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SYNTHESIS: FROM EUROPEAN AND LOCAL SCENARIOS TO TRANSITION PATHWAYS (D3.4).

Policy makers and other societal actors have to find ways to plan for and with the uncertainties faced by the European food system. If many futures are possible, the consequences of these futures for the feasibility of plans and policies have to be investigated, as well as any possibilities to bring some futures to life while avoiding others. Using a combination of visioning and back-casting guided by explorative scenarios is one way to engage with such uncertain futures. Explorative scenarios are ''multiple plausible futures described in words, numbers and/or images'' (van Notten et al. 2003). By themselves, scenarios only typically explore contextual conditions. But scenarios can be with normative visions that food system actors aim to work towards, and with 'back-casted' plans created by imagining each step needed to move from that vision toward the present in reverse (Kok et al. 2011, Vervoort et al. 2014). In this type of combined process, each scenario can offer a different set of challenges and opportunities for a vision and back-casted plan, and recommendations for changes or extensions to the plan can be made to respond to that scenario – creating a scenario-specific pathway. If a vision and plan are tested against multiple scenarios leading to multiple pathways, this can lead to recommendations that can make the vision and plan more robust. This process can be conducted across multiple levels of organization: higher-level scenarios can provide a wider context for local planning; local scenarios and plans can inform higher-level strategy (Kok et al. 2006, Kok et al. 2007).

This deliverable reports on the results from the TRANSMANGO foresight process (see figure 1), focusing specifically on the local application of the TRANSMANGO European scenarios (section 1), and the creation of local transition pathways in each of the project case studies (section 2). We also provide a summary of key insights from a European-level workshop in which the insights from previous steps in the foresight process were discussed in the light of potential European transition pathways (section 3).

This deliverable is structured to provide an accessible overview of the main steps and insights in this process in the main body text, with support from much more in-depth material.

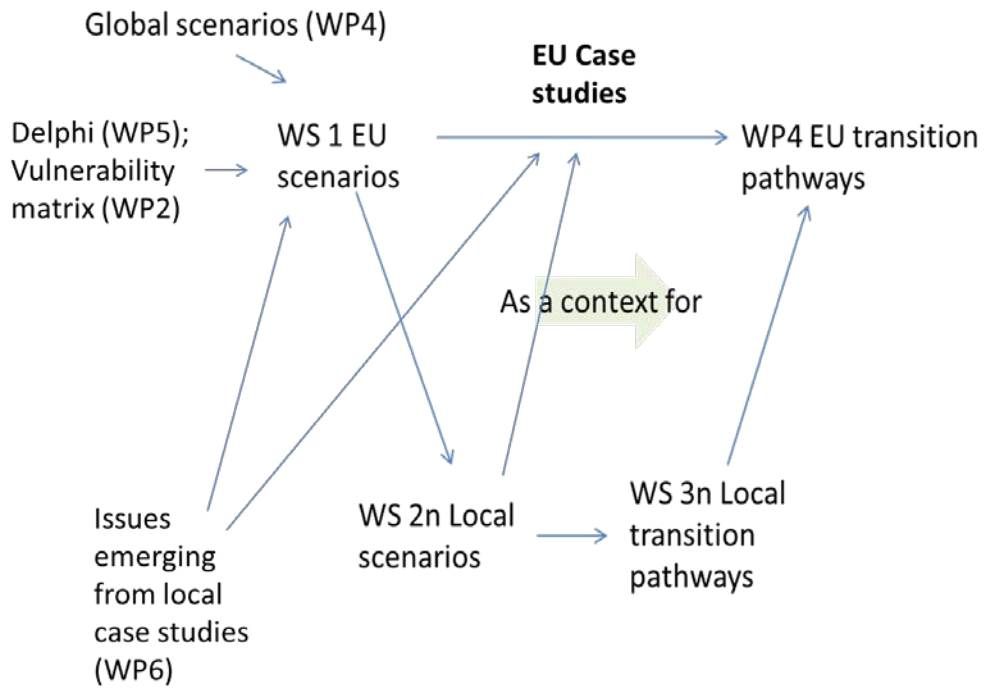

Figure 1. The stages of the TRANSMANGO foresight process.

1. From European to local scenarios

TRANSMANGO Deliverable 5.3 (http://transmango.eu/publications) described the development process of the TRANSMANGO European scenarios. This process was based on a wide-ranging review of key drivers for future of the European food system in a global context, with a large group of diverse stakeholders and through different methods (stakeholder interviews, Delphi, vulnerability matrix analysis). An innovative morphological analysis (Lord et al. 2016) was then conducted with stakeholder interviews, in which the different drivers were combined into a set of tens of thousands of potential scenarios, from which an algorithm selected the set of eight most diverse scenarios.

These eight scenarios were in turn divided in a principal set of four scenarios to be a primary focus for stakeholder-led scenario development, and a secondary set to be further developed later. The eight scenarios, combined with their framing through a large set of drivers, provided a multi-dimensional future possibility space for TRANSMANGO, in which both European and local futures could be explored. See table 1 for the principal scenario set, and table 2 for the secondary scenario set.

Table 1. principal scenario set.

	Consumption Patterns	Environmental Degradation	Poverty and Economic Inequality	Social and Technical Innovation	Urban and Rural Population Dynamics	Power and Market Concentration	Trade Agreements	Resource Use

Fed up Europe	High animal products, high sugar/processed food (unhealthy meat eaters)	Biodiversity loss, water pollution, soil degradation etc. continued environmental decline	Low poverty high inequality – few are truly poor, but some are extremely rich	Low innovation, private sector driven – public and private sectors are inert, despite interest in change among a minority in the private sector	Increase in both urban and rural populations	Extreme concentration: several companies dominate the entire market worldwide	Free markets (more free trade agreements, removal of subsidisation)	Resource crisis
The Retrotopia	Low animal products, high sugar/processed food (unhealthy vegans and vegetarians)	Environmental degradation is reversed	Low poverty, low inequality	High innovation, public sector driven	Decrease in both urban and rural populations	Healthy competition exists in all sectors – significant role for SMEs	Protected markets (less free trade more subsidies)	Significant reduction in resource use/demand
The Protein Union	Meat consumption, low sugar/processed food – strong innovation on animal proteins, e.g. insects	Environment is stabilized but at lower levels than today	High poverty, low inequality – people have less assets but strong state support.	High innovation, public sector driven – the public sector stimulates innovation, but there is an important role for the private sector	Decrease in rural, increase in urban	Some sectors dominated by a few global players, others less concentrated	Protected markets (less free trade more subsidies)	Resource scarcity
The Price Of Health	Low animal products, low sugar/processed food (healthy vegans and vegetarians)	Environment is stabilized	High poverty, high inequality – incomes are low, but quality of life has been decoupled from income through other means of subsistence; the rich lead very different lives	High innovation, needs driven, bottom-up – local initiatives, local businesses and local governments	Increase in rural decrease in urban	Extreme decentralisation dominated by SMEs	Protected markets (less free trade more subsidies)	Significant reduction in resource use/demand

Table 2. secondary scenario set.

	Consumption Patterns	**Environmental**	**Poverty and Economic**	**Social and Technical**	**Urban and Rural**	**Power and Market**	**Trade Agreements**	**Resource Use**

		Degradation	Inequality	Innovation	Population Dynamics	Concentration		
The Gravy Train	High animal products, high sugar/processed food (unhealthy meat eaters)	Biodiversity loss, water pollution, soil degradation etc. Continued environmental decline	Low poverty high inequality	High innovation, bottom up and needs driven	Rural and urban populations stabilized	Extreme decentralisation, dominated by SMEs	Protected markets (less free trade more subsidies)	Resource scarcity
Goodbye to All That	Low animal products, high sugar/processed food (unhealthy vegans and vegetarians)	Biodiversity loss, water pollution, soil degradation etc. Continued environmental decline	High poverty, high inequality	Low innovation, private sector driven	Reruralisation	Some sectors dominated by a few global players, others less concentrated	Protected markets (less free trade more subsidies)	Resource scarcity
Too Busy to Cook	Low animal products, high sugar/processed food (unhealthy vegans and vegetarians)	Environment is revived	Low poverty high inequality	High innovation, private sector driven	Rural and urban populations stabilized	Extreme decentralisation, dominated by SMEs	Free markets (more free trade agreements, removal of subsidisation)	Decoupled economies
The Grass is Greener	Low animal products, low sugar/processed food (healthy vegans and vegetarians)	Environment is stabilized worldwide but at lower levels than today	High poverty, high inequality	Low innovation, public sector driven	Decrease in urban and rural populations	Competitive markets, mix of larger and smaller companies	Free markets (more free trade agreements, removal of subsidisation)	Resource scarcity

These European scenarios were used as contexts in each of the TRANSMANGO local case studies (see http://transmango.eu/publications for local workshop reports). Table 3 shows which scenarios were used in which local cases. They were selected based on the criteria of relevance for each case study on the one hand and a preference for using the scenarios from the principal set (which had received the most stakeholder scrutiny) on the other hand.

Table 3. Adaptations of European scenarios to local cases.

Europe	Belgium	Italy - Tuscany	Italy – Rome	UK – Wales	NL – Eindhoven	Finland	Latvia	Ireland - Cork	Spain – Valencia	#
Fed up Europe	US of Flanders	Tuscany in 3D	Slaves and Enclaves	Wales Wails	Greenport Eindhoven		Victory of Apathy	BAU	And so on and so forth	8

Retro-topia	Everything under control	Solidarity in Half					Local Effeciency	Grey Autarky	La Huerta Robot	5
The Protein Union	Clean Health Dictate	Could be Better		Wales not as we know it		Protein innovative Finland				4
The Price of Health		Do I…?	Power of the Earth	Preserving Wales		Back to the rural future	Rural Development	Slow progress	Forces and transforming degrowth	7
Gravy Train										0
Goodbye to all that										0
Too busy to Cook					Fata Morgana				Concious but stressed	2
The Grass in Greener					Doom to bloom					1
#	3	4	2	3	3	2	3	3	4	27

Appendix 1 provides a description of each European scenario, and the local versions of that scenario. Here are some reflections on the use of the different scenarios.

Fed up Europe was used in all case studies except Finland. It has been interpreted mostly as a more negative Business As Usual, with varying degrees of changes of current trends. The degrading power of the state is a driving force across local scenarios. Most changes to the original scenario happened in US of Flanders and in Greenport Eindhoven. The most negative interpretations happened in Wales Wails and Victory of Apathy.

The Price of Health was used in all case studies except Belgium and the Netherlands. Usually interpreted as a (forced) back to rural communities strong countryside and local production, particularly in 'Back to the rural future' and 'Rural development', and 'Power of the Earth'. A reason this scenario was not selected in Belgium was specifically because this scenario was perceived to represent the aims of the project (Voedselteams) writ large, and that it would not offer enough of a challenge to the Voedselteams planning process.

The selection of **Retrotopia** and/or **The Protein Union** seems related to the character of the case study. Retrotopia fits better with case studies like Valencia where there is a stronger focus on the rural, or Tuscany, where there is more of a focus on inequality, while the more technological innovation angle of the Protein Union is useful as a way to offer a challenge to organic modes of food production and participatory food systems such as the Belgium case, or cases where livestock plays an important role, such as Wales.

Of the secondary set, **Too Busy To Cook** was used twice as an example of an active, bottom-up society with environmental consciousness being high on the agenda, that nevertheless offered challenges for health and social inclusion. **The Grass is Greener** was particularly useful in the Eindhoven case because it offered specific challenges and opportunities for the use of green space in cities. Table 4 provides an overview of the commonalities between the different local interpretations of the European scenarios.

Table 4. Overview of commonalities between local interpretations of the four principal scenarios.

LOCAL	**Fed Up Europe**	**Retrotopia**	**The Protein Union**	**The Price of Health**
Consumption patterns	Cheap staple, fast-food, **processed** and **unhealthy**, with pockets of local healthy food.	Mixed bag. Food prices increase and **meat is less important**.	Innovation-driven clinically **healthy** and safe but **processed** food.	**High-quality, healthy** food production and consumption.
Environmental degradation	**Increases** with the intensification of agriculture. Decreases also occur.	Environmental quality **improves**, except in areas with high intensity agriculture.	**Less** degradation as the countryside empties.	Re-ruralisation **stabilises** the environmental status.
Poverty	Poverty levels are **low**, with cheap labour.	Diversified with both **increases and decreaes** of poverty. Solidarity increases.	Poverty, inequality, and unemployment **increase**	**Increased** poverty and inequality with tensions between poor and rich.
Social and Terchnical Innovation	**Low degree of social innovation**. **Technological innovation** in some but not all cases.	Wide variety of **subsidised innovations**, related to sustainable development. This **obstructs social innovation.**	**Strong investment** in food technology lead to innovation. **Social capital decreases**.	**Technological innovation is important**, mostly related to communication.
Population Dynamics	Waves of immigration that cause **urbanisation**	**Mixed** with both urbanisation and rural revival, and immigration problems.	Rural decline and **urban growth**	Strong **move to the countryside**. Rural communities thrive.
Power and Markets	National politics lose grip; **large enterprises** dominate.	European borders are closed and **governments take the lead** with interventions. Centralised power.	Command and control top-down policies with **strong national government**.	**Decentralisation** with remaining power for EU and nation state.
Trade agreements	**CAP abolished**; TTIP enforced, increase import/export.	Less agreements; **CAP abolished**. Both export (within EU) and local production increase.	**High subsidies** and control on food production.	**Trade becomes less important** with an inward looking focus.
Resource Use	**Two-faced** with over-exploitation and conservation.	Strict regulations lead to **reduced** resource use.	**Decrease** due to innovation.	Strong environmental regulations and a **reduced** resource

				use.

2. Insights from local transition pathways in the context of local scenarios

In each of the case studies described, a foresight process was conducted, using localized future scenarios to test either existing plans or strategies or develop, through visioning and back-casting, new strategies. The local workshop reports provide details on these processes (http://transmango.eu/publications). In each of these processes, the localized scenarios, based on a central European scenario set, offered a range of different challenges and opportunities in which to investigate the future of each case study.

TRANSMANGO researchers saw the foresight process in each case study as an integral part of that case study, because the ideas and plans that stakeholders in a case study have about the future(s) of their initiative/network play an important role in present activities. This means that foresight offers a complementary way to the rest of the case study research to offer insights on but another way to shed light on each case, and on social innovation across the European food system.

Based on the processes to generate local adaptation pathways, the case study leaders reflected on three types of insights on the basis of three questions: what new ideas emerged from visioning and back-casting? What insights about policy contexts for pathways were identified across the different scenarios? What scenario-specific ideas emerged for the pathways? The results of this analysis per case study can be found in Appendix 2. Here, we provide a synthesis of these results across all of the case studies.

What new types of ideas, or new elaboration of existing ideas, typically emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

A very common theme in the local foresight processes is that in many cases, the diverse local actors relevant to a local initiative or challenge had not previously been involved in shared planning processes. The need for more integrated action from a food systems perspective was recognized among these groups, and concrete proposals for new multi-stakeholder action platforms were made, especially in cases where an organizing initiative was not the main focus. In cases that featured a specific initiative as a main focus, plans were made to integrate new stakeholders into the initiative in question. In many cases, plans were also made to connect local cases more to wider social innovation networks and relevant partners. Plans for greater coherence and coordination also included the establishment of local quality brands, and data needs, such as a survey of available land for activities. The coherence theme also included the establishment of neighborhood or local hubs for collaborative action, learning, food

distribution, materials, et cetera. Another theme that was identified across a number of cases was the need to integrate education and training across demographies into stakeholder initiatives.

In general, case study partners used systemic ideas like the food systems perspective or circular economy in their plans, where these ideas had not been used before.

What insights did the scenario-based analysis provide across the case studies about how policy and institutional contexts could change, and how this would affect the feasibility of case study futures?

Uncertainties about local, national and European agendas were worrying. The decrease of government support structures and/or the lack of government actions and leadership appeared as a threat to many local initiative plans or a prerequisite to their success. Alternatively, scenarios that saw active government involvement in food system organization but a lack of inclusivity in terms of societal stakeholders also proved problematic. Similarly, the level of available resources from the EU play an important local role.

In terms of organization, regulatory frameworks need to be aligned from a food systems perspective, while being diverse and tailored to social innovation and new ways to organize the food system. More pressure from environmental policies would make a number of initiatives more competitive because of their sustainability benefits – as long as there is a greater recognition of the positive externalities of the case study initiatives. Public procurement was an important activity in many case studies where massive potential was seen, especially when combined with education.

Other factors:

- Many initiatives are also at the mercy of public interest – changes in the positive or negative in this regard affected the future plans of the initiatives considerably as well.
- The investigation of policy environments in the scenarios also highlighted and identified emergent links between government actors internally and with other actors.
- Trust levels between societal actors are important and can change, changing public perspectives of food and nutrition security.
- Different future contexts may require different discourses and channels for communication by local initiatives.

What new types of ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

When applied to initiative plans, the scenarios highlighted the need for fast action to avoid undesirable futures in which initiative objectives would no longer be achievable – and urged initiatives to avoid long bureaucratic processes.

The scenarios urged initiative organizers to find ways to expand/connect beyond their specific political and socio-economic communities - some of which could have a stigma of elitism (associated with relatively expensive local food channels, for instance) or marginal activity (for example, small-scale urban agriculture) that could become more of a problem in scenario which were not positively inclined to such aspects. More recombination of low-tech and high-tech approaches and a better mix with different socio-economic groups was recommended in several cases. The scenario processes also put emphasis on connecting with the next generation, engaging them and providing them with education and skills to be a part of better food futures related to the initiatives. All of this played into the insight in several cases that initiatives have to become more media-literate, and more politically connected to higher levels of governance, both national and the EU – and to global initiatives like the SDGs. Recommendations were also made to better learn to understand longer-term theories of change (for instance, transition thinking a la transition towns, or the development of new gastronomic cultures). Initiatives were seen as potentially key actors in the re-shaping of local policies and local economy in ways that would be more beneficial to social innovation – and an important mission for local food initiatives would be to build societal trust through their work to avoid less desirable scenarios.

Some general insights can also be derived related to the four principal and most often-used scenario set in relation to local transition pathways:

The Price of Health

There was little consensus about the challenge provided by the scenario across the cases that used it. Some regard it as the scenario that is closest to their desired plan, some see it as the context within which everything gets more complicated. Much relates to the central topic and aims of the case study.

