GLAMUR

Global and local food assessment:
a MUltidimensional performance-based approach

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Policy Recommendations and Policy Implementation Roadmap (Deliverable 6.2)

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GLAMUR is an EU FP7 project that aims at integrating advancement in scientific knowledge about the impact of food chains to practice, to increase food chains sustainability through public policies and private strategies. This general objective will be pursued through the following specific objectives:

- To develop and validate a performance criteria matrix for assessment and comparison of food chains operating at a range of geographical scales through analysis of how food chain impacts are communicated in different spheres of society.
- To build a database of quantifiable indicators of impact and a set of 20 case studies aimed at understanding how impacts are generated within specific food chains.
- To advance knowledge on methodological problems and trade-offs arising when measuring and comparing the impact of food chains within and between sectors.
- To assess how performance is perceived by stakeholders in different national contexts through participatory assessment and multi-criteria analysis of the different typologies of food chains.
- To assess the actual and potential role of public and private policies addressing food chains and to turn assessment into policy recommendations.
- To build a network that turns the advancement of scientific knowledge into decision making tools for domestic and public consumers, producers, citizens, scientists, policy makers, civil society organizations.

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Contents

Summary 5
Introduction 9
1. What GLAMUR has learned 10
What GLAMUR investigated 10
GLAMUR's Methods 11
What does GLAMUR's evidence say? 17
2. GLAMUR's Main Messages 20
3. Policy Implications 22
GLAMUR's Challenges to Policy: the problems that need to be addressed 26
3.1 The Local / Global distinction is too simple 27
3.2 The slipperiness of 'local' 30
3.3 Routes to food sustainability are fluid and dynamic 32
3.4 Contradictory policy drivers are not helping this 'messiness' 34
3.5 Policy blind spots 38
3.6 The significance of methodology 40
3.7 Discussion Points 42
4. Towards a Roadmap 44
Food system change as processes of engagement 44
The direction of travel: A note on the value of roadmaps 45
From policy challenges to policy recommendations: what works? 46
What is needed to help begin these processes of engagement? 48
Scenarios: forks in the road 49
Existing points of engagement 54
Steering a more sustainable food system 60
Appendix 1 64

Summary

- The aim of GLAMUR can be summarised as unpacking food chain performance along the global-local continuum and make sustainability assessment less partial using multi-criteria analysis.

- **GLAMUR's Policy Recommendations and Policy Implementation Roadmap** (Deliverable 6.2) addresses the significance for policymakers of the performance based approach and the methodologies employed to assess and compare the performance of local and global food chains. It references the contextual background of the Policy Analysis Report (Deliverable 6.1) and draws on the research findings from work packages 2-5, supplemented by questionnaire data supplied by the project teams.

- GLAMUR's evidence suggests that science-led priority setting for policy is not enough to conduct valid performance assessment. Multiple interests and values require unpicking, and thinking must extend beyond simple 'global' and 'local' distinctions. **Sustainability performance assessment recognises the value of combining science-led evidence with socio-cultural values.**

- GLAMUR's evidence shows the problematic nature of current sustainability performance assessments when used to justify **policy interventions** in support of scale. It has exposed the loose framing of 'local' versus 'global' food, and how diversity in supply chains is often place-specific and affected by cultural context. Policy settings directly affected performance profiles in the supply chains studied. **There is no simple local-global continuum; chains differentiate as they develop and grow. There is thus a need for strategically different responses.**

- This evidence highlights **why** making policy choices, preferences and/or investment decisions that improve food chain sustainability performance is such a complex area for public policy intervention.

We identify some **significant challenges for policy**:

- the local/global distinction is too simple; 'local' is a slippery term; routes to sustainability are fluid and dynamic; and, perhaps most importantly, a **lack of policy coherence,** including contradictory policy drivers and blind spots.

We argue:

- **the local/global distinction is actually a *construct*** in which a wider and deeper set of issues of food system sustainability is often embedded,

including culture, health, ethics and personal politics that influence food choice;

- **the need for more coherent policies** that recognise the hybridity and interconnectedness of 'global' and 'local' food systems and where policy interventions go beyond market mechanisms and adapt to chain diversity and context;
- the most urgent challenge for policy is first to **do no harm** – such as in ensuring hygiene regulations etc. are adapted to the realities of SMEs.

Tackling these challenges, backed up by GLAMUR's evidence, can **help policymakers make better policy by unravelling the complex impacts of policy intervention**, improve performance assessment, and lead to better informed sustainable food system solutions.

We advocate the idea of **food system change as processes of engagement,** informed by wider science-based evidence and socio-cultural values; this grounds policy choices on a wider understanding of food chain performance.

We propose:

- **a set of recommendations to encourage processes of engagement, aimed at public policy, the market and civil society** and to address the policy challenges identified by GLAMUR's work;
- **three scenarios that provide possible food futures as frameworks within which food actors operate.** These chart possible directions of travel and enable the consideration of different entry points for GLAMUR's findings into the 'real' world of policy making.

We identify:

- **existing points of engagement along the local-global continuum**. These provide more detailed analysis, routed in current reality, and connect GLAMUR's policy challenges with existing policies and initiatives, enacted at the global, EU, national and sub-national levels.

We make the following recommendations:

Encourage informed reflexivity

This can help democratise food policy by promoting sustainable pathways for food chains, **built around evidence rather than assumptions** about performance.

Address policy incoherence

All levels of governance from global to sub-national need to assess their policymaking processes, including monitoring and financial accounting, to help avoid policy incoherence, taking note, for example, of inconsistencies in the application and interpretation of supports (eg. subsidies) and tools (eg. Geographic Indications).

Bring local food in from its policy enclave

GLAMUR's evidence supports a **shift from agricultural/rural policy to food policy thinking and acting**. We make the case for bringing 'local' food in from its policy enclave in rural development to occupy a more central position in **EU policy** alongside 'locality' foods. This means that mainstream policy instruments – such as food safety - must be adapted to the scale and diversity of this part of the food system.

Catch up with the consumer

GLAMUR's more complex assessment of sustainability is already part of **consumers' framing of sustainability** (and many retailers, manufacturers and CSOs are aware of these framings). This is ahead of **scientists and policymakers**, and an endorsement of multi-criteria approaches. The **EU and its member states** should create sustainable diet guidelines incorporating existing nutrition and food-based guidelines; the Directorate Generals (DGs) should collaborate more on improving food sustainability criteria; and Civil Society Organisations (CSOs) should champion improved regulation and information about the degree of 'localness' in food to inform consumers.

Take greater care in the use of sustainability performance attributes

A more central place for 'local' food in policy requires **greater care in the use of sustainability performance attributes and methods. Policymakers, CSOs, and small and medium sized enterprises (SMEs)** need to be more prudent in using 'sustainable' and 'local' in the same breath. Multi-criteria sustainability assessment challenges existing 'sustainability' systems to provide a more integrated framing of their performance using a multi-stakeholder approach.

Ensure policy choices integrate a more complex version of sustainability

GLAMUR has accepted a complex version of what is meant by sustainability. This develops beyond the 'old' Brundtland tripartite definition which does not have sufficient breadth for the analysis of modern food systems. GLAMUR has produced case study evidence that individual food products carry more complex meanings; **culture, health and ethics are key attributes of modern foods and food choice**.

Call for new research

We propose the following areas for further research:

- to investigate and refine methodologies (using a combination of quantitative and qualitative approaches) for improved sustainability performance assessment along the local-global continuum and across the five dimensions (economic, environmental, social, health and ethical);

- to explore the realities and potential of consumer choice, which currently turns to the 'local' as a proxy for anti-homogenisation and a more human scale of control over food. This more complex meaning of 'social' within sustainability deserves more exploration within consumer culture.

Introduction

Deliverable 6.2 is the Policy Recommendations and Policy Implementation Roadmap (Task 6.2). It references the contextual background of the Policy Analysis Report (Deliverable 6.1) and draws on the on-going integration of research findings from work packages 2-5 (sub-task 6.1.4). This iterative process resulted in an initial draft set of Policy Recommendations and work towards a Roadmap that were circulated and refined using a process of consultation with internal project partners and key policy experts[1]. This period of consultation resulted in a refined draft that was worked on at a workshop attended by project partners and policy experts, held in Barcelona on 5 November 2015 at the GLAMUR project meeting. The amended draft was circulated at the end of November for final comments and finalized in mid-December 2015.

This document (Deliverable 6.2) provides the final version of the Policy Recommendations and Policy Implementation Roadmap.

[1] Appendix 1: list of policy experts

1. What GLAMUR has learned

What GLAMUR investigated

The project GLAMUR - *Global and local food assessment: a multidimensional performance-based approach* – recognises that although consumers are increasingly concerned about the impacts of food consumption choices on their health, the environment, society and on their pockets, distinctions between local and global food chains are being reconsidered. GLAMUR set out to investigate how the sustainability performance of food chains varies along the global-local continuum, what characterizes difference, and what the implications are for European and global policymaking and public-private strategies to increase food chain sustainability.

GLAMUR asked a lot of questions, including:

- How do we compare the different dynamics/definitions of sustainability in different countries?
- How do we define global and local food chains?
- How do we assess relational configurations?
- What are the implications of these different configurations on sustainability?
- How do we assess sustainable performance in food chains, and what does this mean for policy?

GLAMUR employed four different methodologies (participatory evaluation, LCA, metabolic analysis and shadow pricing) to examine the economic, environmental, health, social and ethical dimensions of eight product commodities (apples, berries, grain (wheat-to-bread), pork, cheese, wine, tomatoes and asparagus) and of global-local food chains in public procurement. Insights from GLAMUR on sustainable performance assessment in food chains – and the use of multi-criteria methods - are described in this report. More importantly, a set of Policy Recommendations and roadmap thinking is presented to help guide policymakers through multi-criteria interventions.

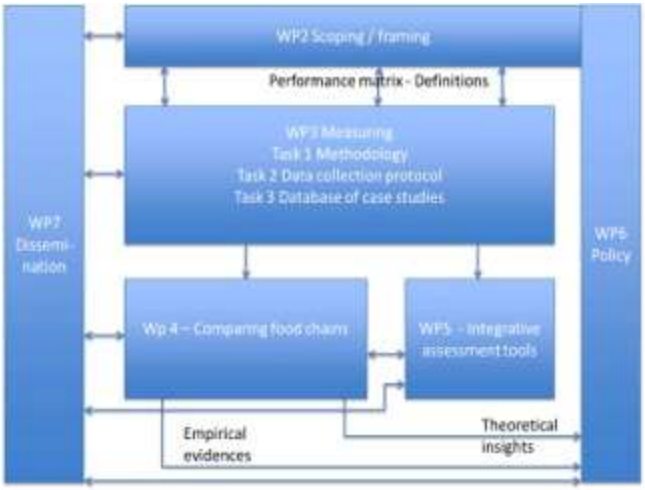
GLAMUR's Methods

The Policy Recommendations and Policy Implementation Roadmap emerge from a set of work packages (WPs)[2] that were used as a framework to pursue GLAMUR's objectives (*Figure 1.1*). Food systems operate at multiple scales and layers and the basis of GLAMUR was to unpack performance and make sustainability assessment less partial by using multi-criteria performance analysis along the global-local continuum rather than frame assessment purely in terms of 'local' or 'global' chains.

The schematic in *Figure 1.1* shows how the work packages fit together and build the final policy recommendations contained in this report. This moved the project process from initial scoping and framing (WP2), to assessing the sustainability performance in the case study supply chains (WP3), to making cross-cutting comparisons between countries (WP4), and then looking in more detail at what stakeholder perceptions were of 'global' and 'local' food supply chains and their views on what sustainability performance assessment can add to unpicking this complex reality (WP5).

[2] All project reports can be found on the project website at: http://glamur.eu/

Figure 1.1: Schematic figure of GLAMUR's work packages



Two important aspects of food supply chain performance were acknowledged and addressed in WP2. Firstly, food chains operate in a number of spheres i.e. the public, scientific, market and policy; and second, national context influences and situates how food chain performance is perceived and acted upon. National reports that framed national discourse about food systems were constructed for the 12 countries (Belgium, Netherlands, France, Italy, Spain, Denmark, Latvia, Serbia, the UK, Switzerland, Peru and Senegal). The final outcome of the work in WP2 was the development and validation of a performance criteria matrix, with 24 attributes for assessment and comparison of food chains along the local-global continuum (*Table 1.1*).

Table 1.1 *(source: Kirwan et al. 2014[3])*

Multi-criteria performance matrix of 24 attributes					
Composite Matrix					
Dimension / Sphere	Economic	Social	Environmental	Health	Ethical
Public	•Affordability •Creation & distribution of added value •Contribution to economic development	•Information & communication •Food security	•Resource use •Pollution	•Nutrition •Food safety •Traceability	•Animal welfare •Responsibility •Labour relations •Fair trade
Scientific	•Contribution to economic development •Technological innovation •Governance	•Consumer behaviour •Territoriality	•Resource use •Biodiversity •Efficiency •Technological innovation •Food waste	•Nutrition •Food safety	•Fair Trade •Animal welfare
Market	•Efficiency •Profitability / competitiveness •Connection •Technological innovation •Resilience	•Information & communication •Territoriality •Connection	•Efficiency	•Traceability •Food safety	•Fair trade •Territoriality
Policy	•Creation & distribution of added value •Contribution to economic development •Efficiency •Resilience •Food waste	•Consumer behaviour •Labour relations	•Food waste •Pollution	•Traceability •Nutrition •Food safety	•Food security •Governance

In the next stage (WP3), case studies of the eight product commodities (apples, berries, grain (wheat-to-bread), pork, cheese, wine, tomatoes and asparagus) were conducted in pairs of countries for comparative purposes and a global/local comparison of public procurement food provisioning was conducted in Denmark (*Table 1.2*).

