lack of a strong Scottish culture of the local population using farmers markets to purchase food and produce for everyday use. If local authorities were in charge, some participants argued that more accessible and better host facilities would be utilised, including locations that could provide shelter from the inclement Scottish weather, encouraging more local participation. By 2030, the various stakeholders wished to see a stronger culture having emerged with Scots and not only tourists, visiting and purchasing food from SFBs at farmers markets.

One participant noted the convenience a supermarket presented for consumers to purchase many different food items in the one place and felt diverse markets were needed. Longer opening hours and the chance to purchase food any day of the week presented a challenge to many SFBs. The group presented a vision for 2030 where supermarkets host rotating pop-up shops showcasing local produce from SFBs and where the installation of 'food vending-machines' in different communities where consumers could access and purchase food more readily.

Consumer utilisation of SFBs and their produce was discussed amongst the group regarding who they felt was more likely to support SFBs. The group disagreed as to whether rural communities were more likely to support SFBs than urban centres, and others disagreed as to whether more support came from households with a higher income level who could afford to supplement their diet with produce from SFBs. Despite the divergent opinions, the group appeared to share the view that more rural support was needed from local authorities in order to promote not only the nutritional value of produce from SFBs, but the important role SFBs play in sustaining rural communities. Increased levels of collaboration between SFBs, SFs and local authorities was identified as key to securing a stronger role from SFBs towards food and nutrition security in R29. Access hubs and centralised spaces with which to purchase produce from SFBs as well as hosted training events were proposed to help secure this vision in 2030. In 2030, the group hoped that SFBs would be valued for their contribution to the local community, specifically delivering lower food miles, less packaging and plastic waste, higher nutritional content of food as well as a contribution to rural employment and income generation within the local area.

Finally, government support was deemed necessary to help increase the role of SFBs by 2030, and dedicated support for completing grant applications and tax forms was considered to be a significant aid for SFBs. Support across the business sector specifically regarding training for business and technical skills was an aspiration as well as product development. A stronger rural infrastructure in order to facilitate the development of new products and underpin further rural entrepreneurship was also something said to be enabling for a brighter 2030.

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2. Development of Action Plans

(i) *Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.*

	Action Plan 1: Contribution of SF to regional food production *Needed actions and* [responsible for completing the action]	
Timing	***Objective 1: Political reform repositions small scale production more prominently within policy***	***Objective 2: Public value local food more highly***
2030	*Small holders version of Crofting Commission is established (government supported- farmer led)*	*Variety of fruit a veg offering significantly increases*
	New subsidy regime rewarding environmental and quality established replacing area-based payments (government)	*Small local food shops increase*
	Support for varietal diversity in crops and livestock (consumers)	*Regional food hubs established (government)*
	Support for smaller, regional abbattoirs reversing current trend for centralisation (public/private partnership)	*Organic produce becomes default (consumers)*
	Trade barriers imposed boosting profitability of local food (government)	*NHS raises awareness of nutrition in a way that fuels demand for local, seasonal produce*
	Land reform implementation (government)	
	Support for digital channels alongside high-speed broadband provision	

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Present	*Subsidy for local abbatoirs to be introduced (government)*	

	Contribution of SF to regional FNS	
Timing	***Objective 1: A radical change has transformed the food culture of the region.***	***Objective 2: Empowerment of both producers and consumers is an on-going, important policy driver***
2030	*National educational programmes for life-long learning are implemented to heighten consumer awareness*	*The policy environment formally recognises the importance of locally produced food.*
	Stronger connections between nutrition and food production are forged joining the NHS (public adminitration) and SFs (private enterprise)	*All levels of government listen to small farmersand there is Joined-up policy (health, environment, industrial strategy)*
	Understanding of food seasonality is embedded in consumer choices	*Policy actively supports those who don't want to expand aided by suitable indicators that recognise wider values (national government)*
	The link between environmental values and food is reinforced	*Perth and Stirling become sustainable food cities (public/private partnership)*
	Better action around food waste promotes shorter supply chains	*More market towns are established (public/private partnership)*
	School to farm visit programmes are expanded (local/national government)	*Policy is increasingly decentralised – big national and international players do not dictate to government*
	Branding/Identity initiatives in all areas (e.g. Taste of Arran) are coordinated and supported (national/local government)	*The example of the Crofting Federation, whereby crofters have an effective platform, is copied for small holders*
Present		*Land reform effectively improves access to land at the small scale (government)*

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	Contribution of SFB to regional FNS	
Timing	***Objective 1: Consumers rely more on purchasing produce from SFBs than supermarkets.***	***Objective 2: SFBs receive fiancial and technical support from local and national governments to develop new products.***
2030	*Increased accessibility for purchasing products from SFBs*	*Governments recognise value of SFBs to sustaining rural communities*
	Local authorities have provided centralised hubs and spaces for the local community to purchase from SFBs	*Government highlight need to make Scotland more food secure*
	Food vending machines are available in local communities	*Rural employment is high thanks to contribution from SFBs (business)*
	Culture of buying locally made products is strong within R29	*There is high availability and easy access to training courses on business development*
	Local authorities have a marketing strategy to promote SFBs to tourists and visitors	*Grants and incentive schemes for SFBs are more readily available and accessible. (government)*
	Story behind the food products and development of business is promoted amongst local community	*Joined up education strategy exists within local communities to teach value of produce from SFBs*
Present	*Farmers markets are attended more regularly, and more food amd daily meals purchased from SFBs*	
	Community aware of less packaging, less plastic and lower food miles involved in SFB food production	

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3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario A: Surviving not thriving

Four sets of conditions were developed outwith the workshop, intended to challenge the scenario planners to concoct four contrasting scenarios for 2050. Again, the workshop divided into subgroups, each working with one unique set of conditions or rules. When presented with this first set of conditions, the group felt disheartened imagining that the scenario played out much like a continuum of the present, or in scenario terms, business as usual for Scotland's small farmers. Strong imports and exports as well a market dominated by few big players led the group to consider small farms struggling to find their contribution to food and nutrition security valued in this 2050.

A low degree of poverty however was a clear positive and one which provided some hope for the scenario planners. Consumers in this scenario are concerned with the nutritional content and environmental impact of the food they eat but this concern does not extend to supporting SF or SFBs. The group thus envisaged that SFs would likely need to diversify into other revenue streams (i.e. holiday and leisure activities) and draw financial support from the growing richer urban society, in order to survive.

Access to technological innovation was seen to be quite high but unlikely to be of benefit to the majority of small farmers who would be unable to afford the high costs of specialised equipment. Farmers that are able to specialise and take advantage of the growing technological developments would be in the minority owing to low financial support by the local and regional government structures. More technological advancements in farming have led to a growing robotics industry. In order for bigger farms to take advantage of newer technology, farm sizes are expanded, hedges and trees are removed and environmental protection areas are reduced. Land prices are kept high and small farms lose out to bigger companies who can afford the higher rental price. In this scenario, the produce grown by many small farmers is kept within the farm household supplementing their own diets with farming at this scale more likely to be a hobby than a full-time enterprise. Increased competition from neighbouring big farms and low financial support schemes from local government reduce the ability of small farmers to expand and develop their farm.

The impact of climate change to the region in 2050 and what it would mean to each scenario was considered by all groups. Scotland can expect a lengthened growing season and a smaller winter period but an increasing threat from new diseases and pests. The group imagined that livestock production would become more difficult for small farmers in this scenario as they struggle to access important

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services such as abattoirs, rural vets and local markets. Higher environmental degradation would also mean it is more difficult to grow food for animals. Growing different crops and vegetables would likely see an increase to vegetariansm amongst the population and less reliance on meat. The increasing urban population with concern about the nutritional and environmental impact of their food could see a surge in roof-top gardens, and consumers taking it upon themselves to supplement their own diets with their own produce.

3.2. Scenario B: Hands off my chicken!

The initial consideration of this scenario was acknowledged by the group to be negative, owing in large part to the high poverty rates, poor regulations and a population that is neither concerned with the provenance of food nor the perceived higher environmental welfare standards favoured by small-farmers.

In order to contextualise the parameters provided, the group envisaged that some international crises in terms of a war or natural disaster took place in 2040 leading to the scarcity of food across the globe. Rising nationalism from 2020 has resulted in borders becoming more militarized and a break down of international trade agreements. Thus, the initial lack of concern from consumers as to where food comes from was interpreted by the group to be borne from diminished access to international food imports and the need to look for food sources closer to home.

The group likened the scenario to a post-war period facing a food insecure future in which the ability to then grow your own food becomes highly regarded and sought after. The government have provided more financial incentives and access to affordable land in order to bolster the food production in Scotland compensating for the lack of imports from international trade. The group envisaged that food starts to replace money as currency particularly amongst close-knit communities and bartering for food becomes the norm thus driving up the need to protect and secure small farms from a hungry population.

There is a high degree of collaboration amongst SFs and SFBs amid growing concern that Scotland will look to secure free trading agreements with other nations as there are fewer regulations in place for the food and drink industry. SFs and SFBs are working together in order to promote and secure higher food safety standards in preparation for future competition from international traders.

Across all scenarios, participants were asked to consider the impact of climate change upon agricultural and livestock production in Scotland in 2050. With an assumed rise in sea-levels around the coast where the largest urban cities are located, the scenario planners proposed that moving into rural areas would be more desirable, helping to explain the rise in rural population under this scenario. Good affordable land was seen as fairly accessible and together with a rising rural popultaion created increased competition to use land for agricultural purposes and not for other means like housing. Thus the scenario planners were drawn into a discussion around the need to protect valuable assets and imagined farms to be heavily guarded for fear of their produce being taken.

In a changed climate together with the lowering of regulations and reduced access to innovation and technological investments, the group imagined SFs were likely growing only one or two quick cash crops, with cannabis mentioned as a popular crop choice. The group also felt that while agricultural

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production would be actively protected the same could not be said for environmental protection measures which would weaken. Nationally environmentally protected areas would be reduced significantly in order to free up more land for food production. The group foresaw that small farms would begin to populate previously protected areas such as Loch Lomond, the Cairngorms and Ben Nevis.

3.3. Scenario C: Hollow victory

Superficially, scenario C offers the most positive set of parameters out of the 4 exercises, however when combined with the adverse effects of climate change, that were consistent across all scenarios, our participants found the combination surrealistic. It was hard for them to square a positive future with ineffective climate change mitigation. In addition, they further found certain combinations of parameters difficult to reconcile. Nevertheless, they worked to articulate the scenario they were challenged with, however there were necessarily some differences of opinion about how apparent contradictions might be explicable.

A relatively well-off rural population (where poverty is low) who are increasingly populous in rural areas, are a great boon to agriculture at all levels in 2050. Small farms are winners in the sense that they have proximity markets and a local labour supply. With easy access to affordable land of good quality and high financial support in the form of subsidies and incentives there is a coalescence of positive drivers leading to an expansion in the small farm segment. However, this expansion is creating a more competitive market with correspondingly greater competition on price. Some participants see combined competitiveness with a weak regulatory environment triggering a race to the bottom in terms of quality. This view (which was not universal) portrays farmers increasing the use of pesticides and herbicides to satisfy a captive market craving more food than the sector can supply. The lack of international trade, both imports and exports, moves small scale production from niche to staple food specialisation. Technology adds further support to a productivist revolution at the small scale. However, participants were not in agreement about this outcome. With high levels of financial support there was no consensus that niche production will be superseded by mass market run-of-the-mill produce. With strong collective action amongst small farms and small farm businesses, a counter narrative envisaged strong niche production for a public who are not poor and who value local produce. The question over whether quality or quantity would win out seemed to depend on the participant's view of how farmers respond to low regulation plus competition. Some thought producers would specialise, consolidate and extract the maximum yield in a dystopian rerun of the 1960's, while others saw 'small is beautiful values' with subsidy protecting SFs from negative market rationalities.

The highly consolidated larger farming universe in this 2050 scenario is concentrated on cereal production, particularly wheat, equally boosted by the lack of effective import competition and greater technological affordances. Sheep are disappearing from the hills as the region is shut-out of global, rising demand for meat. One strong argument made was that no other driver in this scenario could adequately compensate sheep keepers for the lost export market. The region does not consume as much lamb as it produces in 2019 and at the UK level there is currently an equilibrium of imports and

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exports dominated by a demand for lamb rather than mutton and the seasonality of extensive husbandry leading to overproduction in spring and underproduction at other times. More generally environmental concerns allied with healthier food habits based on better nutritional knowledge (with growing flexitarianism) have led to lower not higher overall meat consumption. Incidentally, the planners in this scenario proposed a lower UK population.

High levels of support for SFs have seen a radical change in the food system. What was described as a "global catastrophe" for the environment has shaped the years leading up to 2050 and the population is much more dependent on self provisioning and local produce. Online channels facilitate this market with scandals involving supermarkets blighting their fortunes and heralding a shift back to a more regionalised, localised retail model. An innovative National Health Service (NHS) encourages healthy eating around a more plant-based diet. Land reform has freed-up land and the rural exodus of the years prior to 2019 has been reversed with jobs and housing in rural areas given effective prioritisation. But overarching the resurgence of local food is the global environmental catastrophe and an inward-looking UK commits itself to mitigating the disaster that is all too real. With negative effects in areas beyond the local food system this scenario very far from a utopia. Disagreement in the group emerged with a more negative reading of the existence of strong subsidy. A gloomier vision thought the financial support was a desperate response to food shortage and foresaw subsidies tied to a narrow range of essential foods. Without effective food importation SFs have had to respond by producing exclusively essential food and this has led to a further loss of variety and of biodiversity with necessity driving new productivist rationalities. Against this, the discussions did include scepticism about negative climate predictions (those parameters that were given to all 4 scenarios) and there was little consensus about scenario C.

3.4. Scenario D: Crofting Gets Real!

The parameters of scenario 4 provoked an immediate, negative reaction with partcipants equating this future with more negative characteristics of the present in the ascendency. All the participants began in a dispondent mood complianing that they had been set a negative exercise with one participant voicing depression that 2050 did not represent any progress from what is currently the case. Living in scenario 4, with neither financial support nor collective action helping matters, made any positive contribution of small farming difficult to envisage but as the discussion progressed more of a nuanced view began to emerge.

The general population who previously faced over-nutrition issues with a growing obesity crisis back in 2019, are now suffering from under-nutrition with poverty on the rise. Consequently some of our scenario planners see the market of 2050 dominated by cheap, low quality produce. With production driven more by neccessity than provenance and the availability of premium products having fallen with declining incomes there may be some upside in terms of volumes for those small scale farmers who switch to higher yielding varieties or more livestock intensification. Any upside comes at a heavy cost within this highly competetive environment, generally favouring larger farms and importers because of economies of scale. This has resulted in the closure of small farms who were unable to adapt with

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those still operating having to be very serious entrepreneurs. As our sceanrio title suggests: Crofting gets real! The hobby farm of 2019 is, in many cases, a serious enterprise struggling to survive in 2050

The regulatory environment is regarded as unfair to SFs and SFBs. An outward facing liberal regime encourages the bouyant international trade being enjoyed set against inward facing high regulation belatedly trying to redress environmnetal degredation, poor animal welfare and declines in hygene and safety rife in the domestic food system. This janus-faced regulatory system was the way Group D were able to make sense of having strong international markets alongside high regulation but there remained some scepticism about the logic of these concurrent constraints which some saw as mutually exclusive.

