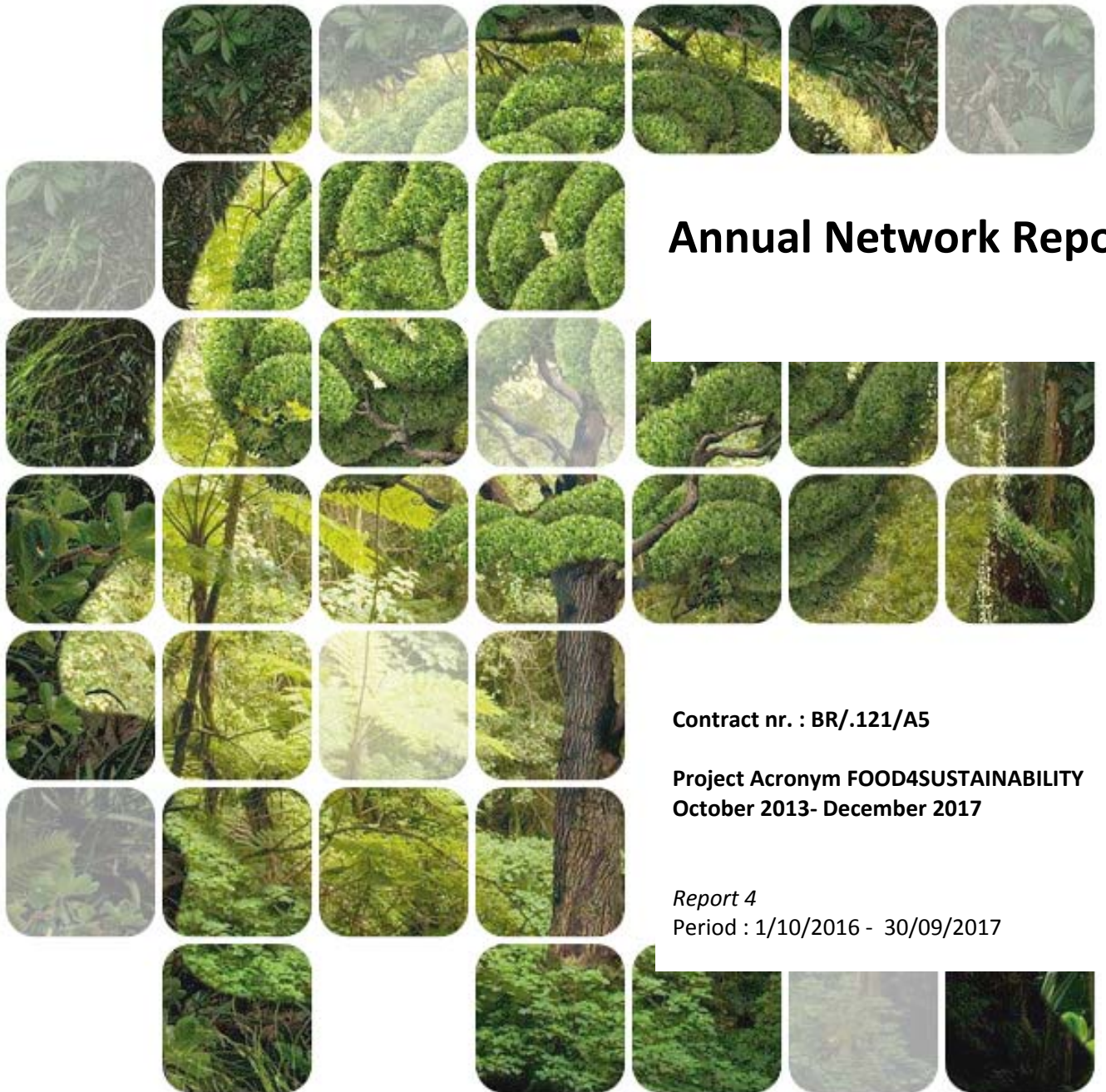# BRAIN-be

BELGIAN RESEARCH ACTION THROUGH INTERDISCIPLINARY NETWORKS

Annual Network Report

Contract nr. : BR/.121/A5

**Project Acronym FOOD4SUSTAINABILITY
October 2013- December 2017**

Report 4
Period : 1/10/2016 - 30/09/2017

COORDINATORS

Olivier De Schutter
Professeur, directeur de la Cellule interdisciplinaire de recherche sur les droits de l'homme (CRIDHO)
du Centre de philosophie du droit (CPDR) - UCL
Adresse: Place Montesquieu 2 - bte L2.07.01,
B-1348 Louvain-la-Neuve
Téléphone: +32 (0)10474246 –http://cridho.uclouvain.be/fr/
E-mail: olivier.deschutter@uclouvain.be

Tom Dedeurwaerdere
Professeur, directeur de la Cellule BIOGOV – Biodiversity Governance – Centre de Philosophie du
droit (CPDR) - UCL
E-mail : tom.dedeurwaerdere@uclouvain.be
http://biogov.uclouvain.be/

http://www.uclouvain.be/cpdr

PARTNERS

Université catholique de Louvain (UCL)
Centre de Philosophie du Droit (CPDR)
Institut pour la recherche interdisciplinaire en sciences juridiques (JURI)

Katholieke Universiteit Leuven (KULeuven)
Division of Bioeconomics

Université Libre de Bruxelles
Centre Emile Bernheim CEB

AUTHORS

Tom Dedeurwaerdere - UCL - CPDR

Ionara da Costa – UCL – CPDR

Sibylle Bui – UCL – CPDR

Paula Fernandez-Wulff - UCL - CPDR

Tijtske Ana Zwart - KUL - Bioeconomics

Hélène Joachain – ULB - CEB

PROJECT WEBSITE

http://www.food4sustainability.be/

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1. EXECUTIVE SUMMARY OF THE REPORT

Based on the framework developed in the previous period, the focus of year 4 of the project was put on the in depth analysis of new prototypes of governance framework for organising collective processes. More specifically, the work in this reporting period was concentrated on the analysis of governance options of collective processes in market transactions (WP3/Task 3.2). The results documented in this report comprise six aspects:

(1) Refinement of the conceptual framework for the case studies (Task 3.2, related to D3.1 from previous Report);

(2) Redefinition of the six case studies: three cases of local initiatives in Wallonia related to local procurement by food retailers; two cases of food retailers' local procurement strategies; and one case of healthy fast food chain;

(3) Data collection and fieldwork and analysis (Task 3.2): data collection and fieldwork related to the six case studies comprise the core activities of this reporting period. In total, 65 hours of interviews were conducted, with 42 hours within this reporting period;

(4) Preliminary analysis of data and interviews (Task 3.2): preliminary findings;

(5) Definition of the analytical part of the cases studies as four articles, to be delivered with the final report and submitted to international journals;

(6) Mapping and analysis of major market-related collective governance arrangements relying on either participatory certification systems or industry wide codes of conduct (Task 3.2/D4.1a).