[3] Kirwan, J., Maye, D., Bundhoo, D., Keech, D. and Brunori, G. (2014) GLAMUR WP2 - Scoping / framing general comparative report on food chain performance (deliverable 2.3). Countryside and Community Research Institute, University of Gloucestershire, UK.

Table 1.2: Cross-country comparisons of commodity chains in GLAMUR case studies (*adapted from Mathijs et al 2015*[4])

Countries	Commodity	Description of chains
Latvia and Serbia	Berries	In Latvia, the local blueberry chain is represented by individuals picking and selling wild blueberries. The global chain is represented by a large, technologically advanced wild blueberry processing enterprise. In addition, an intermediary global grey chain is considered. The chains are differentiated by distance, governance and resource use. In Serbia, raspberry chains are differentiated by distance and governance. The local chain consists of small farms producing and selling raspberries, while the global chain is oriented mainly at the export of frozen raspberries.
Spain and France	Organic tomatoes	In Spain, differentiation is based on distance, governance and resource use, while all chains studied are organic. The local chain consists of a network of small size scale agro-ecological farmers, producing a diversity of seasonal vegetables that are sold directly to the consumer. In the global chain, tomatoes are grown in greenhouses in Almeria and commercialized through various channels. An intermediate chain is characterized by a medium size farmer, producing tomatoes outdoor in semi-diversified farms. Tomatoes are sold through an organic wholesale cooperative. In France, the local chain involves outdoor organic production and local sale channels, while the global chain is represented by the Spanish global chain.
France and Switzerland	Wine	Chains are differentiated primarily by distance, size and governance. In France, the local chain is represented by family domains that commercialize a relatively large share of their output through local markets. In the global bulk wine chain, growers sell their grapes to large cooperatives that produce the wine and sell it through a variety of channels. The intermediary case is a global bottled wine chain, in which wine is produced by domains or small cooperatives, but commercialized globally. In Switzerland, the local chain is represented by Valais-based domains that grow grapes, produce wine and sell the wine using local outlets. The global chain is represented by the French Global chain.
Italy and the Netherlands	Pork/ham	In Italy, differentiation is based on territoriality and resource use. The local chain is represented by the Cinta Senese ham chain using traditional local pig breeds with predominantly regional output markets, although increasingly oriented towards more global niche and tourism markets. The global chain is the generic cured ham, characterized by global sourcing of raw materials, but at the same time closely interwoven with the more territory specific features of pork processing infrastructure, competences and skills of the Parma territory. An intermediate chain is the "regional" Parma ham chain that builds upon a historically rooted territorial distinctiveness of pork quality but has nowadays a global reputation and operates in global market outlets. In the Netherlands, differentiation is mainly based on resource use and governance. The local chain is represented by the Lupine Pork chain that attempts to re-create distinctive pork qualities based on local feed sourcing, but turns out to be strongly inspired by global knowledge sourcing around how to sustain pork production and to embed it in more global food market oriented farming activities (NL). The global chain is represented by the Good Farming Global Pork chain that is owned by a regional farmer's organisation, but knows a strongly globally oriented corporate business strategy. The 'Keten Duurzame Varkenshouderij' chain is a farmers-led relocalisation of chain

[4] Mathijs, E., Annaert, B., i, J. (2015) GLAMUR WP4 - Synthesis Comparative Report. Katholieke Universiteit Leuven, Belgium.

		governance but remains largely interwoven with global input and output markets.
Italy and the UK	Wheat-to-bread	In Italy, chains are differentiated by distance and resource use. The local chain is represented by The Stone Mill, a farm that produces and processes its own wheat into bread and pasta using traditional technology. The global chain is represented by industrial bread produced using modern technology and global sources by Barilla. An intermediate case is the Tuscan Sourdough Bread using regionally sourced inputs and traditional technology. In the UK, chains are differentiated primarily by distance and resource use. The local chain is represented by family-owned craft bakeries that bake bread using traditional technology. The global chain is represented by an industrial bakery sourcing both locally and globally. An intermediate chain is the in-store bakery that uses modern technology but sources wheat regionally.
Switzerland and the UK	Cheese	In Switzerland, chains are differentiated primarily by area of production, volume of cheese produced and know-how and technology used. The local chain is represented by L'Etivaz, a Swiss ripened hard cheese that is produced on the farm using traditional technology and ripened in a cooperative. The global chain is represented by Le Gruyère cheese that is produced at the creamery and commercialized through retailers. In the UK, chains are differentiated according to volume of cheese produced, the proportion of cheese exported, and the degree of mechanisation or industrialisation. The local chain is represented by farmhouse producers of Single Gloucester and cheddar. The global case is represented by creamery producers of cheddar.
Belgium and Spain	Organic Apples	For apples, differentiation is mainly based on distance and governance. In Belgium, the local chain produces apples organically and sells them to consumer groups. In the global chain, apples are produced using integrated production techniques and commercialized through the cooperative auction. In Spain, the local chain is represented by small agro-ecological farmers producing organic apples and selling them directly to consumer groups. In the global chain, organic apples are sold through wholesale channels.
Belgium and Peru	Asparagus	For asparagus, differentiation is mainly based on distance, area of production and volume produced. In Belgium (Limburg, Flanders), a local chain produces fresh white asparagus that is mostly sold by a large supermarket chain in the same region but is also sold directly to consumers through farm shops. In the global chain, mainly fresh green asparagus from Peru is exported to Europe and sold in Flemish supermarket stores.
*Denmark	Public procurement	In Denmark, public procurement is the most important policy in determining public diet. The municipalities aim to achieve at least 75% organic food (measured in volume) by 2015. Also, a growing focus on local foods and how it may be included in the public procurement has subsequently occurred. This is important if growth is to be secured in the rural districts, where agriculture is a major employer. At present, a record of local food procurement in the public sector is fragmented and access to it is limited and restricted by EU public procurement regulations.

* The public procurement case study did not involve a cross-country comparison.

The case studies mapped and analysed how impacts are generated within specific food chains at global, intermediate/regional and local levels along the global-local continuum. Key attributes were identified for each commodity

(using the multi-criteria performance matrix) and sets of indicators were constructed, with analysis of the underlying factors (e.g. political, legislative, geographical etc.) that influenced the performance of the indicators in the respective dimensions (economic, environmental, social, health and ethical). This assessed the sustainability performance levels of chains in each country and provided a set of results for cross-country comparison.

WP4 compared and contrasted the economic, environmental, health, social and ethical impacts of the identified typologies of the food chains selected. Using questionnaire data supplied by the project teams, it also compared and evaluated the validity of the four methodologies used for analysis (participatory evaluation, LCA, metabolic analysis and shadow pricing). In order to assess how performance is perceived by stakeholders in different national contexts, WP5 employed a participatory approach to develop a multi-criteria characterization of the performance of food chains.

WP6 is part of this iterative process and assesses the actual and potential role of public and private policies addressing food chains. It also addresses the significance for policymakers of the performance based approach and the methodologies employed. The Policy Analysis Report (Deliverable 6.1[5]) mapped the policy terrain with a focus on EU policy. The Policy Recommendations and Roadmap (Deliverable 6.2), references the Policy Analysis Report and integrates policy findings and governance issues from the work packages. In addition, questionnaire data supplied by the project teams provided more detailed insights into the significance of policies operating in the supply chains studied and their impacts on the localisation of food chains and on supply chain performance. Feedback was sought from policy experts and project teams at every stage of development, culminating in a Policy Workshop held in November 2015.

[5] Barling D, Vorley B and Smith J (2014) Glamur: Policy Analysis Report. (EU funded Framework 7 project. Deliverable 6.1*)* http://glamur.eu/wp-content/uploads/2014/11/d-6.1-policy-analysis-report.pdf

What does GLAMUR's evidence say?

GLAMUR worked from the premise that traditional assessments of food supply chain performance need updating to reflect new production and consumption patterns – both locally and globally – and new consumer concerns. Extending sustainability impacts beyond the economic, social and environmental to incorporate health and ethical criteria, reveals not only the complexity of the food system's real costs and benefits, but also challenges some assumptions that 'local' is always more sustainable.

GLAMUR's methodology used the different sustainability dimensions to assess performance in the case study data. This reveals not only the differences, overlaps and synergies between 'global' and 'local' supply chains, but also the blurring of boundaries and trade-offs that take place between the sustainability dimensions (*Box 1.1*). To the consumer, there might be little difference between supply chains, but knowledge of these 'hidden' aspects of performance can improve their freedom of choice by capturing the dynamics in chains when they endeavour to improve sustainability performance – these are themes that are picked up later in the report.

Box 1.1: GLAMUR's evidence - the five dimensions of sustainability

Economic dimension

In some cases, local/regional chains seemed to create more value, especially through the application of Geographic Indications (GIs) (e.g. Italian ham and bread, Swiss wine) or quality attributes (e.g. French ancient tomatoes), while **in others, global chains created more value** (Spanish organic tomatoes, Peruvian asparagus). In some cases, the **farmer** in the local chain assumed a higher share of the value added, but less value was added - and thus less jobs were created overall. This would lower national tax revenues.

Another example relates to how **disadvantaged rural regions, distant from large population centres, can benefit more from long supply chains and global markets**, as has happened in the Latvian blueberry chain.

'In Latvia the development of the wild blueberry industry has led to long supply chains and the inclusion of blueberries in food and pharmaceutical production systems worldwide, at this level of the chain berry picking has become an important activity granting income for the most remote and vulnerable part of population' **Berries: Latvia/Serbia**

Social dimension

GLAMUR has identified how local chains are partly regulated by tacit knowledge, with common local value systems (e.g. blueberries in Latvia, raspberries in Serbia). It has also shone a light on assumptions of superior performance with regard to labour relations in the local chain that are not borne out in practice. **Wage labour in local chains may be more informal and thus less socially protected than in global chains**. For example, in the asparagus chain, workers' wage levels as a proportion of national living wage were much higher in the 'global' chain in Peru than in the local Belgian chain where *nearly all seasonal workers are migrants* and:

'Labour costs are lower in Spain, with direct consequence on employment; Spanish farmers often recruit foreign migrant workers (often with bad working conditions). In France, farmers often use family staff who work much more than the legal threshold'. **Organic tomatoes: Spain/France**

Environmental dimension

GLAMUR's environmental assessments mostly involved quantitative performance analysis using energy use and greenhouse gas emissions data (LCA and shadow pricing methods). For some chains, such as organic apples and tomatoes, overall performance in the global chains was better than local. As the WP4.2 report concludes, ***'global chains tend to consume less resources per unit of product than local chains, due to what could be called ecologies of scale****. In other words, global chains employ more resource efficient transformation, transportation and cooling facilities resulting in less greenhouse gas emissions per unit of product.'*

However, **for some aspects, local performed better than global.** For example, in the Netherlands, which factored in the use of water, fossil energy and land, and their contribution to eutrophication potential and greenhouse gas emissions, local pork chains were more resource efficient. The same pattern was observed in Italy for water use, but not for energy and land use, as global chains use less energy and land and emit less greenhouse gases.

'Outcomes of this analysis confirm that localness might bring specific benefits in specific settings and further explain why pork chains might follow different strategies to optimize their resource-use efficiency' **Pork/ham: Netherlands/Italy comparison**

There was **evidence that innovative practice, coupled with legislation, had impacted on environmental performance** (e.g wheat-to bread chains). However, there were also environmental-economic trade offs such as in The Netherlands where **environmental policy has restricted volumes of pork production.**

Health dimension

Some of GLAMUR's own **weak** insights into health attributes show how little scrutiny has been applied to local food through the health lens.

'In Denmark, public procurement is the most important policy in determining public diet [...] At present a record of local food procurement in the public sector is fragmented' ***Denmark: Public Procurement study.***

In the commodity case studies, analysis of the health attribute was limited to nutrition (salt and fat content in bread, and fats and calcium content in cheese) and food safety (wine chain). For nutrition, results were hampered by a lack of data at the local/regional levels. **Multidimensional sustainability assessment has exposed gaps and weaknesses within our research community, not just for those in policy or consumer behaviour.**

Ethical dimension

'Governance relates to both the internal and the external relationships of supply chains. Generally, global chains tend to rely more on formal, standardized relationships, while local chains tend to rely more on informal, trust-based relationships. As a result, some global chains tend to perform better on indicators related to transparency (like in the case of food safety) and complying with global interpretations of good governance.' (Mathijs et al, 2015). As the conclusions in the WP4.2 report make clear, global chains tended to perform better on indicators related to recognized regulations and standards. However, many of the more **local chains, especially those that held PDOs/PGIs, went to great lengths to uphold quality and reputational standards that exceeded the legal requirements which involved a high degree of self governance** (e.g. pork/ham chains, Swiss cheese).