High poverty is a powerful driver affecting many small farms however, there is recognition that not everyone is empoverished and those that can afford higher quality or locally produced food still constitute a strong niche market. But for the rest, there is a trend towards higher yields with volume over taste and there is also a hungry population seeking novel ways to get enough food. New technology has not come to the rescue in this world where access to innovation and technology is constrained. Only larger farms and corporations can afford to finance the capital investment necessaary to maintain competetive mechanisation and attract a labour force, therefore many of the region's middle-sized farms that existed in 2019 have gone out of business in this increasingly depopulated rural area. With closures and people flocking to urban centres, limited land has become available, typically of low quality and suffering from environmental degredation but just adequate enough for desperate people lacking purchasing power to buy sufficient food to try their hand at cultivation. This is manifest in a form of subsitence agriculture not seen for generations in Scotland and this is despite limited access to any good affordable land. It is the less favoured areas in the uplands, mainly in the north of the region that are attracting small numbers of people anxious to grow food. This necessity-driven crofting often comprises native breed sheep better adapted to grazing the uplands without bought-in fodder such as cereals which are in high demand for human diets. One of the continuing strengths of the upland croft has been in its utilisation of family labour allowing the production of food surpluses with little bought-in resources but these enterprises are not prospering in 2050, rather a 'survival of the fittest' landscape has evolved with little room for hobby farmers or pony paddocks.

Away from the hills to the southern part of the region, another result of high poverty has been an increase in urban agriculture with more people striving to self-provision on small plots including gardens and waste ground. In general terms, there has been a hollowing-out of the middle with a few more, poorer small farms and more big commercial players with less medium sized enterprises able to thrive. Urban farms and small vegetable plots have become more visible and important to the struggling urban masses. There are poly tunnels and backyard poultry keepers striving to supplement the meagre affordable food stocks.

To the south of R29, where the farmland is of higher quality and closer to the urban centers, large farms and large agri-businesses have more of an agricultural monolpoly than they did back in 2019. Production is predominantly intensive with high levels of agri-chemical input required to make the degraded soils fertile. The general decline in subsidy has led to a shift from livestock cereal production

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where subsidy erosion has been less damaging but this is not a form of cultivation open to small-scale farmers with neither the machinery nor the labour to grow barley or wheat.

Climate change has profoundly shaped small scale agriculture in Scenario D and has changed the landscape particularly in the lower- lying areas. A warmer wetter climate has extended the growing season and increased the suitability of many parts of the region for barley and wheat cultivation. An increase in livestock disease has exascerbated this shift with outbreaks of vector borne disease in particular favouring barley over beef. Equally, pig and poultry has been in steep decline with a few, large intensive operations able to survive with low margins in indoor, biosecure units. Draconian environmental regulation is rather belatedly attempting to reduce fertiliser, pesticide and herbicide usage because of alarming environmental degredation and this is beginning to hit big cerial producers who have not been able to embrace technological solutions in this low-tech environment. This has a knock-on effect for horticulturalists at the smaller-scale who are attempting to boost yields without the conventional tools to control pests and disease. This has led to an increase in organic production methods.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Surviving not thriving

A key future threat across all scenarios is the future impact of climate change to Scotland. The lack of access to good affordable land as well as rural depopulation suggests there are increasing constraints upon rural land use. Environmental degradation was forseen to be quite high in this scenario and SFs will be less resilient to external pests and diseases.

Big players dominant the food market and and with a long supply chain it is difficult for SFs to sell their produce direct to consumers. Supermarkets continue to take the lead for consumers to purchase their daily and weekly food produce and there remains an over-reliance on importing food. There is a general lack of government spending for rural infrastructure due to an increasing urban population. With increasing urbanisation, there is a bigger disconnect between urban and rural populations with those living in cities and towns less likely to think about the potential economic and nuritional contribution from SFs. Productive land that could be used by SFs to grow more food is now in direct compeition with property developers.

As a way to create a more cost-effective market, SFBs are increasingly selling their produce online to both national and international customers. Their 'niche' branding and products are more popular abroad than at home. However, the upsurge in developing niche products for the regional market is

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proving popular as the population has more disposable income. The increased disposable income has also led some SFs and SFBs to diversify their farms and businesses further to include agri-tourism schemes.

4.2. Hands off my chicken!

Food insecurity came to define this scenario and proved to be both a threat and an opportunity for SFs and SFBs. With high poverty levels and a reliance on locally-grown food to support the population, SFs feel the need to equip their farms with surveillance cameras and take added security measures to protect their produce.

International firms are not well represented in the region and access to and finance for new technologies and innovations for farms are heavily restricted. The group foresaw a distinct lack of entrepreneurship in the region and an inability to develop technology that will help alliviate some of the concerns arising from the impact of climate change in 2050. New pests and diseases are a major threat to the region and SFs and SFBs are unable to access the latest pesticides and veterinary treatments to tackle these threats efficiently. More traditional ways of growing food that are labour-intensive and involve few if any chemicals and machines become the norm.

In order to manage the threats from a food insecure climate, collaboration and cooperation amongst farmers are commonplace with a collectivised national farming program in operation. Horticulture and poultry have become more popular for SFs in order to manage food production more effectively and there is usually one crop grown amongst the farmers to deliver food as cheaply and efficiently as possible. This has led to a loss of individuality amongst SF and SFBs who are neither able to diversify nor to develop new products.

Climate change has once more provided accute risks for this region with not only increased exposure to different pest and diseases, but good productive land is being destroyed by more flooding and other extreme weather events. An increasing rural population has put more pressure onto SFs to utlise land to it's full potential but losing once fertile land to the effects of climate change means farmers are utlilsing environmentally protected lands for farming which includes mountains and hilltops. Environmental degredation is a defining feature of this scenario.

4.3. Hollow victory

A profound risk, in this 2050, as in the other scenarios, is climate change. Adverse conditions confront SFs and although they are sheltered from some of the worst effects by high financial support, extreme weather events are still creating hardships for both subsidised farmers within a wider food system unable to import to compensate for losses. Even the relatively well-off and more knowlegable consumers may be unable to source the foods they crave and with higher prices and a scarcity of small farmers, elevated to the status of price makers, may become negatively viewed. There is increased livestock disease and crop pests driven by warmer wetter weather in Scotland's North East and farms become a drain on the public purse.

The lack of regulation allows increased use of pesticides and herbicides leading to soil quality deterioration and a spiral of increasing chemical inputs. There is a real risk of falling quality with strong demand for food of the lowest quality given the lack of imports. The captive market may not be an

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effective driver of quality with some people willing to pay for quality but not necessarily given the choice.

Competition has intensified and with an increasing rural population new entrants must compete with house builders and other land uses to aquire land. Where they are already operating they may become over-reliant on subsidy, which, without regulation, is not delivering environmnetal benefits. Unregulated subsidy can also lead to inefficient agriculture with lots of new entrants setting up to collect easy subsidies. Corruption and food shortages might plague scenario C which does not seem equipped to provide any strategic direction for agriculture.

4.4. Crofting gets real

Participants acknowledged that despite the generally bleak outlook in this scenario, small farms and small farm businesses do afford some level of protection against labour shortages given that they are less reliant on external or non-family labour. Incomes are lower but small farms are not overcapitalised nor burdened with fixed labour costs and are consequently less likely to fold.

Climate change is presenting profound challenges to small-scale agriculture in 2050 notably constituting an unsuitable climate for some current agricultural practices. For extensive livestock production, pests and diseases are a bigger threat under the warmer and wetter conditions envisaged. Extensive upland production is anticipated to continue and even increase slightly with a 'return to the hills' opportunity emerging however the lack of technological innovation could see more native breed animals favoured because they are better able to survive outdoors without advanced or expensive veterinary care. There is a resilience in basic farming configurations, but this is not to be equated with prosperity. In 'Crofting gets real' families are working harder to survive and there is little prospect of growth nor retirement.

In terms of crops, wetter weather and a longer growing season could transform the landscape in terms of what is grown and when it is grown. There was some support for the idea that small farmers operating with short supply chains are more adaptable to production changes. Vegetable cultivation is a good example with growers able to adapt to demand within a single season. Against this, the rise of the corporate giant in scenario D, in which fewer and bigger market players result from ongoing consolidation, does not provide a solid base for small farm continuity. Furthermore, more frequent extreme weather events such as 'the beast from the east' in 2018 is leaving small farmers exposed to unpredictable financial losses given the scarce allocation of financial support for agriculture and the lack of collective action to provide community resilience.

Technology, which has in better times opened doors for farm innovation, is stagnant in this region's 2050 future. The failure to embrace improved genetic techniques, precision farming and robotics has exposed the whole agricultural sector to competitive disadvantage with many importers enjoying immunity to the levels of regulation applied to domestic producers. Each technological innovation in a competitor country is another nail in the coffin of home production. Small farms have some adaptive capacity to weather the worst of this hostile market being able to tailor production to demand more flexibly but they are fighting for scraps against bigger dogs in the form of supermarkets and corporations.

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Poverty is a profound threat. Any circumstances under which there is a high level of poverty in the population is likely to create social pressures and is likely to destabilise civil society putting pressure on education services, health care provision and law and order. With food in short supply for hungry people, poultry and pig production faces challenging shortages of cereals.

5. Action Plans under different scenarios[25]

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios? You can copy and paste four times (one per scenario) the tables of section 1 to highlight the actions affected by each scenario. Add any explanation that you consider relevant to understand the reasons behind, as well as additional recommendations to overcome those difficulties.

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

Action Plan 1: Contribution of SF to regional food production

Objective 1: Political reform repositions small scale production more prominently within policy	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Small holders version of Crofting Commission is established (government supported- farmer led)	*Poor levels of public spending and lack of cooperation make this unlikely*			
New subsidy regime rewarding environmental and quality established replacing area-based payments (government)	*Poor levels of public spending and lack of cooperation make this unlikely*			
Support for varietal diversity in crops and livestock (consumers)	*Provided consumers attitudes*	*Consumers don't care*		

[25] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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	become more supportive			
Support for smaller, regional abbattoirs to reverse current trend for centralisation (public/private partnership)				
Trade barriers imposed boosting profitability of local food (government)				
Land reform implementation (government)	*Big estates may block effective reform unless collective action improves*			*Big estates may block effective reform unless collective action improves*
Support for digital channels alongside commitment to high-speed broadband provision.	*Provided this is market led*			

Objective 2: Public value local food more highly	*Scenario 1*	*Scenario 2*	*Scenario 3*	*Scenario 4*
Variety of fruit a veg offering significantly increases	*Provided consumer awareness can be raised*			
Small local food shops increase		*Quite likely in the absence of big players*		
Regional food hubs established (government)				
Organic produce becomes default (consumers)	*If environmental concerns are sufficiently*	*If environmental concerns are sufficiently*		*If environmental concerns are sufficiently*

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	aligned with such a shift	*aligned with such a shift*		*aligned with such a shift*
NHS raises awareness of nutrition in a way that fuels demand for local, seasonal produce	*Provided public support increases*	*Provided public support increases*		

Action Plan 2: Contribution of SF to regional FNS

Objective 1: A radical change has transformed the food culture of the region.	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
National educational programmes for life-long learning are implemented to heighten consumer awareness		*Consumer awareness is low, but this could be working slowly*		
Stronger connections between nutrition and food production are forged joining the NHS (public adminitration) and SFs (private enterprise)	*Provided this is not a costly initiative – the public are more health conscious in this scenario*			
Understanding of food seasonality is embedded in consumer choices	*Provided this is not a costly initiative – the public are more environmentally conscious in this scenario*			
The link between environmental values and food is reinforced	*Provided this is not a costly initiative – the public are more environmentally*			

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	conscious in this scenario			
Better action around food waste promotes shorter supply chains		*Not highly likely without regulation but other drivers are favourable*		
School to farm visit programmes are expanded (local/national government)				
Branding/Identity initiatives in all areas (e.g. Taste of Arran) are coordinated and supported (national/local government)			*Lack of regulation around provenance is challenging*	

Objective 2: Empowerment of both producers and consumers is an on-going, important policy driver	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
The policy environment formally recognises the importance of locally produced food.		*Provided poor consumer awareness isn't obstructive*		
All levels of government listen to small farmers and there is Joined-up policy (health, environment, industrial strategy)		*Lack of regulation is the main risk*		
Policy actively supports those who don't want to expand aided by suitable indicators that				

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recognise wider values (national government)				
Perth and Stirling become sustainable food cities (public/private partnership)	*Provided sustainability is driven by big players*			*Provided sustainability is driven by big players*
More market towns are established (public/private partnership)				
Policy is increasingly decentralised – big national and international players do not dictate to government				
The example of the Crofting Federation, whereby crofters have an effective platform, is copied for small holders R29				
Land reform effectively improves access to land at the small scale (government)	*Provided big players (estates) don't overturn reforms*	*Lack of regulation is the main risk*	*A high rural population may make the situation competitive*	*Provided big players (estates) don't overturn reforms*

Action Plan 3: Contribution of SFB to regional FNS

Objective 1: Consumers rely more on purchasing produce from SFBs than supermarkets.	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Increased accessibility for purchasing products from SFBs				

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Local authorities have provided centralised hubs and spaces for the local community to purchase from SFBs.				
Food vending machines are available in local communities.	*More of a corporate model than the ideal envisaged*			*More of a corporate model than the ideal envisaged*
Culture of buying locally made products is strong within R29.				*Failure of international trade makes some local produce more available, but supermarkets dominate*
Local authorities have a marketing strategy to promote SFBs to tourists and visitors				
Story behind the food products and development of business is promoted amongst local community		*An impoverished population care little for marketing narratives*		
Farmers markets are attended more regularly, and more food and daily meals purchased from SFBs	*Supermarkets and imports are dominant*			
Community aware of less packaging, less plastic and		*Community are more*		

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lower food miles involved in SFB food production		*concerned with shortages*		

Objective 2: SFBs receive fiancial and technical support from local and national governments to develop new products.	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Governments recognise value of SFBs to sustaining rural communities.				
Government highlight need to make Scotland more food secure.	*This could be driven by the environmental crisis*	*Scarcity is the driver*	*Driven by lack of trade*	*This could be driven by both poverty and the environmental crisis*
Rural employment is high thanks to contribution from SFBs (business).	*People are leaving*			
There is high availability and easy access to training courses on business development.				
Grants and incentive schemes for SFBs are more readily available and accessible. (government)				
Joined up education strategy exists within local communities				

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to teach value of produce from SFBs.				

6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcome arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

It was clear from both the closing plenary and the written feedback that participants found the whole exercise worthwhile and enjoyable. On balance, most comments were positive, and the structure was well received. There was even one call for the workshop to be extended and an offer to participate further in the future. Certainly, the researchers were left with a favourable impression that the workshop had been a success.