Moreover, the F4S team was actively engaged with valorisation activities during this reporting period, particularly with presentation of work related to the project in international academic events.

2. ACHIEVED WORK

Detailed description of the achieved work and tasks of the past reporting year

A - PAST THREE YEARS OVERVIEW

Tasks for year one are completed: Deliverables of year 1 report (DONE)

D1.1 Conceptual framework for research on agro-food transition towards sustainability (task 1.1.)

D1.2. Report on the Policy tools for governing the Transition of the Agro-food system towards Sustainability (task 1.2.)

D4.1. Report on transdisciplinary workshop 1

Tasks for year two are completed: Deliverables of year 2 report (DONE)

D2.1. Mapping and analysis of collective processes in transition pathways in Agriculture (task 2.1)

D2.2. Comparative analysis of the key factors for emergence, success and failure of the governance arrangements in the selected initiatives (Task 2.2.)

Tasks for year three completed: Deliverables of year 3 (DONE)

An additional work has been carried out on the mapping of major initiatives in the Brussels region : specific enquiry on "networks at work on access to food produced by the sharing economy in order to

develop the initial case study on the GACs (Groupements d'achat commun) and 'La Ruche qui dit oui » (Karen Brabant)

Results of task 3.1: Organisational principles of collective processes in the governance of transition pathways. Based on a literature review and a third transdisciplinary workshop organised in April2016.

Main outputs: Development of the theoretical framework, which will be used in the case studies; 4 working papers ongoing (under the lead of Tijtske-Anna Zwart, Ionara da Costa, Sibylle Bui and Hélène Joachain)

Results of task 3.2 *(partial)*: Based on the theoretical framework case studies on the interaction between mainstream actors and local initiatives/short supply chains combining multi-level transition theory, organisational learning and value literature. Data collection and beginning of fieldwork, with 17 interviews done related to the different cases under investigation (cf. comment on adjustment of work program below).

Tasks planned for year 4 (DONE)

Refinement of the conceptual framework for the case studies (Task 3.2) (see Annex 1)

Data collection, fieldwork and analysis (Task 3.2) (see Annex 2, scientific report)

D4.1a. Mapping and analysis of major market-related collective governance arrangements relying on either participatory certification systems or industry wide codes of conduct (Task 3.2) (see Annex 3)

Tasks planned for year 4 and rescheduled for year 5

D4.1b and D4.1c (Task 3.2) - these deliverables are left for the next report. The reasons why they haven't been developed during the current reporting period are twofold. First, in the case of the deliverable 4.1b (benchmarking on food retailers' local sourcing strategies) the researcher in charge has given priority to the fieldwork, which involved in addition to the interviews with food retailers, the transcription work. Second, in the case of the deliverable 4.1c (nutrition policy), the main reason for postponing this deliverable is that despite many attempts from the researcher in charge the two retailers contacted have refused to talk about their nutrition policy. Hence, the methods for preparation of this deliverable had to be re-thought

D4.2 Governing collective processes in governmental incentive/regulatory schemes (Task 3.3) – this deliverable will also be integrated to the next report. It is worth mentioning at this point, that even though complementary currencies where foreseeing as an interesting component of the environmental sustainability in the food supply chain (point iii in task 3.3), the team decided to focus more broadly on the pro-environmental responsibility dimensions of various economic incentives and the associated incentives (point i and ii in task 3.3). The rationale behind is twofold: (i) a clear understanding of the motivations that lead to pro-environmental behaviors required more effort (time and resources) than the one originally considered, (ii) this in-depth understanding of the motivations was deemed the most relevant for the project, even though it consumed more resources than originally planned, eliciting targeted incentives based on empirical results (practical application for policymakers).

D5. Food4Sustainability Roadmaps for transition - Due to a redefinition of the second phase of the F4S, D5 has been readjusted to integrate results of Task 3.2, particularly regarding the analysis of the six case studies. The discussion of the findings from the six case studies will be presented in four separated articles, co-authored by different members of the F4S team. A preliminary abstract of each article is presented in Section 4 of the scientific report (Annex 2). Therefore, D5 will consist of 5 productions, delivered with the next report in June 2018:

> D5.1. Governance of sustainable agri-food systems: key values and features derived from Belgian initiatives aiming at introducing local products on supermarket shelves (leading author: Sibylle Bui, UCL)
> D5.2. Strategies of supermarkets to source and market local food (leading author: Tjitske Anna Zwart, KUL)

D5.3. Learning for sustainability transitions: local sourcing by food retailers (leading author: Ionara Costa, UCL)

D5.4. Greener on the inside? The role of values in institutional change towards more sustainable practices in the case of a healthy fast-casual food chain (leading author: Helene Joachain, ULB)

D5.5 Report of the multi-stakeholder restitution workshop (planned in May 2018)

Food4Sustainability results : conclusions and roadmaps for policy and stakeholders strategies

B- MEETINGS

Full project meetings - Coordination meetings (with all partner Principal Investigators (PI) and project researchers)