Fed Up Europe

The majority of the cases interpreted the local scenario as offering a “fertile context” with “promising niches”, and/or “room for experimentation” because of the lack of a strong government. Some, however, list many challenges or typify the scenario as “the most hostile”. Again, there is diversity in what context the local scenario provides, but here, much depends on how the European scenario was downscaled.

Retrotopia

This scenario seems to generate a mix of elements that pose challenges and incompatibilities, as well as chances and possibilities. Some cases takes it as “amenable to goals”, some as mostly incompatible. Overall, the scenario triggers creative thinking to use chances while overcoming challenges.

The Protein Union

Overall, this scenario was considered as posing severe challenges to the local initiatives. Important were the "lack of financial resources", the "strong regulation" limiting the degree of freedom for initiatives, and the lack of free choices at local level. Only fundamental rethinking could help local initiatives to survive.

3. Toward European transition pathways

In this section, we provide preliminary insights from a focused policy workshop where policy recommendations for a European transition to a more resilient food system were developed. The full spectrum of results from this workshop will be covered in a detailed workshop report as a separate deliverable.

The workshop focused on several steps: 1) the design of policy recommendations to create greater coherence in EU policy relevant to the European food system; 2) the review of these recommendations against the needs and design principles identified in the local cases and their associated transition pathways; and 3) the testing of these ideas against the eight TRANSMANGO scenarios at the European level.

In step 1, a detailed analysis of policy inconsistencies and unintended consequences was presented, and also summarized in figure 1:

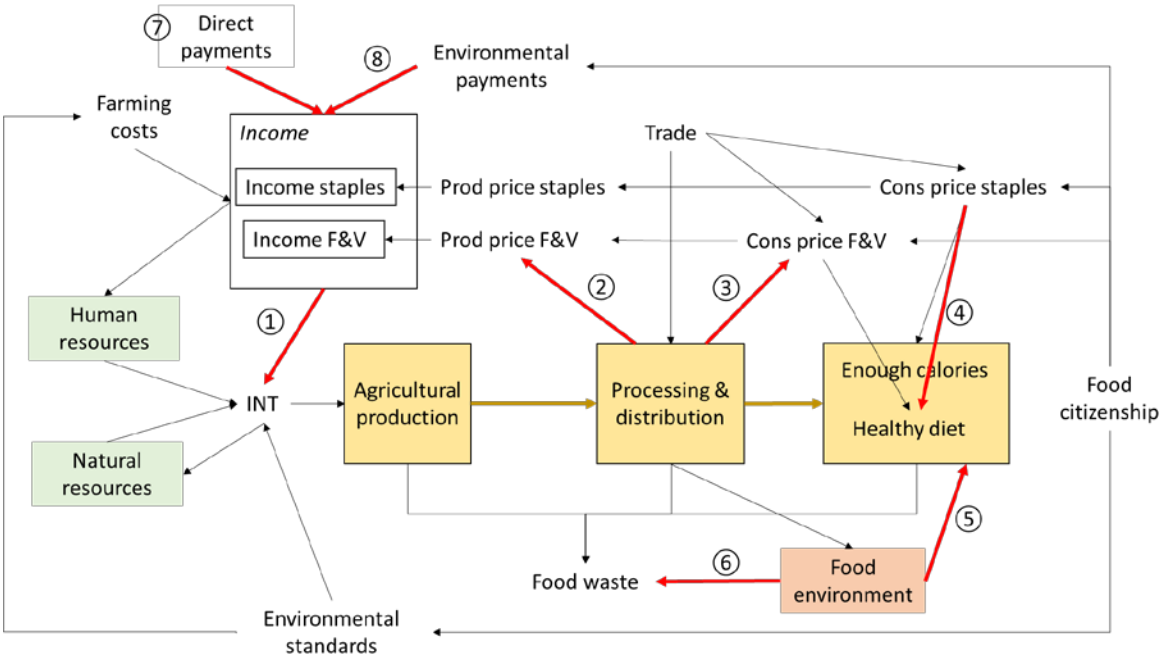

Figure 1. Overview of food system including eight food system challenges.

The following system challenges were represented, linked to this figure:

1. Farmers intensify both when income goes up (profit) and goes down (survival)
2. Market power to farmers

3. Market power to consumers / retail business model F&V margin
4. Cheap staples good for calories, bad for diet
5. Food environment doesn't enable healthy diets sufficiently
6. Food environment doesn't sufficiently prevent waste
7. Unequal direct payments, primarily to large staple producers
8. Environmental payments do not sufficiently cover cost increases

The policy recommendations were tested, in step 2, against the following design principles emerging from the local case studies, which are in turn the basis for European transition pathways:

ReDP1: Re-enforcing food entitlements of traditional and newly emerging vulnerable groups

- Observation: Especially in times when neo-liberal policy frameworks dominate, entrepreneurs and 'third sector' are encouraged to solve food insecurity problems and as such entitlement issues. In accordance with neo-liberal policy frameworks, the state is expected to play only a minor role, demanding increased interaction between state, market and third sector.
- Example: the case of FNS in remote areas in Spain identifies that private entrepreneurship (food vendors) and not just food assistance can address the problem of access to food

ReDP2: Re-connecting sustainability and health

Example: Provisioning or procurement of balanced, fresh and nutritional food to school children does not only serve to nourish children better and healthier, but also to provide small farmers a market; an outlet for their food.

ReDP3: Re-linking food systems that foster urban-rural synergies

Example: The Voedselteams and Community Supported Agriculture cases in Flanders specifically aim to re-connect production and consumption through active involvement of consumers in the design of the food provisioning system. This can take the shape of among others sharing risks and through self-harvesting in the case of CSA.

ReDP4: Re-balancing social-technological engineering

Examples:

- novel ICT-applications within Irish BIA-case,
- introduction of personalized electronic food assistance cards in Tuscany,
- stakeholders imagination of agro-ecological as well as high-tech urban agriculture futures in Eindhoven,

- strongly ICT-based logistical improvements of short food chain initiatives in Belgium and the UK,
- active searches for alternative technology in Valencian peri-urban farming,
- references to technological lock-ins as constraints for home emergency preparedness in Finland

ReDP5: Re-thinking resilience building

Example: Italian and Dutch food entitlement initiatives initially focused primarily on establishing close relations with food waste reduction, but in time also started to interlink with urban food movements and/or urban-rural synergy development and as such increasingly also actively engage

Finally, in step 3, the eight scenarios were used to test the policy recommendations, complemented with insights from the local scenarios.

The analysis provided by participants in the workshop provides a basis, in combination with the design principles, for European transition pathways that will be quantified using the GLOBIOM model, in the context of the eight contextual scenarios.

The following mix of policy recommendations and mechanisms for policy-relevant action to overcome policy incoherence and support the design principles emerged from the workshop:

Overall: A Food Strategy Council and a European Food Strategy

For many of the challenges and solutions identified by participants, the key pathway that was identified was a European Food Strategy Council (FSC), composed of diverse private and public stakeholders across fields relevant to the European Food System, including those involved as active actors in the food system, those involved in health, environment, and social and technological innovation.

Similar to food strategy and policy councils operating at city, region and national levels - and strongly connecting to these lower-level efforts – this food strategy council would offer the European Union and food system actors a mechanism for reflexive governance in which the FSC would inform, support and provide feedback on policy.

A European Food Strategy developed by this FSC would allow for flexibility between different policy domains while encouraging coherence.

Proposed pathway elements supported by the FSC

- Creating a more coherent message on the need for economic reform in Europe, focused on raising incomes and alleviating poverty through EU-organized targets, as a way to tackle food and nutritional insecurity, and the problems associated with short-term stop-gap approaches such as price reductions and food banks.

- Restructure labour and time to create more time to shop and cook.
- Creating ways in which farmers become more aware of the benefits better environmental management can yield.
- Policies to interfere with market concentration.
- Stimulate family systems to be less dependent on external inputs.
- Improve the food landscape specifically for children.
- Set nutritional standards that are flexible for cultural variation etc. on the basis of a point system, where you can gain points for certain healthy foods and lose for less healthy foods.
- Internalise environmental externalities in food prices.
- Public procurement in line with dietary recommendations and sustainability goals.
- Change access and architecture and infrastructure to combat food deserts/swamps; also direct payments to food vendors to support supply; need to generate demand through education.
- Integrate urban planning for equitable FNS; territorial plans for urban and rural areas.
- Keeping rural areas viable with shops, schools, community resources, transport links esp for young and elderly; room for other types of employment in rural areas e.g. diversification of industry and things to support these; a diversified farming landscape.
- Help farmers find cheap labour in in a socially responsible fashion.

CAP reform

At the same time, more specific reform of the Common Agricultural Policy was also discussed as needed to make the CAP more compatible with food system needs as well, including some preliminary recommendations:

- Funding should go to farmers to sell the products on local markets.
- Change to short supply chains.
- A recommendation focused on providing funding for farmers to develop new marketing channels, and stimulate short supply chains.
- Change from the compliance based agriculture to a performance based system (performance oriented policy).
- Stimulate creation of new business models, in which risks are shared by different actors in the supply chains.
- Create health and social dimensions in CAP.

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APPENDIX A: LOCAL INTERPRETATIONS OF THE 4 PRINCIPAL EUROPEAN SCENARIOS

A.1. FED UP EUROPE

This appendix presents the TRANSMANGO European scenarios (in summary form) along with their local interpretations. We compare and summarize these local scenario interpretations in table from (tables A1 to A10).

European scenario summary:

Fed Up Europe is a story of inertia in the food system under global pressures. Practices and business models leading to unhealthy diets and negative environmental impacts continue. The power of EU and national policy makers to change these trends decreases over time with a combination of decreasing funds and decreasing popular support. There is a lack of leadership in the face of climate and migration crises. Consumers' incomes are enough to avoid food insecurity, but many lack the knowledge, incentives or budgets for healthy life styles. In governments and in the private sector, there are minorities interested in changing the trend, but they are fighting an uphill battle.

Local scenario interpretations:

BELGIUM:

The United States of Flanders (De Verenigde Staten van Vlaanderen)

The United States of Flanders is a story of a world in which national politics loses its grip on society completely. Multinationals and large agricultural companies make up the largest part of employment and local food initiatives –carried by the 5% most wealthy- flourish in the absence of national regulations on trade and food safety.

The road to 2030

Political: 2020 is an important breaking point with the collapse of social security. The government becomes right-wing, liberalism is doing well. Multinationals are supported by governments and are increasingly growing. The budget for the CAP is decreasing and Great Britain exists from the EU. Faith in politics is gone.

In 2025 Flanders becomes independent. Provinces are abolished and cities are becoming increasingly important. Flanders is characterized by a few strong central cities. The FAVV (Federal Agency for the Safety of the Food chain) is abolished after a sequence of food scandals. In 2028 the CAP is also abolished.

Socio-cultural: until 2022 local dynamics are increasing, with an increasing interest in healthy and local food. 2025 is a year of scandals, both in locally grown vegetables and foods and imported meat. Local food initiatives are collapsing like a house of cards. Citizens give up hope for healthy local food. In 2030, 60% of the population is overweight.

Agriculture and open spaces evolve similarly. Investments are mainly done in forests and nature, at the expense of agriculture. The pressure of industry on public space increases, which makes that in 2025 forest and nature cede for industry and recreation. In 2030, only 5000 out of 24.000 farms still exist.

The 2030s

Political: national politics lose power and credibility. Flanders is independent. Society is increasingly right-wing, liberal parties are flourishing. This vacuum creates chances on local and municipal levels, leading to 'urban utopias'.

Economic: economically, the population is doing well. Middle class represents 95% of the population. There is enough budget for leisure, traveling, cars, etcetera. Unemployment is low.

Socio-cultural: Healthy food becomes less important because of a lack of knowledge, motivation and few policies around health. The number of people with food borne diseases increases. Health insurances are having a hard time. Even the concept of ideal beauty changes, with corpulence being the ideal. The image of the fat, rich citizen that plays golf on Sundays fits perfectly in this time.

The gap with the 5% of richest people is striking. These 'new rich' eat healthily, move a lot, and are the motor behind alternative food dynamics. They illegally keep pigs on roofs and engage in small but dynamic informal economies. Illegality is no longer an issue, however, since the abolition of the FAVV. Civil society initiatives can flourish. The new rich buy organic products, that are strikingly expensive because of high land prices and speculation on food markets.

Companies focus on uniformity and barely invest in innovation.

Agriculture and open space: In Flanders, two sub-sectors still exist: soil cultivation and pig production. The conservation of soil cultivation is because of fertile soils, which makes that Flanders can keep its strong position on world markets. Pig farmers persevere with the believe that their sector will be ok. Meat scandals in other countries are an asset. Dairy farming, grain and sugar beet cultivation have completely disappeared. Asia and Latin-America provide Flanders with cheap alternatives.

Voedselteams are confronted with a situation in which 5% of the population chooses local and healthy food, but that strive for modern alternatives. New business models are the main challenge for Voedselteams.

ITALY – TUSCANY:

Tuscany in 3D" (top-right): the "right to food" enters fully into the political debate: food assistance is conceived as a strategic task that allows to tackle bigger problems and needs. Public authorities develop a strategic approach to achieve closer collaboration between all players in the food system. Citizens are willing to contribute with voluntary work. The role of civil society associations is viewed by government as a resource for survival and functioning of the welfare system. The narrative of the scenario comprises the following key points:

- The crisis escalates. Inequality and social conflict are increasing. migratory waves exert strong pressure on food assistance systems. Public health is deteriorating because of inadequate eating habits.

- The food system is concentrated in a few large companies. They reduce the surplus because they become more efficient and therefore greater attention is put to avoid waste. To justify itself, businesses engage in social responsibility projects. Growing public pressure on big companies to help the solutions.

- The welfare state is in crisis. People are seeking new answers and customized to emerging needs. The right to food enters fully into the political debate: food assistance is conceived as a strategic task that allows you to tackle larger problems and needs. Public authorities develop a strategic approach that aims to achieve closer collaboration between all players in the food system.

- An increasing number of citizens are willing to contribute with voluntary work. The role of civil society associations and is viewed by government as a resource for survival and functioning of the welfare system.

ITALY - ROME:

The main repercussions subsequent to the scenario were identified on the basis of a dual situation. On one side, information quality is progressively degraded due to the deterioration in civic consciousness and social participation in democratic processes, paralleled by the mortification of individual and social rights, with specific regard to those of agricultural workers. It also implies an 'assault' to the land, because of a double competition for agricultural commodity production (within the primary sector) and non-agricultural purposes (across sectors). On the other side, the persistence of enclaves enables an operative space for small-scale productions, social and political resistance, subsistence farming and consumption of own produce. The result of this duality is the widening of the consumption gap between high quality for few and low quality and levelling food supply for the majority, with retailing concentration affecting nutritious foods availability in a context of increasing fraudulent behaviors in the market. In sum, a sort of 'food spread' occurs, probably paralleling the financial spread likely to arise in a disaggregating EU. Moreover, pressure grows on fertile land suitable for arable crops determined by increasing conflicts on access to land as well as by the struggle between

production models: eventually, these conflicts exacerbate tensions on use and destination of public lands, paving the way to the risk of massive privatization of lands to the advantage of big business or finance.

The title for this locally adapted scenario was identified ex post as "Esclaves & Enclaves" to depict the loss of actual socio-economic rights for the majority of the population (the modern unaware slaves) and the resistance of -somehow- politicized niches (the comforting ghettos).

The key medium term features (e.g. 2023, the mid scenario time horizon) for the Esclaves can be summarized in an increased control on mass communication and consequent shrinking of free information flows, paralleled by reduced access to education and training, finally resulting in a social sterilization. Around 2023 farming is an activity for a modest (in both quantity and wellness) group, providing cheap labor managed by 'slave merchants' (the caporalato, in Italian, the illegal recruitment of –mostly immigrant- agricultural workers for very low wages), and ought to cope with climatic vagaries and uncertainties in earnings, too. Food supply is flattened at the lowest standard, with less public support to valuable experiences and quality productions with higher nutritional value. Dichotomy on purchase becomes evident: the rich will buy their food at Eataly (the SlowFood-like retailer for high quality food, currently spreading in major Italian cities and abroad) while the poorest buy food in large discount stores, with a growth of smuggling and informal markets accompanying the concentration of market spaces and supply restrictions. These changes are partially mitigated by charities for staple foods. Land competition is on the rise and productive areas will be under pressure and mostly operated by contractors.

In a longer term (e.g. the 2030 agreed time horizon), the limited land still available falls in corporations' and large businesses' hands and a big multinational company has acquired the few remaining public lands. Industrial districts grow on previously farming land aside greenhouses where indoor technologies will be deployed for food production. The remaining agricultural land use is mostly devoted to planned and coordinated monocoltures and agriculture is intensified to benefit the integration with the urban market. This poses additional greater environmental pressure, providing employment at the same time. Land use competition further increases for both competitive agricultural purposes and between farming and other uses, due to urban sprawl and realization of infrastructures. The overall result for the farms established on public land is a deep crisis and abandonment of their activity and projects.

Faced to the social and political degradation, some pockets of resistance remain. In agriculture - and in the medium term- they mostly find a shelter in marginal lands (in consideration of the difficulty in finding non-urbanised and non-contaminated land at reasonable prices) that prove to be a refuge for subsistence in seek for self-sufficiency. This also drives to the development of social cohesion from the bottom, particularly among the poor, youngsters and women not having access to land, thus building small autonomous enclaves to build a subsistence economy. In the longer run, however, conflicts on marginal land use between the urban poor and small farmers may grow, in a situation where short chains either disappear or are strongly

reactivated valuing the few subsidies available. This results in high quality diversified production enclaves for self-consumption and the elite.

UK – WALES

Wales Wails

Wales is experiencing a mixture of diet-related diseases, with diabetes and obesity widely spread among the population and causing premature deaths. The quality of life is low and partly determined by your postcode, with more places turning into food deserts. The welfare system has largely collapsed just supporting those that are temporary out of work due to illnesses. The NHS is completely privatised having to pay for healthcare and devolving responsibility for health to individuals. Those who smoke or are obese pay higher rates in this privatised system. Unemployment is very low, but there is no decent work; wages are low and employers offer bad working conditions that allow people to live just above the poverty line. There is a clear growth of the precariat, mostly working on manufacturing industries and with families struggling to get by. The industries that had fled Wales looking for cheap labour abroad have come back.