Considering the process in more detail, one participant noted that the conceptual approach took some time to fully grasp while others were more comfortable and found the structure useful and well facilitated. Some specific negatives concerned the longer time horizon of 2050 which at least one participant found too distant. Framing the horizon far enough and yet not too far is a common methodological challenge to scenario planning and, on balance, the selection of two time-horizons, 2030 and 2050, was accepted without undue protest, albeit the morning session looking at 2030 was more straightforward for both participants and facilitators. Further criticisms related to the way the parameters of the scenario had been preselected. One explicit concern considered that the preselection approach led to 'leading questions'. For example, during Scenario D, the facilitator was asked if participants responses were expected to align with researcher preconceptions apparently because of the high level of detail with which each scenario was presented. It was explained that this was not the case and that creativity and surprise were much more welcome as outputs. This had also been stressed in the introduction with an injunction to 'be creative' illustrated by a slide. An anonymous feedback comment to the effect that more leading questions would have been helpful added to the impression that all participants were not clear that confirmation of pre-held theories was not the order of the day.

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Another issue also relates to the preselection of drivers. Some of the binary oppositions were thought to be poorly conceived and difficult for participants to operationalise in the sense that they were held to be mutually exclusive, for example, high levels of technological innovation alongside little in the way of international trade, and alternatively high levels of support alongside low regulation. Neither pairing escaped sustained challenge. Perceived contradictions were exacerbated by their being 10 (arguably independent) variables for each scenario. Getting the participants to entertain 10 variables at the same time was for the facilitator like the circus act of plate spinning whereby the performer attempts to keep multiple plates spinning, frantically rushing from one to the next most likely to fall. While the 4 sets of 10 drivers did work up to a point, it was generally apparent that a minority of participants repeatedly challenged the internal logic of their scenario, frustrating the smooth development of narrative. This issue can be circumvented in scenario planning by involving the participants directly in the driver selection (giving them a buy-in) and by working with less drivers, however there are advantages and disadvantages to all variants of the method and, by and large, scenario development was achieved satisfactorily.

Turning from process to Salsa's context, as participants had the opportunity to reflect on one another's contributions in the closing plenary, the mood of the workshop seemed to be that all the explored scenarios can have an up-side for small farmers and small food businesses, in terms of food security and resilience. Opportunities emerged from each subgroup. Two scenarios (scenarios 1 and 4) were said to be relatively bleaker (reflected in the colour coding above) and were interestingly thought to be more like the current situation which indicates the challenging environment many participants find themselves in and want to change. Perhaps the low base identified in today's regional food system for SFs and SFBs partly explains the emergence of scenarios in which there is an up-side for small farms. However, it was also apparent that all the scenarios were dystopian for many participants and the relative advantages for SFs in scenarios 2 and 3 needs to be understood against a dislocation at the global level that many believed was the most plausible outcome of the negative climate change developments envisaged. With the world in turmoil with increasing extreme weather events, rising sea levels and loss of soil fertility, the gains for R29s small farming sector would be a pyric victory.

One comment concerned the 'cooperation' driver. It was observed that however instrumental cooperative arrangements might be for SFs, the reality is that small farmers have half the cooperation than larger farms although the underlying reason was not known. The need for greater education, perhaps through more tailored monitor farms was highlighted along with the fact that part-time farmers don't participate, as actively as their fulltime counterparts, in monitor farms. There was said to be a need to put on training events suited to part time schedules and cognisant of their financial constraints. The Crofting Federation were recognised as running lots of training events that are well attended by crofters, but this is largely confined to north west Scotland. A monitor croft on Skye piloted in the recent past was put forward as an exemplar of small friendly training initiatives but criticised as not very accessible for SF in this RR. Monitor farms were said to be hugely influential but almost non-existent at the SF scale. The plenary heard further calls for the sorts of support available to crofters being replicated for small holders and small farmers in Scotland more widely. A contributory factor in the disparity in recognition was thought to be the fact that crofts in the North West are generally bigger than small holdings in the east and many of this region's small holdings escape definition as small

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farms. The size issue and what constitutes a small farm is something Salsa has been contending with from the outset and it was again an issue. The crofting profile is more than a size issue however and the workshop acknowledged the greater political awareness surrounding crofting and the historical context behind it. A general discussion about how small farmers were disadvantaged ensued. Talks by large organisations to SFs were said to be often patronising and unsuitable to the audience making it difficult for SFs to see the relevance. Other national events were also criticised over their unsuitability for SFs. Large farms too were said to 'look down on small farming' and the prejudice was seen as multilevel involving government, its agencies, civil service and industry.

In conclusion, several of our stakeholders looked forward to being able to read this report and fully digest what others had been working on. There was interest and support for Salsa and the topic was said to be important. The exercise was well received and none of the feedback suggested that the workshop was anything other than worthwhile.

7. List of participants

Key Experts and Informants	Sex	Position/Institution
1. Julie Robertson	F	SF with pedigree sheep.
2. Calum Robertson	M	SF with pedigree sheep.
3. Keesje Crawford-Avis	F	Diversified SF with livestock, horticulture and accomodation, and advocate for SF
4. Rosemary Champion	F	Diversified SF with livestock and horticulture, and advocate for SF
5. Carolanne Crawford	F	Works part-time on the family farm. Mixed farm with cattle and sheep.
6. Lisa Roberts	F	Regional officer for National Farmers Union Scotland (NFUS) https://www.nfus.org.uk/about-nfus/regional-managers/forth-and-clyde.aspx
7. Ceri Ritchie SRUC	F	Leads the Scottish Agricultural College (SAC) Consulting's Food & Drink team –SAC is the (SRUC) commercial arm of a publicly funded body https://www.sruc.ac.uk/consulting
8. Iain MacDonald	M	Economic statistician for membership organisation: Quality Meat Scotland (QMS) https://www.qmscotland.co.uk/
9. Jack Cuthbert	M	SF with Hebridean Sheep in rural Kinross-shire. Some sheep kept for conservation grazing. Also keeps poultry and sells eggs at the farmgate.
10. Carrie Crawford	F	SF with cattle and sheep.
11. Stuart Guzinski	M	Grow Forth Food Hub Officer at Forth Environment Link (charitable organisation) http://www.forthenvironmentlink.org/projects/grow-forth/staff/271-stuart-guzinski

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12. Rachel Norman	F	Professor with Chair in Food Security & Sustainability at Stirling University (academic) and Stirling Council official (public administration)
13. Fergus Younger	M	Project Manager for Scottish Agricultural Organisation Society (SAOS) publicly funded by Scottish Govt. http://www.saos.coop/
14. Calum Johnston	M	Food and Drink Consultant at the Scottish Agricultural College – SAC consulting is the commercial arm of a publicly funded body (SRUC) https://www.sruc.ac.uk/consulting
15. Robert Corrigan	M	SFB Artisanal pie-maker
16. Graham Glover	M	Representative for Perth Council (Food and Drink Business development section) public administration
17. Jim Booth	M	Head of Co-operative Development - Scottish Agricultural Organisation Society (SAOS) publicly funded by Scottish Govt. http://www.saos.coop/
18. Lucianne Wardle	F	Representative from the Soil Association's Food for Life Scotland programme, funded by the Scottish Government and delivered by Soil Association Scotland, working with public and private sector and communities to transform food culture
19. Elizabeth Stanyer	F	Climate Change and Sustainability Intern at Aberdeenshire Council

Workshop Facilitators	**Sex**	**Institution**
Dominic Duckett	M	JHI
Christina Noble	F	JHI
Nazli Koseoglu	F	JHI
Joshua Msika	M	JHI
Carla Barlagne	F	JHI
Alba Juarez-Bourke	F	JHI
Rachel Creaney	F	JHI

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7.10. R2 Santiago Island - Cape Verde

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR2 - Santiago (Cabo Verde)

Authors: Baptista, I.; Sequeira, E.; Ferreira, V.; Rocha, R.; Gonçalves M.L.; Fortes A. (Uni-CV – Universidade de Cabo Verde)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

The workshop participants envision small farms as a great contributor to the total food production in Santiago island, in the 2030 horizon, based on high and specialized productivity for the market and a significant share dedicated to an ecological production. A significant percentage of SF will be organized into cooperatives with a business management plan. The group did not advance a percentage contribution of SF towards total regional food production, but expressed their desire to have close to 50% ecological agriculture, 30% of SF organized into cooperatives and 30% with business plans. Needless to say that participants defend

Participants agree that SF already contribute to total food production in the region, but productivity should improve considerably and be continuous, focusing on the market, if SF are to play a major role in twelve years from now. This requires more public investment, well trained small farmers with access to credit and production technologies, dynamic and functional extension services, good research response to the main production challenges, attention to biological production, producers aware of the importance to organize production towards the market and installed capacity for food processing and transformation.

Participants defend that, despite the wish to increase productivity of SF, this should not be at the expenses of environmental degradation. As such, environmental factors such as soil, water and biological diversity in the region should be preserved for sustainability of SF.

During the discussion, consensus, without doubt, was built around the need to increase productivity of SF, while the main point of conflict was regarding the responsibility to provide extension service/assistance to the SF producers to allow future increase of productivity.

The main goal of participants is to significantly increase the contribution of SF towards regional production. Participants translated this goal into two main objectives:

Objective 1: Small farms have high and continuous productivity;

Objective 2: Small farms have their production organized for the market.

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

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Participants envision that small farms will be important in the production of healthy and ecologically sustainable food. There will be an increase in the demand for healthier food, locally produced, thus, contributing to the decrease of imports of food products.

As such, it will be necessary to reach the following goals:

- Local produce is valued and certified;
- Safety standards and agro-ecological production are implementation;
- Post-harvest treatment centers are built and functional;
- Public procurement market of food products is harmonized.

In general, the value of national production will increase the income of family farmers, and consequently will improve their access to a more diverse diet, in quantity and nutritional quality.

This participants' vision translates into the two following priority objectives:

Objective 1: Small farms are better organized in legal and operational terms

Objective 2: Small farms are more productive and ecologically sustainable

(iii) *Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

Participants of this working group share de opinion that Santiago reference region is very much dependent on food import and wish that, in 2030, there should occur a reduction on import of food products. Likewise, they sustain that it is extremely important that small farms enter the tourist market. To reach these goals, participants considerer fundamental to:

- Bet on certification of product;
- Implement packaging and labelling of products;
- Creation of HCCP (Hazard Analysis and Critical Control Point plan);
- Respect food safety standards;
- Invest on aerial and maritime transport;
- Build good storage conditions for food products;
- Establish cooperatives;
- Build capacity of intermediate sellers

With respect to food handling, participants consider that it will be of utmost importance to bet on biological, high value and nutritious products. For this effect, the group highlights the role of research as a key element in the orientation and support of producers to adapt production to timing, agro ecological and soil conditions.

This vision is translated into the following two priority objectives:

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Objective 1. Quality products are guaranteed and contribute to the increase of GDP (Gross domestic product);

Objective 2. Employment and employability in the agriculture sector are promoted

2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthetize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

	Action Plan 1: Contribution of SF to regional food production *Actions needed to attain the envisioned objectives and* [responsible for implementing the action]	
Timing	***Objective 1: Small farms have high and continuous productivity***	***Objective 2: Small farms have their production oriented for the market***
2030	*Action 1. Environmental factors are preserved and valued for sustainability* [Public administrations, producers organizations, general society]	*Action 1. Producers are aware of the importance of production organization for the market* [organization of producers; Extension services/Ministry of Agriculture and environment (MAA)]
	Action 2. research responds to Small Farms challenges [Nacional agricultural research system (SNIA)	*Action 2. Biological production is valued and promoted* [Regulatory Agency for Food and pharmaceutical products (ARFA); Association of consumers defense (ADECO)]
	Action 3. Small Farms has access to production technologies and inputs [(SNIA); producers organization]	*Action 3. Capacity for processing and transformation of agro food is Installed* [Ministry of Agriculture and Environment (MAA)]

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	Action 4. Small Farms has access to credit for agriculture and livestock production [*Ministry of Finance, small credit agencies*]	*Action 4. Small farm producers are aware and trained in business management* [Nacional agricultural research system (SNIA) extension services]
	Action 5. Extension services are dynamic and functional [Ministry of agriculture and environment (MAA)]	
	Action 6. SF production is regular year long [producers organization]	
	Public investment in SF is increased [Ministry of agriculture and environment (MAA)]	
Present	*Action 7. Farmers are trained and aware of agricultural technologies* [Ministry of Agriculture and Environment (MAA), National Agricultural Research System (SNIA)]	

	Action Plan 2: Contribution of SF to regional FNS *Actions needed to attain the envisioned objectives and* *[responsible for implementing the action]*	
Timing	***Objective 1*** ***Small farms are better organized in legal and operational terms***	***Objective 2*** ***Small farms are more productive and ecologically sustainable***

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2030	*Action 1. Technicians, farmers and other stakeholders are trained and aware* [Ministry of Agriculture and Environment (MAA), National Agricultural Research System (SNIA); Association of producers]	*Action 1. Specialized technical assistance is strong* [Ministry of Agriculture and Environment (MAA), National Agricultural Research System (SNIA); Association of producers]
	Action 2. Legislation regarding organization of production is adequate [Government/Ministry of Agriculture and Environment (MAA)]	*Action 2. Production and dissemination of technologies are adapted to the reality of SF* [National Agricultural Research System (SNIA); Association of producers]
Present	*Action 3. Institutional market is organized and standardized (This refers to the public procurement system of food for schools, hospitals, prisons, etc.)* [Government]	

	Action Plan 3: Contribution of SF to regional FNS *Actions needed to attain the envisioned objectives and* *[responsible for implementing the action]*	
Timing	***Objective 1: Quality products are guaranteed and contribute to the increase of Gross domestic product (GDP)***	***Objective 2: Employment and employability in the agricultural sector are promoted***
2030	*Action 1. Small food businesses bet on sustainable production* [*SFB owners; SFB associations]*	*Action 1. Small food businesses are empowered* [Government, SFB organizations]
	Action 2. Government strengthens monitoring of food chain	*Action 2. Small food businesses have strong social capital* [Government, SFB organizations]

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	[Governmental services; Regulatory Agency for Food and Pharmaceutical products (ARFA)]	
	Action 3. Government adopts measures to protect and valorize small food businesses [Governmental services]	*Action 3. Small food businesses receive Government incentives* [Government]
	Action 4. Small food businesses benefit from modern technologies [SFB operators; National Agricultural Research System]	*Action 4. Agricultural production and marketing sectors are restructured* [Government]
	Action 5. Small food businesses benefit from trained human resources [SFB operators; National Agricultural Research System]	*Action 5. Small food businesses benefit from trained human resources* [SFB operators; National Agricultural Research System]
Present	*Action 6. Change of mentality occurs in the agro-food sector* [Government agencies; SFB and SFB associations]	*Action 6. Change of mentality occurs in the agro-food sector* [Government agencies; SFB and SFB associations]
	Action 7. There is a clear bet on capacity building of SFB [Government and organizations of SFBs]	*Action 7. There is a clear bet on capacity building of SFB* [Government and organizations of SFBs]

3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

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3.1. Scenario 1: "*Dizaraska*"[26]/ (*find your own way)*"

This scenario highlights, for 2050, factors such as liberalization of the food chains, limited access to natural production factors (land, water, etc.) and weak collective action without major social values. Such a combination of factors, resulting from the maintenance of the same trends for the last 30 years, for our reference region, may have negative impacts on its own and will be aggravated by the climate change scenario for the region that is pointing out for a 20% decrease in rainfall in and a 4°C increase in temperature. The region has already been suffering the consequences of frequent and severe droughts which has affected both the production of small farms and small food businesses.