- ➢ 29 June 2017 at the KULeuven - Leuven

Working meetings with representation of all or 2 of the partner institutes

- ➢ 21 December 2016 – at ULB – with UCL (Ionara da Costa) and ULB (Hélène (Joachain)
- ➢ 13 February 2017 – Skype meeting with KULeuven (Tjitske-Anna Zwart) and UCL (Ionara da Costa)
- ➢ 21 February 2017 – Skype meeting with KULeuven (Tjitske-Anna Zwart) and UCL (Ionara da Costa)
- ➢ 29 March 2017 – Skype meeting with KULeuven (Tjitske-Anna Zwart) and UCL (Ionara da Costa)
- ➢ 23 May 2017 – at KULeuven with KULeuven (Tjitske-Anna Zwart) and UCL (Ionara da Costa)
- ➢ 7 June 2017 – at KULeuven (after interviews) with KULeuven (Tjitske-Anna Zwart) and UCL (Ionara da Costa)
- ➢ 28 August 2017 – at ULB with Marek Hudon - Alclia Dipierri (ULB) and Tom Dedeurwaerdere (UCL)
- ➢ 6 September 2017 – at ULB with Marek Hudon - Alclia Dipierri (ULB) and Tom Dedeurwaerdere (UCL)
- ➢ 28 September 2017 – 28/09/2017 at ULB with Marek Hudon - Alclia Dipierri (ULB) and Tom Dedeurwaerdere (UCL)
- ➢ 9 October 2017 – at ULB with Marek Hudon - Alclia Dipierri (ULB) and Tom Dedeurwaerdere (UCL)
- ➢ 7 November 2017 – at ULB with ULB (Hélène Joachain) and UCL (Ionara da Costa)
- ➢ 16 November 2017 – at ULB with Marek Hudon - Alclia Dipierri (ULB) and Tom Dedeurwaerdere (UCL)
- ➢ Other meetings took place on the same dates before or after interviews conducted in partnership between KULeuven (Tjitske-Anna Zwart) and UCL (Ionara da Costa)

Meetings internal to each institution

- ➢ UCL
    - ➢ 17 March 2017 – meeting with Charoula Nikolaou- Tom Dedeurwaerdere-and Ionara da Costa
    - ➢ 16 June 2017 – meeting with Tom Dedeurwaerdere - Paula Fernandez-Wulff - Charoula Nikolaou and Sibylle Bui
    - ➢ Monthly meetings between Ionara da Costa and Sibylle Bui
- ➢ KUL
    - ➢ Regular meetings between Erik Mathijs and Tjitske-Anna Zwart took place to discuss the outcomes
- ➢ ULB
    - ➢ Internal meetings CERMi: weekly meeting

C- SUMMARY OF THE WORK DONE

C1. Refinement of the conceptual framework for the case studies (Task 3.2):

This was done as part of a conceptual paper entitled Organisational Learning for Sustainability Transitions, co-authored by three researchers from the F4S team, presented in two international conferences, and discussed in a workshop on learning in transitions (Annex 1)

C2. Data collection and fieldwork (Task 3.2)

There has been a redefinition of the case studies related to local sourcing in supermarkets. In terms of the food retailers, three food retailers were considered initially. However, one of the retailers (referred to here as Food Retailer 3) was reluctant to participate in the study. Food Retailer 3 – difficult access to this retailer. Many contact attempts were done, but only one interview with the Marketing Director was granted. Moreover, the content of the interview revealed irrelevant for getting insights on Food Retailer 3's local procurement strategy. As for the local initiatives in Flanders, the initial goal was to study interactions between local platforms like *Straffe Streek* and *Lekkers uit het Pajottenland*, and the retailers. However, during the fieldwork, we found that the platforms do not have a strong importance for the retailers in Flanders. Indeed, the retailers seem to value working directly with producers more, or equally than working via platforms. We therefore chose to focus more strongly on the local product strategies of the three retailers, rather than put the logistic platforms at the centre of attention. A detailed description of the case studies is presented in the scientific report (Annex 2).

Eventually, the selected case studies are:

- Five case studies related to local food procurement in supermarkets analysed through the interactions between three initiatives of local food provision in Wallonia (Promogest, Hainaut Développement, Made-in-BW) and the two main retail corporations in Belgium (which we call R1 and R2 in the scientific report for anonymity requirements).

- The case of a healthy fast-food chain (HFF) and its interaction with organisations from civil society and some of its suppliers that are involved in more sustainable ways of producing and processing food.

In relation to the local food procurement cases, most of the interviews related to local initiatives had been done during year 3 and the interviews scheduled for year 4 were postponed. The researcher in charge was on maternity leave during the first semester and afterwards the interviewees were unavailable during the summer/autumn 2017. Six interviews related to the local initiatives in Wallonia are planned for the first quarter of 2018. As regard to the retailers, the redefinition of the case studies has implied changes in the interviews compared with what was forecasted. All interviews planned for this period have been achieved and additional interviews were realized. In total, twenty people from the food retailers were interviewed. This figure includes one interview with Food Retailer 3, which was dropped from the analysis. Moreover, in Flanders, four interviews were conducted with individuals related to the Straffe Streek. In relation to the healthy fast food chain one interview was conducted in addition to the eight interviews reported in the previous period. Detail of the interviews is presented in the scientific report (Annex 2).

C3. Deliverable 4.1a (Task 3.2)

One design document, containing proposition based on two major types of market-related collective arrangements that rely on participatory certification systems and industry wide codes of conduct. Both major types will have several customisable design options and parametrisable features to be evaluated. (Annex 3)

3. INTERMEDIARY RESULTS

Intermediary results from the field work are presented in the scientific report in annex (Annex 2)

4. PRELIMINARY CONCLUSIONS AND RECOMMANDATIONS

5. FUTURE PROSPECTS AND PLANNING

Overview of the foreseen activities and planning for next reporting year, taking into account the actual state of the work and the intermediary results

Deliverable 4.1 (Task 3.2[1]) consists of three separate documents: one has been submitted with this report (Annex 2), and two others are due for the next and final report:

- D4.1b. Benchmarking review on local procurement strategies of large food retailers, and how those related to their sustainability initiatives/innovations. The review will be based on companies' websites, annual and sustainability reports and other documents published by the companies. This document has been slightly redefined in a way that it will better subsidise the analysis of the case studies (document to be prepared by Ionara da Costa. UCL).

- D4.1c. The Supermarket's nutrition policy will also be studied. How are supermarkets' nutritional policies devised and their effect of customers' purchases and diet? Interviews with the big supermarkets in Belgium to explore nutritional policies currently in place and other initiatives aiming at dietary behaviours of customers (document to be prepared by Charoula Konstantia Nikolaou. UCL).