2. GLAMUR's Main Messages

GLAMUR's Main Messages are set out below (*Box 2.1*). On the one hand, the multidimensionality and multi-scale approach of sustainability assessment underlines how much is being missed by current methodologies that tend to compartmentalise not only assessment methods but also the dimensions of sustainability, such as measuring quantitative aspects of environmental performance using LCA. On the other hand, GLAMUR's evidence also highlights **why** making policy choices, preferences and/or investment decisions that improve food chain sustainability performance (for example, between 'local' and 'global') is such a complex area for public policy intervention. Multiple interests and values require unpicking, and thinking must extend beyond simple 'global' and 'local' distinctions. GLAMUR's main messages have implications for policy and, drawing on GLAMUR's evidence, this is considered further in Section 3.

Box 2.1: GLAMUR's Main Messages

Sustainability performance assessment is a multi-stakeholder concept and a process that is both multidimensional and multi-scale.

1. Multi-criteria sustainability assessment challenges existing 'sustainability' systems to provide a more integrated framing of their performance using a multi-stakeholder approach.

2. Multidimensional and multi-scale performance assessment is a key to sustainable pathways for food chains; its multi-stakeholder approach moves beyond assumptions such as local versus global, and can provide informed reflexivity on narratives used to frame the performance of the food system.

Sustainability performance assessment draws on multiple values and multiple interests

3. Sustainability performance assessment combines hard and soft indicators. It acknowledges that current methodologies tend to compartmentalise assessment methods and the dimensions of sustainability; it recognises the value of combining science-led evidence with socio-cultural values.

4. Sustainability performance assessment draws on multiple values and multiple interests and for this reason it is subject to contestation. To increase the degree of general validity of sustainability assessment, public institutions should ensure that it is based on participation, on transparency of different positions and distribution of power among stakeholders, and on a dialogue between science and society.

Sustainability performance assessment should recognize 'difference', but also the complementarities and synergies between 'global' and 'local' food chains

5. Disparity of power between actors in 'local' and 'global' chains may affect the way performance assessment methodologies are developed. Sustainability performance assessment can be based on recognition of these differences.

6. Sustainability performance assessment needs to detect when coexistence of 'local' and 'global' food chains create complementarities and synergies. Scale matters for some sustainability attributes, not for others. In some cases scale improves performance, in others it is the contrary. A generalized, abstract, comparative assessment of 'local' and 'global' food chains as abstract entities cannot be done.

Sustainability performance assessment can be a tool for encouraging transition to sustainability

7. Performance assessment can be a tool for encouraging transition to sustainability along the local-global continuum. In many cases, better performance can be achieved through 'localization' of more global chains or through 'globalization' of more local chains. Performance assessment can capture the dynamics of this hybridity in food chains as actors endeavour to improve sustainability performance with their own solutions.

3. Policy Implications

'The effects of policies on sustainable chain performance are part of wider debates about the future of farming and the role of agriculture in rural development and the most appropriate way to respond to material and global food security concerns.'
Quote from GLAMUR project partner

Agrifood is a major and successful part of European global competitiveness and agricultural policy and market harmonisation of standards for food products are key policy areas. Alongside this, local food systems are identified as important drivers for rural economic, social and cultural development within Europe's regions, and local food chains are promoted with financial supports from RDP programmes. This compartmentalisation of local food within European policy highlights contradictions about how global, locality and local foods are defined within EU policy. GLAMUR's evidence reflects this by exposing the loose framing of 'global' and 'local' food chains; it is not a simple local-global continuum.

Box 3.1 details the structure of GLAMUR's Policy Analysis Report (Barling et al 2014) which acts as contextual background to this report and its recommendations. The Policy Analysis maps the policy terrain with a focus on EU policy and the analysis references GLAMUR's five sustainability dimensions.

The Policy Analysis also covers wider international settings, including impacts on food chains in developing countries. European investment in developing country agrifood sectors highlights the impact of Foreign Direct Investment (FDI) on the capacity of these countries to support their local food systems and local development. Much attention has been drawn to FDI in farmland and 'land grabs' which can impact the capacity of developing countries to support their

local food chains (Vorley et al, 2012[6]). But FDI has a more profound impact of **facilitating the globalisation of food consumption patterns** (Popkin 1999[7]; Hawkes, 2005[8]; Kearney, 2010[9]). FDI can also increase significantly the importance of global food in the overall food supply (Vorley et al., 2007[10]). By displacing **local** production and shifting dietary preferences, imports from the global market can drive a disconnect between urban consumption and production from the hinterland, a growing reliance on imported foodstuffs, and on productive capacity directed towards agricultural export commodities (Dewbre and de Battisti, 2010[11]). Food security is, however, not only about overall supplies but also nutrition (McCorriston et al., 2013[12]). There may be public health issues from exporting healthy indigenous foods and a shift to imports of a 'global diet' high in meat, fats, sugars, and processed foods.

[6] Vorley B, Cotula L and Chan MK (2012) Tipping the Balance: Policies to shape agricultural investments and markets in favour of small-scale farmers. Oxfam GB, Oxford; IIED, London.
[7] Popkin, B.M. (1999) Urbanization, Lifestyle Changes and the Nutrition Transition. *World Development* 27(11), 1905–1916
[8] Hawkes, C. (2005) The role of foreign direct investment in the nutrition transition. *Public Health Nutrition* 8(4): 357-65.
[9] Kearney, J. (2010) Food consumption trends and drivers. *Philosophical transactions of the Royal Society B:* Biological Sciences, 365(1554), 2793 -2807.
[10] Vorley, B., Fearne, A. and Ray, D. (eds) (2007) *Regoverning Markets: A Place for Small-Scale Producers in Modern Agrifood Chains?* Gower, Aldershot UK.
[11] Dewbre J, and de Battisti AB (2010) *Agricultural Progress in Cameroon, Ghana and Mali: Why it Happened and How to Sustain it*, OECD, Paris.
[12] McCorriston S, Hemming DJ, Lamontagne-Godwin JD, Parr MJ, Osborn J and Roberts PD (2013) What is the evidence of the impact of agricultural trade liberalisation on food security in developing countries? A systematic review. London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London.

Box 3.1 GLAMUR's Policy Analysis Report (Barling et al 2014)

EU policy

- There is no single food policy, rather different policy layers have been added over time that lack full policy integration but share the common aim of enabling a successful internal economic market.
- The EU's current 2020 flagship policy strategy is based upon an overriding policy goal of economic growth based upon the international market competiveness of its industries.
- The core policy layers for food are the agricultural and rural development policies, and the establishment of market harmonization standards for food products in Europe.

- The **economic dimension** of food chains come under the Commission's High Level Forum for a Better Functioning Food Supply Chain in Europe which has focused work on business to business relationships along food chains (around the terms and conditions of contracts) and monitoring food prices, as well as sustainable food consumption and production.
- The **health dimension** has primarily focused on food safety reform. However, under the aegis of the EFSA and DG SANTE has extended its reach on food and public health, including nutrition policy, but primarily as a national level competency.
- EU regulation is the main form of **environmental law** impacting upon member states' food chains. The direction of EU policy across this dimension is outlined under its Environmental Action Programme, and its Sustainable Development Strategy, which is now subsumed under the Europe 2020 flagship policies for economic growth.
- The **social dimension** of food chains performance is focused upon labour and working conditions and how corporate social responsibility (CSR) can aid the performance of supply chains in terms of economic competitiveness and sustainability performance.
- The EU has a current strategy for Animal Welfare that addresses a key **ethical dimension** of food production and food chain management.

International

- International agreements over trade shape the nature of food chains, paramount examples being the World Trade Organisation rules on agriculture and food safety standards.

Private Governance

- Private Governance in the food sector can occur when private and societal interests seek to exert forms of control within the market economy, although public policy often provides some enabling or operating context for this governance such as through public-private governance initiatives. Private governance forms throw up new power relationships along supply chains, particularly through the extraction of economic value.

Developing countries

- European regulatory and private governance promotion of **local food chains**, has only minor impact on the performance of developing countries' food chains, including access to markets in Europe or elsewhere. This may change with the growing importance of business-to-business sustainability standards, and emerging public policy support for environmental footprinting of products to drive improved resource efficiency in the European food chain.
- European promotion of **global food chains** - especially driven by private sector strategy - has potentially a much greater effect on the performance of developing country food chains. Those **impacts of European** promotion of global food chains need to be taken into consideration as context when looking at impacts of promotion of local chains, and in seeking policy coherence in Europe across regional development, agriculture, trade and investment, and aid.

As new relationships evolve between member states and their consumers and new ways of 'making and doing' supply chains emerge, such as the role of civil society in food democracy, **policy interventions must go beyond market mechanisms**. Sustainable food systems need policies that not only influence producer supply, including rural infrastructure and agricultural research and development, but also target consumer demand and influence consumer access to safe, healthy and affordable food.

The framing of locality and local food poses a particular dilemma for policymakers, sitting between global competitiveness and the open single market on one side, and regional territorial development on the other:

- **'Locality'** foods sit under the first (global competitiveness + quality)
- **'Local'** food supply chains sit under the second (rural economic development/culture/territory)

Policy has - through Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and, to a lesser extent, Traditional Specialties Guaranteed (TSG) certification standards[13] - intervened in the first, as standards and norms are required in long chains, where exports are important, in order to communicate integrity and quality. However, the role of policy interventions in short chains, and where 'localness' is a key attribute, is less clear. EU regulations and funding supports can make local governments act, but there are different entry points depending on national/local contexts.

Six important policy challenges emerge from GLAMUR's work. These are headlined below, then expanded in the sub-sections that follow. Tackling these challenges, backed up by GLAMUR's evidence, can help policymakers unravel the complex impacts of policy intervention, improve performance assessment, and lead to better informed sustainable food system solutions.

[13] http://ec.europa.eu/agriculture/quality/schemes/index_en.htm

GLAMUR's Challenges to Policy: the problems that need to be addressed

3.1 The Local/Global distinction is too simple

There are many different framings of global and local and making comparisons is not straightforward. Local chains have global inputs and vice-versa, which results in a high degree of hybridity.

3.2 The slipperiness of 'local'

Not only are distinctions between local and global blurred; the same applies to distinctions between 'local' and 'localness'.

3.3 Routes to food sustainability are fluid and dynamic

Food chains find different ways of achieving sustainability goals within their own boundaries. **Different policy settings lead to different performance profiles in supply chains.**

3.4 Contradictory policy drivers are not helping this 'messiness'

GLAMUR's findings uncover contradictory policy drivers. **Some policy provides incentives that drive food system localisation/re-localisation, whereas other policy works in opposition and acts as a disincentive.**

3.5 Policy blind spots

GLAMUR's evidence points to **policy blind spots that impact on food system sustainability**

3.6 The significance of methodology

GLAMUR's evaluation of the multi-criteria performance assessment methodologies used by project partners shows how trade-offs within and across the various sustainability dimensions and scales means that **no individual methodology was able to assess performance comprehensively across all dimensions**.

3.1 The Local / Global distinction is too simple

GLAMUR set out to investigate how the sustainability performance of food chains varies along the global-local continuum in the knowledge that there are many different framings of 'global' and 'local', and making comparisons is not straightforward – local chains have global inputs and vice-versa which results in a high degree of hybridity. Global and local distinctions do not discriminate or capture this reality for consumers.