By maintaining the trend, small farmers and small food businesses will not be able to compete with larger agro producers and this may lead to great losses of small farmers and small agro-food companies.

As consequences, rural areas may suffer from lack of nutritious food because rural families will have more difficulties in accessing food and rural exodus may also occur because smaller farmers will abandon their fields and migrate either to rural areas or out of the island.

Low availability of water in an environment where individualism prevails may lead to conflicts regarding access, management and use of water. This may lead to social conflicts.

In such scenario, the contribution of small farms and small food business to food production and food security will be zero for the region of Santiago.

The major reasons for reaching such situation are the lack of measures and water-saving strategies, lack of capacity building actions for small farmers and small food business operators, devaluation of SF and SFB, lack of appropriate Government policies, deficient environmental protection measures, and poor strategies of water mobilization for the region.

3.2. Scenario 2: "*Pessimistic*"

This scenario features some contrasting situations which do not benefit small farms and small food businesses, hindering, in the long run, their contribution to food and nutrition security, thirty years from now. Even though SF and SFB may have access to natural assets such as land and water, and there is high public investment in the agriculture sector, the poor access to managerial technical innovations will not allow them to become productive and efficient. Thus, productivity will still be low.

As such, participants envision a situation of clear stagnation for small farms and small food businesses with a strong negative impact on food and nutritional security in the region. The low SF and SFB production could be offset by import, similarly to the current situation, but the low degree of openness to international markets and low public regulations will accentuate rural poverty that is currently high in rural areas.

[26] This is a genuine national language word that translates de idea of "*find your own way*"

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Some points of the scenario in favor of SF and SFB could be the relatively weak and flexible legal requirements conditioning their activities and the collective action and advocacy of social values which would allow them some opportunity to expand. However, the absence of consumers' awareness about the nutritional and environmental implications of their food habits is a major constraint that will condition the development of SF and SFB and their potential contribution to sustainable food and nutrition security. Even though people are aware and preserve their social values, environment is not one of their priority.

Some other factors conducting to this situation may also be related to the current weak institutional articulation among the various actors (central government, regional and municipal government; companies, civil society) which hamper the improvement and reversal of the actual pessimistic condition. According to the participants, the situation is causing discouragement of producers and professionals of the agro-food sector. Thus, there will be an increase of the vulnerabilities of the small farms and small food businesses, a situation aggravated in face of climate change.

During the discussion, conflicts emerged among participants regarding the definition of ecological and sustainable production. On the other hand, there was consensus on the need of producers to be better organized and capacity building of producers through training and technical assistance.

3.3. Scenario 3: "*Rural prosperity*"

Thirty years from now, in such favorable scenario derived from a combination of drivers such as: a low degree of openness of international markets for both exports and imports, remarkable allocation of public budget to the agro-food sector, flexible legal requirements for SF's and SFB's activities, easy access to land, water, good managerial and technical innovations, low level of rural poverty, high social values and consumers aware of the nutritional and environmental implications of their food habits, participants of the group are convinced that SF and SFB have enabling conditions to play a major role in the regional food production and regional FNS. As such, participants expect that:

- Small farms will provide agro-products in significant quantity and good quality;
- Production of small farms will be efficient;
- There will be attraction of people to the rural areas, counteracting the present rural exodus which is presently leaving these areas without labor force in the farms;
- There will be improvement in the quality of life in rural areas, with families becoming wealthier.

This scenario would probably benefit, mainly, the typologies of small farms that are still not market oriented, or the "conventional strugglers", which includes the oldest farmers, rooted in tradition, accounting for high proportion of income and high proportion of production stays in household. This is justified due to the restriction imposed by the low degree of openness of international markets for both exports and imports.

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Several things should have happened before 2050 to reach such enabling situation. Participants pointed out the following conditions:

- Strong awareness campaigns;
- Evaluation of the market and its potential;
- Availability of technical knowledge and production inputs;
- Public Investment in the agro-food sector (credit availability);
- Strong investment in training and capacity building on agri-business management;
- Promotion of sustainable management of environmental resources such as land and water;
- Improvement of consumers' food habits.

The higher productive capacity of SF may result in future surplus of production for some products, since supply may exceed local demand. The surpluses may trigger the development of strong agro-food business capable of handling the products through transformation and use of by-products. This could create opportunities for expansion of the SFB, stimulating economic activity and generating employment both in rural and urban areas.

3.4. Scenario 4: "*Generalized crisis*"

Under this "*generalized crisis*" scenario, in which there is a high degree of openness of international markets to food imports and exports and high degree of food chain concentration, opportunities for small farms and small food businesses of the region are very scarce or non-existing. Beside the high competitiveness, SF's and SFB's activities are strongly conditioned by legal requirements and scarce allocation of public budget to the agro-food sector.

The difficulties of SF and SFB to access land and water and managerial and technical innovations in an environment of widespread poverty, where rural population is migrating to urban areas, abandoning their villages, and consumers are more concerned with having access to food rather with the nutritional and environmental implications of their food habits hamper the potential contribution of SF and SFB to regional production and food and nutritional security. It should be highlighted that, in the region, there is not food sovereignty, with much of production being for self-consumption.

Participants highlight that this scenario will reflect on benefits for large companies, highly penalizing SFs and SFBs which may not survive the competition in a collapsing agro system.

The lack of society awareness for environmental sustainability, aggravated with more drought as pointed out by the climate change scenario for the region, may lead to increased desertification and to a situation of food and nutritional insecurity in the Santiago region. The delicate situation of SF and SFB is further accentuated by the lack of solidarity and other social values within the society which hamper collective action in the reference region.

According to the group participants, issues that may have contributed to the current scenario in 2050 may be related to the current inadequate social and economic policies for the sector agricultural sector that include: lack of adequate planning, total liberalization of the market, environmental crisis due to climate change and democracy crisis.

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4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Scenario 1: "*Dizaraska*"/ (find your own way)"

Under this scenario, participants of the group identified several main threats as being more negative, hindering the contribution of SF and SFB to regional production, and food and nutrition security. These are:

- the increase of poverty and unemployment in rural areas, which are already poor, will lead to rural exodus;
- the competition from foreign investors due to excess liberalization may force SF and SFB to disappear since they are not able to compete with larger investors;
- Low access to technologies and production inputs, such as technical innovations (i.e. food processing and transformation technologies, improved genetic materials) water, land, labor and others may keep productivity of SF low and quality of SFB not competitive.
- Climate change could aggravate the already existing drought conditions that has a particular impact on Small farms due to their lower resilience and capacity to adapt.

These are potentially negative because they interfere directly with the survival of SF and SFBs, since the reduction of their revenue will results in the increase of debt or lack of financial resources, contributing to food insecurity or even starvation in rural areas.

The participants were unanimous in stating that, under this scenario, small farms and small food businesses of the regions are not prepared to resist or respond to these threats.

4.2. Scenario 2 "*Pessimistic*"

Among the main threats, the group highlighted the following as being more potentially negative: the international crisis with generalized increase on cost of food products; increased frequency of extreme events like droughts and floods); Institutional weaknesses such as weak presence of Government institutions and lack of adequate public agro-food policies.

The group highlighted the existence of a national and international context that is unfavorable to small farms and small food businesses which accentuates vulnerabilities and reduces their resilience.

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According to the participants, small farms and small food businesses are not prepared to respond to these threats. It should be noted, however the existence of a survival strategy supported on a strong investment in food imports.

The group does not consider the situation catastrophic only because, under the scenario, there is an increase of social solidarity and mutual help in communities that may lead to collective actions in benefits of SF and SFB.

4.3. Scenario 3 "*Rural prosperity*"

Under this scenario, participants identified three important threats to small farms and small food businesses.

The first one is the current liberalization which may suffocate SF and SFB since they may not be able to compete with larger producers and food companies. In such cases, the smallest farms and food businesses may be the ones suffering the most, risking to disappear.

The second threat is the increase of rural population due to job opportunities, posing demographic pressure on the rural areas, which may trigger degradation of environmental resources.

The third threat is the saturation of local market with surplus products and difficulties to sell the products in other places, which would lower the price of products for producers. Yet, this threat can be converted to an opportunity since the surpluses can be used to bust agribusiness industries though transformation of products and use of bi-products.

Given the enabling conditions under this scenario, participants agree that small farms and small food businesses are potentially prepared to respond/resist to these threats since they have been empowered through: high public investment in the sector (availability of credit); training and capacity building; awareness about consumer's value and nutritional habits and environmental implications; access to water and land; access to managerial and technical innovations.

4.4. Scenario 4 "*Generalized crisis*"

This scenario presumes great difficulties for small farms and small food businesses of the Santiago region. The excess market liberalization, the concentration of food chains, the adverse climate, lack of technical conditions threaten the existence of small farms, which are not skilled enough and are financially weak.

Furthermore, the absence of solidarity and social cohesion in the society will also hinder the possibilities to develop and implement collective action in benefit of SF and SFB.

The group identified three main threats that are potentially more negative to small farms and small food businesses. These are:

- Environmental crisis due to current and future climate change will affect SF and SFB because of their high vulnerability to drought, floods, high temperatures, diseases and pest;
- Inadequate social and economic policies for the sector;

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– Collapsing of the agricultural system.

Participants are unanimous in affirming that SF and SFB are not ready to respond to these threats because the conditions that would guaranty resilience were not implemented. These would include: adequate public policies for the sector; land ownership issues, access to natural resources such as land and water, and organization of small farms and small food businesses.

5. Action Plans under different scenarios[27]

Finally, what actions of the above displayed Plans (section 2) are feasible or, on the contrary, too difficult to accomplish under the different scenarios?

Which ones, of the drivers used, has been pointed out as particularly enabling or constraining regarding in this scenario-assessment of the Action Plans.

In order to facilitate this assessment, taking the Action Plans (1, 2 and 3) developed in Section 2 which combined actions and milestones, we have distilled real actions, eliminating the milestones. Also, we have separated each action in a different line in the following tables, although in the Action Plans they appeared grouped when they shared the same timeline.

The feasibility of each action included in the Plans (Section 2) has been assessed under the four different scenarios detailed in Section 3. A color code has been assigned according to this assessment:

1. Virtually impossible
2. Feasible but conditioned to… (Explain briefly)
3. Directly feasible (enabling scenario for that specific action)

ACTION PLAN 1: Contribution of SF to regional food production

Objective 1: Small farms are better organized in legal and operational terms	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Action1. Environmental factors are preserved and valued for sustainability		Conditioned to strong awareness campaign		

[27] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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Action2. Agricultural research responds to SF challenges	Conditioned to the increase of public budget			
Action3. SF has access to production technologies and inputs	Conditioned to avalability of credit			
Action 4. SF has access to credit for agriculture and livestock production		Conditioned to allocation of budget to capacity building		
Action 5. Extension services are dynamics and functional	Conditioned to adequate articulation within SNIA			
Action 6. SF production is regular year long		Conditioned to the availability of water and improved technologies		
Action 7. Public investment in SF is increased				
Action 8. Farmers are trained and aware of agricultural technologies	Conditioned to allocation of budget to capacity building			
Objective 2: Small farms have their production oriented for the market				
Action 1. Producers are aware of the importance of production organization for the market		Conditioned to allocation of budget to capacity building and		

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		awareness actions		
Action 2. Biological production is valued and promoted	Conditioned to building capacity of producers and awareness of consumers	Conditioned to access to technologies		
Action 3. Capacity for processing and transformation of agro food is Installed		Conditioned to access to technologies		
Action 4. Small farm producers are aware of and trained in business management		Conditioned to allocation of budget to capacity building and awareness actions		

ACTION PLAN 2: Contribution of SF to regional FNS

Objective 1: ***Small farms are better organized in legal and operational terms***	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Action 1. Technicians, farmers and other stakeholders are trained and aware `		Conditioned to adequate allocation of resources for training and infrastructure		
Action 2. Legislation regarding organization of production is adequate	Conditioned to application of public regulations to organization of production			

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Action 3. Institutional market is organized and standardized (This refers to the public procurement system of food for schools, hospitals, prisons, etc.)	Conditioned to flexibility of public regulations applied to social actions	Conditioned to mobilization of resources and establishment of partnerships w/ experienced countries		
Objective 2. Small farms are more productive and ecologically sustainable				
Action 1. Specialized technical assistance is strong		Conditioned to external assistance		
Action 2. Production and dissemination of technologies are adapted to the reality of SF	Conditioned to mobilization of financial resources for dissemination			

ACTION PLAN 3: Contribution of SFB to regional FNS

Objective 1:	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Action1. Small food businesses bet on sustainable production	Conditioned to access to production inputs	Conditioned to access to natural resources managerial capacity		
Action 2. Government strengthens monitoring of food chain	Conditioned to the guaranty of food safety for population and social stability	Conditioned to allocation of more public resource budget to food chain		
Action 3. Government adopts measures to protect and valorize small food businesses				

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Action 4. Small food businesses benefit from modern technologies		Conditioned to access to technologies applied to SFB		
Action 5. Small food businesses benefit from trained human resources	Conditioned to mobilization of resources for capacity building	Conditioned to access to knowledge on SFB		
Action 6. Change of mentality occurs in the agro-food sector				
Action 7. There is a clear bet on capacity building of SFB	Conditioned to allocation of resources to capacity building of SFB			
Objective 2. Employment and employability are promoted in the agricultural sector	***Scenario 1***	***Scenario 2***	***Scenario 3***	***Scenario 4***
Action 1. Small food businesses are empowered		Conditioned to access to innovations, knowledge, credit, environmental awareness		
Action 2. Small food businesses have strong social capital	Conditioned to existence of collective actions, cooperatives, trust and solidarity			
Action 3. Small food businesses receive Government incentives	Conditioned to availability of financial resources			

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Action 4. Agricultural production and marketing sectors are restructured	Conditioned to existence of empowered SFB, with strong social capital and government incentives	Conditioned to access to knowledge and innovations		
Action 5. Small food businesses benefit from trained human resources	Conditioned to mobilization of resources for capacity building	Conditioned to access to knowledge on SFB		
Action 6. Change of mentality occurs in the agro-food sector				
Action 7. There is a clear bet on capacity building of SFB	*Conditioned to allocation of resources to capacity building of SFB*			

6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

Participants' Assessments

During the final plenary discussion, participants evaluated positively the workshop. All of the interveners appreciated the interaction with other actors of the agro food sector and also the

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opportunity to contribute with their ideas and experiences to a very important topic such as the potential contribution of small farms and small food businesses to regional production and sustainable food and nutrition security. Most of them declared that the workshop discussion forced participants to reflect on how our current attitudes and behaviors may influence the future of the sector and what we can do at present to have the future we would like to have. In other words, the discussion provided space for a profound reflection of the sector, allowing to adjust the steps to reach the desired role we would like SF and SFB to play in the future, regarding their contribution to production and food security.