Consumer demands for goods and services competes with food needs, therefore there is a need for food to be cheap. There is poor access to local and healthy food, with a clear proliferation of fast food outlets and processed food provided by few and powerful companies. Concentration of power in the food supply chains also affects infrastructure, owned by few global retailers and where local food has been replaced by cheap imports. There are small pockets of wealth that enjoy better food and services. These people are able to buy themselves out of the system, having nice healthy expensive foods, affording private health care and living in gated communities (resembling the US model). Consumer options have also been individualised, with the media and other actors running a moral crusade against consumption. Despite the increased availability of information around products, there is a steady loss of knowledge and skills particularly in the food domain.

Wales is also suffering from climate change impacts, with summers being a reminiscence of the past. Floods are common and housing developments compete with other land uses, which together with intensive farming practices contribute to soil degradation. There are also increasing water pollution problems linked to low environmental standards of manufacturing industries. Wales' impact on the environment has increased steadily, partly due to meat production replacing fruit and vegetable fields; this has led to miss recycling and Co2 emission targets. There is more surplus food and food waste due to the dominance of processed foods and inefficient globalised food chains with low environmental and social responsibility standards.

Despite the decreased life expectancy, population increases due to migration. Places are more crowded and there are also increasing flows between urban and rural areas. The mood swings between social unrest and apathy, since people have just enough to get by. Politicians pride themselves on this 'absence' of poverty and blame migrants and global dynamics when discontent rises. There is a mixed-bag of diluted policies in midst political apathy. The Common Agricultural Policy has disappeared and the private sector is taking over most services, including catering in schools. Income and corporate taxes are low, but other services are taxed such as food or tolls in order to pay for the basic welfare provided.

The path to Wales Wails

We basically did nothing and just let current trends deepen. The UK leaves the European Union by a tight vote in 2016. This leads to even more short-term thinking with politicians even more eager on winning elections in an uncertain environment. However, there is a steady political inactivity amongst the population, electing weak political leaders that are not able to turn the tables. The UK independence includes re-organisation of administrative structures, such as the one initiated with the local authorities that costs money and means loss of knowledge, moral, skills, and relationships but creates the illusion of change. This leads to have unskilled politicians that are no fit for purpose. By 2020 is clear that the Future Generations Act (WFGA) turns is an empty shell, which will never be implemented. Politicians use the investment of corporations to go for easy vote winners, such as hosting sports events.

Business as usual includes deepen neoliberal policies by progressively implementing bilateral free trade agreements, although due to their complexity they won't be in place until 2025. This prompts the return of manufacturing companies with low corporation taxes, availability of cheap labour, inexistent environmental laws and access to cheap imports. Jobs are mostly sedentary or repetitive. The individualisation of socio-economic success in a corporate driven economy threatens the existence of trade unions, progressively marginalised in terms of funding, public support and lobbying power. This leads to a disappearance of living wages by 2023 with responsibilities around working conditions devolved to the private sector. More and more people are hired under zero hour contracts given the availability of cheap national and immigrant labour. This working environment results in more mental health problems.

Neoliberal policies also scrap support for local businesses, Welsh industry and local producers, as we are witnessing with the collapse of the steel industry. Since abandoning the EU the CAP is not replaced and small producers disappear unable to compete in markets flooded with cheap imports. The Welsh producers attempting to survive use increasing amounts of pesticides and fertilisers, causing soil degradation and other environmental problems that in the long term risk

the viability of their farms. The land that has been abandoned is progressively occupied by housing developments, which also invade green public spaces.

NETHERLANDS – EINDHOVEN

Eindhoven is envisaged to evolve into a main port of technology and design carried forward by corporate groups and followed by more and more start-ups being incorporated in bigger corporate groups. The corporatisation of Eindhoven goes hand in hand with a growing interest in high tech solutions for localised food production in the city; mostly the vertical way. As a result, the rural becomes redefined into a consumption area. Green Port Eindhoven hardly has space for those that have been excluded from the circular economy under construction. The excluded explore for livelihood changes outside the high-tech. New options are identified leading to a greening of Eindhoven, reducing in the long run the differences between the high and low-tech run urban economy. It is in the interest of the municipal polity to underpin legitimacy of it policies to keep these co-existing economies together. Pushing for mutual interaction will reduce the contradictions and enrich the resource base of the urban economy.

LATVIA – Victory of Apathy

This group was modelling practices emerging from EU scenario Fed up Europe. The scenario envi-sions future where huge global food production enterprises are dominating joint EU market. Lack of support mechanisms that would enable smaller actors is reducing the competitiveness of small farmers and producers. Business practices continue to degrade the environment while people are continuing to pursue unhealthy consumption practices (however, most of them have the economic means to change these practices). Government is not particularly interested in working with environmental and food issues. Interest in healthy consumption practices persists in narrow groups of activists.

This would cause controversial consequences in Latvia. On the one hand, Latvia - country that still has relatively weakly developed industrial production and high share of small farmers would suffer less from abandoned support to healthier and cleaner production. Thus it would not witness natural degradation to an extent that would be observed in Western Europe. This advantage would encourage farmers to continue to operate in niche markets and continue to produce healthy food for remaining group of consumers. However, without direct and purposeful support from national government and EU small farmers would have more difficulties to compete with enterprises representing industrial farming and maintain a stable circle of consumers. On the other hand, people would be exposed to highly sophisticated marketing of cheap products produced by actors representing global food industry. This would contribute to spread of unhealthy eating practices. The process would be pushed further by availability of cheap products both here in Latvia as well as in other regions countries and the widespread of sedentary lifestyle. Fast-food chains would quickly take over Latvia’s countryside towns.

In general – income of Latvia's inhabitants would continue to rise and it would come closer to aver-age EU level. However, people would not use this newly obtained wealth to change their unhealthy habits. Rather the money would be spent on goods that would allow falling into ever more deeper indifference towards the self and surrounding community. This would reduce communal solidarity and would ensure that cracks of social intolerance, apathy and inequality would just be getting deeper. This would cause negative effects on overall populations physical and mental health thus putting additional pressure on national health system. Without pressures from common EU policies and no societal critic and demand for solutions to environmental and food quality problems, national policy makers would abandon these goals in favour of more popular and visible problems.

The future

School meals: What concerns school meals workshop participants were speculating that the inequality would affect pupils as well. As a result there would be significant differences in terms of meals pupils receive – for selected few healthy and qualitative meals would be available while for most these would be cheap meals of low quality and low nutritional value. However, government would try to mitigate this inequality by offering free meals to all of kids. Still limited funding it would be willing to allocate to implement this practice would leave effect on quality of these meals and on circle of possible suppliers of the food. Mainly would be huge global enterprises prepared to deliver big amounts of cheap food. However, there would be some families that would still have the links to rural countryside houses that would grow their own food. These would be the families that would most likely try to persuade the society and government to do more to improve the quality of food and environment. For these families school food would remain as one of the central instruments that would allow achieving their goals.

Political: Latvia is strongly centrally regulated. The government focuses on investments in subsidies for innovation and large-scale agriculture. Additionally, conventional agriculture and production is supported indirectly – through instruments like procurement. The market is opened and there is no political will to introduce more scrupulous food regulations.

Agriculture & public space: most of agriculture is intensified and oriented on producing high share of cheap products. There a some small groups that continue to maintain family farms and grow their own food. This practice could be more widespread, however, it lacks support in society.

Socio-cultural: Access to healthy and nutritious food divides society in those who are thinking about it and those who do not. Healthy food is more expensive. However, since the income has risen most of people could afford it. They mainly don't due to the shift in overall values. Yet the same values are still preserved within a group of people who additionally to healthy eating are pursuing what could be called green lifestyle. Although these people are concerned with healthy eating their main goal are to preserve cultural tradition and maintain identity.

Meanwhile, for general public obesity and food related diseases have become a norm.

Environment: Biodiversity is decreasing. General apathy causes that only limited attention is paid to questions concerning environment. Thus the conventional production can continue to deplete the land and the need to produce more and cheaper overshadows the questions concerning consequences of such production.

IRELAND – CORK

In the context of the Fed Up Europe European level scenario, the most pertinent issue for Ireland has been the withdrawal of European Union subsidies to farmers for environmental schemes. This has had a destructive impact on farmers, in particular small family farmers. In Cork, many farms of this type had relied on subsidies to ensure their operation was financially viable. Less local food is available, both mainstream and artisan foods, and the shops are largely stocked with imported foods. Small local shops and farmers' markets have largely disappeared because of this, but also because people have less time and are less emotionally connected to food consumption. There has been a withdrawal of funding for schemes to educate people on the topic of food and to help connect them with their food. Food costs more for the consumer and 'good' diets become the preserve of the wealthy. As a result, lifespans have shortened and an obesity crisis has emerged.

Corporate-owned or controlled farms have benefitted from the removal of European Union subsidies as they have been able to expand more into the market space left by smaller farmers, and also to buy up land from 'failed' small farms. Large-scale industrial farming run by corporations, some of which are foreign-owned, begin to proliferate. As a result of this, there is a growth of large food processing plants geared towards export markets and Cork airport becomes a global 'food hub'. This also represents an employment hub and there are others of its type around the country. Although there are high levels of employment in these hubs, wages are low. In addition, there is increased unemployment away from these areas. One particular positive trend for Irish producers has emerged: Irish livestock farmers benefit from increased global demand for meat products and as a result, prices for their products have increased.

A further negative impact which has emerged in this scenario is rural depopulation, especially rural youth depopulation. This is due to the decline of family farms and there being less opportunities in rural areas. Specifically, there is less populated open countryside with more rural people living in villages and towns. This has also caused an increase in rural-urban migration trends, exacerbating Cork City's existing housing crisis (and also the housing crises in other Irish cities). Social capital decreases, in both rural and urban areas, and there is little community life.

Ecological degradation of lands and waterways due to the increased industrialisation of agriculture has become a major problem. The rural landscape changes and is less diverse; there is a reduction in natural resource and in biodiversity. While this is concerning per se, it also has

a consequent negative effect on tourism, in particular tourism which focuses on rural nature and beauty, such as walking tours, fishing etc.

How have we come to this?

Possible explanations for how this scenario would come to be in Ireland include 'Brexit' and the migration crisis together acting as a catalyst for a 'house of cards' style collapse of the European Union. Another suggestion was the possible collusion of political leaders and policy-makers with corporations; the leaders not only accept this situation but they actively facilitate it. An example of how this might occur is through the passing of free trade agreements such as the Transatlantic Trade and Investment Partnership. A final suggestion of how such a situation might emerge was that civil society activism experienced a 'slow death' precipitated by cuts in funding on social inclusion and community initiatives.

SPAIN – VALENCIA

In 2030 the Huerta is suffering the consequences of the worsening of climate change, which results in water problems accompanied by severe agricultural soil degradation. In many cases, these environmental problems have led to crop losses, causing serious economic problems for farms (especially affecting small farms) in addition to a steady decline in their overall profitability. The combination of these processes leads to abandonment of agricultural activity, being especially affected the small farms, which are either urbanized or incorporated into larger farms where monoculture is prioritized, generating in turn pest and disease problems. Agricultural production moves to the mountains and the remaining agricultural activity in the Huerta is heavily relying on external inputs. There are only a few isolated "islands of agroecology" areas left around Valencia, that refuse to disappear. The Huerta loses its cultural value as it degrades environmentally and socially. Despite these changes taking place, there is little visibility and awareness of what is happening, partly due to the fact that the population does not value intangible resources. Proof of this is the disappearance of the renowned "Water Tribunal".

In spite of relatively low incomes, population poverty level in and around Valencia is low, and therefore most people have just enough to survive. Employment is of low quality, and cheap labour maintains the income of a wealthy minority. An increasing migration contributes to generate precarious and unappreciated jobs. Generally, qualified workers emigrate and less skilled workers come. These jobs are created mainly for a cheap tourism industry responsible for generating a great environmental impact. Since the countryside offers more opportunities to survive, rural population increases, while immigrants come to the cities. In many cases population derive a share of their income through the informal economy. Even though taxes have increased, state revenues are lower making welfare spending shrinks. This have important implications on healthcare, where universality of access has disappeared and its coverage have decreased; on the quality and access to education, which has been reduced; on the innovation level, and also affects the retirement pensions. This is a technocrat state with a low decision-

making capacity that only transmits and manages European policies, but unable to develop national policies.

Given this level of low income, people buy low-quality products that increase food safety risks, including diet-related health problems (obesity, diabetes, etc.). Population is passive, apathetic and sick. Civil society becomes inactive and undemanding with the exception of a few very involved people. Because most foods are packaged and processed a loss of knowledge about food and its provenance occurs. Food is mainly accessed through vending machines and the great distribution as neighbourhood markets have gradually disappeared. Agroecology is still a sectarian and minority sector offering expensive products only accessible to the upper classes.

At the international level, a two-speed Europe has been stablished, where there is no consensus allowing some countries impose their policies while others have to obey. The political system is in the hands of banks and policies favour the interests of large firms that control the market. The TTIP (Transatlantic Trade and Investment Partnership) is fully implemented. Imports and external dependence increase. Also, exports of some products increase making local production determined by the external demand.

How did we get here? It would be the same dynamics that we are suffering right now but aggravated and sustained over time. The process poses:

- A growing disconnect between political class and society, reflected in a low turnout in elections (for example, only 20% turn out to vote).

- The loss of core values is accentuated in the society and reflected in the low value placed on good nutrition, environmental and social resources. The educational system is focused on developing individual managerial, business and competitive skills, but not social values such as solidarity and cooperation.

- Changes in lifestyles habits are deepened; people do not have the time to cook and consumption of processed foods have increased, causing people to lose the habit of sitting together to enjoy a family meal.

- International agencies have weakened and have gradually lost action and intervention capacities, which in turn will increase regional conflicts, thus blurring the project of a common Europe.

In addition, an increasingly ageing population in Europe reduces its capacity to trigger changes.

Table A1: The first set of local interpretations of Fed Up Europe.

Fed Up Europe	**BE: The US of Flanders**	**IT: Tuscany in 3D**	**IT: Slaves and Enclaves**	**UK: Wales Wails**
Consumption	Healthy food less	Food is a strategic	Slaves: cheap	Fast food and

patterns	important	choice	staple. Enclaves: organic healthy.	processed food. Small po ckets of rich enjoy better food.
Environmental degradation	Investments in forests and nature. Soil conservation.	Reduced(?)	Productive areas are under pressure. Greater environmental pressure	Floods, water pollution, low environmental standards, soil degradation.
Poverty	The population is doing well, unemployment is low.	Inequality and social conflict increase initially and trigger change.	High inquality with tensions	Unemployment is very low, but there is no decent work.
Social and Terchnical Innovation	No investment in innovation	?	Ag intensification: New indoor technologies for food production.	Not a focus.
Population Dynamics	?	Migration waves put pressure on food system.	Urban sprawl	Population increases due to migration
Power and Markets	National politics lose grip. Multinationals provide employment. Local dynamics possible. Flanders independent.	Close collaboration between public and private partners. Increase voluntary work. Strong civil society associations. Few large companies control food system.	Dichotomy: Most are slaves from multi-nationals under controlled media; some are in enclaves that thrive bottom-up. With possible tensions between them. The EU disintegrates	Diluted policies and political apathy. Private sector takes over most services. Small producers disappear Cheap imports replace local production.
Trade agreements	Absence of regulations; CAP is abolished.	Phased out(?)	Rich: internationally connected. Poor enclaves: local, self-sufficiency.	CAP has disappeared
Resource Use	Two-faced with conservation and exploitation.	Surplus reduction, waste re-use, etc. reduce resource use.	Ag. intensification: more resource use.	Farm land abandoned and used for housing.

Table A2: The second set of local interpretations of Fed Up Europe.

Fed Up Europe	**NL: Eindhoven Greenport**	**LAT: Victory of Apathy**	**IR: BAU**	**ES: And so on, and so forth**
Consumption patterns	High-tech for localised food production. Included: high-tech Excluded: low-tech local organic.	Majority: fast-food, cheap and unhealthy, but with niche markets with healthy food production & consumption Obesity becomes the norm.	Less local food, good diets are for the wealthy. Obesity crisis starts.	Loss of knowledge of food. Cheap, processed food is the norm, sold in vending machines. Agroecology is a minority sector, expensive and only for the rich.
Environmental degradation	Greening through technology	No natural degradation; but limited attention from society and biodiversity decreases.	Ecological degradation, reduction in natural resource and in biodiveristy.	Huge environmental problems and soil degradation, triggered also by climate change.
Poverty	?	Income of Latvians will continue to rise. No poverty. Apathy and inequality rise.	Increased unemployment, livestock is boosted.	Poverty level is low, but people have just enough to survive. Much cheap labour.
Social and Terchnical Innovation	High-tech solutions	Subsidies for innovation for ag. innovation.	Slow death of civil society activism.	Low innovation levels. Civil society becomes inactive.
Population Dynamics	?	?	Rural depopulation and urbanisation, little community life.	Rural population increases, while migrants come to the city.
Power and Markets	Increased power for corporate groups. Policies aim to keep co-existing economies together	Large enterprises dominate But Latvia is strongly centrally regulated.	Large food processing plants, farms become corporate-owned. Large-scale industrial farming.	Larger farms with monocultures dominate. Technocrat state with a low decision-making capacity.
Trade agreements	?	Global multinationals decide.	TTIP enforced. Cork becomes global food hub. Large export markets	TTIP enforced. Imports and exports increase.
Resource Use	Mutual interactions will enrich the	High-tech agriculture puts high demands on resources and	Overuse due to increased industrialisation of	Population does not value intangible

	resource base of the urban economy.	depletes the land. But family farms also continue to exist.	agriculture.	resources.

Similarities between local interpretations of Fed Up Europe

One story can be told based on the above – see table A3.

Table A3 summary of local scenario interpretations of Fed Up Europe.