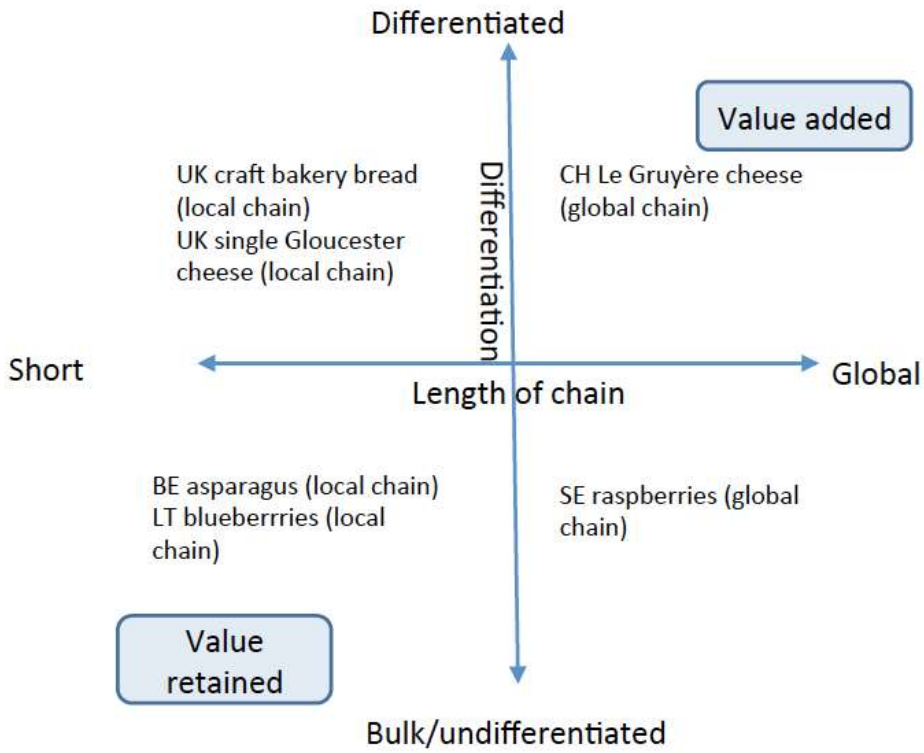
Acknowledging this need to consider the social connections, embeddedness, direct links etc. of food supply chains alongside their physical parameters, GLAMUR employed four definitions to distinguish global and local in the case study research (WP3):

- *The physical / geographical distance between production and consumption;*
- *The type of governance and organisation of the supply chain (degree of control of "local actors" and "global actors");*
- *The kind of resources, knowledge and technologies employed;*
- *The way supply chain actors shape product identity, including the role of territory.*

Figure 3.1.1 provides an example of this complexity. It shows how the case studies employed at least two axes to distinguish between local and global: **length of chain**, and **the degree of product differentiation**. Even on one of these axes (chain length), the **framing** is relatively **weak**: 'short' chains can rely on large amounts of long-chain inputs, such as Belgian asparagus that uses predominantly migrant labour for harvesting and packing; also rhizomes are imported from nurseries in the Netherlands and often the transplanting is also done by external Dutch companies. *Figure 3.1.1* also demonstrates how more value was retained in 'short' chains with bulk/undifferentiated products, such as Belgian asparagus or Latvian blueberries, whereas more value was added where

product differentiation took place for national distribution or for global export markets, such as for Swiss Le Gruyère cheese.

Figure 3.1.1: Supply chain length and degree of differentiation.



Source: authors

This hybridity within chains, the degree of differentiation according to national/place-specific context, and the blurred distinctions between the 'global' and 'local', highlights some of the difficulties faced by policymakers working within such diverse situations. For example, once global inputs and exports were factored in to the analysis for environmental performance in the Swiss cheese chain, there was not much difference in the distance travelled. This led the team to conclude that **'localness' is not necessarily an indication of sustainability**.

The Latvian blueberry chain also demonstrates the importance of product origin on chain structures because these are wild berries with a public right to pick

them in the forests. Although blueberries reach global chains, this relies on small local pickers, largely unregulated, which provides an income in rural areas, protects local cultures and traditions but also leaves pickers open to exploitation and criminal interests. These chains not only highlight the importance of alternative sectors in some countries but also the need for better regulation and governance in these chains. As one project partner commented:

> *'Policy is less about priority setting than about intervening in place-specific interactions between local and global'.*
> **Quote from GLAMUR Project Partner**

3.2 The slipperiness of 'local'

> *'Nowadays people speak about local when actually it's about produce based on foreign inputs - global inputs (energy, agri-chemicals, feed) - and I think people are not aware of it [...] I think that if politicians want to use the term 'local food' they have to be aware of that.'* **Quote from Swiss stakeholder**

Recognising that stakeholders' interpretations of what is global and local are very different, GLAMUR sought the views and perspectives of stakeholders at every stage along the supply chains studied (WP3, WP5). At the same time, making cross-country comparisons between supply chains (WP4) also emphasised how chains have reorganised after various food safety scandals and incidents; this has meant:

> *'(i) more coordination and traceability through increased control using formalised procedures, and (ii) more coordination through a relocalisation of the system. In the control pathway, the basic configuration of the system did not change. In the relocalisation pathway, the system is reconfigured resulting in new relationships between producers, processors, retailers and consumers.'* (Mathijs et al, 2015).

Relocalisation in particular, underlines the slipperiness of 'local' framing. For example, short food chains (SFCs), increasingly encouraged through RDPs, are very diverse and raise questions about how they should be regulated in such context-specific situations. Another consideration is the situation at farm level. Small farms may need to grow their markets beyond direct selling in order to survive, but at the same time are often too small to compete in highly consolidated global markets. In these instances, scaling up local foods often led to hybrids of 'conventional' and 'alternative' systems, as well as to collective short food supply chains (EIP-AGRI focus group 2015[14]).

Geographical Indications (GIs) are another example. These are a useful policy tool for 'framing' sustainability and are associated with locality foods. However,

[14] https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri_fg_innovative_food_supply_chain_management_final_report_2015_en.pdf accessed 8 December 2015

GLAMUR's evidence shows that they have different applications that have implications. Some GI products are export-oriented but still able to transmit 'local' qualities outside the region of production (e.g. 95% of Swiss Le Gruyère cheese is sold to national distributors or global enterprise), whereas others can be applied to distinguish cultural products within national markets (e.g. French regional wines). As one project partner said:

> *'It is evident from the analysis presented that more work is needed to better understand how geographical indications such as PDO/PGI are used differently by member states and the influence they have on supply chain governance and organisation.'* **Cheese: UK/Swiss comparison**.

Further examples from GLAMUR's evidence highlight this slipperiness of 'local' (*Box 3.2.1*). This suggests that not only are distinctions between local and global blurred, but also those between 'local' and 'localness'. **Assessing the degree of 'localness' could improve transparency for the consumer.**

Box 3.2.1: The slipperiness of 'local'

Industrial as 'artisanal'

Regional Tuscan bread produced in Italy is geographically defined but is produced on an industrial scale with artisanal and traditional features. Likewise, the **industrial UK wheat-to-bread chain** is increasingly focussed on value added production, including product differentiation such as quality conventions and identity-preserved (IP) attributes in wheat sourcing, regional wheat sourcing, and production of more healthy and artisan loaves that mirrors some of the key characteristics of origin and place found in the smaller craft or artisan bread chains.

In **Spain, stakeholders in small-scale organic tomato chains** favoured hybrid chains. They emphasized that professionalization (consolidation of efficiency) and growth dynamics ensured their viability, but paying a 'fair price' to producers differentiated them from global chains, as did a focus on quality and trust.

French wines are considered part of local cultures throughout France but PDO labels are increasingly applied to boost exports to add value through quality attributes in increasingly competitive global markets.

'Local' as 'national'

In Italy, quality is interpreted as local specificity and embodies tradition and culture. Artisanal quality, in contrast to industrial quality, is key to Italian food strategy; thus, 'local' is associated with 'national', as well as regional . There is a similar situation in **France** where tomatoes have a national, rather than regional/local PDO.

Degree of 'Localness'

Acknowledging that *'localness might bring specific benefits in specific settings'*, **Dutch and Italian teams comparing pork/ham chains,** found that pork chains follow different strategies to optimize resource use efficiency. **In Italy**, policy pays attention to the preservation of farm-based and territorial product distinctiveness through geographical indications (PDO/PGI etc.), whereas these standards are completely absent in the Dutch pork policy setting and chain dynamics are much more affected by other policy fields.

3.3 Routes to food sustainability are fluid and dynamic

'The organisation of the value chain and the cooperation between stakeholders seems to have a major influence on the performance of each chain'
Quote from Swiss GLAMUR project partner on the wine chain.

When looking at routes to food sustainability the project outcomes suggest that stakeholders in chains find different ways of achieving sustainability goals within their own boundaries; diversity is place-specific and affected by cultural context, and transitions can be driven by innovation and ethical intentions.

One aspect that relates to how chains move towards sustainability goals is related to how they organize. For example, many partners commented on how achieving and maintaining GI certification led to collective organization within the company and internal regulation of quality and product identification (e.g. Italian ham, Swiss cheese).

Different policy settings led to different performance profiles in the supply chains. For example, the role of subsidies had a major influence on the ecological and economic performance of chains in some countries (e.g. Switzerland, Italy, France). Likewise, transition took different routes according to context and how national and EU policies were framed and interpreted. For example, leverage of public food service in Denmark demonstrates how Copenhagen is able to work within the EU public procurement regulations and source 'local' food from SMEs.

Chain strategies also influenced evaluation. For example, when chains differentiate, 'global' chains may demonstrate better sustainability performance in some areas than 'local' chains. The evidence also underlines the risk of making

assumptions about the link between local food chains and rural economic development.

These methodological challenges have implications for policy and sole reliance on empirical evidence. As one project partner commented:

> *'sustainable food chains need both global and local chains, but there is a need for strategically different responses and, this has implications for sole reliance on science-led priority setting.'*

3.4 Contradictory policy drivers are not helping this 'messiness'

> *'There were different preoccupations between those who were part of a policy framework that had been principally devised to regulate the industrial food sector at EU level [...] and those in the local system.'*
> **Wheat-to-bread chains: UK and Italy**

GLAMUR's evidence shows that there are contradictory policy drivers in different national contexts. Some policies provide incentives for localisation/relocalisation in the food system, whereas others work in opposition – and disincentives posed obstacles for innovation and transition at local/regional levels.

Subsidies often act as direct incentives for localisation/relocalisation. These are implemented through agricultural policies and vary according to national priorities and, where applicable, according to how EU and national policies interact. For example, global strategies in the French tomato sector are very dependent on CAP payments, whereas Switzerland, as a non-EU member state, has its own agricultural policy and provides subsidies for landscape and biodiversity that underpin local production. However, there was also evidence that subsidy regimes could **discourage** local production, such as in the case of Swiss dairy farmers who relied on imported feed rather than developing local markets.

EU policy can also act as a disincentive for localisation/relocalisation by placing regulatory burdens and global standards on small and medium sized enterprises (SMEs), including inflexible hygiene regulations and expensive investment requirements in certification schemes. The removal of EU milk quotas has also opened up global competition and put additional financial pressures on small dairy farmers, such as those supplying local cheese makers in the UK.

In some national contexts there is a **political culture** with a tradition of targeting global competitiveness (e.g. The Netherlands, UK) and **taxation policy** can act as a disincentive to implement value-added activity or grow in scale for small producers (e.g. France). In others, e.g. Latvia, there is a lack of clear standards to validate local chains.

Recent revisions of EU public procurement include the removal of some barriers for SMEs and provide some incentives for short chains. However, in Denmark, Value for Money policies still drive low-cost centralised procurement and non-discrimination between industrial organic and local production.

Box 3.4.1 and Box 3.4.2 provide further examples of how policies can both incentivise and dis-incentivise food system localisation/relocalisation.

Box 3.4.1: Policy incentives for food system localisation/re-localisation

Direct incentives	Examples from GLAMUR's evidence
Subsidies (CAP and national) Implemented through agricultural policy and vary according to national priorities and, where applicable, according to how EU and national policies interact.	*'Subsidies to dairy farmers are different between the UK and Switzerland. Whereas the UK is part of the EU and therefore receives subsidies from the Common Agricultural Policy (CAP), Switzerland has its own agricultural policy'* *'Global players in the French tomato sector rely on intensive production and require high financial investment. The sector is very dependent on CAP payments for technological investments (warmed greenhouses, notably) given to producer organizations.'* *Fiscal subsidies for environmental and animal welfare investments in Dutch pig husbandry.*
GIs (PDO/PGI) Create price premiums, market access, diversification etc., create internal regulation of quality and product identification.	
Revision of EU public procurement regulations Recent revisions include removal of some barriers for SMEs and incentives for short chains.	*'Public markets code' for public procurement has incentives to procure from short chains (reference to 'local' is still forbidden but additional criteria are added to get local products, like freshness) and quality chains (AOP, organic) at 20% (40% in 2017) (France)* *Minimal % sustainable products of procurement by public entities (The Netherlands)*

	'The new regulations provide concrete measures to remove barriers for small and medium-sized enterprises (SMEs) to access the system of public procurement' (Denmark)
Indirect incentives	
Animal welfare legislation	e.g. Switzerland and The Netherlands
Subsidies for landscape and biodiversity	e.g. Switzerland
Policy/planning at city level For example, employment generation in local horticulture	e.g. France and Denmark '*Big cities favour new agricultural installations around cities to maintain green belts and feed the city. They create or re-dynamise open-air markets and implement 'local food governance devices'* (France)
Social policies	*'social policies include labour, health, social cohesion, food aid and the struggle against unemployment. Some of these policies are nationally-based (tax, social), others are partly defined at the European level, but interact with national priorities and regional strategies. For instance, the food aid sector in France is experimenting with local procurement using European, national and regional subsidies from social policies ' (France).* Urban farming openly promoted by city councils (The Netherlands)

Box 3.4.2: Policy disincentives for food system localisation/re-localisation

Direct disincentives	**Examples from GLAMUR's evidence**
Taxation • Disincentive for value-added activity or to grow in scale • Disincentive to use local seed	'Surely the most powerful policy in France' e.g. France
EU cooperative law	Farmers limited in % sales through alternative channels (Belgium) Farmers forbidden to make sectoral agreements about production conditions (Competition Authority, The Netherlands)
EU policy puts regulatory burdens and global standards on SMEs: e.g. Hygiene regulations	Inflexibility in application for SMEs (e.g. France, UK, Denmark, Serbia etc.)
Value for Money policies in public procurement • Drive low cost centralised procurement ; • Non-discrimination between industrial organic and local	*'The EU regulations limit the possibility to promote local products in the public procurement because of the principle of 'non-discrimination'. So far the goal for the public procurement in Denmark with regards to sustainability focused on increasing share of organic food in the public kitchens. As long as this goal is well defined and measurable it also can lead to the situation in which some of the important dimensions of sustainability*

production.	*might be omitted' (Denmark)*
Political culture	• Tradition of targeting global competitiveness (e.g. The Netherlands; • Tradition of emphasising self-regulation rather than state-led policy intervention (e.g. The Netherlands)
Investment in certification schemes is too expensive	e.g. organic Spanish tomatoes
Indirect disincentives	
Subsidy regimes discourage local production	e.g. Swiss dairy farmers rely on imported feed rather than developing local markets.
Subsidies and access to land determined by size of farm	'Size of farms remains the key determining factor of access to land and subsidies' (France)
Lack of clear standards to validate local chains	e.g. Latvia
GIs can freeze innovation	*'despite all possible advantages of PDO designations, these designations tend to freeze innovations from the producer side, and limit the potential for new artisanal cheeses to appear.'* (UK cheese)
Decline in public subsidies	*'the national nutrition-health programme (in France) promotes the consumption of 5 fruits and vegetables per day, whatever the provenance; with specific subsidies, many schools propose a fruit each day during the morning break, and in order to make children discover diversity, fruits come from all the world at low prices, as far as public subsidies have declined' (France).*

Policies operate in diverse contexts and democracy generates a diversity of policy responses. But it is important to note that **policies should first 'do no harm'.** The examples that emerge from GLAMUR's findings, where some policies incentivise localisation/relocalistion of food chains, only to be 'neutralized' by others that work in opposition, reminds us of how policies impact on the ground. This highlights not only the need for strategically different responses according to context but also the complexity of the policy response along the global-local continuum.