Participants were also interested to know the destination of the outcomes of the workshop and affirmed that the results of could allow decision makers to have a new vision of the agro sector, triggering their concrete actions.

It's important to highlight the opinion of some participants: i) Two intermediate sellers (*rabidantes*) said that if they hadn't participated in the workshop they would miss a lot because they felt that the workshop was referring directly to them; ii) an SFB owner stated that the workshop was an opportunity to think the future and what should be done now in order to have good quality products in the market; iii) The discussion allowed participants to think about our children and grandchildren and how to transform challenges into opportunities and how to create new opportunities. Also, the scenarios allowed participants to reflect from an economic, political and social point of view.

Researchers' evaluation

From the researchers' point of view, the exercise was very useful as a strategic planning activity and the methodology quite innovative, allowing a logic reflection on the process of regional development of the ago sector. However, as a vision activity its importance only strikes once stakeholders start to reflect and to contribute with great and concrete ideas. One of the biggest worry was that participants would not be interested to think the future when there are concrete problems that require immediate actions.

Some of the limitations may derive from the translation of the original guide which may not be the exact translation and takes more time to understand. As for the common methodology, it was not a major problem as long as it was possible to make small adaptations to each reality. The time allocated to each step was somehow short and we had to adapt

The methodology can be very equally useful in defining programs to support mitigation of drought, strategies to save livestock in very dry years, in the mobilization of water and adaptation to climate change.

It is important to keep participants informed on their expectations to make the outcomes reach policy and decision-makers, allowing them to have a long term vision of the agro food sector for action.

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7. List of participants

Key experts and informants	Position	Institution	Sex
1. Arlindo Cardoso	Food business manager	Multichoice Supermarket	M
2. Antonino Pereira	Technician/specialist of agroclimatology	National Institut of Meteorology and geophysics (INMG/MAA)	M
3. Carlos Alberto de Sousa Monteiro	Senior technician in agriculture	Directorate General of Agriculture, Silviculture and Livestock (DGASP/MAA)	M
4. Catarina Varela	Farmer/intermediary (*rabidante*)	Private farmer	F
5. Gilda Marques	SFB owner/manager	"Ximamba saborear"/agro industry of transformation	F
6. Ilina Brito Lima	Research technician	National Institute of Agrarian Research and Development (INIDA/MAA)	F
7. Lenira Monteiro	Technician	Cabo Verde Foundation of School Social Action / FICASE	F
8. Lucia de Pina	Technician	MAA - PNSD/ Tarrafal	F
9. João Dias	Agronomy student/ Farmer	Student / farmer	M
10. João Fonseca	Senior technician/ program coordinator	Program of Promotion of Rural Socio-economic Oportunities (POSER/MAA)	M
11. José Julio Correia	President	Regional Comission of Partners for Santiago Norte (CRPSN)	M
12. Manuel Barbosa Afonso	Regional Delegate – Sta Cruz	Ministry of Agriculture and Environment (MAA)	M
13. Mª Mendonça Semedo	Intermediary (*rabidante*)	Private	F
14. Maribel Sofia Gomes	Technician	Cabo Sementes / company of agriculture inputs	F
15. Moises Pereira Vaz	Responsible of Environment and agriclture	Municipality of São Lourenço dos Orgãos (CMSLO)	M
16. Silvino Mendes	Technician	MAA – Praia/SD	M

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17. Sónia Delgado	Owner/manager of small food business	"*So doce*" /fruit jam	F
Workshop facilitators			
Isaurinda Baptista		Uni-CV/ECAA	F
Erik Sequeira		Uni-CV/ECAA	M
Vladmir Ferreira		Uni-CV/ECAA	M
Rosa Rocha		Uni-CV/ECAA	F
Mª de Lourdes Gonçalves		Uni-CV/ECAA	F

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7.11. R7 Gushegu District – Ghana

salsa
small farms
small food businesses and
sustainable food security

WP4 – Participatory foresight analysis

Deliverable 4.1

WP4 Regional report

RR7 - Gushegu District (Northern Region, Ghana)

Authors: Richard W. N. Yeboah, James Fearon, Sylvester Ayambila, Freeman N Akaribo (UDS – University for Development Studies, Ghana); Barbara Adolph (IIED – International Institute for Environment and development, UK)

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1. Assessment of the potential role of SF and SFB in FNS in 2030 and identification of objectives

*(i) Which is the role that participants would like **SF** to play in 2030 in terms of **contribution to regional food total production**? Which are the concrete objectives that this vision translates into?*

Participants' vision is that by 2030, about 75% of food produced in Gushegu District will come from large farms and only 25% from small farms (which is about the opposite of the current situation). This would happen because the majority of small farms will have expanded their size by expanding into areas currently not under cultivation. Gushegu is a district where only a relatively small proportion of land is currently cultivated, and participants felt that there is enough uncultivated land available that is suitable for farming to enable small farms to expand. The details on how this would happen were not discussed (most of this uncultivated land is further away from roads and villages, and hence cultivating it would involve a major shift of settlements and additional infrastructure currently not available).

Large farms would employ a lot of people, including some who are also small farmers (and who continue to farm their own land), but whose farms are too small to produce sufficient income and food for the household. The government would be providing tractor ploughing and other services to farms to enable them to cultivate larger areas. This would enable these growing farms to mechanise and exploit economies of scale. The increase in large farms would be possible by increasing the land under cultivation in the district, not from large farms buying up small farms.

However, there would still be small farms in the district, but they will produce more per area (increased yields) as compared to the current situation. Small farms would work together and be supported by larger farms via mechanisms such as contract farming and service provision (including tractor services, input supply etc.) – this is already happening in the district but would expand further. Large farms would be driving technological change, with small farmers working on their own land, but also as labourers on large farms, which would introduce them to technological innovations / improved agronomic practices that they could then adopt. All farms (small and large) would have increased their use of agricultural inputs. Small farms would have access to credit and inputs, including appropriate implements / mechanization (e.g. soybean harvesters). They would also have access to soil testing to manage soil fertility and soil acidity, as soil fertility is declining.

Their vision is that production would be more diversified, with farmers also growing sweet potato, bambara groundnuts etc. in the district, for which there is a good market outside the district. There would be irrigation facilities and some farmers would have diversified into vegetable production. Farmers would be encouraged to increase production, because there would be storage facilities to support farmers in storing produce to sell later, when the price is higher. All farms would have access to markets, because the road network would have improved (work on main road through Gushegu town is currently ongoing). Farmers would know what crops are beneficial to grow because there is demand for them, they can easily produce them and they are nutritious. There would be more buyers of food in Gushegu, so what is produced will be sold easily.

There was overall agreement about this vision in the group. However, participants probably had a different perspective about the exact proportion of small vs large farms, and food produced by either, by

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2030. A few of the participants were chiefs, or wealthier / middle size farmers (meaning perhaps 10-20 acres (4 – 8 hectares), not much, or farmers who are providing tractor services to other farmers), who feel they have the capacity to expand. If the group had been made up of small farmers (less than 5 acres or 2 hectares) their perspective might have been different. The group discussed the pros and cons of wage labour on a larger farm versus being a self-employed small farmer, but there was no clear agreement on which one would be more desirable.

*(ii) Which is the role that participants would like **SF** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives that this vision translates into?*

The participants generally agreed that small farms have over the years provided adequate diet to both consumers and farm households in Gushegu. The participants vision is that small farms will be the main provider (supplying more than 70%) of adequate and quality diet to both consumers and farm households in 2030. At the moment, small farms are the major provider of adequate diet for consumers and more than 60% of maize crop is exported to other regions. It was generally agreed that small farms are the majority of farms in the region (more than 80% of farms are small farms) and this puts them in a better position to provide adequate diet for consumers. The Gushegu District produces staple food crops such as rice, yam, maize, soybeans, cowpeas, groundnuts, bambara groundnuts, millet, sorghum etc which are consumed by the people in Gushegu and exported to other regions. The District always produces food crops in excess of what is required by the residents of district and has always exported the excess. (This is contrary to their earlier ascertion that large farms will produce about 75% and small farms 25%)

Participants agreed that small farms will concentrate in providing not only adequate diet but quality diet for the consumers and farm households in 2030. This will happen when small farms focus on improving production and provision of quality food. In this direction, participants pointed out that small farms will respond to this by producing multiple crops with different nutritional values. Small farms will adhere to regulations on production of safe food for the consumers. Small farms are expected to have adequate warehouses and storage facilities to store food in order to reduce postharvest loses and supply quality food. To reduce post-harvest losses, the participants indicated that small farms should strive to add value to crop produce by encouraging and promoting processing.

However, small farms face several difficulties which included; difficulty accessing farm inputs due to high cost, inadequate number of farm machinery such as tractors, difficulty accessing credit due to limited number of financial institutions in the region and limited number of extension agents which affects farmers access to extension knowledge.

It is important to note an area of departure relating to access to more land. Participants were divided over this issue but after further discussions the participants generally agreed that land will be a constraining factor in 2030 due to increase in population and a drive toward commercialization. The argument began when three participants had posts indicating that it is expected that small farms will play a role in the future by increasing the acreage under cultivation in 2030 and this generated argument among the participants. Other participants were of the contrary view that land will become limited due to population growth resulting in fragmentation of farm lands. After several rounds of discussions, it was finally agreed that land holding will decrease in 2030. The posts on increase in acreage were therefore removed as roles

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of small farms in 2030. At the moment, land is not a constraining factor in Gushegu but by 2030, land will be a constraint.

Small farms in 2030 are expected to enhance their capacity by acquiring the requisite knowledge in modern technology that will enhance productivity. Small farms are expected to receive education on good agronomic practices. Access to credit and farm inputs is key. More than 60% of the small farms in Gushegu District depend on their own capital resources for farming. The expectation is that small farms should be able to acquire the needed farm inputs and financial resources by 2030 to enhance crop production.

*(iii) Which is the role that participants would like **SFB** to play in 2030 in terms of **providing an adequate diet to both consumers and farm households in the region**? Which are the concrete objectives this this vision translates into?*

By the year 2030, participants envisage a complete (100%) shift or transformation from the current road side food processing and vending system, which they described as "unhygienic", to a better organized arrangement like restaurant services carried out in permanent structures. This vision is based on increasing level of awareness among individuals and households concerning good hygienic practices and food safety. Participants indicated that the growing level of awareness of food hygiene among some inhabitants in the district inform their choice of food venders to patronize hence sticking to the old "unhygienic" way of processing and handling food will eventually push many SFBs out of the market over time. This trend is already evident in the district as all (100%) of catering orders for high profile seminars and workshops are placed to the few (approximately 5%) restaurant service providers. In other words, the majority (95%) stand to lose if they did nothing to modernize their methods of operation. The participants also agreed that small food businesses operations like the wayside entities, with less permanent structures will continue to exist and operate. However, their operations would not be as it is presently but rather will operate in a more organized and regulated environment.

The growing population in the district and its associated busy lifestyles is making the demand for door-to-door food delivery services popular in the district. This would create demand at both the production and service delivery ends of the food chain. Though there were arguments about the potential for employment, in terms of number of persons to be absorbed, there was a general consensus that overall, more people will benefit in the long run when the shift occurs.

Agro-based industrial activities like shea-butter extraction and rice processing are also common in the district. Some of the people involved in these industries also double as rice and other food crop farmers. Participants' vision is that those in this category should be given the necessary support to, as means of diversifying their activities expand production (particularly for rice) and process their harvest to feed the growing population.

Comments: In all the cases above the changes could occur if some basic issues are addressed. Knowledge must abound and poverty must be reduced and people must be willing to change their long-held cultural practices that are contrary to these developments.

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2. Development of Action Plans

(i) Which actions would be necessary to achieve these objectives –starting in 2030 and finishing at present? Who should do these actions? To synthesize Action Plans, you can follow a table like the one below. The description of the actions needs to be simple but understandable. Take also into consideration that this information will feed into WP6 on policy recommendations.

Participants prioritize the objectives by way of voting. Because objectives 2 to 4 received equal votes in group 1 (9 participants, 18 votes), and because all the four objectives are interrelated, participants decided to consider actions in relation to all four objectives. There was not sufficient time during the workshop sessions to break down actions and milestones into more detailed sequenced steps – participants said that all of these have to happen in parallel to enable achieving the vision by 2030. For example, credit is needed to purchase inputs, and advisory services are needed on effective, efficient and sustainable use of inputs. But without markets, produce is not sold, and farmers would not be able to pay back loans. So the opinion of the group was that these actions need to be done in an integrated manner. This is shown in Table 1.

Comments: Surprisingly, the participants mentioned only what NGOs and Government must do but did not suggest anything they should do. This presupposes that in the absence of external intervention from Government and NGOs nothing will change. This attitude must change to get the expected in 2030.

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Table 1

<table>
<tr><td>Timing</td><td colspan="4"><u>Contribution of SF to regional food total production</u></td></tr>
<tr><td rowspan="5">The actions need to happen in parallel to be effective, hence no clear time line could be agreed.</td><td>Objective 1: Farm size increases and most small farms become large by expanding their area of cultivation (8 votes)</td><td>Objective 2: Productivity increases (both in small and large farms) because of the use of agricultural inputs and technology (4 votes)</td><td>Objective 3: Farms diversify into different crops, including irrigated crops (4 votes)</td><td>Objective 4: Farms are well connected to functioning markets (4 votes)</td></tr>
<tr><td>Support mechanization

[Government provision of subsidised tractor services for farmers (to support expansion of area cultivated)]

[NGOs provide services such as tractors, harvesters etc.]

[government makes available appropriate machinery for small farm to reduce drudgery]</td><td colspan="2">Improve access to quality agricultural advisory services

[Government to help agricultural offices with equipment to test soils to save farmers from making losses (note: problems with high acidity and low nutrient levels in soils)]

[Government (department of agriculture) should help farmers with more knowledge of good agricultural / agronomic practices and better farming practices]</td><td rowspan="4">Improve markets

[NGO and government support the availability of markets for products (this should be getting better as the road to the district is being improved)

[NGOs provide improve market linkages for farmers]

[NGOs should provide and manage storage facilities and attract buyers]</td></tr>
<tr><td>[NGOs promote animal traction]</td></tr>
<tr><td colspan="3">[Government needs to employ more agricultural extension agents to help farmers to farm large areas of land]</td></tr>
<tr><td colspan="3">Ensure that farmers have timely access to affordable quality inputs</td></tr>
</table>

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	[Government or NGOs provide inputs early, at the start of the rainy season, to get good yield, rather than waiting until the end of the season] [Government, NGO or private sector provide quality seed to the farmers to help produce large quantities of the produce (e.g. maize, soybeans)]	
	Ensure access to credit [Government and NGOs should help provide suitable credit facilities through banks and other mechanisms to farmers]	

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The participants came out with nine objectives and had to settle on two objectives. In order to choose the two objectives that reflected the consensus of the group, each participant was given two votes to cast in favour of the preferred objectives. The voting process was done and coincidentally, two objectives received the same number of votes (6 votes each). The first objective was *Small farms have access to farm inputs including machinery to enhance crop productivity* and the second objective was s*mall farms have adequate knowledge in modern technology*. These objectives were considered and the participants identified actions that were needed to accomplish the objectives as stated in the Table 2. The participants also indicated the appropriate authorities that should carry out the actions plans identified. Government had the utmost responsibility of carrying out the action plans.