Deliverable 4.2 (Task 3.3): Governing collective processes in governmental incentive/regulatory schemes

It has been shown that the actual food system is unsustainable and faces two challenges: i) to produce more for the growing demand, and ii) to undo the negative environmental impacts (van Latesteijn and Andeweg, 2011:3). As responses to the later challenge many actors of the food supply chain have introduced eco-friendly strategies, nevertheless, the behavior is not homogeneous among them. Thus, the question that guides this research is: what motivates actors in the food supply chain to go green? To

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[1] There was a mistake in the last report, Deliverables 4.1 are related to task 3.2 instead of task 3.3.

answer this research question a case study will be conducted in Belgium; primary data for this purpose will be collected through a comprehensive online survey. This instrument will assess the actors' environmental responsibility motivations as well as their use of the actual and future pro-environmental incentives. The results obtained through this research, while solving the academic gap, will allow the policymakers to incentivize a pro-environmental behavior in the food supply chain actors by targeting the right motivations. It is worth mentioning at this point, that even though complementary currencies where anticipated as an interesting component of the environmental sustainability in the food supply chain (point iii in task 3.3), the team decided to focus more broadly on the pro-environmental responsibility dimensions of various economic incentives and the associated incentives (point i and ii in task 3.3). The rationale behind is twofold: (i) a clear understanding of the motivations that lead to pro-environmental behaviors required more effort (time and resources) than the one originally considered, (ii) this in-depth understanding of the motivations was deemed the most relevant for the project, even though it consumed more resources than originally planned, eliciting targeted incentives based on empirical results (practical application for policymakers) (document to be prepared by Alicia Dipierri, ULB)

Deliverable 5 (Task 3.2 and 3.3): Synthesis and discussion of the findings.

The discussion of the findings from the six case studies analysed in Phase II will be presented in four separated articles, co-authored by different members of the F4S team. A preliminary abstract of each article is presented in Section 4 of the scientific report (Annex 2).

- D5a. Governance of sustainable agri-food systems: key values and features derived from Belgian initiatives aiming at introducing local products on supermarket shelves (leading author: Sibylle Bui, UCL). This paper has been accepted for a special issue on "The role of ethics in food system governance and sustainability transition", to be published in 2018 in Sociologia Ruralis

- D5b. Strategies of supermarkets to source and market local food (leading author: Tjitske Anna Zwart, KUL)

- D5c. Learning for sustainability transitions: local sourcing by food retailers (leading author: Ionara Costa, UCL)

- D5d. Greener on the inside? The role of values in institutional change towards more sustainable practices in the case of a healthy fast-casual food chain (leading author: Helene Joachain, ULB)

A multi-stakeholder workshop will be organised in May 2018 in order to discuss these findings and there implications, allowing each actor of the food systems to understand the range of options available and the benefits from social innovations, at both the local level and in global supply chains.

Additionally, the results of Food4Sustainabilty will be further disseminated for decision making at the European level in the frame of the EU food and farming forum organised by International Panel of Experts on Sustainable Food (IPES-Food) on 29-30 May 2018 - http://www.ipes-food.org/

 D6 Food4Sustainability results : roadmaps for policy and stakeholders strategies

6. FOLLOW-UP COMMITTEE

Dates of the meetings and overview of the concrete contributions of the follow-up committee

7. VALORISATION ACTIVITIES

7.1 PUBLICATIONS

Bui S., da Costa I., de Schutter O., Dedeurwaerdere T., 2017. "Governance of sustainable agri-food systems: key values and features derived from Belgian initiatives aiming at introducing local products on supermarket shelves", Proceedings of the XXVIIth ESRS congress.

7.2 PARTICIPATION/ORGANISATION OF SEMINARS (NATIONAL/INTERNATIONAL)

Oral presentation, poster... and/or organisation of workshops, symposia etc.

Sustainability Transitions Conference (IST), 18-21 June 2017 in Gothenburg, Sweden
- ➢ Ionara Costa (UCL) presented paper "Organisational Learning for Sustainability Transition", co-authored by Ionara Costa, Sibylle Bui and Tjitske Anna Zwart (Annex 1)
- ➢ Tjitske Anna Zwart (KUL) presented "Reconfiguring food systems towards sustainability through multi-actor collaborations: a practice based approach", co-authored by Erik Mathijs.
- ➢ Erik Mathijs and Tom Dedeurwaerdere also participated in this event.

Authors' workshop of a Special Issue on Learning in Sustainability Transitions - 22 June 2017 Gothenburg, Sweden
- ➢ Participant Ionara Costa (UCL) - Discussion/comments on the pre-selected paper "Organisational Learning for Sustainability Transition", co-authored by Ionara Costa, Sibylle Bui and Tjitske Anna Zwart (Annex 1)

6th EMES International Research Conference on Social Enterprise, 3–6 July 2017 Louvain-la-Neuve
- ➢ Ionara Costa (UCL) presented paper "Organisational Learning for Sustainability Transition", co-authored by Ionara Costa, Sibylle Bui and Tjitske Anna Zwart (Annex 1)
- ➢ Marek Hudon and Tom Dedeurwaerdere also participated in this event

XXVIIth European Society for Rural Sociology – ESRS congress, 24-27 July 2017, Krakow, Poland
- ➢ Sibylle Bui (UCL) presented "Governance of sustainability transitions: key values and features derived from Belgian initiatives aiming at introducing local products on supermarket shelves", co-authored by I. Costa, O. de Schutter, T. Dedeurwaerdere (Annex 4)
- ➢ Tjitske Anna Zwart (KUL) presented "Moving into the grey zone: looking beyond the 'local' and the 'niche' to foster transitions towards a more sustainable agro-food system"; and: "Multi-actor collaborations as potential spaces for agonism, negotiation and the creation of pathways towards sustainability: an exploration" co-authored by Erik Mathijs.

Seminar at Science and Technology Policy Department, UNICAMP, 29 Sept 2017 Campinas, Brazil

➢ Talk given by Ionara Costa on Learning in Sustainability Transitions. Part of the seminar was based on the paper Organisational Learning for Sustainability Transition, co-authored by Ionara Costa and Sibylle Bui (Annex 1)

7.3 SUPPORT TO DECISION MAKING (IF APPLICABLE)

7.4 OTHER

8. ENCOUNTERED PROBLEMS AND SOLUTIONS

Encountered problems/obstacles, adopted and/or envisaged solutions, unsolved problems

One of our researcher, Sibylle Bui-UCL, was pregnant in 2016 (baby born on 14 January 2017) and was obliged to stop all train and car journeys as much as possible because of a high risk of premature birth. She worked from home (télé-travail) from the 1st of November until her maternity leave started. She was out of work until April (Easter). Therefore, all the planned interviews and enquiries on the field had to be postponed. This is one of the mains reasons of our request for a 6 months extension of the project.