3.5 Policy blind spots

EU policy aims to maintain the free movement of goods within the Internal Market and the competiveness of EU industry, resource efficiency and quality alongside cultural and territorial identity, with a focus on rural development policy. However, GLAMUR's evidence reveals policy blind spots that impact on food system sustainability. At the European level these include non-local inputs in local products, competition between exported subsidized products with non-subsidized local, a lack of regulation in some local chains and a lack of policy supports for SMEs to 'up-scale'. It also suggests that efforts to standardize legal procedures need careful implementation in order to avoid undermining traditions that provide both livelihoods and support cultural traditions in local, rural communities (e.g. Latvia and Serbia).

Box 3.5.1 provides some specific examples from GLAMUR's evidence:

Box 3.5.1: Policy Blind Spots

High levels of non-local inputs in local products

'Subsidy regimes in Switzerland have discouraged the production of livestock feed in recent years' (Swiss dairy)
'nearly all seasonal workers in Flanders are migrants' (Belgian asparagus)
nearly all workers in Dutch slaughterhouses are migrants (Dutch pork)
in France, most of the territorial collective labels carried by public institutions are made with non-local raw materials which lack transparency for the consumer who trusts the public institution (French tomato sauce, only processed in the region: tomatoes come from abroad)

Exported subsidized products compete with unsubsidized local

'The existence of dairy farming in the Alps in Switzerland is due to the existence of high subsidies as well as important and valued know-how (through PDO designations). A major ethical concern arises however when these subsidised products are exported and compete with unsubsidised local ones' (Swiss dairy).

Less regulation/control in some local chains

In Latvia, local chains (with 'inner regulation') are 'built around local, cultural knowledge' but are also prone to illegality/threats by those seeking control (Latvian blueberries)

Subsidized employment in local farms threatens livelihoods of others

'Social policies use/implement vegetables farms as economic insertion tools; those farms sell locally; for others it is an unfair competition (they benefit from subsidized jobs)' (French tomatoes)

As noted in Section 3, GLAMUR's Policy Analysis (Barling et al 2014) also addressed developing countries' perspectives on regulatory and private governance determinants of food chains along the local-global continuum as another critical area of policy blind spots. This includes the misuse of labels (e.g. anti-airfreight); destabilisation and undermining of local markets in developing countries by European produce; depression of global prices in commodity markets and unfair competition in third markets where the EU is also a big exporter.

3.6 The significance of methodology

The aim of GLAMUR was to unpack performance and make assessment less partial, using multi-criteria analysis. This has shown how trade-offs within and across the various sustainability dimensions and scales means that no individual methodology was able to assess performance comprehensively across all dimensions. What the results do demonstrate is that **chain strategies influence evaluation** (see Figure 3.1.1). We conclude that **science-led priorities and methods are not enough to conduct valid performance assessment**; a combination of qualitative and quantitative methods could help to increase the value of sustainability performance assessment.

GLAMUR's evaluation of the four methodologies employed by the project (participatory analysis, LCA, metabolic analysis and shadow pricing) concluded that the participatory approach was the most open and flexible method. Attributes and indicators are selected in close collaboration with food chain stakeholders and it can incorporate all the relevant dimensions of sustainability. However, as the evaluation report points out, there is a risk of subjectivity when it comes to interpreting results - *'the approach is highly context dependent and each food chain assessment needs to include a 'thick' context description in order to put the research results into a broader framework'* (Schwarz and Mathijs, 2015)[15]. These issues were less pronounced in the methodologies that relied on quantitative information (LCA, shadow pricing) and the evaluation concluded that **a combination of qualitative and quantitative methods could help to increase the quality of research results.**

[15] Schwarz J. and Mathijs E. (2015) GLAMUR WP4 – Methodology evaluation report (deliverable 4.3). KU Leuven, Belgium.

Comments from project partners pick up on the necessity of combining qualitative and quantitative indicators but also point to the difficulties of measuring indicators consistently. There were comments about how quantitative indicators are inherently 'reductionist' and need a qualitative complement, which makes an evidence-based approach very difficult. Project partners also stressed that **performance assessments were very context dependent and place-specific.** As one project partner notes:

> *'Attribute based performance comparison informs policy actors in better ways about 'the multi-faceted and complex nature of local-global comparison' BUT 'makes little sense without taking place-specific local-global interaction patterns into account. Place-specific interactions determine performance.'*

However, comments also suggest that **performance assessment could have some leverage with policymakers by communicating why the five dimensions are important, and encouraging them to look at 'hidden' aspects of food chain performance,** such as the ability of multi-criteria assessment to unpack and compare distribution of value.

It is important to note that GLAMUR's evidence has only partially assessed the role of the consumer. As one project partner (UK study on cheese) said:

> *'An important, and still under-researched aspect, is the perspective of performance and choice from a consumer viewpoint. It is very easy to frame these questions in production and value chain terms. The consumer cheese data shows the value and need to open the conversation up to consumers.'*

But consumers are getting sophisticated and acting anyway! They are already making multi-criteria decisions – ethical, environmental, health etc. - about their food choices that extend beyond standards and certification, but they lack full information. This reveals another 'hidden' aspect of performance assessment that policymakers need to understand.

3.7 Discussion Points

GLAMUR's fieldwork and case studies have highlighted the innovation, diversity, experimentation and vibrancy that characterise 'local' food chains, including how they can shine a light on food systems and act as a critical voice. However, the evidence also suggests the need for more coherent policies that recognise the hybridity and interconnectedness of 'global' and 'local' food systems. We note that GLAMUR's evidence shows how problematic it can be to use current sustainability performance assessments to justify policy interventions in support of scale. For example, democratising food policy at a local level will not help to advance sustainability if efforts continue to work on assumptions - such as that 'local' is intrinsically more sustainable than 'global' - rather than the evidence.

GLAMUR's evidence has shown that food systems are inherently multi-scale and operate at multi-levels; thus solving policy problems in one place/level may lead to others in the system. In addition, although consumers are already using a multi-criteria approach to food choice, policymakers do not currently have mechanisms to deal with multi-criteria assessment of food supply chains and their sustainability performance. Complementarities and trade-offs need resolving – such as those between productivity and security of supply versus environmental, social, health and political goals, and the social and cultural values of food that shape consumer preferences need more consideration.

There is also a new and complex reality that challenges ideological views about relocalising food production and consumption. Market globalization, urbanisation, and the retreat of the state from regulating consumer choice is shaping the potential and limits of national policies and food chain practices.

This is a situation where 'local' food chains are seen as complementary rather than an alternative to imported food in both European and developing countries and consumers may perceive 'global' products as safer because they comply with sanitary controls.[16] The state of EU policy is itself a problem. The Common Agricultural Policy dominates finance and thinking, and is under constant internal and external reform. Other policies affect farm and food system dynamics, especially access to subsidies. Of particular importance in the local/global discourse is the EC's role in health information, consumer information, and industrial efficiency guidance (such as on resource efficiency, waste, etc.).

As policymakers confront new and complex realities that challenge distinctions between local and global food chains, the range of policy options in a context of market globalization is narrowed. In a rapidly urbanizing world where consumer choice demands new sets of food attributes (especially around provenance and integrity), how can public policies, international trade agreements and public-private strategies support food security and improve sustainable performance along the local-global continuum? GLAMUR's evidence suggests that science-led priority setting for policy is not enough to conduct valid performance assessment.

[16] http://pubs.iied.org/16595IIED.html accessed 26 October 2015

4. Towards a Roadmap

Food system change as processes of engagement

GLAMUR both unpacks the complexity of sustainable performance assessment and the challenges that policymakers confront when trying to improve sustainable food systems. What has emerged from this is the idea of **food system change as processes of engagement**; this grounds policy choices on a wider understanding of food chain performance.

GLAMUR has exposed the loose framing of 'local' versus 'global' food, and the case studies demonstrate how diversity in supply chains is often place-specific and affected by cultural context. Different policy settings led to different performance profiles in the supply chains studied. It is not a simple local-global continuum: chains differentiate, and there is a need for strategically different responses.

There are also different entry points for building transition to more sustainable food systems. GLAMUR's cross-national comparisons are important for demonstrating how EU and global policy impacts at national/regional and local levels of government, not only within and between member states, but also with other countries in Europe, such as Switzerland, and globally, such as Peru.

One of GLAMUR's main messages is:

Sustainability assessment can be a tool for encouraging transition to sustainability

Performance assessment can be a tool for encouraging transition to sustainability along the local-global continuum. In many cases, better performance can be achieved through 'localization' of more 'global' chains or through 'globalization' of more 'local' chains. Performance assessment should be

able to capture the dynamics of this hybridity in food chains as actors endeavour to improve sustainability performance with their own solutions at different levels of activity, be this at global, regional/intermediate or local levels.

The use of participatory methodologies has also been quite insightful into the power and to some extent the risks of these approaches, including the necessity of avoiding framing sustainability assessment only in production and value chain terms. This has exposed the inherent weakness of science-led priority setting. Science should be used to enhance reflexivity (i.e. the willingness to consider changing initiatives and the way stories are told, rather than as a final arbiter of performance and policy choice). Food systems are complex and cannot be defined in normative terms, socio-cultural values and consumer perspectives and choice must also be integrated. So what happens next?

The direction of travel: A note on the value of roadmaps

Roadmaps are on the one hand, a mapping of the direction of travel to aid planning, and on the other, a metaphor to deal with complexity and uncertainty and to encourage policy analysis to find order in scientific or technical issues which otherwise could be presented as suffering excess confusion. They are part of the modern language of policy that has distanced itself from the 'old order' of plans, state-leadership and centralised decision-making. Roadmap thinking is, by contrast, associated with stakeholders, options, consultation, and partnerships. They came into science, technical and engineering policy, for example, with the development of forecasting approaches and skills in the 1970s, and were well established in the 1990s[17]. They are associated with the outlining of policy options and scenarios but still allow the weighting of recommendations. Roadmaps are firmer and clearer than 'visioning'[18]. They suggest a world of

[17] Barker D, Smith DJH. Technology foresight using roadmaps. Long Range Planning. 1993;28(2):21-8. doi:10.1016/0024-6301(95)98586-H.

[18] McDowell W, Eames M. Forecasts, scenarios, visions, backcasts and roadmaps to the hydrogen economy: A review of the hydrogen futures literature. Energy Policy. 2006;34(11):1236-50. doi:10.1016/j.enpol.2005.12.006.

understood rather than uncertain risks; they are recommendations for decision-makers who can be confident in firm and risk assessed decisions. Roadmaps offer short-term (5-10 years) direction but are mindful of longer-term direction (50 years). The term has come to mean, as it is meant in this report, an attempt to chart a common, evidence-based direction of travel.

From policy challenges to policy recommendations: what works?

The evidence from this GLAMUR project suggests that the direction of travel for the food system should be one steered by engagement and informed by wider science-based evidence and socio-cultural values. This means that engagement becomes intrinsic to the policy options, scenarios and recommendations that emerge in GLAMUR's roadmap thinking. For the purposes here, we have distinguished between three spheres of engagement:

- public policy - by which we mean governmental processes;
- the market - by which we mean how consumers engage with the food system, and commerce and supply chain processes; and
- civil society - by which we mean how citizens engage with the food system.