Table 2

	Contribution of SF to regional food production *Needed actions and* [responsible for completing the action]	
Timing	*Objective 1: Small farms have access to farm inputs including machinery to enhance crop productivity (6 votes)*	*Objective 2: Small farms have adequate knowledge in modern technology* *(6 votes)*
2030 *Note that some of the actions will occur at the same time* *Present*	*Reduction in prices (subsidies) of farm inputs and farm machinery (Governemnt)* *Farm inputs should be availble, adequate and affordable at all times (government)* *Small farms have stronger cooperative soceties for easy access to farm inputs and credit (Farmer Cooperatives)*	*Training of farmers on modern technologies* *(District Department of Agriculture)* *Training of Agricultural Extension Agents (AEAs) in modern technologies (Governemnt)* *Recruitment of more of AES [Governemnt)* *More involvement of the private sector (NGOs and Develpment Partners) (NGOs and Develpment Partners)*
	Small farms should have access to farm inputs including machinery at affordable prices *(Government and small farmers)*	Small farms should be educated on modern technologies of farming (District Department of Agriculture)

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There were six objectives from which the participants settled on the major two to consider. They could not conclude by consensus hence the vote. The result is as shown in Table 3.

Table 3

	Contribution of SFB to regional FNS *Needed actions and* [responsible for completing the action]	
Timing	*Objective 1: Small food businesses have access to affordable crredit facilities that are also accessible (No of votes = 10)*	*Objective 2: Small food businesses should have improved methods of processing and handling of food. (No of votes = 6)*
Some of the actions are alreay in place but need to be improved with time. Hence there is no clear cut timeline.	***Formation of stronger cooperative*** *groups to be used as vehicles to access credit facility (small food business operators)* *Credit facilities should be readily available at very low interest* *(government)*	***Recruitment and training*** *of sanitary/food inspectors to monitor activities in the sector* *(Government)* ***Periodic medical screening*** *of food vendors as means of checking disease transfer (Ministry of Health and Food and Drugs Authority [FDA])* ***Registration and Formalization*** *of small food business activities (Government in collaboration with District Assembly and Food and Drugs Authority)* *Financial support to* ***acquire modern equipment****, especially for oil extraction, processing of shea nut and rice (government/NGOs and SFB operators)*

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3. Regional scenario narratives

Please provide a coherent and detailed narrative of what would happen (in 2050 and in all of the four scenarios used) with SF and SFB and their contribution to regional food production and regional FNS. Pay attention to address the storylines behind the narratives, i.e. what should have happened before 2050 to reach that situation.

When developing this narrative, attention should be paid to how the impacts of the scenarios would be different for different types of SF, to take into consideration the diversity of SF of the region.

Do not forget to add the title that the groups have given to each regional adaptation of the scenarios.

3.1. Scenario A: "Duniya Bɛ NyaƔsa" (The world is not "sweet")

This is a scenario that is characterized by high concentration of the food chains (with only a few large players in the market that have high market share) who operate in liberalized world markets (with open boarders and low tariffs) that facilitate food imports and exports. Concentration of the food chains makes competition by already existing small food businesses extremely difficult while entry into the market by start-up businesses is almost impossible. The large players in the market will be enjoying the benefits of economies of scale which will reflect in product pricing. Hence attempt by small food businesses to compete may be foiled by simple pricing mechanisms.

Economic policies that open up trade and investment with the rest of the world are believed to be necessary for sustained growth. However, this may be possible if the country in question is more outward-oriented than when they are inward-looking. The case of Ghana, and for that matter Gushegu, is one that is more inward looking with very limited capacity for export trade. Besides, the cost of production in Ghana is generally high which translates into pricing of locally produced goods. Therefore, opening the boarders for cheaper imports is detrimental to local food businesses as the local food businesses will not be able to compete favourably with the imported substitutes.

Since the end-use for agri-food products is in the human body, ensuring strict supervision or regulation in processing of agri-food is necessary to protect public health. Local food processing in the district involves activities that can potentially introduce harmful agents into the food system but which are left unchecked. Some of these harmful elements are introduced in ways that the small food business operators may not necessarily anticipate. Government intervention in the agri-food sector by means of strong framework of regulations is therefore, seen as positive notwithstanding the low budgetary support in the sector. Available data shows thet average expenditure in the sector relative to Gross Domestic Product (GDP) and Agricultural Gross Domestic Product (AgGDP) were 1.2% and 3.6%, respectively, and have been declining since 2008. Expenditure relative to GDP declined from 1.8% in 2008 to 0.9% in 2011. Similarly, expenditure relative to AgGDP declined from 5.3% in 2008 to 3.6% in 2011.

Although these developments do not favour development in the sector, there is increasing desire to maintain basic standards in agri-food processing in order to safeguard efficient functioning of the food markets, that will ensure that all of the stakeholders (individuals, households, suppliers) are satisfied.
There were however concerns as to the level of regulations needed to start with. The general consensus was that, much as stronger regulation is required, too much of it, especially in the initial stages may be detrimental to the small food business operators. There is therefore, the need to proceed gradually and tighten the processes as people get used to it.

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Access to natural resources refers to the ability to control and use those resources and to transfer the rights to them as well as take advantage of other opportunities. Since small food business operators depend on these agricultural resources directly and indirectly for their livelihoods, increasing limitation to their access is disadvantageous to the survival of small food business operations, individuals and households. Environmental degradation have negative impact on farmlands which affect food production. Rainfall, which is the primary source of water for farming and even household usage is badly affected due to environmental degradation. Consequently, the objective of using agriculture as tool for reducing or eliminating poverty among resource poor inhabitants in the district is largely being defeated as their livelihood sources are compromised.

On the other hand access to innovations (research outcomes, knowledge) by small food busnesses is good for business growth and development. Generally, market research helps in better understaning the behavour of customers. This will help small food business operators to familiarise themselves with current market trends and competition in order that they can respond appropriately to the demands of consumers. Aside from that, understanding the socio-cultural and economic context in which one conducts her business is important so as not to violate existing cultural practices in the place of doing business.

Low levels of poverty among residents and high migration to urban centres present an mix of positive and negative consequences to SFBs. While low poverty will transate into higher spending, more demand for better quality food and thus higher income for small business operators, the population decline that results from high migration to urban centres poses serious challenges. Usually, migration is common among the youth who happen to be the most active group, consuming more food. Losing this category of residents to migration means lower levels of demand and less revenue to the small food businesss.

3.2. Scenario B: "Disomi"- Indifferent (a state where one is indifferent because one is not happy and not sad at the same time)

This is a scenario characterised by the low concentration of the food chains, where there are many small players, with each of them having a low market share. The scenario reflects the situation in the Gushegu District which is largely rural with many small players in the market. There are very few big market players. There is little value addition in terms of processing as most of the traded staples are not processed. Ghana government is addressing this issue by encouraging the private sector to set up industries under the programme called "One-District-One-Factory". The scenario also reflects a world market characterised by protectionist policies, where food imports and exports are constrained by high taxes and tariffs. This is opposite of the situation in the Gushegu District. Ghana operates a free market economy where efforts have been made to reduce trade barriers which resulted in many foreign companies and businesses operating freely in the country. It has led to reduction in costs of goods and services. In fact, many people believe that the free market economy has resulted into the importation of inferior goods into the country. There is very little intervention in the agri-food sector by the government, and levels of enforcement of regulations are very low. This situation encourages trade among many rural dwellers and has accounted for the large number of small food businesses in the District. However, government budget for agricultural expenditure is quite high, with a lot of funding for agricultural actors. The government since 2017 unveiled a flagship agricultural programme called "Planting for Food and Jobs" which provided subsidized inputs

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such as seeds and fertilizers to farmers to encourage crop production and job creation. The programme covers all the regions and districts in Ghana. In the 2019 budget, government had indicated it will spend about 400 million Ghana Cedis in the provision of subsidized inputs for farmers.

In this scenario, access to natural resources (land, water, etc.) is good and there are low levels of environmental degradation. In general, Gushegu has low levels of environmental degradation due mainly to its rural nature. There is less population pressure on resources and so exploitation is low. Small scale farmers basically employ simple tools/equipment for farming and thus little environmental degradation.

However, access to innovations (research outcomes, knowledge) by small farms and small food businesses is poor and there are few relevant innovations available. This is reflected in the inadequate number of extension agents in the district resulting in a weak farmer-extension linkage. Low value addition (little processing) in the district can be attributed to poor access to innovation. There is high level of poverty among the population. More than 80% of the people depend on agricultural livelihoods. However, prices of agricultural produce are always low during the harvest season. Lack of formal job opportunities in the rural areas has rendered many people and households' poor. High levels of poverty means less investment in agriculture. Small farms will be constrained in terms of purchasing farm inputs which will negatively affect crop productivity. In this protectionist environment, collective action is generally strong (with people cooperating for their common good). Small farms have realised the importance of collective action in order to access farm inputs and have a stronger bargaining power. The need for farmer cooperatives is high on farmers' agenda. However, consumers and farm households are not fully aware of the nutritional and environmental implications of their food habits and show less concern about the problems of small farms and small food businesses. This will likely expose people to health related challenges. Small consumers and farm households will likely suffer from diseases which may lead to high morbidity and mortality in the District. Ghana Standards Authority (GSA) which is mandated to regulate the standards of commodities flowing into the country is constrained in terms of staff and logistics for monitoring.

3.3. Scenario C: Middle developed world

This is a scenario characterised by the low concentration of the food chains, where there are many small players, with each of them having a low market share. World markets are protectionist, which means that food imports and exports are constrained by high taxes and tariffs. This is contrary to the situation in Gushegu where ther are high concentration of food chains. There is high food surplus (over 40%) and trade with ofther regions and across boarders occur. There could be excess food supply in the market due to a ban on exportation. There will be increased agriculture production for small holder farmers due to access to land and water. The situation will be good for smallholder farmers because they would have good condition around them therefore, their farming activities will be better. Production levels by smallholder farmers will increase.

There is very little intervention in the agri-food sector by the government, and levels of regulations are very low. As more food is produced and may be processed many more people will be involved in the food chain along the food business lines and quality and hygeine may not be adhered to. Regulators will be under resourced and hence will lack the logistics to monitor and enforce regulations both for small farms in production and small food businesses in processing.

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However, the government budget for agricultural expenditure is quite high, with a lot of funding for agricultural actors. More agricultural extension agents will be engaged and the extension-farmer ratio will reduce resulting in more quality production. Agricultural officers will enjoy their jobs and put in more to help small farms increase production. The yield will also increase because the smallholder farmers will get knowledge from AEAs. Land problems will be less. The youth may not be interested in farming but rather will depend on white collar jobs

Access to natural resources (land, water, etc.) is good and there are low levels of environmental degradation. There will be a healthy environment where herbs for traditional medicine and treatment will be available. The absence of wild fires make fodder and feed available for animals hence there will be good growth of domestic animals. Animals in the wild may not be disturbed hence plenty game and animals for recreation. The vegetation is Gushegu District is not too much disturbed since there is still a vast arable land not used. Already the rainfall pattern is no moderate but with less degradtion rainfall patterns will improve resulting good vegetation and high yields in all aspects of small farms.

Access to innovations (research outcomes, knowledge) by small farms and small food businesses is poor and there are few relevant innovations available. Small foods businesses will have enough/variety of food to process leading to improved nutrition. Small food businesses will get enough quantity of raw materials from the farmers to increase the food business. Small food business will do better because of improved productivity. Farmers will now farm in commercial quantities. Farmers will have little knowledge on what crop is profitable and efficient to produce. There will be self-improved marketing systems among small farmers due to low research and development. Knowledge on farming will reduce and people will remain using primitive farm practices forcing them to develop appropriate technologies. Small food businesses will have low access to innovative ways of improving efficiency and nutrition but will continue with little modifications as the years go by.

There are low levels of poverty among the people. People are concentrating in rural areas (with low levels of out-migration) and the urban population is stagnating or even declining. There will be more happiness and lots of entertainment. More recreation after the hard day's work. People will begin to save hence the need for more banks. There are a few rural-urban migration in Gushegu District but in tis case there will be members of the district who have migrated coming back (back migration)

In this framework, collective action and advocacy of social values are common and practised throughout the society, with consumers being quite aware about the nutritional and environmental implications of their food habits. There may be low demand for the food business. The food by small food businesses may not be patronised because of high prices compared to quantity.Small farms may be used to build stores for other business. Farms may be used for road construction due to infrastructure development.

No new products. At that time, land area for small farmers will even be reduced the more.

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3.4. Scenario D: "Ayayoo World" (unbearable, difficult world)

This is a scenario with few opportunities for small farms in Gushegu. It is characterised by a high concentration of the food chains (with only a few large players that have a high market share). This makes it difficult for small and medium size farms and for small food businesses to compete. Combined with a strong framework of regulations, there are barriers for small farms and small food businesses to enter more lucrative markets. These barriers are the result of a gradual formalisation of informal sectors of the economy because of globalised markets and a liberal trade policy pursued by the Ghanaian government that favours low tariffs for imports and exports. The latter has benefitted cocoa producers in the Southern part of the country but puts small food producers under increasing pressure from cheap imported food.

However, strong regulations also have an advantage for small farms, in particular in relation to regulating the livestock sector. In the past, there were many conflicts between small farms and pastoralists due to unguarded livestock entering and destroying farmers' fields. These conflicts remained unresolved for a while, but eventually stakeholders got together and agreed rules and regulations that govern the relationships between farmers and pastoralists. This has ensured that livestock movements are better controlled, and conflicts have reduced.

Despite its liberal trade policies, and some economic growth in Ghana overall, there has been dwindling support from the government for agricultural development, with government expenditure used to support industrialisation and development of the service sector to employ the ever-growing young population, in particular in the towns and cities. This has set off a negative spiral of low investment in agriculture, contributing to low productivity and low competitiveness, and ultimately resulting in an economic downturn. Small farms and food businesses suffer from these developments, because essential investments in rural infrastructure and services are not forthcoming. In particular, agricultural advisory services, subsidies for inputs and mechanisation, and investments in irrigation are not happening, hindering an intensification and professionalisation of the sector. Without access to innovations and technologies, SFs and SFBs are left behind the bigger players in an increasingly polarised economy.

At the same time, the increasingly urbanised population has little emotional and economic linkages to the agricultural sector and is influenced by the marketing campaigns of multinational and large companies, who have an increasing market share, in particular for processed food. There is little sympathy among consumers for the plight of small farmers and food businesses, who are even sometimes considered to be backwards / old fashioned. Changes in diets towards more processed and industrialised food means that SFs and SFBs have been unable to compete with the bigger players in the sector. The dietary shift towards less processed, more natural food observed amongst the middle classes in Europe has not yet taken hold of the majority of the Ghanaian population, despite increasing rates of obesity, heart diseases, diabetes and other diet related illnesses.