9.2 COMPOSITION OF THE FOLLOW-UP COMMITTEE

Experts present at the Follow up Committee of November 14 2014 :

Dirk Vervloet - Beleidsondersteuner Vlaamse overheid | Departement Landbouw en Visserij Afdeling Monitoring en Studie | Dienst Studie – (in plaats van Dirk Van Gijseghem)
dirk.vervloet@lv.vlaanderen.be

Gert Engelen - Vredeseilanden - Consumentenwerking en samenwerking met bedrijven in Vlaanderen - Gert.Engelen@vredeseilanden.be

Erik Mijten – Boerenbond - (in plaats van Peter Van Bossuyt) - Erik.Mijten@boerenbond.be

Cordelia Orfinger (ECORES) - EcoRes - Laboratoire d'innovation durable.- Directrice
cordelia.orfinger@ecores.eu

Claire Collin - SPF SPSCAE /FOD VVVL - DG environnement/leefmilieu - Attachée politique et monitoring - Attaché beleid en monitoring -   Claire.Collin@environnement.belgique.be

Maarten Crivits (in plaats van Joost Dessein) - ILVO Instituut voor Lanbouw en Visserijonderzoek
maarten.crivits@ilvo.vlaanderen.be

Marion Courtois - Bruxelles Environnement - IBGE / Leefmilieu Brussel – BIM – Economie et ville durable/Transition de l'économie mcourtois@environnement.irisnet.be

Luc Vanoirbeek (replacing Peter Van Bossuyt) – Boerenbond (LV)

Lucette Flandroy: SPF SPSCAE /FOD VVVL

Nele Bossuyt: POD Maatschappelijke integratie

10. REMARKS AND SUGGESTIONS

Concerning for example: the coordination, the use or valorisation of the results, personnel change …

ANNEXES

ANNEXE I :

 Organisational learning for sustainability transitions

ANNEXE II :

Scientific report 2017 on the case studies

ANNEXE III :

D4.1a Mapping and analysis of major market-related collective governance arrangements relying on either participatory certification systems or industry wide codes of conduct

ANNEXE IV :

Governance of sustainability transitions: key values and features derived from Belgian initiatives aiming at introducing local products on supermarket shelves

ANNEX 1

ORGANISATIONAL LEARNING FOR SUSTAINABILITY TRANSITIONS[2]

Ionara Costa
Université catholique de Louvain
ionara.dacosta@uclouvain.be

Sibylle Bui
Université catholique de Louvain
sibylle.bui@uclouvain.be

Tjitske Anna Zwart
Katholieke Universiteit Leuven
tjitskeanna.zwart@kuleuven.be

Paper presented at the 8th International Sustainability Transitions Conference – IST, Gothenburg (18-21 June 2017) and at the 6th EMES International Research Conference on Social Enterprise, Louvain-la-Neuve (3–6 July 2017)

This is a draft paper. Feedback is much appreciated; or if you would like to quote it, please contact the first author to receive information about its latest version.

1 Introduction

The multi-level perspective of sustainability transitions suggests that key societal functions – e.g. food, housing, energy, transportation, are fulfilled by socio-technical systems, which are formed of three basic analytical levels: socio-technical regimes, niches and landscape (Geels and Schot, 2007; Smith et al., 2010). Socio-technical regimes are the dominant means of fulfilling societal functions (Geels and Schot, 2007; Smith et al., 2010). Niches represent the micro-level, and provide spaces for the development of radical innovations that represent alternatives to incumbent regimes (Geels and Schot, 2007). Landscape constitutes the macro-level structured context, within which regimes and niches are embedded (Geels, 2004). Events and changes on the landscape may put pressure on the regime, and may represent opportunities for niche innovations to scale up (Smith et al., 2010).

Sustainability transitions, involve the disruption of pre-existing commitments, roles and rules, and the development of new practices, values and identities, implying the transformation of the governance of the whole socio-technical system (Marques et al., 2012). It is widely emphasised by sustainability transitions scholars that such powerful changes are the outcome of multiple interactions, developments and learning processes within and between the three levels of a socio-technical system (Geels, 2004; Geels and Schot, 2007; Smith et al., 2010; Marques et al., 2012). Hence, transitions require powerful systemic learning processes, implying that actors from the

different levels, particularly from niche and regime, engage to, and learn from each other (Elzen and Barbier, 2012; Loorbach et al., 2009; Marques et al., 2012).

Despite being at the heart of transition theory, interactive learning between the different actors, from the different socio-technical levels is only vaguely defined and operationalised in most of the conceptual and empirical studies on sustainability transitions (Armitage et al., 2008). Moreover, the great bulk of scholarly work on the topic focuses largely on learning dynamics at the niche level (Elzen and Barbier, 2012). In fact, niches are conceived as protected learning spaces, where radical innovations with potential for triggering transitions can flourish (Geels and Schot, 2007; Marques et al., 2012). However, the multiple interactive learning processes required for socio-technical transitions clearly need to go beyond protected spaces. As claimed by Elzen and Barbier (2012:18), "the dynamics of system innovations also implies that niche developments should tie into regime developments in order to have a wider impact."

In fact, sustainability transition is characterised by deep and broad structural changes in technical and social components of the basic architecture guiding interpretations and actions of different regime actors (Geels, 2004; Schot and Geels, 2007; Smith et al., 2005; 2010). Thus, transition implies the transformation or shift of a dominant regime into a different regime (Geels, 2004; Schot and Geels, 2007; Smith et al., 2005; 2010). Therefore, the understanding of the dynamics of learning at the regime level is of paramount importance to better understand the conditions under which sustainability transitions can occur. However, regime's basic architecture is characterised by relatively stable configurations and alignments of different cognitive and normative elements, activities and processes, including knowledge, techniques, artefacts, routines, practices, rules, worldviews, values, problem definition and interpretation (Geels, 2004; Schot and Geels, 2007). The stability of a regime's basic architecture locks it within path-dependent trajectories, implying that regime changes are rather incremental (Geels, 2004; Schot and Geels, 2007; Marques et al., 2012; Smith et al., 2010).

Despite the fact that sustainability transitions imply a regime shift, learning at the regime level is rather overlooked by transition studies (Loorbach et al., 2009). This paper aims to make a contribution to bridge this gap by presenting a conceptual discussion on role played by mainstream actors in learning in transitions, particularly in the context of niche-regime interaction. The paper borrows insights from the academic debate on organisational learning, identifying and discussing aspects and types of learning and change processes at organisational contexts that can help to better understand learning within regime organisations and in the context of niche-regime interactions, and how this is related to learning in sustainability transitions.