Fed Up Europe	**Summary**
Consumption patterns	Healthy food less important with cheap staple, fast-food, processed and unhealthy for most. Yet, there are pockets of organic, healthy production and consumption. These pockets are either the poor that are excluded and produce their own local food, or for the rich that are the only ones that can afford it.
Environmental degradation	Overall, there is a tendency for the environment to degrade, particularly in vulnerable areas such as Spain, caused by an intensification and industrialisation of agriculture. Yet, in some cases the environment improves despite increased pressure, either through technology, soil conservation, or lack of large pressures.
Poverty	In general, poverty levels are low, but most people just have enough to survive, mostly due to cheap labour and lack of decent work. However, in some cases, the population is doing well and certain sectors thrive and bring employment.
Social and Technical Innovation	All cases report a low degree of social innovation with high levels of apathy and the slow death of civil society. Technical innovation differs strongly between the cases, ranging from a very high-tech society with innovative solutions and agricultural intensification to low innovation levels in line with the general lack of initiatives.
Population Dynamics	This aspect is not included in many of the cases, as it does not play a major role in some case studies. Where it is described, the trends are towards waves of immigration. Migrants usually move to the cities causing urbanisation and urban sprawl. Rural depopulation and population are both reported.
Power and Markets	National government: National politics lose grip; political apathy; diluted policies. Food production: Small producers disappear; large enterprises dominate; large-scale industrial farming.
Trade agreements	The CAP is abolished; TTIP is enforced; global multi-nationals decide with increased import and export. At the same time, local markets and self-sufficiency are strengthened in some case.
Resource Use	The story is two faced with over-exploitation and conservation: High-tech agriculture puts high demands on resources with general overuse of natural resources, while the general public does not value intagible resources. At the same time, small organic farming is also related to waste reuse and a general

	reduction of resource use.

DIFFERENCES

Within the overall similarities, there are three sub-types of local versions of Fed Up Europe, that emerged:
FUE1: A positive variant in areas that benefit from the intensification of agriculture and/or where local initiatives take firmer root. These include Eindhoven Greenport that can florish through mutual interactions and greening through technology; The US of Flanders where multi-nationals provide employment and local initiatives are possible. (NL, BE)

FUE2: A future with negative and positive elements, where either the environment is not degrading, niche markets continue to exist, or certain sectors prevail. (LAT, IR, ITT)

FUE3: A negative variant where cheap processed food is the norm, the environment is degraded, and the population is apathic (And so on…, Wales Wails, Slaves and Enclaves). (ES, ITR, UK)

FUE1: Belgium and the Netherlands

FUE2: no geographical focus; focus on rDP3: reconnecting sustainability and health.

FUE3: All cases focus to a lage extent on rDP3: rethinking food systems.

The European 'Fed up Europe' most closely resembles FUE3 with processed food, environmental degradation, poverty and inequality, apathy, power concentration and resource crisis. FUE2 and FUE1 differ to smaller or larger extent from this outlook by assuming more positive developments.

A.2. THE PRICE OF HEALTH

European scenario summary

The Price of Health is a story that sees many Europeans returning to rural lives, out of necessity due to global pressures, because of changing social norms, and facilitated by technological advances in communications. These changes are supported by strong government policies regarding self-reliance and sustainability. Not everyone, however, is happy to be returning to the land – and the wealthiest do not have to follow suit.

Local scenario interpretations

ITALY – TUSCANY: Do I want to go to live in the countryside?

Do I want to go to live in the countryside?" (bottom-left): the government decides budget cuts on social measures, considering these not as a priority. Food assistance support is limited to transferring European resources to social parties. The food assistance actors must intercept surplus of small producers and retailers, which are most resilient in the regional context, but this has become more complicated. Society is very closed, therefore human resources, ie volunteers are also scarce. The narrative of the scenario comprises the following key points:

- The economy is stagnating. The cost of living in the cities becomes unaffordable for most citizens, who move to rural areas but especially in the peri-urban areas, where poverty and vulnerable groups are concentrated. The greater poverty also leads to a divergence between the dietary habits of the poor, which worsen, and those of the rich, that enhance and sustain the demand for high quality products.

- The food scandals undermine consumer confidence in the largest agro-food industry and retailing. The small and medium enterprises reveals to be the most flexible, resilient to the crisis and able to better respond to an increasing attention to the relationship between diet and health and between power supply and local identity. Tuscany leverages its local industry tradition and supports small and medium enterprises. The local product is represented as the alternative to a healthy and sustainable globalization of food "taste".

- Large retailers are trying to adapt to the new situation in an articulated manner: a part of them meets the demand for local products and high quality, and another pushes on lowering prices and standardization.

- Public opinion is very sensitive to health, safety and the environment, but not very sensitive to societal problems. The government, faced with cuts in spending on social measures, doesn't consider food assistance as a priority. They merely manage European resources.

- Intercepting surplus of small producers and retailers has become more complicated for food assistance actors. Moreover there is a lack of volunteers.

ITALY – ROME: Power of the Earth

The Price of Health group discussed how access to land would be affected at local level under that scenario. The adapted title for the local scenario is Il potere della terra (The power of earth/land/soil), intentionally expressing the multiscale ambiguity of the "terra" noun, as in Italian it may mean soil, land and earth, depending on the context. Here, all meanings are applicable, intending the agronomic relevance of soil, the political significance of (farming) land, the environmental care for the earth.

Some participants stressed again the possible inconsistency of the Price of Health scenario. Moreover, a different understanding of its implications arose in the sub-group, mostly in relation to the choice intentionality in returning to the countryside and to subsistence farming, in the given scenario: some participants argued that it could not be assumed as a free choice, but as a forced decision.

The scenario implies tensions about the value of agricultural land in and around Rome. Contrasting effects were spotted: the Rome depopulation leads to increased availability of spaces within the urban area, which can be presumably acquired at lower prices, but at the same time it may lead to a race to land in the Roman outskirts, notably on peri-urban farming land (see also the discussion developed on the causal map). This may trigger tensions in access to land and in relation to its use.

In either cases, higher or lower farmland values in the larger Rome territory, small-scale farms are expected to raise their quality standards and to sell high-quality products to the rich (urban) elite. The new lifestyles trigger the potential for a new "rural utopia", considering that the Roman countryside will be one of the areas best connected to urban networks and benefitting from the services connected to the city. The risks related to the polarization of wealth represent a major concern.

Participants provided various inputs eventually clustered in three main areas: ‘tensions’, ‘land & power’, ‘lifestyles’. Due to the identification of these three topic areas, no shorter and longer terms actions/events are identified for this scenario adaptation.

"Tensions”: the main features in this topic area are isolation and poverty, inequalities between existing classes (no social elevator), dissolution of the “EU of the wealthiest” (as labelled by a participant), rising of nationalism and regionalism and wars between nations. In this framework, land ownership turns into power games and conflicts, given that only few rich people can afford to buy peri-urban agricultural land in a situation where there is limited public intervention, price fluctuations and decreased farmers' income. In such circumstances, only public lands assigned to young farmers result exempted from real estate speculation, while a revival of rural culture and of agricultural forms of knowledge becomes relevant at school and at family level (education).

"Land & Power": the land is seen as a main wealth asset (a sort of historical echo), urban farms benefit from the change of paradigm, prices rise for quality products, detailed rules and legislation are set for land assignments under a more stringent citizens' control. Farmers are thus assigned a public role as territory officials and public land assignees gain influential social power in a situation where access to land is constantly monitored and farming becomes essential in terms of land use with no possible land abandonment. Local communities finally become more relevant and powerful than central state.

"Lifestyles": this area is characterized by strengthened alternative distribution networks for families with average incomes and for the elite, by a rural renaissance and by artisanal processing re-associated to agricultural production. New age, yoga, etc. lifestyles complete the vision.

Participants also discussed a 'counter-scenario' based on mounting (legal, economic, etc.) pressures by local administrations, continuous TNCs growth vis-à-vis a SME collapse, poor availability of farming land due to urban sprawl and heavy infrastructures, abundant agricultural commodity production, change in farming land use.

WALES – Preserving Wales

'Preserving Wales' is a story that sees the majority of Welsh people returning to rural lives because of changing social norms and political conditions; for many out of necessity due to high levels of poverty, exacerbated by global pressures; and in the context of strong EU policies and subsidies supporting re-ruralisation and sustainable local food production. This transition is facilitated by decentralized service provision which leads to increased employment in local schools, hospitals etc; as well as technological advances in communications which allow people to have creative and intellectual off-farm work whilst residing in thriving rural villages. These changes boost Welsh cultural heritage around rural lifestyle include language, sport, countryside skills hedgerow laying and local music.

The next years (2016-2025):

Within Wales there is recognition that "we are in serious trouble" and that massive social and structural change is necessary. This is due to increasing social and environmental pressures: poverty and inequality, flooding, large increases in the number of people suffering from lung disease due to air pollution in cities and so forth – all of which are currently strong political issues. There is already a growing trend in social movements towards equity and sustainability.

EU policy has a large impact in Wales and people want to "get their monies worth" out of the EU. Thus, the strong EU policies in The Prices of Health European scenario have a large impact on Wales with many people benefitting from EU subsidies to settle in rural areas and switch to becoming local, sustainable food producers. Quite early on in this process there are major land reforms to allow much more of Welsh society access to land.

The process of renationalization happening in Europe, results in more devolvement of power to Wales. The Welsh government invests in building infrastructure and the provision of goods and services in rural areas, and there is much more decentralization. Train lines become more integral to food and energy and people movement. There is a significant increase in power, gas and broadband infrastructure to meet decentralized needs. Together this results in more employment in more decentralised service provision across sectors in rural areas. This includes local schools, hospitals, utilities, farms and so forth. Community service provision supports a community network feel. This leads to implementation of a range of concepts such as bring your own community restaurants. The cost of service provision in this manner is quite high and the Welsh government leverages EU subsidies for service provision. Level of reliance on government and EU support goes up. There is an evening out of house prices between urban and rural areas as living in rural areas becomes increasingly more desirable due to opportunity and the vibrance of communities.

The Welsh government, in partnership with many social movements and cooperatives initiates major campaigns about nutrition and sustainability, cooking and farming. These issues are eventually fully incorporated into mainstream education. People have a greater awareness of the climate impacts of their diets and they start to question other impacts of their diet. There is also a large training program for civil society outside of schools to skill the entire population in food production. People who are not farmers and who have never grown food before are skilled up so that they can participate in re-ruralisation and local food production process.

Social change and the nature of distributed local food production means different skills and jobs are valued differently than they are around 2015 – farmers are valued more than bankers. Within Wales, growing your own food is seen as 'decent work'. Overall, food waste goes down because there is less money around and people can't afford to waste, and because people are producing food themselves it is valued more. There is, more "waste" associated with fresh fruit and vegetable production but this is used for compost. To some degree resilience of food supply goes up because Wales has a wider range of produce, more of which is produced locally, however, there is more vulnerability to shocks effecting local food production and distribution because there is less of anything coming from abroad.

Only the very rich live in cities, these people are large land owners who subcontract farm work to others. People travel to cities for tourism because they are novel as most people don't live in them any more. Urban areas shrink and there is no expansion deal for Cardiff. There are many abandoned houses, especially in peri-urban areas and these are turned into vertical farming and aquaponics and aquaculture. There is a black market for luxury goods, pigs and eggs in particular.

There are tensions due to poverty, vegetable rustling and land wars take place but these ultimately strengthen the necessity to collaborate in communities. Wales is influenced by growing nationalism and fortress America and to some extent follows suit. Population declines because there is an aging population and very low immigration. There is however an increase of

tourism, particularly from the United States, as people are attracted by how quaint Wales is. There is also some in-migration from England.

Following up on a number of food safety scares in Europe, vegan and vegetarian societies (motivated themselves by environmental and ethical concerns) undertake massive marketing campaigns. These organisations market recipe development and make vegan and vegetarian food seem exciting. This campaign follows up on food safety and health scares. Slowly, there is a shift in dietary patterns so that vegan and vegetarian diets become the norm, though people still eat some lamb, particularly for cultural reasons. Eggs become an important protein source.

2025-2030

Many lamb farmers go out of business as people eat very little meat, though lamb is preserved for special occasions and festivals so there are still some lamb farmers. Sheep are still used for mutton, socks and jumpers. The change in lamb farming is considered a loss of cultural heritage. The uplands changing to arable and horticulture, fuels and energy generation, particularly wind farms. However, these changes boost Welsh cultural heritage around rural lifestyle include language, sport, local rugby, countryside skills hedgerow laying, fox and rabbit hunting and local music. Climate change leads to more wineries on the south west coast of Wales. There is more local beer and wine, and more craft products. Wales also becomes a manufacturer of agricultural machinery.

Destabilisation of the retail sector means less consumerism. People are much healthier, getting much more fresh air, eating healthy food, getting more exercise and spending more time living outside. In general people are happier living rurally in rich cultural communities. The health benefits of lower consumption of animal products become apparent together with increased mental health from contact with nature and social inclusion in community activities result in reduced health care costs overall. There are some vulnerable communities in this scenario – anyone who can't grow their own food, such as the elderly, rely on volunteering and community support structures. Fortunately, community spirit is strong.

FINLAND – Back to the rural future

Core of the story: Back to the Rural Future is a story of Finland, where increasing uncertainty and the prolonged economic recession in tandem with the fall of universal welfare structures have led to widespread migration to rural areas. Social polarization has emerged between rural and urban citizens as well as between social classes. On the other hand, solidarity and communality characterises the rural areas.

Food production, processing and consumption are governed and guided by environmental legislature and "pro-health-taxes" set forth by the European Union and the Finnish government. Frequent food scandals leading to food scares have led to growing distrust towards foreign food stuff and consumers are increasingly interested in the origin of the food

consumed. This, in conjunction with migration to rural areas, has contributed to a bottom-up professionalization of grassroots activities and cooperative means of production.

Road to 2050: The economic crisis endures; northbound migration from Northern Africa, the Middle East and Southern Europe continues; social polarization increases; the Transatlantic Trade and Investment Partnership (TTIP) trade agreement has not brought about the foreseen positive impact on European economy; and in Finland the anti-EU parties win the next elections. Speculations and discussion on the possible Finnish NATO membership strain the Finnish-Russian-relations and hinder export of goods to east. Global tensions and the geopolitical position of Finland cause collective fear among the population.

The security of food stuff originating outside Europe is challenged after frequent food scandals and food scares. Citizens are increasingly interested in the origin of food and prefer to acquire food as locally as possible. Distrust extends throughout the food system, including processing and retail, which leads to consumers bypassing parts of the supply chain, preferring to either purchase directly from the producers or even producing food themselves. Grassroots production, such as allotment gardening, urban agriculture and food circles, quickly transform into broader cooperative models and enterprises. At the same time export-oriented production – directed mostly towards internal EU-markets – concentrates to a few large operators.

As economic recession continues, structures of the Finnish welfare state begin to fall apart. This hastens the polarization of the nation and mediates the need for individual household preparedness. However the divided groups find common cause in smaller units and communities, and communality and cooperation is especially characteristic in the rural areas. Individualistic responsibility takes precedence over universalistic ethos, and eventually legislation comes to include a clause on citizens' responsibility in emergency preparedness. The food and nutrition aspect of preparedness is expensive for those who live in urban areas and have to buy their food stuff wholly from retail. Hence, the polarization of society is expressly present in urban areas, where the slowly-but-surely decaying "skid rows" contrast the elite districts.

By the 2020's environmental degradation is a widely recognized issue, which leads to a preference of organic food and shorter supply chains. Simultaneously, partially due to increasing concern over pollinators, harsh environmental politics and legislature is widely considered justified. The attitudes towards genetic modification and industrial biocides are progressively more negative.

On one hand, these developments are a return to a circa 1950's, pre-urbanization, rural Finland. On the other hand, the technological advances are present, most notably in energy production. National energy production is decentralized, which renders the production and supply of electricity more resilient than before. Agriculture provides full-time employment for some, while others work part-time in both food production and in other fields of business – the latter most often as remote.

Finland in 2050: Urbanization has reversed into migration to rural areas. Participation in cooperative means of production and other pursuits towards self-sufficiency are common due to the decline in individual income. Many urban-dwellers consider this development as a return to the past. Social polarization is present between urban and rural areas as well as between immigrants (and those of immigrant decent) and those who perceive themselves as “original” or “native” Finns.

EU- and government-imposed laws on unhealthy food govern consumption. Only the rich can afford expensive and unhealthy products and imported, luxury foodstuff. In general, diets are vegetarian-oriented and healthy. Improved public health has reduced the expenses of public healthcare.

Technological advances, increase in automation and new means of energy production penetrate the food supply chain. Logistics chains are shorter and local production is preferred. Agriculture has become the mainstay of the country’s economy, supported by both cooperative means as well as the few large industries. The links between consumers and producers are formed online and the use of new information and communication technologies is high. Due to these technology mediated forms of communication and trade, retail is often bypassed, which has led to the dismantling of the dominating market positions of S-Group and Kesko. A few new innovations in plant-based (export-oriented) products have emerged, such as pulled oats. The national clean water reserves are also utilized and exported, though in strict state supervision and national ownership.

Food is held in high respect, which is apparent in the time spent in producing, processing and preparing food. Traditional welfare state structures notwithstanding, the responsibility for preparedness lies on the level of individuals and households, and regional differences between rural and urban areas are glaring; in rural areas, preparedness revolves around self-sufficiency, local production and solidarity, whilst in urban areas individual FNS and preparedness is dependent on the level of income and economic situation of individuals or households.

LATVIA – Rural development

The third group was modelling “Price of Health” scenario. The scenario at Europe’s level suggest that environmental problems encourages people all across the EU to flee from cities to countryside. Because of this number of rural inhabitants and small farms are increasing. Environmental problems forces people to pay more attention to their eating habits which causes shifts in overall food preferences – amount of consumed meat and pre-cooked meals is dropping (in everyday meals fruits and vegetables dominate). Environmental problems and move to rural sites have influenced the average income all through societies which has caused changes in common European lifestyle. However, this haven’t caused poverty or raised the level of malnutrition. Meanwhile the described processes have caused decentralization and have reduced ecological degradation. Still – not everybody is happy with the sudden shift and the richest Europeans are still having a completely different lifestyle.

Workshop participants concluded that due to the close links between countryside and cities Latvia's inhabitants are well prepared for the described future. As in Europe, in Latvia as well SMEs would use the situation to strengthen their position in overall market. Furthermore, home production would become ever more popular witch would cause rise in product diversity. These processes would bring more power to lower governance levels and thus would cause decentralization. Local municipalities would become more important. Population would witness shifts in consumption trends – number of vegetarians would grow and the share of fruits and vegetables in meals would grow. However, this process is not as notable as in Europe – a significant place in meals is taken by meat. Spread of food related diseases is still higher than in Europe. In this future long distance work relations become more popular. It could be that in this scenario country is reducing the circle of social benefits inhabitants might have which causes revival of solidarity and community. Also – self-sufficiency becomes more important. These processes cause inequality to rise.