Urbanisation has also fuelled a more individualistic behaviour amongst people in general, which is a challenge to small farms relying on collective action to manage natural resources, access inputs and credit, organise the sale of produce and generally support each other. But not having that support has also a silver lining – because people are now forced to work harder and not rely on others for support. However, the more vulnerable households are struggling to manage without community support.

High population growth overall, in particular amongst poorer and less educated families, has contributed to an increase in poverty, both in rural and urban areas. Poverty contributes to a negative cycle at

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household level (similar to the negative cycle at national level described above). So low levels of income mean that households are not able to invest in means of production, and thus productivity and incomes remain low. In the absence of other income sources, rural and urban households are forced to exploit the natural resource based (through uncontrolled artisanal mining, overexploitation of water resources, unsustainable farming methods contributing to land degradation, and deforestation for fuelwood, charcoal making and expansion of extensive farming with low productivity).

High levels of poverty also contribute to an increase in social vices such as theft and armed robbery, fuelled also by the breakdown of collective action and cooperation.

By 2050, under this scenario, there would not be much uncultivated arable land left in the district so farms will not be able to expand. As there are no agricultural services available to farmers, more and more small farmers will have to take on other livelihood opportunities, including moving into small scale trade, carpentry, masonry (artisan), or work for larger farmers. Some small farmers will stop crop production altogether and focus on livestock production instead, using communal land not suitable for crop cultivation.

4. Resilience and vulnerability

Which are, according to the regional narratives, the main future threats for SF and SFB as well as to their contribution to FNS? Why are SF and SFB particularly vulnerable to those threats? Along this analysis to be made by the research team, it would be useful to discuss to what extent can these vulnerabilities be classified as due to more exposure, more sensitiveness or less adaptive capacity (see Conceptual Framework for clarification)? For simplicity sake, this can be addressed scenario per scenario.

4.1. Scenario A: Duniya Bɛ NyaƔsa (The world is not "sweet")

Although this scenario presents a combination of positive and negative outcomes, there were more of the negative consequences. Majority of the small food business operators in Gushegu are resource constrained and any action that tends to compete with their present operations will most likely go against them. The major threats identified in the world labelled *Duniya Bɛ NyaƔsa* include the following;

- Job losses due to high concentration of the food chains and liberalised markets. This threat affects both SFs and SFBs. If the SFs fail, there will be less food available especially for the poor majority which will cause the food to be more expensive. When small scale production falls and people lose their jobs, they will be forced to migrate in search of jobs in bigger cities or resort to unconventional means to earn some money.
- More imports and less export (trade imbalance). This will pose major economic challenges for the local and national economies. SFBs will be affected as preferences will shift to foreign products which tend to be cheaper. At the national level, there will be more pressure on the local currency which will translate into general price hikes.
- Limited access to natural resources such as land and water, will lead to increased poverty and disease. Environmental degradation has serious implications for the general survival of humanity and particularly so in the case in Gushegu where issues of soil fertility, perennial bush burning, indiscriminate tree cutting is already biting.

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- Increased social vices like robbery, prostitution. While migrants to big cities (mostly youth) often return with such social evils, those left behind may be redundant and resort to similar vices.

The situation is not completely gloomy as participants identified the possibility of producing better quality food for consumers (for good health) and therefore earn more income. Despite the disadvantages, a liberalised market was identified as an opportunity to open up competition which will help to promote better food quality and service delivery among SFBs.

4.2. Scenario B: "Disomi"-Indifferent (a state where one is indifferent because one is not happy and not sad at the same time)

The scenario presents a mixed outcome where things are not the way the people wish but definitely not the worst of situations. The threats identified in this scenario expose small farms and food businesses to unhealthy life styles and will affect human resources. Small farms and food businesses are particularly exposed due to the niche they occupy in Gushegu. Small farms represent a larger part of the population and poverty is high among crop farmers in the district. Small scale farmers particularly are poor as compared to large scale farmers and large food based operators. The main future threats to small farms and food businesses include the following;

- The consumption of unwholesome foods due to consumers' low level of awareness concerning nutritional foods and food habits. This situation will affect small farms and food businesses human resource capacity in the district negatively. Incidence of diseases will increase.
- The inability of government to regulate the agri-food sector will lead to lawlessness and disregard for food safety. This will expose small farms, food business owners and consumers to risks of diseases. There are loose regulations in the agri-food sector encouraging the importation of unhealthy foods.
- High poverty will threaten the survival of small farms and food businesses. This will result in less investment in the agri-food sector by small scale farmers and food businesses leading to low productivity.
- Poor access to innovations (research outcomes, knowledge) by small farms and small food businesses threatens the adoption of modern technologies among small farms and food businesses which has implications for food production and processing. It may lead to low crop productivity and increase post-harvest loses in the District.

Despite these negative outlook, there are opportunities for small farms and food businesses to take advantage of. The low concentration of the food chains with many small players, with each of them having a low market share offers opportunity for small farms and food businesses to continue to play an important role and earning some income. This means that majority of the players will continue to make some profits. Government budget for agricultural expenditure being quite high with a lot of funding for agricultural actors will have a positive impact on the small farms and food businesses. Agricultural subsidies in particular are beneficial to small farms which mostly find it difficult to access farm inputs due to high cost. Subsidies will ensure that small farms can afford to purchase inputs and hire labour. Good access to natural resources such as land, water, etc enhances crop productivity of small farms. Low levels of environmental degradation enhance quality living and protection for the environment which has future implications for generations yet unborn. But this will likely worsen as population increases and there is pressure on land and other resources. Strong collective action will enhance farmers bargaining power. Collective purchase and marketing reduces transaction costs for small farms and food businesses.

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4.3. Scenario C: Middle developed world

This scenario shows a people who have to depend on their own produce and hardly any imports which seem to be the case in the Gushegu District. Most of the food they eat are those they produce. They are a surplus district hence have a lot to sell. Their main income is from the export of their produce hence their inability to export will bring about increase in poverty in the area though they have a good policy and social environment. Thy will not be able to meet their basic needs such as health care, education of their chldren, shelter among other. Although government regulation of the society is low the people know their rights and fight for their rights. They many have few threats as follows:

- Glut occur due to over production by many small farms. Many small producers with small quantities but they will be few buyers. This also affects small food businesses due to low patronage resulting in reduction in individual production
- Smugglig may begin or increase as export and imports are restricted. The people have need of some imported goods due to the taste they have acquired but cannot get hence there will be a few who will find illegal means of bring the food in. Likewise there will be a few who will send the food outside by unauthorised roots.
- Local currency overvalued: low demand for foreign currency for imports or repartration of profits of multinational companies which would make the currency stronger against foreign currencies.
- Increase in wild animals due to low disturbance of the environment and land. Snakes are already problems to the commuities and if they are left and they have enough food and good environment they will multiple fast and become a treat yet game will increase and they will enjoy good meat.
- Jobs not enough for all the people since there is no migration. As of now there are only few jobs and many are not employed of all the people remain in the rural areas they will not all have jobs. This will lead to many idle hands who will go into all kinds of bad practices such as robbery and infighting.

This society has more of good things that they have very little challenges. Life is easy and all around them seem to be good. This may lead to complacency which could result into they being overtaken by events.

4.4. Scenario D: “Ayayoo World” (unbearable, difficult world)

The main threat in this scenario is the low level of government investment in and support to the agricultural sector. SFs and (to a lesser extent) SFBs in the district look towards government for support with infrastructure and services. Whilst NGOs are providing some support, they do not normally have the coverage of government agencies, operating only in a few villages. Poorer farmers with little or no cash income are particularly vulnerable, as they are unable to work with private service providers.

Despite the gloomy prospects of the “Ayayoo world”, there are also some positive aspects to it. SFs and SFBs have experienced in the past that governments and NGOs are not to be fully relied on to provide the services they need and have developed their own networks and support mechanisms. These rely on traditional bonds of kinship and neighbourhood, as well as indigenous and traditional knowledge. In some cases, NGO programmes have supported the development of these strategies, for example by promoting low external input, agroecological farming methods involving composting, use of farm yard manure and soil and water conservation with locally available materials.

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SFBs have also adapted successfully over time, with women being particularly entrepreneurial. They are able to some extent to adapt their business strategies and products to the changing markets, for example by trading imported food items rather than locally produced ones. However, this means that only those with some access to capital are able to stay in business, and that the links between SFs and SFBs are eroding.

5. Action Plans under different scenarios[28]

Finally, what actions of the above displayed Plans are feasible or, on the contrary, too difficult to accomplish under the different scenarios? First, it is necessary to distille real actions from the Action Plans. The action plans, as coming from the participants, combine both actions and milestones. So we have to select only the actions.

Then, the researchers can go action by action in scenario 1 and ask temselves to what extent that action would be more or less feasible under that scenario. This can be clasiffied as:

1. *Virtually imposible*
2. *Feasible but conditioned to.. (explain briefly)*
3. *Directly feasible (enabling scenario for that specific action)*

Then, it can be done the same with the rest of scenarios. Alternatively, it can be done 'horizontally' i.e. to focus on an action and assess its feasiblity under the 4 scenarios.

5.1. Role of SFs in terms of contribution to regional food total production in 2030

<table>
<tr><th><u>Objective 1: Farm size increases and most small farms become large by expanding their area of cultivation</u></th><th><u>Scenario A</u></th><th><u>Scenario B</u></th><th><u>Scenario C</u></th><th><u>Scenario D</u></th></tr>
<tr><td colspan="5">Support mechanization</td></tr>
<tr><td>Government provides subsidised tractor services for farmers</td><td></td><td>Availability of financial resources</td><td></td><td></td></tr>
<tr><td>NGOs provide services such as tractors, harvesters etc.</td><td colspan="4" rowspan="2">Donor funding (which in turn depends on stability in Ghana and willingness of richer countries to support agric dev in Ghana)</td></tr>
<tr><td>NGOs promote animal traction</td></tr>
<tr><td colspan="5">Improve access to quality agricultural advisory services</td></tr>
</table>

[28] As explained in the Implementation Guide, this assessment is not undertaken in the workshop with participants. This is an assessment to be made *ex-post* by the research team.

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Objective 1: Farm size increases and most small farms become large by expanding their area of cultivation	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Government employs agricultural extension agents to help farmers to farm large areas of land	Availability of govt funding			

Objective 2: Productivity increases (both in small and large farms) because of the use of agricultural inputs and technology	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Improve access to quality agricultural advisory services				
Government helps agricultural offices with equipment to test farm lands / soils	Availability of govt funding			
Government (agric department) helps farmers learn improved farming practices	Availability of govt funding			
Government employs agricultural extension agents to help farmers to farm large areas of land	Availability of govt funding			
Ensure that farmers have timely access to affordable quality inputs				
Government or NGOs provide inputs early, at the start of the rainy season, to get good yield, rather than waiting until the end of the season		Availability of financial resources		
Govt, NGO or private sector provide quality seed to the farmers to help produce large quantities of the produce (e.g. maize, soybeans)		Availability of financial resources		
Ensure access to credit				
Government and NGOs help provide suitable credit facilities through banks and other mechanisms to farmers		Availability of financial resources		

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Objective 3: Farms diversify into different crops, including irrigated crop	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Improve access to quality agricultural advisory services				
Government (agric department) helps farmers learn improved farming practices	Availability of govt funding			
Improve markets				
Govt supports the availability of markets for SF products		SFs can compete with large farms		
NGOs provide improve market linkages for farmers	Would depend on NGOs ability to attract funding for their work from international donors			
Ensure that farmers have timely access to affordable quality inputs				
Government or NGOs provide inputs early, at the start of the rainy season, to get good yield, rather than waiting until the end of the season		Availability of financial resources		
Govt, NGO or private sector provide quality seed to the farmers to help produce large quantities of the produce		Availability of financial resources		
Ensure access to credit				
Government and NGOs help provide suitable credit facilities through banks and other mechanisms to farmers		Availability of financial resources		

Objective 4: Farms are well connected to functioning markets	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Govt support the availability of markets for SF products		SFs can compete with large farms		
NGOs provide improve market linkages for farmers	Would depend on NGOs ability to attract funding for their work from international donors			
NGOs provide and manage storage facilities and attract buyers				

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5.2. Role of SFs in terms of contribution to food and nutrition security in Gushegu district in 2030

Objective 1: Small farms have access to farm inputs including machinery to enhance crop productivity	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Reduction in prices of farm inputs and farm machinery (Governemnt)		Government is already subsidizing inputs for farmers but subsidy is limited to only seeds and fertilizer		
Farm inputs should be availble, adequate and *affordable at all times (government)*		Farms inputs are available during the production season but sometimes inadequate		
Small farms should have access to farm inputs including machinery at affordable prices (Government and small farmers)		Government is already providing subsidized inputs to farmers but sometimes the quantities are inadequate		
Small farms have stronger cooperative soceties for easy access to farm inputs and credit (Farmer Cooperatives)		Financial institutions are more likely to offer support to farmer cooperatives. This pushes farmers to have cooperatives		

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Objective 1: Small farms have access to farm inputs including machinery to enhance crop productivity	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Objective 2: Small farms have adequate knowledge in modern technology				
Education and training of farmers on modern technologies *(District Department of Agriculture)*		This is being pursued by government under the Modernising Agriculture in Ghana programme		
Training of Area Extension Agents (AEAs) in modern technologies *(Governemnt)*		Government has strengthen the capacity of extension agents through training		
Recruitment of more of AES [Governemnt)		Government has recruited volunteers to fill the gaps identified		
More involvement of the private sector (NGOs and Develpment Partners)		The private sector and development partners can collaboarte more . NGOs and Development Partners continue to provide support to agriculture in terms of training.		

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5.3. Role of SFBs in terms of contribution to food and nutrition security in Gushegu district in 2030

Objective 1: Small food businesses have access to affordable crredit facilities that are also assessible	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
Formation of stronger cooperative *groups to be used as vehicles to access credit facility (small food business operators)*	Group lending schemes have historically proven to be more effective if used as means to acquire credit facilities. Depends on goodwill on the part of SFBs			
Credit facilities should be readily available at very low interest *(government)*	Availability of credit facilities			
Objective 2: Small food businesses should have improved methods of processing and handling of food				
Recruitment and training *of sanitary/food inspectors to monitor activities in the sector*	Depends on availabilit y of budgetary			

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Objective 1: Small food businesses have access to affordable crredit facilities that are also assessible	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
(Government)	support and political will to implement such programme			
Periodic medical screening *of food vendors as means of checking disease transfer (Ministry of Health and FDA)*	Depends on availability of budgetary support and commitment on the part of government agencies responsible.			
Registration and Formalization *of small food business activities (Government/Registrar General's Dept and the Food and Drugs Authority)*	Depends on availability of budgetary support and commitment on the part of government agencies			

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Objective 1: Small food businesses have access to affordable crredit facilities that are also assessible	***Scenario A***	***Scenario B***	***Scenario C***	***Scenario D***
	responsible.			
*Support (financial) to **acquire modern equipment**, especially for oil extraction, processing of shea nut and rice (government/NGOs and SFB operators)*	Availability of credit facilities			

6. Workshop assessment

Finally, and in order to collect information to elaborate Deliverable 4.3, this section compiles both the participants' assessment of the workshop and ex-post assessment of research teams.