Table 4.1 charts these **processes** in a matrix. Rather than directing policymakers to a technically 'sustainable' endpoint, the aim here is to help guide policymakers, business and consumers alike through the multi-criteria interventions GLAMUR's evidence suggests is required.

Table 4.1: Processes for engagement - steering a more sustainable food system

	The Local/Global distinction is too simple	The slipperiness of 'local'	Routes to food sustainability are both fluid and dynamic	Contradictory policy drivers are not helping this 'messiness'	Policy blind spots	The significance of methodology
Public Policy (Government)	• Give higher priority to social attributes of food, such as human capital and the values that underpin food systems; • Conduct public consultation about new methods for giving consumers broader indicators of what is in their food, and where it comes from;	• European Scientific advisory bodies to improve metrics of sustainability; • Applications for GIs need to take note of the complexity of 'local' designations;	• Better public education about the complexity of sustainability, particularly highlighting social and ethical values alongside 'hard' data such as CO2e and GHGs, and life cycle analysis data; • Fostering plural food systems along the local-global continuum; • Sub-national levels should consider ALL costs and benefits when setting policies eg. RDP, zoning, health benefits, ecosystem services; • Consider reviving Communication on Building a more Sustainable Food System;	• EU to recommit to a comprehensive food policy and this to link economic, health, social, ethical and environmental policy objectives; • EU & Member States to review the mix of incentives and disincentives to towards the localization/relocaliz-ation of food chains and to monitor implementation; • DG Sante and DG Environment to collaborate more on improving food sustainability criteria;	• International aspects of local/global distinction need particular attention; • Clarification is needed of priorities for developing countries over demands that they pursue export-led growth and sustainability; • Tax policy needs reform to enhance transparency and support SMEs	• EU science 'call' for clarification of multi-criteria methods to assess sustainable performance in food chains; • Stop assuming there is always a positive link between local food chains and rural economic development; • Relevant sub-national institutions within food policy to get involved in multi-criteria education.
Market (Consumers, Commerce and Supply Chain)	• Tough monitoring of false claims about 'local' and 'global' food; • Create a new working party to consider how to encourage genuinely sustainable local food systems, using improved food metrics;	• More transparent procedures for assessing local and locality foods **to clarify distinctions for consumers**; • Clarify place-specific labeling;	• Food producers need to be more prudent in using 'sustainable' and 'local' in the same breath and employ greater care in the use of sustainability performance attributes; • Put pressure on government to help consumers eat and buy more sustainably;	• Address contradictory policy drivers in supply chains to optimize sustainability and reduce 'trade-offs' which lower standards; • Stop exploiting the messiness with false claims; • CSR to include performance in improving producer remuneration (income or share of value) in supplier relations;	• Be clear about reasons for supporting food imports from developing countries; • Apply transparent social and ethical standards for food exports, FDI and marketing in developing countries; • Help improve food infrastructure in developing countries for internal, South-South and export trades	• Create better learning for supply chain management of the importance of multi-criteria approaches to sustainability; • Share lessons between stakeholders in short and long chains to improve sustainability performance management;
Civil Society	• CSOs to educate consumers about the fluidity of global / local distinctions; • CSOs to inform themselves about the weaknesses of current 'local/locality' terms as proxies for sustainability performance.	• CSOs should champion improved regulation and information about the degree of localness in food.	• Consumers need help to become more 'literate' about the complexity of sustainability in daily food choice.	• CSOs should champion EU policy coherence on impacts of European exports and FDI on changing consumption in developing countries (and impacts on THEIR local food systems).	• EU and Member States should create sustainable diet guidelines incorporating existing nutrition and food-based guidelines.	• Development of EU standards for consumer-oriented 'apps' which profess to give information to consumers about health, social, ethical and environmental values in food choice.

What is needed to help begin these processes of engagement?

The processes set out in Table 4.1 require conditions and underpinning. GLAMUR's evidence points to the following important considerations:

- Academics, scientists and food researchers working on local and global food systems should maximise their efforts to address policy incoherence in the treatment of food chains along the local-global continuum.

- In a world where even giant food companies are rapidly developing 'Plan Bs'- such as the World Economic Forum's 'New Vision for Agriculture'[19] and Unilever's 'Sustainable Living Plan'[20] - and new directions for their business model, the gap between public policy, corporate/commercial policy and civic food actors is still worryingly wide; this balance between regulation, soft law and voluntary initiatives should be a central focus towards more sustainable consumption and production.

- Firm leadership from policymakers, business and civil society champions is required to pursue food sustainability and to prevent tensions over the local/global distinction from being used to maintain the status quo in EU, national and local food supply systems.

- No positive change around the local-global nexus (or sustainability in general) is likely to happen unless there is a well-organised, cross-sectoral, progressive alliance of interests in and outside government, in and outside supply chains, and from civil society.

- The distinctions being made between the 'global' and the 'local' is partly a 'proxy' battle, with proxy indicators, to define the 'enemy' as 'unsustainable'. GLAMUR's evidence shows that there are some holes in this argument by revealing the 'slipperiness' of global-local distinctions.

GLAMUR's evidence shows that **the local/global distinction is actually a *construct* in which a wider and deeper set of issues of food system sustainability is often embedded** - where culture, health and ethics are key attributes of modern foods and food choice. Multi-criteria framing of sustainability performance tends to centre on the better explored technical facets within the three 'Stockholm' legs of sustainable development. Bringing values (including personal politics) and ethics into multi-criteria assessment will be a huge challenge (see Main message #4).

[19] http://www3.weforum.org/docs/WEF_IP_NVA_Roadmap_Report.pdf accessed 4 December 2015
[20] https://www.unilever.com/news/press-releases/2015/Unilever-sees-sustainability-supporting-growth.html accessed 4 December 2015

We suggest that these processes of engagement need to be informed by wider evidence and values to help deal with the complexity (and uncertainty) involved. Three scenarios are proposed in the next sub-section that take these ideas forward.

Scenarios: forks in the road

Policy making is about the creation of frameworks within which food actors operate and although GLAMUR has not conducted a formal process of scenario building, its findings, summarised in previous pages, are used to inform three possible future scenarios for the food system: **business-as-usual, systems change, and big food world.**

The three scenarios present the following possibilities: (1) B**usiness-as-usual**, where 'local' and 'global' co-exist in tension; (2) **Systems change**, where a commitment to sustainability re-shapes the food system and reconfigures both the 'local' and 'global'; and **(3) Big Food World**, where food supplies and consumption patterns are framed by global food trade deals such as TTIP (the Transatlantic Trade and Investment Partnership), corporate concentration and short-termism**.**

These three scenarios provide 'forks in the road' for possible food futures. They attempt to chart possible directions of travel for the food system in general and the tensions between the local-global and other drivers. Each scenario has some plausibility and evidence base. They may vary in likelihood but all are conceivable. They are presented here to highlight how GLAMUR's findings may be interpreted and to draw out implications for different actors in the food system. They suggest different points of entry for actors concerned about the local-global. And they point to different needs for future research and evidence.

These scenarios are presented here, in particular, to consider where and with what policy 'tone' GLAMUR's findings may find relevance in the real world of policy making. The intention is to help policymakers consider the effects and value of using multi-criteria interventions - and the loss if not. Multi-criteria thinking opens up options for bridging between the 'macro' and 'micro' worlds of policy making, and suggests likely impacts on the ground, which can be researched further. Each of the Scenarios here uses the same sub-headings to provide some comparative value.

Scenario 1

Business-as-usual: 'local' and 'global' co-exist in tension

- ***Description***: in this food future, policy remains a patchwork of messages. Some support artisanal and local foods, others support continued globalisation and the development of mega-brands. Local food systems are supported but remain on the policy margins, situated within rural development. There is no coherent regulatory framework which recognises the fusion of local and global. Food system diversity plays little or no role in the framing of sustainability. The overall emphasis is on cheapening food supply chains for austerity Europe and on the global competitiveness of European exports on the world food market.
- ***Evidence base:*** GLAMUR's Policy Analysis Report[21]; IIED (2015) Global or local food chains?[22]; current 2015-20 European Commission Priorities[23] ; 'Short Food Supply Chains and Local Food Systems in the EU'.[24]
- ***Likelihood:*** this is the current normality. It has tensions. It could be altered by another Eurozone crisis or an explosion of Middle East politics or drought and rural crisis in Africa, or by an invigorated carbon reduction policy push. Currently market forces are supporting fragmentation rather than consolidation as new concepts emerge to challenge the status quo.
- ***How this affects GLAMUR findings:*** Policy interventions will not go beyond market mechanisms. Synergies and trade-offs between global and local food systems will remain unrecognized. 'Local' continues to be used loosely as a proxy for sustainability in food. There will be continued pressure on EU food companies to increase exports and their brands into the developing world. Developing countries will continue to face import competition in their home markets that constrain their capacity to develop local food strategies.

[21] Barling D, Vorley B and Smith J (2014) Glamur: Policy Analysis Report. (EU funded Framework 7 project. Deliverable 6.1) http://glamur.eu/wp-content/uploads/2014/11/d-6.1-policy-analysis-report.pdf
[22] Pozo-Vergnes, E.del and Vorley, B. (2015) 'Global or local food chains? Uncovering the dilemmas in Senegal and Peru'. IIED Issue Paper. IIED, London.
[23] European Commission (2015): http://ec.europa.eu/priorities/soteu/index_en.htm
[24] Kneafsey, M., Venn, L., Schmutz, U., Balazs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G., & Blackett M. (2013) 'Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics' JRC Scientific and Policy Reports (Report EUR 25911 EN). Brussels: European Union.

- ***Key actors for whom GLAMUR findings are relevant***: EU, multilateral agencies, national and sub-national governments, market actors, scientists, some civil society organisations, and the consuming public.
- ***Points of entry:*** GLAMUR findings could be taken up by key actors in regulatory and public-private standard setting who acknowledge the need to adapt mainstream policy instruments to scale and diversity within the food system. GLAMUR could be used to justify more emphasis on how to give consumers information on the fluidity of global/local distinctions and on the social and ethical aspects of food products. Consumer confusion about the local is further evidence that reliance on science-led priority setting for policy is not a sufficient condition for good policy making.
- ***Example of immediate action:*** GLAMUR could receive immediate uptake over marketing claims which could easily become a source of policy irritation and breakdown in consumer trust following a media 'exposé .[25] [26]
- ***Implications for future evidence requirements:*** There needs to be high quality, routine monitoring of the role of local food provisioning systems within a diverse and heterogeneous food system. Consumer beliefs would be an important variable in how the local-global is operationalized. Consumer trust is at stake.

Scenario 2

Systems change: sustainability re-shapes the food system

- ***Description***: in this food future, sustainability and system diversity are in the driving seat, with policy adjusted accordingly. A reorientation of the food system is agreed to be necessary. The goal of long-term restructuring shapes short term strategy. Externalised costs are recognised to be a burden on society and eco-systems. How to manage the ensuring transition becomes a dominant theme in policy and politics in this period. Effects on food prices and availability become important as a politics of 'trade-offs' dominates food policy.
- ***Evidence base***: there are many global reports suggesting the case for systems change, and identifying problems for the entire food system,[27] for agricultural and supply consistency,[28] for eco-systems services,[29] for public health,[30] for sustainable food choices,[31] for climate change[32] and for trade.[33] Reports for the EU on consumption[34] and the goal of the circular economy,[35] as well as FP7 projects, such as SOLINSA[36] and SUPURB FOOD,[37] are exploring aspects of what this might mean.