The paper is organised as follows. Section 2 identifies key aspects and issues of the vast body of academic literature on organisational that seem relevant to a better understanding of the role of regime organisations in learning in transitions. This section highlights key aspects of learning in business organisations, such as its processual and problemistic nature, and how it relates to organisational change; its systemic and multilevel nature, emphasising the role of organisational members; and its collective and consensual nature, related to the social dimension of organisational learning. Section 3 explores the types of organisational learning and how they relate to different complexity orders of organisational change, which can range from ordinary incremental adjustments in action and behaviour, to changes of deeper elements of organisational culture and knowledge base. In order to discuss the different types of organisational learning, this third section looks at the social learning theory of action, as proposed by organisational behavioural studies, and discusses the major types of learning loops. Section 4 discusses how the types and aspects of organisational learning and change highlighted in the previous sections can be related to learning in sustainability transitions, and discusses some general aspects that are relevant to those types of radical learning. More specifically, it discusses

how regime organisations are subjects to different pressures, and how they related to landscape pressures on regime; the relevance of systems thinking, awareness and willingness to engage in cultural changing learning; and the importance of interactive social learning involving all the stakeholders for transformational changes, emphasising the role of organisational members and niche-regime interactions. The section closes with final remarks on the way in which the paper contributes to the debate on learning in sustainability transitions.

2. Organisational learning: key issues for sustainability transitions

The aim of this section is to identify key aspects and issues of the vast body of literature on organisational learning that are relevant to a further understanding of the role of regime organisations in learning in sustainability transitions.

The academic debate on organisational learning is closely related to the very concept of knowledge, and is guided by the assumption that knowledge is at the core of business organisations' competitive advantage. It is widely accepted that an organisation's ability to learn and acquire knowledge is a critical and unique source of its competitive advantage (Levinthal and March, 1993; Popper and Lipshitz, 2004; Tsoukas and Vladimirou, 2005). In fact, the importance of learning capability goes far beyond business organisations, as knowledge has assumed the role as the most important resource for economic development, overtaking the classical ones - natural resources, capital and labour. In such a knowledge-based economy, business environments change very fast, challenging organisations to develop and sustain dynamic capabilities in order to adapt, grow and survive (Pavitt, 2002; Popper and Lipshitz, 2004; Tsoukas and Vladimirou, 2005).

Given such a strategic role of knowledge and learning for the development and survival of organisations, managing knowledge and learning within organisations has come into the forefront of concerns both among business practitioners and academic researchers.

There is a massive body of academic literature on organisational learning that cut across various fields of business studies and economics, drawing from different epistemologies and learning theories in a variety of disciplines, ranging from philosophy and psychology, to anthropology, sociology and education (Scott, 2011). The organisational learning literature is marked by a confusing proliferation and lack of agreement on key concepts and issues (Popper and Lipshitz, 2004; Tosey et al., 2011). In fact, such a broad range of approaches and disciplines poses a challenge for a precise definition and conceptualisation of learning in organisational contexts. Despite the fact that the notion of organisational learning is widely accepted, an agreement on what it is and how it occurs has yet to be reached within the various disciplines (Argote, 2013; Argote and Miron-Spektor, 2011; Mariotti, 2012; Popper and Lipshitz, 2004).

2.1 Learning as a process for organisational change

Despite the dispute among the different approaches about the key concepts and issues related to learning in organisational contexts, there seems to exist an agreement that organisational learning is a process for organisational change (Argote, 2013; Scott, 2011). It is widely accepted that changes in an organisation are related to changes on its knowledge base, which can translate into changes not only in performance, but also in behaviours, strategies, practices, routines, rules, beliefs, values and assumptions, and other cognitive elements on which knowledge is embedded (Argote, 2013; Levitt and March, 1988).

Organisational learning and change is normally perceived as a dichotomy between basic and more profound changes (Tosey et al., 2011). Basic organisational learning is routine-based, meaning that new knowledge is created through experience (Argote, 2013; Levitt and March,

1988; Nevis et al., 1995). Learning through experience implies that changes in practices and strategies occur at the same time as organisations learn (Levitt and March, 1988; Nevis et al., 1995; Tsoukas and Vladimirou, 2005). Moreover, being experience-based also means that organisational learning is rather a process than an outcome (Levitt and March, 1988). The processual nature of organisational learning implies it is also history and path-dependent, being largely a function of an organisation's prior related knowledge (Cohen and Levinthal, 1990; Levitt and March, 1988). In addition to being experience- and path-dependent, organisational learning is target-oriented, meaning that organisations learn as they define goals and tasks to solve identified problems or face particular challenges (Argote, 2013; Levitt and March, 1988). Some scholars observed that such problemistic nature of organisational learning locks changes within a limited scope, with changes occurring mainly near the previously identified problem (Argote, 2013). This explains why organisational changes are rather adaptionist and incremental (Argote, 2013; Mariotti, 2012). Although more profound organisational learning has also a processual and problemistic nature, it goes beyong ordinary and incremental changes, impacting the deeper elements of an organisation's culture, which underlie thinking and action in and by organisations.

As it will be further discussed in the next sections, the basic and predominant form of organisational learning corresponds approximately on how transitions studies describe change at regime level – i.e. incremental changes and stability of a regime's basic architecture (Geels, 2004; Schot and Geels, 2007; Marques et al., 2012; Smith et al., 2010). More profound organisational learning would imply changes beyond trivial adjustments, impacting the configurations and alignments of different cognitive and normative elements, activities and processes that guide interpretations and actions of different regime organisations (Geels, 2004; Schot and Geels, 2007).

2.1.1 Organisational learning sub-processes

The process of organisational learning and change is commonly described by stage models, with usually identified stages or phases being the acquisition, creation, dissemination, diffusion, interpretation, assimilation, storage and utilization of new knowledge (Antal and Sobczak, 2014; Argote, 2013; Scott, 2011; Nevis et al., 1995). However, such linear nature, as implied by any stage or phase model, is rather an analytical simplification than an inherent characteristic of learning processes, which involve the need to loop around different "stages" in order "to deepen or revise certain aspects" (Antal and Sobczak, 2014:655; Nevis et al., 1995). In fact, some organisational learning scholars opt to refer to such "stages" as different learning dimensions or sub-processes.