*Regarding **participants' assessments**: What new issues have they learned? To what extent and how this workshop could feed into their respective activities? What would be needed to effectively turn the workshop's outcomes into actions? Which would be the next steps? To whom they would like this outcomes arrive to? Any other issues?*

*Regarding **researchers' assessments** after the implementation of the workshop: Which have been the main limitations/problems arising from the need to follow a common protocol and scenario framework for all the SALSA WP4 regions? What changes would you introduce in future similar activities? What have you learned, as researcher, from the workshop? In which cases (regional/local policy processes, stakeholders) do you think the workshop and its outcomes could be useful?*

For participants' assessment see *Annex 1: Participants' evaluation*.

Reflections from UDS researchers:

- There is an overlap in the visions between the different groups, e.g. in terms of diversification (group 1 and 2). However, other visions were different partly because the people in the groups were different.
- It would have been good to have time to report back from group work to the plenary to compare and contrast the ideas from each group
- Since we had to translate it took a longer time than planned. We need more time for this exercise maybe break it into 2 for 2 days.
- Participation and involvement were very high
- The outcome will be more useful at the local policy level

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7. List of participants at the Gushegu Reference Region (RR 7) Ghana

	NAME	Gender	Affiliation/Profile
1	Chief Mumuni Yakubu	Male	Traditional chief
2	Yakubu Andani	Male	Food processor
3	Nayna Zakaria	Male	Ministry of Health, PHNO
4	Alidu Maruf	Male	Gushegu Assembly, Development Planning Officer
5	Ibrahim Tahidu	Male	Gushegu Assembly
6	Abdul Rahaman Iddrissu	Male	Aggregator
7	Alhassan Alhassan	Male	Tractor Service provider and farmer
8	Abdul-Rahaman Abukari	Male	Farmer
9	Baba Mohammed	Male	Kpatinga input dealer
10	Fuseini Karim	Male	Gushegu Municipal Assembly, Assistant Director
11	Chief Sugru Sandwoo	Male	Traditional ruler / chief
12	Yakubu Rahinnatu	Female	Aggregator and farmer
13	Fusheini Ganiwu	Male	Tractor service provider, aggregator
14	Solomon Osei	Male	RING (Resilience in Northern Ghana), Governance advisor
15	Hon: Tia Iddirisu	Male	Klantugu Assembly member
16	Osman Hanita	Female	Processor
17	Alhassan M Baba	Male	Tractor service provider, farmer (NIF)
18	Hajia Yakubu Mariam	Female	Women in Agriculture, Processor
19	Chief Abukari Alidu	Male	Traditional ruler, Yishe Lana
20	Dokurugu Abrewa	Female	Processor, food vendor
21	Samata Ahamadu	Female	Women in Agriculture, Farmer
22	Iddirisu Abdul Salam	Male	Department of Agriculture, Agricultural extension agent
23	Ridwan Mustapha	Male	Input dealer
24	Braimah Fahidu	Male	Department of Agriculture, Agricultural extension agent
25	Yussif Musah	Male	Department of Agriculture, Agricultural extension agent
26	Hajra Adamu Mumini	Female	Processor, food vendor
27	Mariama Musah	Female	Processor, food vendor
28	Abdul-Razak Mutaka	Male	Gushegu Municipal assembly, Assistant Director
29	Alhassan Neindoo	Male	Zamanshegu, farmer
30	Abukari Issah	Male	Aggregator
31	Mapsan Yaliyon	Male	Tida, farmer

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	NAME	Gender	Affiliation/Profile
32	Adam Mohammed	Male	Farmer
33	Ziblim Muzimu	Male	Input dealer
34	Mustapha Zakaria	Male	District Director, Department of Agriculture
35	Nyeri Donla	Male	Farmer
36	Saaka Issah	Male	District Assembly
37	Gabriel Iddi	Male	Department of Agriculture, Agricultural extension agent
	Facilitators		
38	Richard Yeboah	Male	UDS
39	Silvester Ayambila	Male	UDS
40	James Fearon	Male	UDS
41	Freeman N Akaribo	Male	UDS
42	Barbara Adolph	Female	IIED

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Annex 1(RR7): Participants' evaluation of foresight workshop in Gushegu District (Northern Region, Ghana)

Number	What new things have you learnt from this workshop?	How will this change the way you do things in your role?	What actions are you or your organisation planning to take forward?	What would hinder you from doing that?
1	•Interests of smallholder farmers and food processors are integral part of the future •Agricultural innovation is key to modernisation of the sector	•Varied stakeholders e.g. small scale farmers need to be part of our agricultural sector policy formulation processes (involve them in decision making process) •Research and innovation investments by government	•Incorporate activities of smallholder farmers and food processors into the planning processes of the Assembly	•Inadequate access to funding (both District and Central Government) to improve local level agricultural investment by the Assembly
2	•We understand the current role of small farmers and small businesses •And we also understand small farmers and businesses well both afford us by the year 2050	•This will change by educating small farmers and small businesses	•	•
3	•How to help small farmers boost productivity •I learnt that between 2030 and 2050 it could be negative change •We have also learnt how to prepare plans towards 2050	•	•	•
4	•I know what SALSA means •Also learn how group discussions •How life will be difficult in 2050	•It will change things because getting to 2050 there some things that will be bad for us and some will be better for us.	•	•

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Number	What new things have you learnt from this workshop?	How will this change the way you do things in your role?	What actions are you or your organisation planning to take forward?	What would hinder you from doing that?
5	•If we don't change the way we do our things there will effect in future generations •Two heads are better than one – in group we can take a better decision •I have also learnt how innovation way can change life better	•It will change my individual way of doing things, but rather in a collective decision	•Involve the opinion leaders in decision making and also allowing people to take their won informed decision	•Time and innovation
6	•I have learnt what should be done to improve productivity	•It will help me put more effort with regards to starting a business	•We anticipate that by 2050 it can be better	•High taxes and high tarriff rates
7	•I have learnt more knowledge concerning agriculture •The workshop was very interesting for me •New innovation gain concerning my agriculture	•I contributed a lot and very excited	•Small farmer	•More production of foods and small ruminants
8	•Opened my mind to think into the future	•I will be mindful with the future generation	•Implementation of bye-laws to save the environment	•Lack of cooperation from communities
9	•I have learnt that we are now in the middle world •Coming 2050, small farmers who are old may give their lands to their young ones •Food productivity will be high because here will be abundance of food	•It will change my role in such a way that I can plan how to use my small scale of land and how to combine it with commercial farming activities in order to generate income for the family	•The workshop helped us to improve our planning towards 2030-50 – what will happen and how to manage with that situation	•Land acquisition may be one hindering me from doing it •Low provision of tractors / farm machineries or agro-processors •Inadequate farm credit providers may also be one

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Number	What new things have you learnt from this workshop?	How will this change the way you do things in your role?	What actions are you or your organisation planning to take forward?	What would hinder you from doing that?
10	•How small farmers need to improve on farming •How to learn modern farming •How to alleviate poverty	•Learning about how to learn innovative ways of doing things	•Working hard to do things in the innovative ways of doing things to improve small farming	•Support from government and partners in development
11	•New farming activities •New ways of grouping the extent of smallholder farming	•As a smallholder farmer, I have learnt that certain basic such as smallholder farming technology	•To plan to increase our productivity in our farming activities	•Yes, lack of funding could deprive me from doing your plans
12	•We learn how to plan future	•It will help me always think forward	•Think and planning	•
13	•I have learnt extension official can help small scale farmer to prepare composite manure •Also animal droppings can help fertilise lands	•As stated above I have know that by 2050 farming will not be easy as it is today	•What I will adopt in farming modern ways of farming such as paying more attention to the small management of the land I have	•All has been in order to be able to the above I need some small amount of money to be able to achieve the above
14	•Improved farming activities •Learnt that we should think about 2050 from now and act accordingly •The benefits of cooperation	•I will now integrate animal farming with crop farming	•The use of improved varieties of seeds on my fields	•Low availability of improved seeds •Low funds
15	•Disadvantages of continuous using chemicals on farm •How to manage your farming activities when there is hardship in future	•It will be a positive change on the	•Myself and my organisation will take what we discussed here into useful action for ourselves	•Lack of access to credit and extension services
16	•Modern method of farming •Planning in farming	•Help to farm with the right materials and inputs	•Farm management and practices	•Inadequate knowledge in some farming methodology

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Number	What new things have you learnt from this workshop?	How will this change the way you do things in your role?	What actions are you or your organisation planning to take forward?	What would hinder you from doing that?
17	•Planning for the future •Good farming methodology	•It will aid me to adopt proper farm management practice	•Farm management practice and planning	•Inadequate funds to go into large farming
18	•Good farming method	•It will help me increase production as compared to my production	•Planning for the future in case there is low patronage in farming	•Inadequate funds to purchase farm inputs
19	•Learnt improved farming practices (composting) •Realised that the future might not be good •Tree crops as adaptation methods for farmers	•I will integrate the practices to mine	•Composting •Non-farm activities •Animal farming	•Funding
20	•We have knowledge on farming as a business	•We have learnt that there is no need to depend on government	•To plan to develop myself	•

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ANNEX I. List of foresight studies considered

	Short name	Full reference	Description
1.	Transmango	Vervoort, J. et al. (2016). Explorative EU scenarios https://transmango.files.wordpress.com/2017/09/d5-3-eu-senarions.pdf	EU
2.	EDORA	On a text from: http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608656/EPRS_BRI(2017)608656_EN.pdf	EU escenarios 2x2
3.	Precision agriculture and the future of farming in Europe STOA	http://www.europarl.europa.eu/RegData/etudes/STUD/2016/581892/EPRS_STU(2016)581892_EN.pdf	EU
4.	The Future of Food and Farming	Foresight. The Future of Food and Farming (2011) Final Project Report. The Government Office for Science, London. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/288329/11-546-future-of-food-and-farming-report.pdf	Revisión Global
5.	FOODSECURE	M. van Dijk and G. Meijerink (2014). A review of global food security scenario and assessment studies: results, gaps and research priorities *Global Food Security* 3, 227-238 https://doi.org/10.1016/j.gfs.2014.09.004	Revisión Global
6.	*Five Scenarios for 2050 – Conditions for Agriculture and land use.*	Öborn, I., Magnusson, U., Bengtsson, J., Vrede, K., Fahlbeck, E., Jensen, E.S., Westin, C., Jansson, T., Hedenus, F., Lindholm Schulz, H., Stenström, M., Jansson, B., Rydhmer, L. (2011). *Five Scenarios for 2050 – Conditions for Agriculture and land use.* Uppsala, Swedish University of Agricultural Sciences. https://www.slu.se/globalassets/ew/org/centrb/fu-food/publikationer/publikationer-fr-l/scenariorapport-2011-en.pdf	Global
7.	Food Safety and Nutrition in 2050. JRC	Mylona, K., Maragkoudakis, P., Bock, A.-K., Wollgast, J., Caldeira, S. and Ulberth, F., (2016) Delivering on EU Food Safety and Nutrition in 2050 – Future challenges and policy preparedness, EUR27957 JRC http://http://publications.jrc.ec.europa.eu/repository/handle/JRC101971	EU
8.	Global Food Security 2030. JRC	Global Food Security 2030 Assessing trends with a view to guiding future EU policies JRC 2015 http://publications.jrc.ec.europa.eu/repository/bitstream/JRC94867/lbna27252enn.pdf	Global
9.	EURURALIS	H.J. Westhoek, H.J. et al. (2006) Scenario development to explore the future of Europe's rural areas. Agriculture, Ecosystems and Environment 114: 7–20. https://doi.org/10.1016/j.agee.2005.11.005	EU escenarios 2x2
10.	The future of the cattle and sheep industries in Scotland	Boden, LA et al. (2015) (Scenario planning: The future of the cattle and sheep industries in Scotland and their resiliency to disease. Preventive Veterinary Medicine 121: 353–364 https://doi.org/10.1016/j.prevetmed.2015.08.012	Scotland
11.	SCAR Foresight Report 2007	Cited in Food and agriculture scenarios\Forward look European Food Systems.pdf	EU
12.	PRELUDE – EEA's Land Use Scenarios	https://www.eea.europa.eu/highlights/prelude-launched-in-brussels	EU

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13.	Compilation Alternative futures of rural areas in the EU	Kristina M. Jansson Ida J. Terluin 2009 (SCENAR 2020, Espon, SEAMLES, Agriculture in the overall economy, SENSOR) http://edepot.wur.nl/11723	EU
14.	SCAR 2015	Mathijs, E. et al. 2015. Sustainable agriculture, forestry and fisheries in the bioeconomy-a challenge for Europe. SCAR. 4th foresight exercise https://publications.europa.eu/en/publication-detail/-/publication/7869030d-6d05-11e5-9317-01aa75ed71a1	Main external drivers. UE
15.	IMPRESSIONS	Kok., K and Pedde., S. 2016. IMPRESSIONS- Impacts and risks from high-end scenarios: Strategies for innovative solutions D2.2_Socioeconomic_Scenarios http://www.impressions-project.eu/getatt.php?filename=D2.2_Socioeconomic_Scenarios_FINAL_14009.pdf.	EU
16.	SUREFARM	Mathijs, E. et al. 2018. Sustainable resilient EU farming system. SURE-Farm project. D1.2 Scenarios for EU farming https://surefarmproject.eu/wordpress/wp-content/uploads/2018/02/SURE-Farm_Deliverable-1.2-Scenarios-for-EU-farming.pdf	EU
17.	VOLANTE	Visions of land use transition in Europe http://www.volante-project.eu/images/stories/DELIVERABLES/VOLANTE_D9.1_The_VOLANTE_scenarios_framework_storylines_and_drivers.pdf	EU
18.	Agrimonde-Terra foresight: Land use and food security in 2050	Le Mouël C. et al. 2016. Agrimonde-Terra. Hypotheses about the future of the drivers of the "land use and food security" system and their translation into quantitative hypotheses https://www.cirad.fr/en/content/download/10991/128723/version/3/file/agrimonde-terra-drivers-english.pdf	Global

We have also considered other scenario analyses focusing specifically on Africa. These analyses adopted a 2x2 scenario framework, i.e. two drivers adopting each two possible states, shaping in this way 4 'quadrants'.

These studies are:

Study	Driver 1	Driver 2
The future of food security, environments and livelihoods in Western Africa (CCAFS, 2016)	Short-term priorities or long-term priorities as focus of governance	State actors or non-state actors as driving force
The future of food security, environments and livelihoods in Eastern Africa (CCAFS, 2013)	Regional integration: Will the countries of Eastern Africa integrate politically and economically, or will a fragmented status quo be maintained?	Mode of governance: Will governance be characterized by a reactive or proactive stance of governments, the private sector and civil society?

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Africa's Evolving Food Systems. (IIED, 2014)	Rate and breadth of urban income growth	World food prices
Climate change and agriculture scenarios for Malawi (CCAFS, 2013)	Politics for the greater good and "walking the talk" vs. Politics for the selfish few	Growing and diversified economy vs. Stagnant and one-dimensional economy

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