[25] Kjaernes, U. M Harvey, A Warde (2004). Trust in Food: an institutional and comparative analysis. Basingstoke: Palgrave Macmillan
[26] Beckett, A. (2013). ConsumerTrust in Food. London: Mintel
[27] E.g. WWF & Metabolic (2015). The Global Food System: An Analysis. Amsterdam: WWF Netherlands http://www.metabolic.nl/projects/wwf-global-food-vision/
[28] E.g. Foresight (2011). Future of Food and Farming. London: H M Government https://www.gov.uk/government/publications/future-of-food-and-farming
[29] E.g. Millennium Eco-System Assessment (2005). http://www.millenniumassessment.org/en/index.html
[30] E.g. IFPRI (2015). Global Nutrition Report. http://globalnutritionreport.org/
[31] E.g. IGD ShopperVista (2013). Sustainable Diets: helping shoppers
[32] E.g. http://www.fao.org/3/a-i4332e/index.html
[33] E.g. UNCTAD (2013). http://unctad.org/en/PublicationsLibrary/ditcted2012d3_en.pdf
[34] E.g. Freibauer, A., Mathijs, E., Brunori, G., et al (2011). Sustainable food consumption and production in a resource-constrained world: the 3rd SCAR Foresight Exercise. Brussels: European Commission
[35] http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8578&lang=en&tpa_id=0&title=Commission-adopts-ambitious-new-Circular-Economy-Package
[36] https://enrd.ec.europa.eu/en/themes/research-and-innovation-gateway-development/agriculture/initiatives-and-projects/solinsa
[37] http://www.supurbfood.eu/

- ***Likelihood:*** Governments signed the Sustainable Development Goals: Goal 12 is for sustainable consumption and production.[38] Currently, systemic transformation is not likely but it remains a possibility. Companies have a strong self-interest in addressing sustainability because they want to survive and prosper in the longer term. Some sections of the food industry want a new framework to create a new 'level playing field' for business.[39] Although such moves are welcome moves, and although some companies are making big commitments to change their business models,[40] there are blocks preventing systemic change or limiting its speedy transition. The maintenance of current consumption patterns and aspiration for 'high' living standards, with consumption as the driver of economic growth coupled with some degree of consumer debt, remain key rationalisations for business-largely-as-usual. If sustainability was to triumph, it might emerge out of crisis but would then be likely to lose coherence and inclusive processes.
- ***How this affects GLAMUR findings:*** GLAMUR exposes the weaknesses that arise from the lack of coherence in current policy frameworks, especially with regard to 'local' food chains. This requires a 're-engineering' of skills and data about the food system. Long chains are intrinsically more complex, but short chains using globally sourced ingredients and labour also have complexity.
- ***Key actors who will run with GLAMUR findings:*** European political leaders are needed to champion a broader framework which places sustainability at the heart of planning. Existing political leaders already committed to local, regional and identity food chains would receive the multi-level support they require. City and regional leaders could, for example, champion and provide the profile for new directions in food culture.[41]
- ***Points of entry:*** The growth of 'alternative' food products (5.1% per year in 2004-12, in one EU study) shows policymakers the viability of commercial expansion.[42] Public contracts and procurement become essential baselines for policy effectiveness. The notion of sustainable diets from sustainable food supply chains becomes significant. Deliberations by OECD Agriculture Ministers (e.g. April 7-8 2016) signal interest in moving beyond business-as-usual strategies. The Urban Food Policy Pact signed by 100 World Cities in Milan, October 2015, becomes the policy 'umbrella' for thought-leaders. European institutions such as the EC, the European Parliament, and national Parliamentary debates become important signals for consumer culture change.
- ***Implications for future evidence requirements:*** Policymakers need access to a range of sustainable performance assessment tools that recognize 'difference' in the food system, and also the complementarities and synergies between local and global food chains. Close monitoring of public opinion is important. Routine and more accurate studies of public attitudes and preparedness to change would improve policy and strategy. This could be a Eurobarometer and/ or European Social Survey task.

Scenario 3

Big food world: TTIP, recession and short-termism

- ***Description***: in this food future, sustainability remains a divisive issue and perhaps even falls down the policy agenda and is narrowly framed as eco-efficiency, affordability and availability. The socio-cultural dimension of food is submerged in austerity food politics. Attempts to revitalise the macro economy sees TTIP as key. Maintenance of 'affordable' food

[38] UN Sustainable Development Goals: Goal 12 SCP: http://www.un.org/sustainabledevelopment/sustainable-consumption-production/
[39] Eg FDE (2015) http://www.fooddrinkeurope.eu/news/statement/joint-statement-social-partners-call-for-ambitious-agreement-on-climate-cha/
[40] E.g. Marks & Spencer Plan A: http://corporate.marksandspencer.com/plan-a ; Unilever's Sustainable Living Plan: https://www.unilever.com/sustainable-living/ ;
[41] Eg the Urban Food Policy Pact signed by 100 World Cities, October 15 2015: http://www.foodpolicymilano.org/en/urban-food-policy-pact-2/
[42] EY, Cambridge Econometrics Ltd., Arcadia International (2014). The economic impact of modern retail on choice and innovation in the EU food sector. Final report to the European Commission. Brussels: European Commission, September http://ec.europa.eu/competition/publications/KD0214955ENN.pdf

drives food politics at EU and member state levels. Concentration of food markets continues.[43] There is a dominance of brands (manufacturers and retailers, including deep discount) traded over long distances. Policy tools that regulate chain integrity, safety and compliance further marginalize local food. TTIP becomes another driver of food industry consolidation. Appetite to resist climate change drops with only upmarket brands able to risk internalizing externalized costs; CO2 rises are accepted as inevitable. Food consumption impacts remain in the 'too hard to tackle' policy box. Some countries retreat to an individual and drawbridge mentality. The food economy remains torn between pressure to deliver living wages and the historical legacy of low wages.

- ***Evidence base*:** There is strong public expectation of plentiful and cheap food.[44] There is also deep concern among analysts that proposals to 'tackle' climate change are unlikely to stop a 2 degree rise in world temperature.[45] Strong economic evidence is cited in pressure for conclusion of TTIP.[46] [47] The growth of large retail chains and private label products continues; the top 10 retailers grew from 26% of EU market in 2000 to 31% in 2011.[48]
- ***Likelihood:*** There are already some signs of elements of this scenario emerging. The TTIP agreement looks likely. Concentration in the food sector continues. The UN Climate Change talks in Paris have happened but not sufficiently radical enough to hold temperature rise below 2 degrees centigrade.[49] Consumers pursue bargains in food and across the economy. Political attention is affected by social concerns such as migration and Middle East politics. The Lisbon Agenda's emphasis on growth and jobs trumps the Sustainable Development Goals.
- ***How this affects GLAMUR findings:*** GLAMUR would lack strong champions. Or the resolution of policy blind spots and contradictions identified by GLAMUR would be viewed mainly through conventional market mechanisms that favour economic primacy. GLAMUR-type analysis would remain in the alternative food markets and in civil society, niche rather than mainstream.
- ***Key actors who will run with GLAMUR findings:*** GLAMUR is received and perceived as marginal and of concern only to 'old' policy, with its emphasis on production. It would be of interest only if this scenario itself comes into a point of crisis.
- ***Points of entry:*** n/a
- ***Implications for future evidence requirements:*** A wide range of evidence would be needed to monitor the changes in externalities and consequences for all types of food supply chains, and to consider options for changed policy priorities. Leadership on research might fall to the bigger civil society organisations, particularly those concerned about ecosystems or consumers, for whom the local-global 'slipperiness' might be a distraction. A new consortium of academic and civil society researchers might emerge, an inter-University inter-disciplinary Roundtable on Food Systems.

A number of questions arise from these three scenarios of possible food futures. What could they mean for policymakers? And, what are policymakers currently doing?

[43] EY, Cambridge Econometrics Ltd., Arcadia International (2014). The economic impact of modern retail on choice and innovation in the EU food sector. Final report to the European Commission. Brussels: European Commission, September http://ec.europa.eu/competition/publications/KD0214955ENN.pdf
[44] Eurobarometer (2012). Europeans' Attitudes to Food Security, Quality and the Countryside http://ec.europa.eu/public_opinion/archives/ebs/ebs_389_en.pdf
[45] http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf
[46] Francois, J., Manchin, M. et al (2013) Reducing Transatlantic Barriers to Trade and Investment: An Economic Assessment. Final Project Report. Prepared for the European Commission, under implementing Framework Contract TRADE10/A2/A16. London: CEPR
[47] http://trade.ec.europa.eu/doclib/docs/2013/march/tradoc_150737.pdf
[48] EY, Cambridge Econometrics Ltd., Arcadia International (2014). The economic impact of modern retail on choice and innovation in the EU food sector. Final report to the European Commission. Brussels: European Commission, September http://ec.europa.eu/competition/publications/KD0214955ENN.pdf
[49] Goldenberg S, A Neslen (2015) The Guardian http://www.theguardian.com/environment/2015/feb/04/paris-climate-summit-missing-global-warming-target-would-not-be-failure?CMP=share_btn_tw

The next sub-section considers the latter question and looks at existing points of engagement. The final sub-section of this report addresses the former, and identifies some key recommendations that arise from GLAMUR's evidence to help steer a more sustainable food system.

Existing points of engagement

No one institution or sector is in control of the food system. There are competing imperatives: trade, living standards, employment, food security, health, environment, social justice, cultural messages, freedom of information, consumer rights, and more. Despite clear data that food is a major source of greenhouse gas emissions, no serious policy attempt to confront rising emissions from the food sector has been undertaken in the Western world. Indeed, most efforts to give coherence to consumer advice have been pushed back; the UN might call for public health to be in the food policy driving seat, but the World Bank or World Trade Organisation might also encourage member states to increase exports while opening up internal markets to investment. Civil society organisations might campaign for lower carbon footprints from the food system but high-carbon meat-based diets (and sales) continue to rise.[50] Consumers might wish to consumer more 'local' food but global sourcing in pre-processed foods continues apace.

The complexity of the local/global nexus analysed, not only demonstrates a lack of clear leadership in food system policy; it also highlights the inherent 'messiness' of the nexus itself in terms of guiding policy choices, as this research has argued. Indeed, GLAMUR has proposed that part of the policy challenge for sustainability is that there is a plethora of institutions both formal (government, elected, appointed etc.) and informal (thought-leaders, civil society, media, etc.). These all have a stake in trying to push the food system in the direction they consider desirable, and are in tacit competition with other stakeholders. This

[50] Metabolic & WWF-NL (2015). The Global Food System: an analysis. Amsterdam: WWF-Netherlands

multi-sector, multi-level, multi-dynamic policy world adds to the tendency for the food system to move slowly with regard to policy change.[51] [52] Nevertheless, at all levels and in all sectors – government, science, commerce, civil society – there is now a strong body of opinion and evidence that the food system faces a period of great challenge and almost certainly change.

Given this reality, how can policy makers take forward the findings of a research project such as GLAMUR? There are, in fact, some opportunities and policy entry points in and on the current policy agenda, at different levels of policy and emerging from different actors. **Table 4.2 identifies some points of engagement. These connect GLAMUR's policy challenges with existing policies and initiatives, enacted at the global, EU, national and sub-national levels.**

[51] Lang T, M Heasman (2015) Food Wars. Abingdon: Routledge.
[52] Obenchain S, A Spark (2015) Food Policy: Looking forward from the Past. Boca Raton FL: CRC Press

Table 4.2: Points of engagement – connecting GLAMUR's Policy Challenges with existing Policies and Initiatives

* all footnotes correct at 13 November 2015

Examples of existing relevant policy	GLOBAL	EU	National	Sub-national
GLAMUR's Policy Challenges				
Policy and initiatives need to clarify the fluidity of global/local distinctions, and resolve contradictions over meanings of global, locality and local foods.	• **CFS Principles for Responsible Investment in Agriculture and Food Systems** - adopted by the Committee on World Food Security (CFS) on October 15th, 2014 –important for European policy coherence linked to protecting the capacity of developing countries to support their local food chains and local development. [53]	• **Standing Committee on Agricultural Research (SCAR).** 3rd Foresight Report on *'Sustainable food consumption and production in a resource-constrained world'* [54] • **CAP Regulation 1305/2013** defines SFSCs[55] • **RDP 2014-20** recognises strategic importance of supporting local food systems and short chains AND the difficulty of defining such chains. Implemented at national level. [56] • **Reforms to EU directives on public procurement (2014)** aim to address perceived lack of clarity over local foods and barriers to access for SMEs.[57]	• **The Netherlands government** is developing a National Food Policy [58] • **Swissness law** defines what can be called a Swiss product (intermediary between GI and local)[59] • **Italy** has several regional laws that define local food/ km0 or short chains [60]; • **Latvian law defines** 5 aspects for *green* product procurement and 6 that define *green* catering procurement, but very open to interpretation[61]; • **Italy** has "denominazioni comunali" used as municipal names, but do NOT represent protection in the same way as EU PDO/PGI schemes[62];	• **Urban food strategies** make urban-rural linkages, including new Milan Urban Food Policy Pact (October 2015)[63]

[53] http://www.fao.org/cfs/cfs-home/resaginv/en/
[54] https://ec.europa.eu/research/agriculture/scar/pdf/scar_feg3_final_report_01_02_2011.pdf
[55] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32013R1305
[56] http://ec.europa.eu/agriculture/rural-development-2014-2020/index_en.htm
[57] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32014L0024
[58] http://www.wrr.nl/fileadmin/en/publicaties/PDF-samenvattingen/Synopsis_WRR-report_93_Towards_a_Food_Policy.pdf
[59] https://www.ige.ch/en/indications-of-source/swissness/new-legislation-from-1-january-2017/laws.html
[60] http://www.ismeaservizi.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/873 p.74 (in Italian)
[61] Recent regulations make *green* food procurement mandatory for all municipalities. Green procurement categories are adapted from EU GPP food & catering recommendations:1) product holds local quality certificate or EU organic product label; 2) does not contain GMO; 3) seasonal products; 4) environment friendly packaging; 5) environment friendly delivery. Official regulations state that for procurement to be green municipality has to choose at least two categories. This means that municipalities have a lot of space to improvise
[62] http://www.denominazionecomunale.it/
[63] http://www.foodpolicymilano.org/wp-content/uploads/2015/10/Milan-Urban-Food-Policy-Pact-EN.pdf