The rather recursive and circular dynamic of learning loops points to the highly social and dynamic nature of organisational learning (Tsoukas and Vladimirou, 2005). It is widely emphasised that organisational learning is a collective, relational and consensual process of knowledge creation, dissemination, interpretation, and integration (Nevis et al., 1995; Scott, 2011; Tosey et al., 2011; Tsoukas and Vladimirou, 2005); through which organisations change their routines, practices, norms, ideas, values and beliefs (Levitt and March, 1988; Nevis et al., 1995, Scott, 2011; Argote, 2013). Being collective and consensual implies that knowledge acquired by organisational members should be shared within organisations and interpreted in a similar way (Antal and Sobczak, 2014:668). In fact, the collective and shared nature organisational learning, which involves its dissemination amongst organisational members and across the different organisational units, is what differs organisational learning models from individual learning models (Popper and Lipshitz, 2004; Schein, 1990).

2.2 Organisational learning as a multilevel and system-level process

Organisations consist of different units or groups, defined, for instance, according to different hierarchical levels, business functions or geographical locations (Nevis et al., 1995). The systems

perspective implies that the different units or groups constitute interdependent sub-systems (Nevis et al., 1995). This means that organisational learning processes take place at several systemic levels, involving organisational members grouped into the different subunits of learning (Gupta and Govindarajan, 2000; Levitt and March, 1988). In fact, organizations are widely regarded as a bundle of knowledge or learning systems (Gupta and Govindarajan, 2000; Levitt and March, 1988; Nevis et al., 1995; Tsoukas and Vladimirou, 2005).

Geographically, for instance, organisations can be organised at the local, regional, national or international level (Antal and Sobczak, 2014; Argote, 2013). On this regard, a branch of the international business literature tackles the geographical dimension of learning within multinational corporations, a type of intra-organisational learning across borders. As discussed in Section 4, this is a relevant aspect of organisational learning to be taken into consideration in transitions studies, as powerful regime organisations, such as multinational corporations, are spread worldwide, implying different possibilities of interactions with localised niche innovations.

Furthermore, organisations are open systems, implying that organisational learning is not restricted to the organisational borders and individual members, as organisations are part of different networks. As an open system, the collection of organisational learning sub-units is inserted in multiple environments, which consist "largely of other collections of learning units" (Levitt and March, 1988:331; Mariotti, 2012; Schein, 1990).

2.2.1 Learning at the levels of individuals and organisations

The collective and social nature of organisational learning leads to two inter-connected and usually disputable concepts, namely organisational and individual knowledge (Tsoukas and Vladimirou, 2005). The controversies surrounding the concepts of organisational and individual knowledge is related the disputes about the borders between organisational and individual learning, and more specifically, whether organisations have the capacity to learn (Popper and Lipshitz, 2004; Scott, 2011). The debate is on whether the ability to learn and the anthropomorphic characteristics associated with it can be attributed to organisations (Mariotti, 2012). Learning theories assume that learning takes places inside the human mind only, implying that knowledge is closely connected with human action (Holmqvist, 2003; Popper and Lipshitz, 2004; Tsoukas and Vladimirou, 2005). As non-human entity, it is argued that organisations do not have brains; therefore, organisational learning *per se* is not a cognitive activity (Popper and Lipshitz, 2004).

Popper and Lipshitz (2004) suggest that organisations' ability to learn can be better understood by the differentiation between learning _in_ organisations and learning _by_ organisations, which correspond to two different processes through which organisations, as a systems, learn. In the learning _in_ process, organisations learn by the learning of their members; while in the learning _by_ process, organisations learn by recruiting new members who possess new knowledge and skills, not yet available within the organisational context (Popper and Lipshitz, 2004). Yet, it is emphasised that both processes take place within in human minds: within the minds of veteran and of new organisational members (Popper and Lipshitz, 2004)

In fact, despite this dispute over whether organisations have minds, there exists a consensus among the different approaches to organisational change that individual members are the agents of learning and change in organisational contexts (Antal and Sobczak, 2014; Popper and Lipshitz, 2004; Sugarman, 2000). The agency of individual members implies that their competences, skills, motivations and values are determinant for the different dimensions of learning within organisational contexts (Antal and Sobczak, 2014). Individual members are essentials for the collective and consensual process of creation, dissemination and interpretation knowledge in

organisational contexts (Antal and Sobczak, 2014; Cohen and Levinthal, 1990; Levitt and March, 1988:319). It can be argued that this is an important aspect for sustainability transitions. Pressures on regime organisations can be exerted via individual members, who are embedded in different cultural contexts and hold, as individual beings, values and beliefs that may contrast with those of the organisations they work for.

In a classical quote Argyris and Schön (1978:20) state that "[i]ndividual learning is a necessary but insufficient condition for organizational learning". As a system-level process, organisational learning relies on organisations' cognition systems and collective memories, being somehow independent of individual members (Levitt and March, 1988; Popper and Lipshitz, 2004:37). New knowledge gained through the process is embedded or integrated within the organisation, as it is applied and recorded in a collective or organisational memory (Antal and Sobczak, 2014; Argote, 2013; Mariotti, 2012; Nevis et al., 1995). Organisational memory allows the institutionalisation or embeddedness of new knowledge in products, processes, structures, artefacts, routines, practices, so that it becomes broadly available and can be generalised to new situations, even if individual members leave it (Argote, 2013; Levitt and March, 1988; Nevis et al., 1995).

3. Types of organisational learning and change

This section explores the types of organisational learning and how they relate to different orders of complexity of organisational change, which can range from ordinary incremental adjustments in action and behaviour, to changes of deeper elements of organisational culture and knowledge base, i.e. believes, values and assumptions. The paper puts forward the argument that the higher end of the potential spectrum of organisational change would represent a break of the lock-in nature of learning at regime level, and could be compared with the powerful changes implied by transitions.

As afore discussed, organisational learning and change is normally perceived as a dichotomy between basic and more profound changes (Tosey et al., 2011). The basic form of organisational learning is target-oriented, routine- and experience-based, leading to predominantly incremental and adaptionist changes. More profound organisational learning, instead, may lead to changes in deeper cultural layers, representing changes in the beliefs, values and underlying assumptions.