Purchasing power in cities has dropped and this has caused drop in turnover of big enterprises. Meanwhile, with the help of local inhabitants rural sites become a fruitful soil where small enter-prises can florish. These enterprises obtain ever more significant role in local economy. Still, despite the fact that municipalities are more powerful than before, one cannot say that they have more resources or that there would be enough employment possibilities for everybody. The level of unemployment rises (which coincides with the reducing of social support).

The future

School meals: School catering witness growth of inequality and in sector two opposing trends would be present. There is small number of big urban school that can afford to hire catering enterprises. Farmers are competing to get access to these schools and to be their supplier which would serve as a warranty for successful business. However, in most cases schools are small and municipalities have difficulties to pay for pupils' meals. There are various solutions to this situation however most common practice are - food boxes taken from homes, renewed school allotments, renewed infrastructure for on-site catering. Barter system becomes stronger in schools. These processes also shape education process. On the one hand school pays more attention to educating their pupils what does healthy food and sustainable farming practices means. Oh the other hand, increasing number of parents decide that they don't want to send their kids to school at all. Instead they choose home-schooling.

Political: Central governing institutions has lost their strength and a major part of decision making has been allocated to local municipalities. Furthermore, decentralization and contextual processes have hit hard the financial capacity of country. Thus it is retreating from services it has been histori-cally in charge. This creates vacuum for services which is up-taken by community formations.

Socio-cultural: There are many processes occurring simultaneously. One of the central changes is ever growing inequality. With the move to countryside many of freshly baked rural inhabitants have lost their jobs while other has managed to maintain their highly lucrative positions. Furthermore, with state reducing the social welfare services the risk groups become more vulnerable. No all of the municipalities have the financial capacity to support vulnerable inhabitants. Thus inequality between regions is growing as well and so does the intolerance to those outside the tightly knit community. However, despite this sense of community within certain geographical area is only getting stronger. Other significant changes include changes in consumption patterns – people are more relying on self-grown vegetables and barter allows them to obtain diversity of products without paying for them. Yet the inequality manifests itself clearly even here –those who can afford it continue to enjoy the expensive luxury products.

Agriculture: Number of farms has increased. In most cases these are small farms.

IRELAND – CORK: Slow Progress

The coming decades see changes in urban and rural population dynamics in Ireland, with people moving away from cities and building thriving, creative and stimulating rural communities. This change is driven partly by economic necessity; partly because of changing social norms, and partly because of technology; and partly by strong government policies, within the context of strong interventionist EU policies supporting re-ruralization.

Global economic downturns, social problems and decreasingly competitive EU economies have led to high levels of financial insecurity leading many people to seek alternative measures to meet their basic needs. Many return to the countryside and begin to grow food as being poor in a rural area is seen as significantly better than being poor in an urban area, as consumers can become producers. This move is supported by changing social norms in which people aspire to be healthy and sustainable, and a de-coupling of notions of wealth and well-being from financial concepts, and self-sufficiency and community capacity development programs.

This return to the land is not a regression to times-gone-by, increases in cheap communications technologies produced in other parts of the world, allow people are able to work from home and be part time farmers while maintaining other productive, creative and intellectual career activities and to continue their education through free online learning augmented by local institutions. Through these technologies, people's worlds are global even if their food is local. There is a great deal of cultural richness in rural communities, and people live in virtual as well as local communities.

These changes, combined with strong EU taxes on products that are not deemed healthy or sustainable, and an increase of available information on smart farming and community organization, diet-nutrition-health-well-being, and sustainability; lead to the majority of people eating a highly nutritious vegan or vegetarian diet. There is a low consumption of animal products and little to no consumption of highly processed or sugary foods. This leads to increased physical and mental health, and lowered costs of health care are invested into

education and infrastructure, and policing. The lack of access to animal products leads some people to hunt and fish leading to some reduction in Ireland's local biodiversity.

The majority of foods consumed are produced locally and there is extreme market decentralisation dominated by small to medium sized enterprises, empowered by flexible technologies and subsidies. Barter systems re-surface, there is a gift economy many cooperatives. The Irish petrochemical industry declines, and remains only for exports. Skilled local tradesmen increase, there is a revival of craft foods, breads, cheeses, beers. Linen is back on the board. People travel less so the tourism and transport sectors decline. Chinese aid workers come to Ireland to facilitate capacity development in communications technologies, and sustainable rural development.

There are few very rich people who continue to live in cities, in gated communities because of tensions with other communities. There is tension because not everyone is happy with the rural lifestyle and diet and some people aspire to share the life of the few. Rich citizens in gated communities lobby government spending on military and policing, which is a livelihood for a class of poorer people who live in urban slums. Amongst disgruntled groups there are drug and alcohol problems in the face of a feeling of oppression and lack of opportunity to choose something different. Overall however, there are less drug problems as people are generally happier and healthier. The family unit has changed: larger families because of manual labour, older people caring for young children and being taken care of within the community, parents are able to spend much more time with children and there is less anti-social behavior. There is more time for story-telling, hobbies, interests and parenting.

How we got there:

Over the coming years, economic decline coupled with climate change and a growing awareness of environmental degradation globally lead to social change in favour of simpler, healthier, more sustainable lifestyles. Political instability, various crises leads to governments becoming more authoritarian.

Global economic instability continues, with years of recession that see Europe struggling to keep a strong role in global markets. These fears and challenges give power to increasingly interventionist and protectionist governments and simultaneously, and in reaction to this, many grass-roots social movements advocating community, social inclusion and a strong sustainability agenda also gain prominence.

By 2040 Europe has very strong environmental legislation in place. All activities not considered sustainable are blocked through legal and financial mechanisms. The EU fully enables sustainable energy. Education has been refocused around food, cooking, community, well-being and the environment. Emphasis is placed on local initiatives, policies are put in place to support local entrepreneurship and there are a growing number of SMEs catering to local needs. These SMEs are highly innovative pressured by bottom up social movements. This creates interesting job opportunities in rural areas and smaller communities.

SPAIN – VALENCIA: Forced and transforming degrowth

In this scenario we see how the economic and financial crisis that has remained over time, combined with the climate of social and political instability and the intensification of the climate change impact in the Mediterranean areas as the Huerta of Valencia, have led to a profound change in the values of the population, the concept of welfare and the policy approach. These necessity-drove changes have led to an economic slowdown and a return to agricultural activities for a significant part of the population. From an agricultural point of view, the Huerta attracts population from more arid regions migrating to get access to productive resources such as water.

This transformation has many positive impacts on The Huerta and its population, but also generates a difficult to overcome great environmental challenge. High temperatures and drought in the Mediterranean resulting from climate change have led to a productivity loss while, at the same time, social tension rise as a result of an increasingly scarce water growing competition for irrigation use.

The next few years (2016- 2020)

The global financial crisis continues and certain non-agricultural economic activities will degrade, causing unemployment and poverty to increase. Agricultural activity becomes an alternative for many people, especially for self-consumption, but also as an economic activity.

The climate change impact accentuates becoming increasingly more evident on the Huerta's agricultural production. This impact forces a gradual change of productive areas and their existing infrastructure. Global environmental degradation has risen awareness forcing governments to establish strong environmental policies aiming to stop this deterioration. At the same time, the price of energy increases significantly.

A series of food crises related to the food import model as well as the animal production model rise. Dependency on food Import and animal products have reduced fruits and vegetables production which does not cover self-consumption needs. To prevent famine risks European policies encourage protectionism, promoting own agricultural production and policy decentralization to local levels to boost up innovation and local products. An enhancement and generalization of positive productive experiences, many of them already in place, follows.

In parallel to this, a social and cultural transformation in the system of values takes place. An awareness of the new understanding of the wellbeing assumes that income is not decisive in the quality of life. Raised from the grassroots, a strong social mobilization for a new life pattern takes place.

2020-2030

Water scarcity is an important problem for the irrigated agricultural production of the Huerta. Even if strong environmental regulations have considerably reduced groundwater pollution,

water is a scarce resource for climatic reasons and because of the increased number of producers and production area. The price of water has increased significantly and there is a strong competition for its access. Tensions between producers arise to the extent that even murders happen.

Weather conditions have led to a productivity decline in the Huerta. Nevertheless, on the other hand most of the productive agricultural land, including urban edges of the Huerta, are back on production. The number of producers has been increased by people who have chosen agriculture as an economic alternative and / or for their own consumption. Despite being severely affected by climate change and water shortages, The Huerta still has certain comparative advantages in this regard and some of those producers are newcomers from more arid regions.

In this context there is a strong competition for access to land. Available land does not match the demand level, and there is a risk that plots end up being too small for an economically viable farming. Also, newcomers from other regions increases housing demand, which could add additional pressure on land.

The Huerta's decline in productivity is partly offset by a strong innovation development that has taken place in response to the adverse climate conditions and the socio-economic and political changes. This has meant a change in cultivation techniques, an increase in crop diversity (polyculture requires fewer inputs than monocultures), the re-introduction of animals for traction use and own consumption, and a widespread implementation of climate change adaptation strategies such as water conservation techniques (mulching, culture on sandy substrate), the recovery of resilience local varieties and even the reintroduction of some extensive rain-fed crops. This transformation has been supported by the administration, which promotes innovation for the adoption of sustainable farming techniques and enforces strict environmental regulations.

Specifically, the recovery of local varieties will be implemented through specific research on these varieties and the local professionalization of sustainable seed production. Local companies specialized in recovery and replication of native varieties seeds emerge in areas outside the Huerta, reducing the dependence on large seed companies.

It has also modified the balance of product destination, with an increase in self-consumption and a reduction of exports (10% of production goes for exports, 50% for the local market and 40% for self-consumption). During the summer, production plunge almost to zero and products are imported from less hot European regions. The increase in production for own consumption involves a certain loss of agriculture professionalization.

There are many connections links between producers and consumers and short food supply channels have recovered and strengthened thanks to the social and cultural transformation in place and to favourable policies. A brand for those products cultivated in the Huerta has been created aiming the internal EU market.

Overall, the Huerta benefits from a controlled "degrowth", with a modernized and climatically-adapted productive system, yet water scarcity threatens social stability and the sustainability of the system.

Table A4: First set of local interpretations of The Price of Health.

The Price of Health	**ITT: Do I…?**	**ITR: Power of the Earth**	**UK: Preserving Wales**	**FI: Back to the rural future**
Consumption patterns	Poor: unhealthy and worse than before. Rich: high-quality and healthy.	High-quality, healthy food production and consumption.	Shift in dietary patterns to vegan and vegetarian; eggs are important.	Preference for organic food Rich: can afford to eat unhealthy. Poor: vegetarian-oriented and healthy.
Environmental degradation	Stabilised(?)	Stabilised(?)	Not an issue(?)	No longer an issue(?)
Poverty	Poverty increases which increases inequality	Polarisation of wealth with poverty, inequality. Decrease of income.	Return to rural lives out of necessity due to increased poverty. Increased inequality and tensions.	Social polarisation with increased poverty.
Social and Terchnical Innovation	?	No major innovations(?)	Technological advances in communications lead to off-farm activities and income. Boost of cultural heritage.	Tecnological advances mostly in energy production.
Population Dynamics	Move to the countryside and peri-urban areas	Intentional (but forced!) return to countryside + Rome depopulation to peri-urban.	Strong ruralisation, only the very rich live in the cities.	Widespread migration to rural areas.
Power and Markets	SME's role increases. Part focuses on local products, but part maintains focus on standard, lower quality products.	Small-scale farms; new rural utopia. Landownership leads to power games and conflicts. Local communities become more powerful than nation state.	Strong EU, strong Wales, in collaboration with social cooperatives and movements. Power decentralised.	Bottom-up professionalisation of grassroots cooperatives. Strong EU and Finland.

Trade agreements	More focus on local, thus less subsidies(?)	Decreased through shorter chains(?)	Strong EU policies and subsidies. Decentralised service provision.	TTIP does not bring positive impacts.
Resource Use	More sustainable production. Environment is focus from government	Environmental care for the earth.	Sustainable local food production though major land reforms.	Production is more resilient. There is harsh enviromental legislation.

Table A5. Second set of local interpretations of The Price of Health.

The Price of Health	**LA: Rural development**	**IR: Slow progress**	**SP: Forced and trans. degrowth**	
Consumption patterns	Shift in consumption trends with more vegetarians but also with a significant place for meat.	Majority eats highly nutritious vegan or vegetarian diet.	Focus on local products and own consumption.	
Environmental degradation	Reduced and environment stabilised.	Some reduction of biodiversity	Climate change reduces water and put environment under pressure. Climate change is a difficult to overcome challenge. Decline in productivity.	
Poverty	Low level of poverty but more inequality and unemployment	Tensions with the few rich living in gated communities, close to a class of poorer people in the urban slums. Most are poor but happy in the rural countryside.	Unemployment and poverty increase related to economic slowdown.	
Social and Terchnical Innovation	Technological advances lead to more long-distance work.	Cheap communication technologies allow working from home.	Strong innovation development that offsets CC impacts. Focus on new local varieties.	
Population Dynamics	Flee from the cities to the	People move away from cities building	Migration to countryside due to	

	countryside	thriving rural communities.	strong agricultural sector.	
Power and Markets	More power to local governance levels. SMEs strengthen position and decentralisation.	People's worlds are global but their food is local. Strong EU taxes, but decentralisation dominates. Emphasis on local activities.	Loss of agricultural professionalisation. Local production and consumption. Bottom-up leads ot EU branding for local products.	
Trade agreements	Less important due to self-sufficiency and local products	Europe is struggling to maintain position on global markets with strong protectionist governments.	European policies favour protectionism.	
Resource Use	More sustainable use.	Very strong environmental legislation and reduced use.	Strong environmental regulations	

Table A6: Summary of local scenario interpretations of the Price of Health.

The Price of Health	**Summary**
Consumption patterns	High-quality, healthy food production and (local) consumption. The majority eats highly nutritious vegan or vegetarian diet. Most cases focus a shift to shorter food chains and local consumption, and less on the shift to vegetarian. Some cases emphasise a continuation of meat consumption. There is no consensus on consumption patterns of the rich that can either be unhealthy or healthy, both because they can afford it.
Environmental degradation	Environmental degradation is not often explicitly mentioned. It is not an important (negative nor positive) issue. The re-ruralisation of the countryside can be assumed to have a postive influence and to stabilise the environmental status. One notable exception is Valencia, where climate change impacts are worsening, which puts the environment under pressure.
Poverty	All cases report rather uniformly on a return to rural lives out of necessity due to increased poverty, which increases inequality and leads to tensions between poor and rich. Most are poor but happy in the rural countryside, but peri-urban slums exist.
Social and Terchnical Innovation	Techological innovation is important in most cases. Crucial is the fact that this new ruralisation is not a Retrotopia-type of future, but rather one with new technologies. These importantly include (cheap) communication technologies that allow working from home, long-distance working - people's worlds are global but their food is local. Additionally, technological innovation helps solving existing (rural) issues such as water shortages (new crop types), climate change impacts, and energy production.

Population Dynamics	All cases report a strong move to the countryside and peri-urban areas; only the very rich live in the cities. This move is intentional, but forced by multiple crises. Rural communities are thriving with a strong agricultural sector.
Power and Markets	A key word is decentralisation which happens in all case studies. Yet, at the same time the EU remains powerful, while also the nation state maintains its influence. Over time, however, an organised bottom-up professionalisation of grassroots cooperatives increases the power of local governance levels. Local communities eventually become more powerful than the nation state.
Trade agreements	In general, trade becomes less important due to self-sufficiency, local production, and shorter food chains. Various cases report that Europe is struggling to maintain its position on global markets with strong protectionist governments. The focus in inward looking with strong environmental regulations.
Resource Use	In all cases, the environment is a key focus area from the government, with harsh environmental legislation aiming at an environmental care for the earth. In general, local food production is more sustainable, which also helps reducing resource use.

The local scenarios that are developed within the context of the European 'the Price of Health', are generally very similar across a range of social, environmental, and economic circumstances. There are, however, some small but markedly consistent differences with the European dimensions and story. First and most importantly, consumption patterns do not always change towards a 'healthy vegans and vegetarians' diet. Sometimes explicitly (Latvia) and sometimes more implicitly, there is at best a partial shift to vegetarianism. More focus is on local sustainable production, coupled with a more healthy diet, rather than explicitly vegetarian. Secondly, the extreme decentralisation does not not always happen. This is perhaps related to the rather short time span of less than 15 years, which will limit plausibility of strong systemic changes. Finally, most cases assume less technological innovation, which seems somewhat at odds with a strong decentralisation. Technological change is an essential supporting element, but not more than that. Overall, the local stories seem closer to a "small is beautiful" world than the 'the Price of Health' might have leaned towards.

A.3. RETROTOPIA

European story summary

In Retrotopia, waves of immigration, terrorist threats and increasing impacts of climate change trigger social movements and policies that aim to keep global problems out of Europe, along with a nostalgia-fueled sense of natural heritage and rural custodianship. Racism becomes more accepted; migrants are kept out, creating employment problems in greying societies, which are partly solved by robotization of work; fear of migration from Europe's south to northern countries due to climate change prompts European policy makers to help make

Mediterranean countries more climate-resilient. Environmental concerns drive down consumption of animal products; otherwise, the improvement of diets is not a priority amid concerns of European security and self-reliance.

Local scenario interpretations

BELGIUM – Everything under control

From Retrotopia to A.O.C. is the story in which increasing environmental pressures lead to the first environmentally induced food scandals in Europe. Pressure of migration is also ever increasing. This leads to profound interventions of the European government. Strict environmental measures are introduced. Especially meat consumption and production are targeted. European borders are closed to further immigration.

The road to 2030

Political: In the short term, the government procrastinates, which makes that trust in the way that food is being produced decreases. This leads to an increasing interest in short food chains. In the longer term, however, the CAP is being reformed, which makes that the clock is being turned back: tariffs for unsustainable imports are increased and internal prices for plant-based foods are guaranteed. The government increases product norms, which makes that retail standards become redundant and retailers cannot distinguish themselves with the help of standards. Food becomes less important. Governments take the lead in the local sourcing of food.

Socio-cultural: The diversity of our diet decreases, and less emphasis is being put on product innovation and differentiation. Common trust in food increases, so that interest in short food chains decreases. Moreover, retailers and other market actors take over the business model of short food chains. This is further strengthened with an increase of home-based work (because of expensive gasoline) and home deliveries (efficient logistics).