Examples of existing relevant policy	GLOBAL	EU	National	Sub-national
Policy tools and mechanisms need to be clear what is meant by 'local', 'locality' and 'global' framing and improve transparency for the consumer.	• Current research in **UNCTAD** is focused on small farmers and sustainable commodities' development[64] ; • **IFOAM 3.1** -global organic standards reconnecting with values[65] ;	• **GIs** protect quality and authenticity and are linked to debates about locality [66]; • **New Promotion Rules** -Regulation (EU) No 1144/2014 - for farm products explain standards and quality to importers and consumers[67] • **Euro leaf logo** obligatory on all pre-packaged organic food produced in EU member states[68]	• **UK FARMA** uses flexible criteria for 'local'/localness. Talks about values[69] • **"Ici.C.Local" (here, it's local):** national public brand, associated with local participatory systems of control, dedicated to signal and value "local", "sustainable" products and "short" chains within open-air markets and retail shops (France)[70]	
Routes to food sustainability are both fluid and dynamic. Policy and mechanisms should foster plural food systems with a balance along the local-global continuum.	• **UN Sustainable Development Goals 2030** – 17 concern food[71] • **UN Right to Food** work of Special Rapporteur[72] • **UNCTAD and its partners, UNEP, FAO, ITC and IFOAM** work to promote sustainable agriculture[73] • **WTO agreement** on technical barriers to trade and ecolabelling, with special attention on developing countries[74].	• **Europe 2020** targets supports to internationalise SMEs[76] • **EU Roundtable on Sustainable Consumption and Production** co-chaired by the European Commission and food supply chain partners. Current Emphasis on environmental aspects, but looking at economic and social[77] • **CAP revisions** include Small Farmers Scheme[78] • **RDP 2014-20** priorities include food chain organisation, including better	• **Italy** fosters cooperation between the activities of the State and the Regions and Autonomous Provinces through the "Conferenza Stato Regioni"[81] • **France** passed the Future Food Law 2014: this complements public food policy and aims to drive change towards 'agroecology' and make food and farming greener in the long term.[82]	• Research policies promote innovation within local chains eg. **Montpellier Metropole** combines citizens and prducers: • the **French food aid sector** is experimenting, in some regions, with local procurement of fruits and vegetables using subsidies and gifts, which complement global supply for other products;

64 http://unctad.org/meetings/en/SessionalDocuments/tdb62d9_en.pdf
65 http://www.ifoam.bio/sites/default/files/ifoam_norms_version_july_2014.pdf
66 http://ec.europa.eu/trade/policy/accessing-markets/intellectual-property/geographical-indications/index_en.htm
67 http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R1144
68 http://ec.europa.eu/agriculture/organic/downloads/logo/index_en.htm
69 http://www.farma.org.uk/certification-farmers-market/
70 http://www.inra.fr/en/Partners-and-Agribusiness/Results-Innovations-Transfer/All-the-news/ici-C-local
71 http://www.un.org/sustainabledevelopment/sustainable-development-goals/
72 http://www.ohchr.org/EN/Issues/Food/Pages/FoodIndex.aspx
73 http://www.un-expo.org/en/un-at-expo-2015/participating-agencies/unctad-united-nations-conference-trade-and-development
74 http://www.oecd-ilibrary.org/docserver/download/5k3w8fb9ptr3.pdf?expires=1447413833&id=id&accname=guest&checksum=858569143245DB96C993464055AFCECB

Examples of existing relevant policy	GLOBAL	EU	National	Sub-national
	• **OECD Agricultural Ministerial** to discuss future OECD work on the food chain (upcoming event); • **Consumers' International -** set of recommendations towards a Global Convention to protect and promote healthy diets[75].	integration of primary producers[79] • **Financial supports for Producer Organisations (F&V)** and to integrate environmental concerns in production and marketing [80]		
Policy contradictions need addressing, including the gap between public policy and corporate/ commercial policy.	• **Voluntary Guidelines on Responsible Investment in Agriculture** (FAO; OECD, CFS; Inter-Agency Working Group (IAWG)) initiatives promoting responsible agricultural investment that mitigate risks and maximize opportunities, such as improved food security[83]	• Stricter application of **Policy Coherence for Development** (PCD) to bring European FDI and European development policy into closer alignment[84] • **High Level Forum for a Better Functioning Food System** includes social dimension of sustainability BUT neo-corporatist social partnership[85] • Communication on **B2B unfair trading practices** (COM(2014) 472 final)[86] • **Seed Regulations** - Commission is reviewing EU legislation on the marketing of seed and plant propagating material (SPPM) which	• **Latvian** Agricultural Knowledge and Innovation Systems (AKIS) actor has focus on small local farmers and instruments that could support these actors[88]	

[76] http://ec.europa.eu/programmes/horizon2020/en/area/smes
[77] http://www.food-scp.eu/node/28
[78] http://europa.eu/rapid/press-release_MEMO-13-621_en.htm
[81] http://www.statoregioni.it/
[82] http://www.farming.co.uk/news/article/10524?dm_t=0%2C0%2C0%2C0%2C0
[75] http://www.consumersinternational.org/media/1475072/recommendations-for-a-convention-on-healthy-diets-low-res-for-web.pdf
[79] http://ec.europa.eu/agriculture/rural-development-2014-2020/index_en.htm
[80] http://www.europarl.europa.eu/meetdocs/2014_2019/documents/com/com_com%282014%290112_/com_com%282014%290112_en.pdf
[83] http://www.fao.org/economic/est/issues/investments/prai/en/#.VkIBoXu1Ls0
[84] https://ec.europa.eu/europeaid/policies/policy-coherence-development_en
[85] http://ec.europa.eu/growth/sectors/food/competitiveness/supply-chain-forum/index_en.htm.
[86] http://ec.europa.eu/internal_market/retail/docs/140715-communication_en.pdf

Examples of existing relevant policy	GLOBAL	EU	National	Sub-national
		are controversial for organic and small farmers /producers/gardeners[87]		
Policy blind spots are a reality.	•	• **Simplification of the CAP** - need for more consistency and complementarity between CAP and other EU policies (COR 2015-02798-00-00-AC-TRA)[89] • **European Platform to improve co-operation on undeclared work** (2014) to prevent and deter undeclared work more effectively [90]		
Develop tools, methods and procedures that look at 'hidden' aspects of food chain performance for policymakers to pursue multi-criteria interventions.	• **Global Reporting Initiative (GRI)** development of sustainability reporting[91] • **Sustainable Agriculture Initiative (SAI)** primary global food industry initiative for sustainable agriculture[92] • **Participatory Guarantee Systems (PGS)** locally focused quality assurance systems certify producers based on active participation of stakeholders [93]	• **EIP-AGRI –** interactive, innovation model[94] • **CAP reform and cross compliance – EC Statutory Management Requirements (SMR) and GAEC** (good agricultural and environmental conditions)[95]	• **Flexibility in Food Safety regulations** could be exploited more by Member States to support burdens on SMEs[96]	• Web-based **SENSE tool** uses a simplified version of environmental and social lifecycle assessment (LCA and S-LCA) methods to enable SMEs to calculate the impacts of their products[97]

[88] https://ec.europa.eu/research/bioeconomy/pdf/ki3211999enc_002.pdf
[87] http://ec.europa.eu/food/plant/plant_propagation_material/legislation/review_eu_rules/index_en.htm
[89] http://www.elard.eu/news/en_GB/2015/11/04/readabout/opinion-of-the-european-committee-of-the-regions-the-simplification-of-the-common-agricultural-policy-cap
[90] http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52014PC022
[91] https://www.globalreporting.org/Pages/default.aspx
[92] http://www.saiplatform.org/
[93] http://www.ifoam.bio/en/value-chain/participatory-guarantee-systems-pgs
[94] http://ec.europa.eu/eip/agriculture/
[95] http://www.dardni.gov.uk/consultation-on-proposals-to-revise-the-good-agricultural-and-environmental-condition-_gaec_-standards.pdf.
[96] http://ec.europa.eu/food/safety/food_waste/library/docs/faq_all_business_en.pdf and https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri_fg_innovative_food_supply_chain_management_final_report_2015_en.pdf
[97] http://www.senseproject.eu/

Steering a more sustainable food system

The aim of GLAMUR was to unpack performance and make sustainability assessment less partial using multi-criteria analysis. This has shown both the difficulties of finding a methodology that assesses performance comprehensively, and the impacts of trade-offs within and across the five sustainability dimensions considered. The case study analysis and cross-national comparisons have also raised some significant challenges for policy: the local/global distinction is too simple; the slipperiness of 'local'; routes to sustainability are fluid and dynamic; and, perhaps most importantly, a **lack of policy coherence,** including contradictory policy drivers and blind spots.

GLAMUR's case study evidence led to a set of recommendations to encourage processes of engagement aimed at public policy, the market and civil society (Table 4.1). We suggest that these could address some of the policy challenges raised by GLAMUR's work. From this, we proposed three scenarios that provide possible food futures as frameworks within which food actors operate. We suggest that these chart possible directions of travel (roadmap thinking) and enable the consideration of different entry points for GLAMUR's findings into the 'real' world of policy making. These scenarios, in turn, led to consideration of existing points of engagement along the local-global continuum (Table 4.2). We suggest that these provide more detailed analysis, routed in current reality, and connect GLAMUR's policy challenges with existing policies and initiatives, enacted at the global, EU, national and sub-national levels. Now we turn to the final set of recommendations and identify key actors who are already, or who could, implement them.

Within the EU, Section 3 points out that the policy home for **locality** food is in trade and the single market, and **local** food is in **rural development.** This segregation of 'local' food goes to show how marginal it is to European policy hotspots. Local food

is seen as useful for agricultural diversification, but it's not seen as relevant for trade, growth, jobs, consumption, sustainable development, towns and cities etc. Thus, in this concluding section we propose that **local food should be brought in from the RDP enclave** on the policy margins, **putting locality and local food in the same policy space**.

But what are the consequences of this? GLAMUR has shown that the way to do this is probably **not** by spending millions of Euros trying to prove that 'local' food is more 'sustainable' than 'global' food. Because one of the primary justifications of local food is not its overall sustainability (as GLAMUR's evidence confirms in some areas) but its status in the politics of consumption, as anti-global branding and anti-homogenisation, and as pro-provenance. As a construct, 'local' food is therefore difficult to encapsulate even in multi-criteria sustainability analysis. However, it is one thing to make this reflection, but another to make it directly relevant to standards, chain coordination, and regulation. This could be constructed as the domain of citizen-driven change (although, not through policymakers loading even more information onto consumer choice). The most urgent challenge for policy is first (as the recommendations from the case studies in Table 4.1 reflect) to **do no harm** – as in ensuring hygiene regulations etc. are adapted to the realities of SMEs. This is a call for **more policy coherence**, where policy interventions go beyond market mechanisms and adapt to chain diversity and context.

We make the following recommendations:

Encourage informed reflexivity

This can help democratise food policy by promoting sustainable pathways for food chains, **built around evidence rather than assumptions** about performance.

Address policy incoherence

All levels of governance from global to sub-national need to assess their policymaking processes, including monitoring and financial accounting, to help avoid policy incoherence, taking note, for example, of inconsistencies in the

application and interpretation of supports (eg. subsidies) and tools (eg. Geographic Indications).

Bring local food in from its policy enclave

GLAMUR's evidence supports a **shift from agricultural/rural policy to food policy thinking and acting**. We make the case for bringing 'local' food in from its policy enclave in rural development to occupy a more central position in **EU policy** alongside 'locality' foods. This means that mainstream policy instruments – such as food safety - must be adapted to the scale and diversity of this part of the food system.

Catch up with the consumer

GLAMUR's more complex assessment of sustainability is already part of **consumers' framing of sustainability** (and many retailers, manufacturers and CSOs are aware of these framings). This is ahead of **scientists and policymakers**, and an endorsement of multi-criteria approaches. The **EU and its member states** should create sustainable diet guidelines incorporating existing nutrition and food-based guidelines; the Directorate Generals (DGs) should collaborate more on improving food sustainability criteria; and Civil Society Organisations (CSOs) should champion improved regulation and information about the degree of 'localness' in food to inform consumers.

Take greater care in the use of sustainability performance attributes

A more central place for 'local' food in policy requires **greater care in the use of sustainability performance attributes and methods. Policymakers, CSOs, and small and medium sized enterprises (SMEs)** need to be more prudent in using 'sustainable' and 'local' in the same breath. Multi-criteria sustainability assessment challenges existing 'sustainability' systems to provide a more integrated framing of their performance using a multi-stakeholder approach.

Ensure policy choices integrate a more complex version of sustainability

GLAMUR has accepted a complex version of what is meant by sustainability. This develops beyond the 'old' Brundtland tripartite definition which does not have sufficient breadth for the analysis of modern food systems. GLAMUR has produced case study evidence that individual food products carry more complex meanings; **culture, health and ethics are key attributes of modern foods and food choice**.

Call for new research

We propose the following areas for further research:

- to investigate and refine methodologies (using a combination of quantitative and qualitative approaches) for improved sustainability performance

assessment along the local-global continuum and across the five dimensions (economic, environmental, social, health and ethical);

- to explore the realities and potential of consumer choice, which currently turns to the 'local' as a proxy for anti-homogenisation and a more human scale of control over food. This more complex meaning of 'social' within sustainability deserves more exploration within consumer culture.

Appendix 1

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