In the long term, the European isolation leads to decreased trades, increasing aging, and decreasing welfare. The government focuses on redistribution, which makes that poverty and inequality decrease, but this at the expense of average welfare. Much of tax money is being dedicated to health care.

Food has become more expensive, which makes that the share of the income spent to food is increasing significantly. The government introduces a system with food stamps for the poorer segments of society. New and small communities exist in order to counter homogenization and a lack of community in society. However, these are not territorial, rather they are thematically organized (virtual communities). Civilians start engaging more, e.g. through food production.

Agriculture and open space: Farmers need to comply to stricter environmental measures in order to receive minimum prices and subsidies. Governments subsidize technological innovations that favor the closing of cycles, the provision of energy and the setting up of a new

logistical system, the improvement of control systems and the increase of resource-efficient agriculture (e.g. precision agriculture and vertical agriculture). Differences between organic and non-organic are fading.

A shortage in employees leads to the robotisation of society, including agriculture. This leads to the increase of average farm size. Organic has disappeared as sustainability has become the norm. Quality of nature increases and pressure on natural resources decreases, amongst other because of the closing of cycles.

ITALY – TUSCANY: SOLIDARITY IN HALF

Italian government adopts a restrictive welfare strategy, by supporting "eligible" citizens with minimum incomes, exacerbating the differences with the most vulnerable groups. Civil society is very closed and uninterested to social problems. The narrative of the scenario comprises the following key points:

- The political environment is becoming more and more closed and racism and xenophobia are widespread. With the slowdown of the crisis and the economic upturn, the resident population improves living conditions and expects better food and environmental quality.

- Public authorities adopt a strategy of restricting welfare to Italian citizens (eg. introduction of minimum income), exacerbating the differences with the most vulnerable groups.

- The food system is oriented towards quality production and there is a tighter supply chain coordination. Larger companies develop social responsibility projects mainly in the environmental field.

- There is growing public attention to the environment, both at European and national levels, restrictive public measures are adopted for environmental protection and sustainable agriculture. The agricultural system is geared towards the recovery of land for agricultural purposes. The overall production is falling in terms of quantity and increases in value. The food prices are very high; due to greater efficiency in the food system, surpluses and waste along the chain are minimized.

- Civil society is very closed and uninterested to social problems.

LATVIA – LOCAL EFFICIENCY

This group was discussing the effects "Retro Europe" scenario would have in Latvia. The scenario describes situation where Europe is threatened by migration, terrorism and climate change. Because of this Europe's policy is concentrating on environmental protection and strengthening of farmers thus trying to ensure that Europe is food self-sufficient. In this scenario environmentally friendly farming is widespread and innovative small food enterprises are emerging. Meanwhile, due to the high environmental taxes, big food enterprises are

narrowing their activities in Europe. Europeans are well supplied with food, however the population is aging, it is suffering from obesity and other diseases.

Workshop participants working with this scenario where suggesting that in case of this scenario Latvia would be characterised by several contradictions: Latvia's rural sites would revive and many small enterprises and farmers would operate there; part of urban inhabitants would have moved to countryside; the price of land would have risen and land would not be sold to foreign farmers, however, many of local inhabitants would not be able to afford land as well. Furthermore, sustainable food and environmental technologies would have been developed, innovative food enterprises would be emerging and in food sector waste-free practices would be introduced. Food consumption practices would be healthier.

The future

School meals: In school catering these processes would promote two oppositional tendencies. On the one hand, food quality both in rural and urban school would improve, the main ingredients of the food would come from local farmers and products would have high nutritional value. The food would be healthy, and the production process would not produce waste or if it would – it would be efficiently recycled which is reducing resource lavishing and the negative effects school food is causing on the environment. On the other hand the innovative food enterprises would offer schools industrially produced and highly technologized products (so called molecular food). Schools would be equipped with molecular kitchens. These kitchens would offer kids standardised and uniform meals which would be delivered to schools in a frozen form. In this scenario both country and municipality would offer farmers and school caterers subsidies.

Political: threats faced by all of Europe forces Latvia's government to introduce new measures that would support environmentally friendly practices. Country in collaboration with municipalities would introduce funding instruments supporting SME in rural sites. Despite the growing importance of municipalities power would remain centralised. This would mainly be caused by common problems that would require significant common investments.

Socio-cultural: Latvia's inhabitants would have become more self-centred and despite living in Europe the whole country would partly feel more separated from broader Europe. EU pressure to introduce more strict environmentally oriented legislation would limit economic development at first which would produce social turmoil and dislike towards EU. However, soon enough this dislike would be replaced by local pride and willingness to operate on one's own. These processes would reduce equality yet would improve solidarity and sense of community. Society would become healthier in general.

Agriculture: Land would become more expensive. The rural sites would be dominated by small farmers that would farm in a sustainable fashion.

IRELAND – GREY AUTARKY

In the context of the Retrotopia scenario, because EU systems have either gone or become disempowered, and because the Common Agricultural Policy is no longer in place and subsidies have been cut, this results in a shock to Ireland's agri-food system. Ireland is cut off from non-EU markets and as such, exports are down. Ireland enjoys less of the agri-food market share more generally and there have been some job losses in this area.

This has precipitated a drastic shift in how agriculture in Ireland works, for example with a reduction in the amount of livestock farming. There is more self-sufficiency and self-provisioning in the food system and food chains become more localised. Economic opportunities arise for specialisation in small scale, high value crops. The food system is considered to be more resilient as a result and a culture of frugality emerges. However, on the larger farms which remain, the use of automation and robot technologies grows due to the pinched labour market.

The environmental impact of Irish agriculture has decreased dramatically, specifically because of a move away from animal-based monocultures to smaller-scale diversified operations. The physical landscape of Ireland has also changed because of these transformation in Irish agriculture. One major difference has been a reduction in the square acreage under agricultural production. Much land is being left fallow, in particular marginal lands such as flood plains. This has resulted in an increase in biodiversity. An integrated policy for 're-wilding' a number of animals has been established and Ireland is benefitting from wilderness tourism as a result. Another result is that people's lifestyles have become healthier as they are taking advantage of this new wilderness and are exercising more.

At the same time, some agricultural land has been re-purposed for renewable energy farms making renewable energy cheaper, more readily available and more commonly used. The increased use of electric vehicles is one example of an indirect result of this land-use change.

However, a cultural change has occurred due to the closing of borders. There has been a loss of cultural diversity in Ireland and a change in food culture as Ireland has become increasingly insular. There has been a reversion to diets which are largely based on local food production. In some areas, nationalism has increased in response to perceived threats from outside migrants causing some to 'head for the hills'. These problems have been exacerbated by the fact that many of the young generation are emigrating.

The top-heavy demographic profile resulted in a health system which is under strain and but also to one which is decentralised, to allow more ready access to medical care to the aging population. The economic flux in this sees many young people emigrating and the loss of young people in rural areas hinders rural social innovation.

SPAIN – VALENCIA: LA HUERTA ROBOT

Face to high migratory pressure and the threat of terrorist attacks, Europe has closed down its borders. European Union and Member States' policies aim to protectionism and self-

sufficiency. In the city of Valencia, with an ageing population pyramid, the lack of labour force creates problems to accomplish many of the tasks previously performed by the immigrant population. In response, a heavy investment in new hi-technology has been done achieving the automation of many of these activities.

Implementation of this hi-technology culture has reduced individual and social relations creating a more isolated, apathetic and intolerant society.

Mediterranean countries within the EU are controlled by northern Member States which, since they buy much of the production, determine what to grow. The loss of professional farmers and the lack of manpower also affect agricultural activities in the Huerta around the city of Valencia. The Huerta robotizes and dehumanizes at the same time while emptying of people.

Two zones differentiate in the Huerta regarding the level of technologies' implementation. The outermost ring, in the last decades of citrus dominance and dependent on heavily exploited groundwater, has experienced a "large state (latifundista) robotization" with a change in crops and an evolution towards larger farms disconnected from the city. The agricultural landscape has changed radically in this outer ring. Small plots and diversity of crops have given way to larger farms where farmers have been replaced by all kinds of robots and machines, which require more space to move freely between monoculture fields. The diversity of uses (aesthetic, environmental, cultural, recreational) provided by the Huerta until now, have also been reduced or even lost. In the outer ring, those export products demanded by north European countries are grown intensively. By contrast, the inner ring has become the city's food pantry. A modernization and mechanization of tasks adapted to small-scale farms is practiced in this "strict" Huerta where the diversity of horticultural crops is maintained. Small-scale farms have been favoured by the closure of borders and lesser competition for agricultural products from third countries. This situation has revitalised the position of both the Huerta, and nearby small farming oriented to local domestic market.

Although there are only a few farmers, a generational replacement attracted by agricultural prices has occurred. Similarly, the number of service companies or cooperatives, which have all the necessary technology and provide special works in the field, have increased.

As in the rest of the Mediterranean region, the impacts of climate change in the Huerta of Valencia are especially virulent. Frequent high temperatures and drought occur, threatening not only productivity but the continuity of farming itself. Consequently, it has been developed strict environmental and innovation-friendly policies that facilitate adaptation to climate change. Reduced availability of water has forced to shift from the traditional practice of flood irrigation, vertebrate through an ancient system of irrigation ditches, to drip irrigation, causing changes in the landscape and the agricultural system of the Huerta. Unlike the outer "landowner" ring, the inner ring of "strict" Huerta around the city has currently enough groundwater for keeping the flood irrigation system and the irrigation ditches. although due to the lack of manpower, irrigation ditches have had to modernized its use and structure.

Desalination plants play an important role supplying water for irrigation and drought-resistant crops have been developed, in some cases relying on GMOs.

Concerns about the strong impact of livestock production on the environment have generalized a reduction of meat products consumption. However, improving food is not a priority issue for public policy, and consumption of processed and sugary foods is high. In fact, an increased consumption of processed foods has reduced consumption of fresh vegetables. The food processing industry has experienced an increase of employment. Small processing companies are experiencing financial difficulties to implement the required automation of processes, which causes many of them to close.

In the city, the impetus to the development and implementation of new highly efficient technologies has enabled to close the cycles of many everyday activities and processes. Energy recovery, waste and food scraps processing and wastewater recycling become standard practices. Cultivation of hydroponic gardens and urban and periurban gardens have spread, turning the city into a new food production centre for self-supply, complementing those foods coming from the Huerta. People taking part in urban and peri-urban orchards have changed their values and have increased their social relations. Groups of citizens aware of their diet are consolidated.

Table A7: First set of local scenario interpretations of Retrotopia.

Retrotopia	**BE: Everything under control**	**ITT: Solidarity in Half**	**LA: Local Efficiency**
Consumption patterns	Food stamps. Food becomes less important. More organic. More plant-based. Food prices are high.	Food system towards quality production. Food prices are high.	Well supplied with food but suffering from obesity. Food consumption would be healthier. Two sided story: 1. Local, high quality, nutritious. 2. Innovative, industrial, technologised.
Environmental degradation	Quality of nature increases.	Improved environmental quality	Stabilised(?)
Poverty	Poverty and inequality increase.	Economic upturn, but restricted welfare.	Economic growth limited. Reduced equality, improved solidarity.
Social and Technical Innovation	Virtual communities. Government subsidised technological innovations in energy and closing cycles.	Improved efficiency.	Innovative small (food) enterprises. Sustainable food and environmental technologies. Waste-free

	Robotisation due to labour shortage.		practices.
Population Dynamics	Urbanisation due to robotisation of ag. (?)	?	Rural sides would revive.
Power and Markets	European borders are closed. Governments take the lead with interventions and regulations. Large farms.	Closed political environment. Nation state and Europe control .	Strong EU and nation state, but with disconnect. SMEs stronger, but power remains centralised.
Trade agreements	CAP is being reformed. Decreased trade because of European isolation.	Less because of closed EU(?)	Towards food self-sufficiency for Europe.
Resource Use	Strict environmental measures. Sustainability becomes the norm.	Companies develop social responsibility. Growing public awareness. Sustainable agriculture.Measures for environmental protection.	Environmental protection. High environmental taxes. Strong environmental legislation.

Table A8: Second set of local scenario interpretations of Retrotopia.

Retrotopia	**IR: Grey Autarky**	**SP: La Huerta Robot**	
Consumption patterns	Diets based on local food production.	Reduction of meat; high on processed and sugar.	
Environmental degradation	Increase biodiversity and rewilding.	1. Outer ring: large farms with robots and machines with environmental degradation 2. Inner ring: modernised, mechanised, small-scale farming for domestic market.	
Poverty	Some job losses.	?	
Social and Technical Innovation	Automation and robot technologies play large role. Renewable energy. Electric vehicles. Rural social innovation is hindered.	Heavy investment in new hi-tech developments. Automation of many activities. The Huerta robotises and depopulates.	

		Desalination plants. GMOs.	
Population Dynamics	Young people emigrate.	High migratory pressure	
Power and Markets	EU systems disempowered. Ireland I cut off from non-EU markets. Exports are down. Specialise in small scale, high value crops. Ireland becomes insular. Decentralised.	EU and Member states aim at protectionism and self-sufficiency. Isolated, apathic and intolerant society. North controls the South through EU policies.	
Trade agreements	CAP no longer in place. More self-sufficieny.	Outer ring: export-oriented within Europe; Inner-ring: domestic.	
Resource Use	Strong reduction in agricultural area	Strict environmental and innovation-friendly policies.	

Table A9: Summary of all local scenario interpretations of Retrotopia.

Retrotopia	**Summary**
Consumption patterns	Very mixed bag of different dynamics of food consumption, ranging from diets based on local food production, to food system towards quality production, to food becomes less important. There is some agreement that food prices will increase and that diet tends to be less based on meat.
Environmental degradation	In general, environmental quality improves because of regulations and less need for agricultural area. Yet, in areas with industrialised, mechanised, high intensity agriculture there is increased pressure.
Poverty	A somewhat diversified story with areas where inequality and poverty increase and areas where there is an economic upturn. It is noted that will lead to an increased solidarity, particularly where self-sufficiency becomes the norm.
Social and Technical Innovation	There is a widespread agreement on this crucial aspect of the scenario: Governments subsidise technological research, which leads to a wide variety of innovations, often related to sustainable development. This includes closing cycles, improved efficiency, desalinisation, waste-free production, etc. It also includes robotisation, mechanisation, electric vehicles, etc. It is noted that this obstructs social innovation.
Population Dynamics	Information is relativelt scare, but without consensus. Observations include urbanisation as well as rural revival; emigration of young people as well as immigration problems.
Power and Markets	There is widespread agreement on this (second) crucual aspect of the scenario. European borders are closed. Governments take the lead with interventions and

	regulations. SMEs become stronger, but the power remains centralised. In some cases this is positive, in some this has strong negative conseuqences, including Member States being cut off from non-EU markets, and a resulting isolated, apathic and intolerant society.
Trade agreements	There are less trade agreements because of the European isolation. The CAP will be reformed or eventually abolished. There are two different trends that are taking place at the same time. One is towards local and European food self-sufficiency and local production, the other is towards increased export within Europe.
Resource Use	There is agreement on a strong role of the EU in putting in plac new and strict environmental protection regulations through e.g. high environmental taxes, strong environmental legislation, and/or innovation friendly policies. These together reduce resource use.

The local scenarios that are developed within the context of the European 'Retrotopia' are a rather mixed bag of different future outlooks, even if based on similar key assumptions. All scenarios assume a strong and regulated investment in (green) technological development, resulting in a wide range of different innovations, most of which positively influence resource use and lead to an improvement of environmental quality. Additionally, all cases agree on an increasingly isolated Europe that closes its borders. Yet, there is no agreement if this will lead to more local food production or intensified trade within Europe. Diet patterns accordingly can be focused on local produce, on export crops, or on a more vegetarian diet, while food could also all together be less important because of robotisation. Potential additional pitfalls a social apathy and a lack of social innovation, while inequalities increase. Yet, this does not hold for all cases. Overall, there are different interpretation of the impacts of an inward-looking, technologically advanced, top-down governed Europe on society, food production, and diets.

Most notable, however, are the differences with the European 'Retrotopia' starting point. Consumptions patterns are not pronouncedly towards the "unhealthy vegans/vegetarians"; poverty and inequality are higher rather than low; the role of the SMEs is visible but not "significant", and subsidies are not uniformly increasing. Overall, the local story is one of top-down enforced technological change that benefits the environment, but not society. The European scenario is more positive.

A.4. THE PROTEIN UNION

European scenario summary

The Protein Union is a story of a highly proactive response by the EU and its member countries, led by governments but supported by the private sector and civil society, to the challenge of changing European diets and modes of production. The focus is on creating new sources of protein, including mainstreaming insect consumption and the production of artificial quasi-meats, supported by new, more integrated means of food production and processing, at the expense of the livelihoods of smaller farmers. This is combined with strong action on reducing sugar closer to 2050, which nevertheless cannot avoid the legacy of unhealthier diets in earlier times.

Local scenario adaptations

BELGIUM: CLEAN HEALTH DICTATE

The clean health dictate is the story of a centralized Flanders. The government strongly subsidises innovation in the areas of health and industrial though sustainable agriculture. This is because of increasing pressures on government expenses because of health issues, climate change and environmental degradation.

The road to 2030

Political: the government strongly focuses on security, stimulating economic growth and protectionism because of multiple crises like inflows of refugees, the threat of terroristic attacks and a continuing economic downturn. Health costs are increasing because of an aging population. In a first instance this leads the government to cut down on the health care budget.

Halfway the '20s, the burden of these costs is becoming too much. As a consequence, the Belgian population chooses a stronger government that intervenes in these issues.

Socio-cultural: because of the laissez-faire of the government, lifestyle diseases and environmental degradation are increasing. Halfway the '20s there is a strong shift where the government starts dictating what health is and what it should look like. It does this through a strongly one-dimensional approach. Health is being approached from a biological perspective. There is no attention for the importance of social ties, movement, culture and enjoyment of food, which makes that these issues are deteriorating.

Agriculture & public space: subsidies are granted to large industrial food producers and processors, that are innovative in the areas of novel and functional foods. New market reforms increase protectionism of local markets. Belgium therefore starts focusing on local/national food production

The 2030s

Political: Belgium is strongly centrally regulated. The government focuses on investments in and subsidies for innovation and large-scale agriculture. Free trade is limited and the emphasis lies on locally produced food.

Agriculture & public space: food is produced in a highly technological and landless manner. Land-based farmers have been driven out of markets. Rural areas are being redefined, with more space for 'nature' and recreation.

Socio-cultural: Fresh food is seen as a romantic and elitist commodity. Because of strong subsidies of the government to certain partners and not to others power is strongly concentrated in the hands of few. This leads to socio-economic inequality and apathy of the Flemish population. In its turn, this leads to a decreasing social cohesion.

The government strongly focuses on the improvement of its population by promoting a new way of eating that is characterized by the consumption of novel and functional food. This leads to a loss of culture, enjoyment and social cohesion around food. Although it does lead to an improved physical health of the younger generation. For the older generation the innovations are too late, which leads to a strong intergenerational inequality.

Environment: Because of an increasing pressure of climate change and environmental degradation, Flanders is forced to change into a circular economy in which residual flows are being used optimally.

Voedselteams: civil society organizations are still supported by governments provided that they engage in the new dictate and work along in campaigns for new health norms. Because of this, new space exists for new protest movements that put different values to the fore and that have a holistic approach to health and ecology.

During the years of 2016-2020 we see an increase in crises in this scenario: the refugee crisis is ongoing, economic stagnation continues, there is an increasing terroristic threat, the EU further crumbles and environmental degradation is worsening. Because of the laissez-faire of the Belgian Government, dissatisfaction among Belgians is growing. This becomes clear during the elections of 2021. A new strong government is elected that focuses on countering the several crises. Especially health is a priority. One of the focuses is the production of novel and functional foods, focused at healthy and balanced food. However, this comes at the price of other dimensions of health. Food production is slowly but surely more disconnected from agriculture. Artificial meat etcetera are becoming the norm. Just a small acreage, needed to provide factories with natural resources, is kept for agriculture. The Belgian government aims at keeping all food production within the Belgian borders. The Belgian system is capital intensive and not lucrative. This makes the system very fragile, and uncertain in the long term.

Because of the fact that agriculture takes up less space, there is more space for nature conservation and restoration. This also leads to new sources of income. Forestry increases from 2020 onwards and leads to a decrease in unemployment. Another way to counter

unemployment is the shortening of working hours. This gives the Belgian population time to engage in other activities.

ITT: Could Be Better

the pressure on the national health care system – due to rising incommunicable diseases derived from years of poor diet – brings a reduction to public expenditure on social services. A reactive public management approach and poor coordination between services prevail. Social actors must find a way to cope with the increased (food) poverty. The narrative of the scenario comprises the following key points:

- The crisis persists: the middle class impoverishes, the need of assistance, including food, increases. Social conflict has become worse in part because of the stronger migration flows. The deterioration of lifestyles generates a deterioration of food styles and this has impacts on health.

- The food system is concentrated in the hands of a few large industries who invest in technological development and product innovation (eg. new proteins and quasi-meat). They reduce the surplus because there is more efficiency and therefore greater attention to waste. To justify itself, businesses engage in social responsibility projects.

- Welfare spending is further compressed, also challenged by the pressure on the national health care system because of diseases related to years of poor diet.

- Public resources to manage food poverty are increasingly scarce. At the State and Regional government levels a management approach continues to prevail, together with the emergency containment and poor coordination between policies, instruments and practices. Social actors are having to cope with the increased demand for social services, and in particular food assistance.

UK – WALES: It's Wales, Dai, but not as we know it

In this scenario, Wales is changing fundamentally, but to many, the changes go unnoticed until they are complete. The UK government and the EU are responding to challenges of increasing (global) demand of livestock products and the perceived need to make food systems more efficient and better able to provide healthy and safe food by enacting strong policies, with intensive and exclusive collaboration with large food companies. These alliances create highly integrated, intensive food systems that proceed to out-compete traditional agricultural production and create clinically healthy and safe, but standardized, highly artificial and processed foods, which are introduced without fanfare, while attempts to educate consumers on diets have been abandoned as failures. In Wales, this heralds the end of traditional agriculture, including lamb production, and the end of traditional Welsh landscapes with it.

The next years (2016-2025)

The trend toward more command-and-control policies aimed at creating more efficient, regulated food systems stems from the need to combat growing obesity levels, the perceived failure of educational programs to help change consumer behaviors, and the need to create safer, better food in a much more efficient way in the face of global demand. In Wales, downturns in traditional industries such as steel and its supply chains also add to the need to invest and innovate in new sectors. The failure of the Welsh government to take leadership on the Wellbeing for Future Generations Act (WFGA) from 2015 is seen as one of the triggers for more efficiency-focused, top-down policies. Added to this is the fact that as a member of the EU and the UK, Wales could have done little to counteract this trend even if it would have wanted to. Legislation which favours a shift toward highly industrial food systems and a greater prominence of the food industry, including very specific nutrition standards, is introduced with little fanfare, and only a few notice and protest at first. As time goes on, narrow and disempowering economic policy does create more unrest, and social movements that try to rebel against and provide alternative for the dominant economic and food system emerge. Educational reforms are implemented which favour skills needed for the new economic and food system.

Due to these changes, small-scale farming becomes less and less profitable, and in combination with other failing rural economic activities, this strengthens the already existing rural decline and urban growth.

2025 to 2030

People are flocking to cities and rural areas become unmanaged, with those few who remain caught in poverty traps. Local farmer's markets and shops disappear. Family structures break down as people move apart and away from family farms. The disappearance of farms, especially sheep farming, means that parts of the countryside become inaccessible – people are mainly living in towns and cities and on the coast. The tourist sector suffers. Cities struggle to accommodate this influx of new inhabitants.

Unemployment rises both in rural and urban areas, resulting in distinctly rural and urban types of poverty, and welfare is extended to deal with this – but it is difficult to get out such welfare traps because of the exclusivity of the marketplace. The disappearance of traditional/rural work and the focus in education on high-tech and service skills means that many food-related skills disappear.

The stricter control of available foods and drinks means that physical health increases on average, with obesity decreasing as people simply are not able to easily attain unhealthy foods. Older people are an exception – these still suffer from legacy effects on their health. The homogenizing economy means that employment also becomes less diverse – the main increase in jobs happens in the food industry and technology sectors, but these are highly skilled jobs. Mental health problems grow, due to a loss of identity and self-worth for many, and a lack of green spaces, and are largely left unchecked. Suicide numbers climb.

Food production and processing that happens in Wales is based around highly processed and artificial foods, based on insects and, more recently, in vitro meats, with nutrients added. Production is safe and fairly efficient, with fewer environmental impacts and reduced food waste – but there is no connection to the environment and culture of Wales. Some people worry about the long-term risks of such highly artificial means of food production and processing; but most are not educated on this topic. One source of local food that has, as yet, not disappeared is local fish – in fact, fish is consumed somewhat more as it provides one of few fresh food alternatives.

In general, Wales homogenizes in a cultural sense with the loss of landscape and language and the increase in franchised economy – and becomes very much like the rest of the UK and of Europe. On the other hand, external food influences, such as different types of Asian cuisines, which are highly compatible with dominant sources of protein such as insects and soy, flourish.

Unemployment and a loss of identity has created political unrest – nationalism has increased among those who struggle the most; those who cherish rural life rally against a highly artificial and urbanized existence. Niche movements aim to provide unprocessed food, but this is often too expensive for most; allotments expand and with the rewilding of rural areas, foraging also increases. A benefit of rural reforestation has turned out to be that flooding happens less.

FINLAND: Protein Innovative Finland

Core of the story: Protein-innovative Finland is a story of Finland, where traditional agricultural subsidies are redirected and the state is investing strongly on food technology and developing new protein sources. Agriculture is concentrated on large industrial enterprises, which co-operate actively with research institutes, universities and food industry. There are novel protein sources – such as processed insects, alternative plant proteins, mushrooms, in vitro meat, lake fish products as well as local protein feedstuffs - under development and some of them already on commercial market. Also traditional livestock farming has survived, although in decreased volume. Climate change impacts are gradually improving agricultural conditions. Immigration grows fast. Because of change in traditional economic structure and mass immigration number of people living at risk of exclusion is growing in Finland even though social differences have generally decreased in Europe. Finnish people are broadly within the service of public catering. NGO's have a strong national role in food skills education and improving nutrition awareness of the population.

The road to 2030: After 2015 there is a wake-up for Finland that the country, as well as many other European countries, is dependent on imported proteins. Majority of imported soya is used as feed for the cattle. At the same time, climate change awareness grows, animal rights are a hot topic and diet related diseases and obesity increase. The State Nutrition Council and several NGO's that are committed to promote health and welfare strongly recommend people to switch to vegetable and fish intensive diets. Many of the people are ready for the change.

Consequently, developing alternative protein sources and investing in improving food technology is considered to be profitable. The government encourages strongly to trace new innovations, which might have later potential to be productized as export items. Earlier input to bio-economy supports this development.

Traditional agriculture survives but farm sizes grow remarkably and production is strongly intensified. This results in increasing negative environmental impacts in agriculture. Along with rising food technology also novel protein feedstuffs, for example, domestic chicken feed, are developed. Poultry is considered healthy and climate friendly alternative for red meat.

Until 2030 number of farms has decreased dramatically and agricultural production is concentrated to large industrial farms. Research and development on the field of food technology has produced good results. There are novel protein sources under development and some new products, such as insects, alternative plant proteins, mushrooms, synthetic meat, lake fish products and domestic protein feedstuffs, have already been launched to the market. Some of the products have also been successful as export items. Under these circumstances traditional agricultural subsidies are given up and resources are redirected to research and development on food sector. This increases public funding on the field. Farms work intensively in connection to the research and development units and, hence, benefit from the subsidies through co-operation. Gains in terms of synergy are remarkable. There are lots of emerging pop-up enterprises in food processing. The supply chains of processed insects, in vitro meat and lake fish are established by 2040 and the availability of the products is good. Also the number of export items is growing.

Because of change in traditional economic structure and mass immigration the number of people living at risk of exclusion and poverty is growing. For example, sugar tax imposed by the EU, drives many bakeries, confectioners and refreshment producers to bankruptcy. Consequently, tens of thousands of people lose their jobs. Social inequality increases and, even though, food security is mainly guaranteed, there is great deficiencies in the diets of the lowest income quintile. The problem is addressed by nutrition recommendations, improving public catering (i.e. school lunches, work site lunches and meals in day-care centres) and active food and nutrition education done by NGO's.

Protein-innovative Finland in 2050: In 2050 Finland is protein self-sufficient. Consumers have mainly accepted insects and in vitro meat as a part of their diets. In addition the consumption of mushrooms, lake fish and pulses has increased remarkably. However, minority of the consumers still favour traditional meat- and dairy products. Especially consumption of poultry – which is fed with Finnish protein fodder - is substantial.

Small scale farms have shut down as unprofitable. Large scale industrial farms co-operate actively with research institutes and food processing industry. As a result there is a small but growing group of novel protein sources, which have found their way to export markets and food processing industry is flourishing. Investments in developing functional foodstuff are

intensive. Small minority of the Finns prefers to produce some of their food by themselves. Urban agriculture, vegetable patches and different forms of community farming are popular among the people enjoying alternative ways of life.

Increasing social inequality and polarization are great concerns. Although, food security is mainly guaranteed, there are multiple deficiencies in diets of growing number of people living at risk of exclusion or in actual poverty. On the population level diets are clearly class based. Also, diet related diseases are common. Both public and third sector actors are trying to guide dietary habits to more healthy direction. In addition, food industry is active in developing new functional foods. On the other hand, also the number of highly educated people, who are very well aware of the impacts of food and nutrition for health and well-being, has grown.

Table A9: Local scenario interpretations of the Protein Union.

The Protein Union	**BE: Clean Health Dictate**	**ITT: Could be Better**	**UK: It's Wales, Dai…**	**FI: Protein Innovative Finland**
Consumption patterns	Novel and functional food, disconnected from agriculture.	Increasing 'food poverty'. Food assistance needed.	Clinically healthy and safe, but highly artificial and processed food. Niche movements produce local unprocessed food.	Food security guaranteed, but not for the most poor that have a deficient diet. Novel protein sources. Niche: produce food yourself.
Environmental degradation	Climate change impacts and environmental degradation increases.	?	The end of traditional agriculture and Welsh landscapes. Fewer impacts in empty countryside. Rewilding.	?
Poverty	Socio-economic inequality and apathy. Decrease social cohesion. Intergenerational inequality.	Middle class impoverishes, leading to increased inequality. Poverty increases.	Rural people caught in poverty trap. More unemployment. Urban and rural poverty. Mental health problems.	Exclusion and poverty is growing. Unemployment increase. Increasing social inequality and polarisation.
Social and Terchnical Innovation	Tech Innovation is strongly subsidised. Social capital deteriorates.	Companies invest in tech development and product innovation.	Investments in innovative food production. Artificial food.	State investments in food technology and new protein sources.
Population Dynamics	?	?	Rural decline and urban growth.	Mass immigration.
Power and Markets	Strongly centrally governed Flanders. Strong national government with one-dimensional	Food system is in the hands of a few large companies. Poor coordination between policies. Nation state is	Strong command and control, top-down policies. Intensive collaborations between government	Strong state and large industrial enterprises cooperate. But traditional ag

	approach. Large industrial food producers.	powerful.	and large companies.	survives.
Trade agreements	Protectionism of local markets. Free trade limited. Focus on local food.	Increasingly free market (?)	Strong role of EU and national state in subsidising and controlling food production.	Finland is protein self-sufficient.
Resource Use	Decreases due to innovation (?)	?	Strongly reduced.Rural reforestation.	Decreases due to innovation (?)

Table A10: Summary of local scenario interpretations of The Protein Union.

The Protein Union	**Summary**
Consumption patterns	All cases agree on innovation-driven clinically healthy and safe, but highly artificial and processed food consumption, with a disconnect from traditional, land-based agriculture. Most cases assume niche movements that produce local, unprocesses food. Some cases assume an increase in food poverty and a deficient diet for the most poor.
Environmental degradation	Information is scarce, as this is not essential in the "food story". In general, innovation causes the end of traditional agriculture, which leads to fewer impacts in an emptying countryside that rewilds. Yet, lack of management increases the impacts of climate change which can cuase further degradation.
Poverty	In general, poverty and unemployment are increasing. Social and human capital deteriorate with decreasing social cohesion and mental health problems, related to the food system changes. All cases also report an increase in inequality with the middle class disappearing, differences between generations increasing, and society polarising.
Social and Terchnical Innovation	State and company investments in food technology and new protein sources lead to (food) product innovation. Social innovation is ignored.
Population Dynamics	Information is scarce. In general, it seems likely to assume a rural decline and urban growth due to redefinition of agriculture. This could be coupled with immigration, when changes are successful (as assumed in Finland).
Power and Markets	Strong command and control, top-down policies, with an intensive collaboration between government and large companies. Strong national government with one-dimensional approach, and large industrial producers.
Trade agreements	Strong role of EU and national state in subsidising and controlling food production. Assumptions differ on the changes in trade agreements. Some cases assume

	protectionism of national markets, some assume an increasingly free market.
Resource Use	Information is scarce, related to the information on environmental degradation. In general, it seems likely that resource use will decrease due to innovation.

The local scenarios that are developed within the context of the European 'the Protein Union' agree on certain important aspects. Consumptions patterns are towards clinically healthy and safe, but artificial and processed food consumption. This is driven by large investments in food technology and new protein sources, made possible by strong top-down policies with an intensive collaboration between strong governments and large companies. Information on other aspects is somewhat limited, particularly on environmental degradation and resource use, both which could be assumed to decrease, due to a rural exodus. Poverty increases, as does inequality, which social cohesion and mental health crumble and the middle class disappears.

There are a number of inconsistencies between the local scenarios and the European 'the Protein Union'. Firstly, all cases assume inequality to increase as state support is limited to healthy food, the environment to be stabilised at the same level, rather than lower, without resource scarcity. Also, innovation is driven by a collaborative effort, rather than solely by the state.

APPENDIX B: SYNTHESIS AND INSIGHTS FROM THE LOCAL CASE STUDY FORESIGHT PROCESSES

This appendix reports, case by case, on the answers that emerged after investigating the results of the foresight activities in the local case study processes in the TRANSMANGO project, based on three questions:

1. What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?
2. What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?
3. What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

Foresight questions for case study synthesis and EU workshop - Eindhoven

The Dutch case study looked at the visioning exercise around the future of urban agriculture in Eindhoven with the initiative Proeftuin040, an urban agriculture platform.

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

Within the collaboration quite a number of exercises were performed – among which several visioning workshops, the seeds game, back-casting and a scenario-workshop – that contributed to new ideas for the urban agriculture vision for Eindhoven. Throughout the workshops the notion of circular economy became more embedded in the vision for Eindhoven. This was complemented by the idea to steer Eindhoven to a sustainable future through green procurement, which connects seamlessly to urban agricultural initiatives. To support these dynamics, education and support for UA initiatives were found highly important. To accomplish such support, the idea of neighborhood hubs emerged: a physical space where citizens active in UA can connect to and receive assistance from civil servants. Secondly, notions of sustainability and food systems should be part of the education system and where possible, put in practice. Within the game session many smaller hybrid ideas also emerged, often centered around new institutional arrangements by connecting to more provincial organizations such as the Dutch Water Boards or the Province.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

The scenario-based workshop highlighted the importance of the municipality in taking the lead in using urban agriculture as a means to a sustainable city. Considering many of the initiatives

are voluntary-based, but frequently run into challenges when facing the rules and regulations of the municipality, it was argued that they need to clearly articulate their role (not just “we facilitate”) and get involved in the dynamics on the ground. This connected to the idea of neighborhood hubs where active citizens and civil servants can interact. Secondly, what clearly emerged through the workshop was the idea that the prominence of Eindhoven could drastically change through implementation of urban agriculture while maintaining the strong suits of the city – design, technology, innovation.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

What very much came to the fore in the scenario-based workshop was the need to take ‘Urban Agriculture’ out of just being something “hippie” or “elitist”. In order to make a change using urban agriculture as a means, it should be defined broader: as a strategy for resilience; a space for experimentation with innovations and technology; as a potential source for social cohesion. In all scenarios there was again a major role to be played by the municipality. However, there needs to be a balance in leadership of municipality and other actors in setting agendas and incentives.

Foresight questions for case study synthesis and EU workshop - Rome

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)? (around 150 words)

Both vision and back-casting were rooted in short-term opportunities and challenges. This made new or rearranged ideas being quite pragmatic and less creative or ‘revolutionary’.

In this view, the first ideas were referred to the need for a clear picture of the situation of land access and for bureaucratic simplification. In more detail:

- realization of a survey on extent and status of existing public and private land in order to (i) to assess the availability of land and the means deployed for its use and (ii) to identify underused private land to rehabilitate for agricultural purposes (using a 1979 Law on the use of abandoned private lands);
- creation of a permanent coordination among local administrations on relevant issues for local agricultural areas; identification of a single administrations’ desk to facilitate paperwork; creation of a permanent multi-stakeholder council for land access and urban food policy).

More specific ideas were: the creation/rehabilitation of green routes and cycle routes to mend rural-urban connections; the design and promotion of a quality brand for Rome food products; the realization of seminars for generation and enhancement of farmers' agricultural and managerial skills.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

The scenario workshop occurred in absence of politically elected Mayor and City Council, bringing uncertainties about the incoming Rome Administration political will and orientation. Being the Municipality the reference institution, the timing hampered concrete planning in the near future.

The access to land issue anyway revealed its political connotation and provided a valuable ground for political considerations. The following main indications to local and national institutions emerged:

- To set up permanent dialogue platforms to identify farmland units and criteria to assign public land to young farmers and cooperatives.
- Advocacy for a genuine pro-youth rationale for access to land incentives: i.e. an Ag. Min decree to sell or rent public lands with a priority for farmers under 40 is considered deceptive in absence of concrete financial facilities to accompany unemployed and often unskilled young farmers to land acquisition and use.
- To change policies in order to limit support to capitalization and industrialization of agricultural production processes, thus encouraging greener and lower scale farming.
- To view urban and peri-urban farms as 'community service agencies' and anti-degradation ecological presidia, with increased opportunities for support to social farming.
- To define a new urban planning (promoting Rome as a NUTS 2 level region) focused on sustainability and connected to a 'city food plan'.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

A reduction and partial substitution in participants in the second workshop renovated the debate's topics and approach, rather than allowing a real scenario testing of the plans.

A progressive strategy in which 'bubbles of innovation' are protected became pivotal in a political weakness situation. The strategy included: 1. bubbles/niches preservation, such as those characterizing transition towns; 2. re-foundation of politics through forms of self-government with construction of countervailing powers from the bottom and new models of governance; 3. alliances with likeminded social movements to promote a 'share economy' (collaborative platforms, community networks), also valuing diversity in focus and know-how. This strategy is particularly aimed to sustain the external pressure from the mainstream, advocating more allocation of public lands while at the same time supplying services that enable those lands to be productive and economically and occupationally relevant. A City Food

Policy should be a suitable planning tool, also addressing issues like facilitated access to urban markets for local farmers.

In more concrete terms, the integrative vision is shaped by a path characterized by access to land, education, access to credit and –finally- access to a structured market (taking into consideration that box schemes and direct sell through short circuits should not be the only viable alternative).

Foresight questions for case study synthesis and EU workshop - Finland

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

We had a nice discussion concerning transferring responsibilities. It seems that Finnish people are increasingly outsourcing their daily food and nutrition. Does it mean that they are also outsourcing their food and nutrition security by relying more and more on public and private catering? This is to say that along with urbanization and privatization (increasing numbers of single households) people are not willing to prepare their own meals any more, which, in turn, leads to diminishing food skills. Instead, they are eating out or buying only snacks or ready meals to take home. Many of the groceries are nowadays open 24/7, which may even encourage to leave groceries to the last minute simply because people trust that food is always available. So, does it mean that traditional responsibility for FNS guaranteed on the household level is transferring to the markets on the one hand and to the public sector on the other.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

We applied two scenarios the results were differed a lot according to scenario.

Protein-innovative Finland: The main issue in the scenario was, in the scope of HEP, a "too well-off society"; when the reliance on uninterrupted daily food shopping and/or use of catering services becomes taken for granted, preparedness might not interest citizens and the public trust in individual preparedness is bound to be low. This begs the question, what is the driver for trust in this scenario and how is this communicated to the public? It was suggested, that in times of societal polarization, the longing for a sense of security will rise and that food and nutrition will be crucial in creating that feeling of security.

Back to the Rural Future: This scenario was perceived as a gloomy future in which the importance of networks is emphasized. Thus, if there are ruptures in these networks or in the cooperation between groups within society, there is little resilience concerning preparedness. Trust is a central issue: Finland at the present is a high-trust society, but what are the implications of veering into polarization, as is suggested in the scenario? Fragmented and polarized groups of people will increase the challenges in communicating HEP, as the communication needs are manifold. The lack of mention of mid-level governance, and

subsequently of what role this would play in communicating and governing preparedness in this particular scenario, was problematic for the discussion. The possibilities and prospects for urban agriculture were a contested topic in the discussion. On the one hand, lack of trust and scarcities make urban gardening vulnerable to for example theft, but on the other hand the scenario can be interpreted in a way that these vulnerabilities can be counteracted by communal solutions and cooperation.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

Protein-innovative Finland: High-priced housing in tandem with high use of public catering services will reduce the role of home cooking, which might even lead to the disappearance of kitchens in some flats. This might have several implications in regards to HEP – e.g. the possibility of food mailboxes was considered (a service that would deliver foodstuff directly to the vicinity of kitchenless block of flats, perhaps even in an automated tube system) – but all in all, a creation of an additional link to the food system would increase the vulnerabilities (e.g. automated delivery systems and blackouts etc.).

Back to the Rural Future: The possibilities and prospects for urban agriculture were a contested topic in the discussion. On the one hand, lack of trust and scarcities make urban gardening vulnerable to for example theft, but on the other hand the scenario can be interpreted in a way that these vulnerabilities can be counteracted by communal solutions and cooperation.

To some degree, hard-core survivalism has reared its head in Finland. In this context, crisis means a loss of trust among citizens – a worst case scenario being that the survivalists turn against other people, whom they perceive as potential hazards – which is something that has to be taken into account in communication of HEP.

Foresight questions for case study synthesis and EU workshop – Valencia

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

There were 4 top rated visioning objectives considered which continued through the back-casting process. A common idea raised during the workshops, was the need for a public administration's recognition of the positive externalities/multi-functional aspects provided by these agroecological initiatives (environmental and cultural services and future reduction of public health expenditure). Participants found this recognition necessary to allow for some kind of public support to improve farmers' economic sustainability. Another common idea shared by all 4 of the developed plans was the importance of supplying school canteens with local (seasonal and fresh) organic products from the Huerta. This is interesting, as it shows that producers recognize this point (public procurement for school meals) as an important opportunity for the economic viability of these initiatives. At the same time, this is a common element in all the plans, showing its multifaceted character (education, children's healthy diets,

social valorization of producers). Resources would need to be allocated in a way that small farmers and processors were able to supply an increased demand from school canteens and other public procurement. Two identified strategic resources were shared manufacture facilities for preparing orders and processing the products, and purchasing centers where collect enough goods to reach a sufficient sale volume. This leads to acknowledge the need of a certain collective planning of production. The workshop also allowed to bring to light the need to improve new entrants' training and access to small-scale and agroecology-oriented adapted technologies.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

Participants clearly pointed that the future of these initiatives and their potential impact on FNS are also associated to the adoption of regulatory changes at several scales and in several domains. In this regard, the most common demand was to review and adapt current legislation, tailoring the regulatory framework to the size of farming and processing activities. A common complaint was that current legal requirements for food-related activities are the same for all business regardless of their dimension, so they become a major constraint for the small- and micro- ones. The need for legislation to facilitate the integration of these small-scale initiatives in public procurement and private catering was also expressed. In this sense, participants suggested the introduction of alternative certification schemes, such as Participatory Guarantee Systems, in public procurement tenders as well as in public markets. Communicating the economic negative externalities of unhealthy diets on public expenditure, would be a powerful argument to indirectly facilitate the revalorisation of agroecological/organic production methods. The perspectives of progressing towards more restricting and demanding environmental policies regulating agricultural production and the use of resources (to tackle climate change), were also perceived by participants as an opportunity for these initiatives. This could allow to mainstream the more environmental-friendly practices already carried out by these initiatives.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

Several ideas emerged identifying those required actions for the plans to achieve their objectives within the frame of the scenarios. We highlight three main ideas that arose during the workshops.

- The environmental constraints of agricultural production have been a constant concern in the two workshops. This has led participants to insist on the necessity to promote farmers' training, research and –in particular- technical innovation to adapt farming to climate scenarios, while making it compatible with the principles of agroecology.

- Participants also insisted on the necessity to strengthen and extend the collaboration and exchange networks where the promoters of these farming initiatives are embedded[1]. Stronger networks could give rise to a more efficient use of resources and sub-products.
- Finally, for agroecology production to scale-up, especially in time-limited societies, participants believed that it would be necessary a new gastronomic culture linked to leisure. Participants mentioned a few examples of how to achieve it, including conversion of municipal markets into multifunctional spaces where, for example, conduct show-cookings promoting the use of local agro-ecological products. Other examples included bike rides in the Huerta and gastronomic tours.

Foresight questions for case study synthesis and EU workshop: Latvia

The Latvian case study looks into improvements of school meals system as a pathway to FNS (the main case) and the involvement and role of small farmers in school meals system. The questions below summarize the insights from the local level scenario workshops to inform the case study synthesis, and the next EU workshop.

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

The visioning, back-casting and forecasting process in two scenario workshops organized in Riga, Latvia, resulted in identification of the main aims of school meals provision and concrete action lines and pathways that would be suitable for Latvia to improve food and nutrition security of children. Apart from the overall goal to provide children with access to nutritious and healthy school meals preferably free of charge, participants identified three other key aims: 1) main products come from local producers; 2) schoolchildren and parents are well educated on nutrition; 3) school meals are served in a way attractive for schoolchildren. New ideas elaborated can be grouped in organizational/institutional and cultural/educational propositions. With regard to organizational issues participants emphasized the importance of local producers involvement; retaining high quality standards of meals and adequate price level; importance of systematic engagement of food producers and caterers; essential role of skillful enforcement of green public procurement regulations and reduced level of bureaucratization; significance of elaboration and implementation of national food policy. With regard to cultural and educational issues the following relatively new ideas in Latvian context were expressed: the need to pursue adult and child education on healthy diets; fundamental role played by family habits and values in the development of children diets; the need for bridging the knowledge-practice gap with regard to healthy choices expected to be made by children; necessity to increase the decision-making power and engagement of schoolchildren with regard to school meals organization and delivery.

[1] Interestingly, participants used terms like cooperation, participatory economy or collective management, but no that of 'circular economy' despite its current presence in the media.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

Two scenario workshops highlighted emerging collaborative links between major institutional actors regulating and implementing the school meals system. The role of the Ministry of Health was seen in improving the standards of school meals with an aim to promote nutritional safety and health of schoolgoers. The representatives of the Ministry of Agriculture and local municipalities agreed to intensify collaboration in public food procurement to ensure inclusion of nutritional, health, environmental and local economy support criteria in green procurement procedures. School caterers, nutritionists, parents and students recognized waste and children food habits and taste preferences are important issues to be addressed. The future of policy making in the field of school meals was delineated as a process of alignment and coordination between nutrition, food safety, agricultural, welfare, environmental, and educational policies and institutions involved.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

TRANSMANGO scenario workshops provided, perhaps, one of the first opportunities and a space for various actors to discuss the future of school meals in Latvia in the light of sustainability and food and nutrition security challenges at national and European scales. Both workshops produced a range of novel ideas and suggestions. The most notable was an idea of interaction between policies and collaboration among stakeholders. Participants identified 12 groups of actors who are involved and responsible for improvement of school meals system: national policy-makers (the State), local governments, farmers, cooks, teachers, schoolchildren, mass media, scientists, parents, advisory service, farmer organisations; caterers. A conclusion was made that for all major objectives and directions of work towards improvement of school meals provision collaboration is necessary. Stakeholders suggested that such collaboration should be based on the principles of open communication, information exchange, coordination of activities and division of competences.

Foresight questions for case study synthesis and EU workshop - Wales

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

For example, the visioning and back-casting process in the Cardiff workshop led, among other things, to the formation of a plan toward a Welsh Food Policy Council, supported by the major organizations and networks in the case study, that would in turn lead to a coherent Welsh Food System Strategy that raises food as a key issue and integrates it across Welsh policy themes – tied to the Future Generations Act, the Welsh adaptation of the Sustainable Development Goals. Currently, a Food Industry board exists, but this is focused on private sector and

government and has no space for the participation of civil society organizations. Participants in the process saw Welsh food governance as highly fragmented, but at the same time recognized that a number of organizations and networks such as the Welsh Food Poverty Alliance as well as government participants were keen to create more coherence.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

To go back to the Welsh case: from a synthesis perspective, the scenarios exercise highlighted the need to avoid scenarios that were characterized by a lack of political leadership (Fed Up Europe/Wales Wails) or alternatively, non-participatory political leadership and a disconnect from civil society and grassroots action (The Protein Union/It's Wales, Dai). Seeds of both of these problematic scenarios are already seen in the present, and actors in the case study need to work quickly to establish cross-sectoral ties and create a vision that spurs action by the government with strong support by private sector, civil society and academia. Neither a situation in which there is a lack of policy action nor an exclusionary approach by the government would make a coherent, effective food systems strategy for Wales really feasible, so this is a case of working to prevent those situations. A Welsh 'local' resilience approach is possible care is taken to involve all of Wales, and avoid a Cardiff-centered approach that lacks inclusiveness (Price of Health/Preserving Wales). The scenario analysis foreshadowed the Brexit result which highlights the need for fast action.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

In the Welsh example, the challenges posed by the three scenarios forced participants to think of way to emphasize connection across sectors and between government and corporate policy and the grassroots movements - for instance by organizing learning/experience days between government, private sector, civil society and academia. Such activities were thought to stimulate coherent action and avoid exclusion of important groups. The organization of a Welsh Food Policy Council should similarly be set up to represent the whole of Wales, for instance by moving its headquarters around the country. The scenarios also highlighted the urgency of bringing diverse actor groups together now, and quickly demonstrate the benefits of coherent action, rather than build a slow and bureaucratic process towards a food policy council. To avoid bureaucratic sluggishness, task forces focused on specific topics (integrating food and economic development, for instance) could be based on the diverse current strengths of Welsh food actors + participants from other sectors. The drive to fast action could benefit from the timeliness of the Future Generations Act/SDGs.

Foresight questions for case study synthesis and EU workshop: Voedselteams

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

The process in Leuven led to the recognition of the importance of communication in the success and growth of an initiative like Voedselteams. This recognition led to the elaboration of multiple ideas. First and foremost, the idea to reform and modernise the website of Voedselteams. Next to this, there were ideas to increase the presence of Voedselteams on social media like Twitter and Facebook. Face to face communication was also deemed important, for example through the presence of a stand (or even a Voedselteams food truck) on festival and events. One of the main points was that the experience of pleasure around food should be central in these encounters.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

Currently, Voedselteams is dependent on governmental subsidies for its survival. In all of the scenarios the subsidies would disappear, this served as a wake-up-call and highlighted the need to increase the profitability and the financial independence of the initiative.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

The importance of education, in schools as well as for adults. For example, the Scandinavian model was put forward as an example to be followed where cooking is a normal part of the curriculum. Also it was mentioned that there should be a stronger focus in the awareness raising of VT on eating patterns and health, as to include all strands of society, not just upper class people that can already cook well. Another element that was new was the idea to be more present in the lobby in Brussels. To make this possible the idea came up to point out a short food chain spokesperson together with other similar organisations to defend the ideas and activities of VT and these other organisations.

Foresight questions for case study synthesis and EU workshop - Tuscany

What new ideas, or new elaboration of existing ideas, emerged about the initiative from the visioning and back-casting activities (or equivalent strategies used in the process)?

The visioning and back-casting process for "food assistance" in Tuscany had, among its purposes, that of expanding on the abstract idea of a "Territorial Alliance for Food", as envisioned by Caritas. Until the workshop, there had not been a concrete attempt to elaborate on it, although different actors across the system had remarked the need to overcome the fragmentation of the food assistance system (which allows for context specific solutions to food poverty, but lacks a coherent approach that guarantees minimum levels of assistance – in quality and quantity – and is vulnerable to external changes, such as diminished resources from the EU). Stakeholders are re-thinking their role and scope in relation to other food system and welfare actors: our workshop fits into this debate. The workshop led to the identification of key macro-elements of such "Territorial Alliance": governance, education and approach focused on

the individual's needs, and allowed for a focus on concrete possible actions. However, to date, we are not able to say anything on the implementation of such plans of action.

What insights did the scenario-based analysis of the case study initiative give about how the policy and institutional context of the initiative could change, and how this would affect the feasibility of the initiative's future plans?

The role of the government across the three plans is twofold: lead the governance and network processes, and coordinate monitoring of food and nutrition security in Tuscany. Moreover support by public actors, together with the private sector (more or less in the different scenarios) is needed in leading education processes. The scenarios exercise highlighted the need to involve political leadership in all scenarios, by putting in place actions aimed at avoiding a situation of political drawback: this was particularly evident in "the price of health"/ "do I want to live in the countryside" and in "the protein Union/It could be better"). This could be favored, in the mentioned scenarios by having the third sector lead initially the process of change but in parallel, gradually lobbying to push action by the government. In the case of "retrotopia/solidarity in half" the government takes strong action, but in a highly selected way, according to strict eligibility criteria (e.g. citizenship). Here the role of the third sector actors has been envisaged in terms of strong advocacy, by identifying the "frontier operator", as a witness of the vulnerable groups present (but ineligible) within a very closed society.

Nonetheless, within the best possible scenario ("Tuscany in 3D"/ "Fed up Europe"), where the right to food fully enters into the policy agenda and debate – and the government adopts a proactive role - strong effort in collaboration among the government, industry and civil society is required, together with care on the communication processes across different domains, in order to tackle societal challenges.

What new ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

This is a hard question. This is because we experienced a difficulty in developing coherent and fully understandable plans in the first workshop (mostly for reasons linked to time available), therefore we used time in the second workshop to complete them. And this took place in the scenario groups. Thus it is very hard to say which changes were made because the participants were improving the plans, and which changes were made because the scenarios inspired them. Some suggestions were "just" an improvement of the plan. The main difference across the plans in the different scenarios was on the possibility and the priority of the different actions, which changed more or less according to context challenges. For example, actions to achieve a better governance entailed the role of the government in all sub-plans. If in one scenario there is a draw back by the government (2 out of 4 scenarios), the third sector must first find ways to push (lobby, advocacy, etc.) the public actor to become pro-active, and work according to progressive steps.