3.1 Organisational theories of action

There are different types of organisational learning, each of them corresponding to different order of changes, from more ordinary incremental changes to deeper changes, impacting organisations' values and underlying assumptions. The social learning theories of action and the organisational learning models, as proposed by organisational behaviour and learning studies, helps to understand those different types and orders of learning and change *in* and *by* business organisations.

The organisational theories of action proposed by Argyris and Schön (1978) are a key reference for organisational learning studies. Argyris and Schön developed a hypothetical construct of shared theories of actions, hence fusing individual-level theories of actions (learning *in* organisations) with the organisational-level shared or collective learning (learning *by* organisations) (Popper and Lipshitz, 2004). This is a similar hypothetical construct as that of shared mental models, inspired by the work of Senge (1990) (Popper and Lipshitz, 2004).

Argyris and Schön's organisational learning models or shared theories of actions emphasise three basic elements that help to explain how thoughts (cognition) and actions (behaviours) are linked (Anderson, 1997): governing variables, action strategies and consequences or outcomes of an

action. The shared aspect is central in all organisational learning models. It results from the acknowledgement of the highly social and consensual nature of learning in organisational contexts. As a social and collective process, organisational learning involves iterative reflection within a particular group that shares experiences, history, values and environments (Antal and Sobczak, 2014; Armitage, 2008; Popper and Lipshitz, 2004).

Governing variables also referred to as intentions, correspond to the values and assumptions that individuals try to "keep within some acceptable range" (Argyris and Schön by Anderson, 1997:3; Armitage, 2008). There are two dimensions of governing variables: the governing values in use or theories-in-use, and the espoused governing values also referred to as espoused theories. The concepts of theories-in-use and espoused theories are at the heart of the social learning theories of action, and represent two different theories of actions (Argyris and Schön, 1978).

Espoused theories are the worldviews and values which individuals believe their actions and behaviours are based on (Argyris and Schön, 1978 by Anderson, 1997). Hence, espoused theories are the professed or claimed values, representing the theories behind what is said (Argyris and Schön by Anderson, 1997:2; Schein, 1990). Theories-in-use are the worldviews and values implied by individuals' behaviours and actions, representing the assumptions or theories underlying individuals' actions, hence also referred to as underlying assumptions (Argyris and Schön by Anderson, 1997:2; Schein, 1990). Theories-in-use or underlying assumptions correspond to how individuals perceived their actions, and work as maps or mental models that guide those actions (Argyris and Schön by Anderson, 1997; Schein, 1990).

The second element of Argyris and Schön's shared theories of actions is action strategies, which are the strategies designed by individuals aiming to keep their theories-in-use and espoused values within the acceptable range (Argyris and Schön by Anderson, 1997). The effectiveness of the action strategies depends on the ability of individuals of making more informed choices about their actions. The choice making process aims to achieve and monitor intended outcomes (Anderson, 1997:2). According to Argyris (1980), the effectiveness of the actions strategies depends on the development of congruence between theories-in-use and espoused theories (Anderson, 1997:2).

The third basic element of organisational learning models refers to the consequences or outcomes of the action strategies and learning processes, which may be indented or unintended (Argyris and Schön by Anderson, 1997:2). When the consequences of the action are intended there is a match between intention and outcomes, hence theories-in use are confirmed; when the consequences are unintended there is a mismatch between intentions and outcomes, hence theories-in use are not confirmed. Learning occurs precisely as responses to those mismatches (Argyris and Schön by Anderson, 1997; Armitage, 2008; Schein, 1990). Those responses refer to the concepts of learning loops.

3.2 Learning Loops

Learning loops refer to the conscious and unconscious reasoning process of making choices about action strategies as response to incongruence or mismatches between intentions and outcomes (Argyris and Schön by Anderson, 1997:2; Flood and Romm, 1996). Flood and Romm (1996) define each loop as a centre of learning, which represent specific discourse or cognitive arenas, and thus reflecting different ways of prioritising issues when making choices about the action strategies.

According to Argyris and Schön (1978) there are two possible responses, which relate to the concepts of single and double loop learning (Anderson, 1997). This distinction coincides to the main concepts used to express the dichotomy afore mentioned, between basic and more profound

organisational learning and changes (Tosey et al., 2011). Inspired mainly by Argyris and Schön's work and concepts of learning loops, organisational learning scholars have proposed a third order of organisational learning, commonly referred to as triple loop learning (Tosey et al., 2011).

3.2.1 Single loop learning

This first loop is referred to as single loop learning, and corresponds to the first response to the mismatch between intention and outcome (Anderson, 1997). The response from this first centre of learning involves the search for alternative actions strategies that can lead to the intended outcomes, and satisfy the governing variables (Argyris and Schön by Anderson, 1997; Armitage, 2008). This search is guided by the question "Are we doing things right?", which can be translated as "How should we do it?" (Flood and Romm, 1996). Such target oriented search or intervention is characterised by an obsession about how to meet the best the defined goals, and improve outcomes (Flood and Romm, 1996; Schein, 1990). Therefore, intervention represents a problemistic search or means-end thinking aiming to address specific problems or errors (Argote, 2013; Armitage, 2008; Flood and Romm, 1996; Tosey et al., 2011).

This how-type of learning implies change in the action strategy only (i.e. one loop), which occurs within a set of alternatives (Tosey et al., 2011). Governing values are not questioned or altered; in fact, they are rather assumed and accepted, pointing to the non-reflective nature of single-loop learning (Argyris and Schön by Anderson, 1997; Flood and Romm, 1996; Tosey et al., 2011).

Single-loop learning refers to the basic organisational learning. It is target-oriented, aiming exclusively to search for the best action strategy to meet the intended goals or outcomes (Flood and Romm, 1996). In this first learning loop, the outcomes or goals are set, and there is no room for debate about other possible outcomes (Flood and Romm, 1996).

Single loop learning leads to a sequence of small and frequent changes, related to continuous improvements on performance of what is already being done (Levitt and March, 1988; Nevis et al., 1995; Tosey et al., 2011). In other words, single loop learning is an incremental, adaptive or corrective type of learning, related to search for efficiency (Armitage, 2008; Flood and Romm, 1996; Nevis et al., 1995; Tosey et al., 2011). The incremental or ordinary learning, which results from short-term goals in terms of efficiency an performance, leads to stability in practices and routines, and reflects the path-dependent and lock in nature of organisational changes (Armitage, 2008; Levitt and March, 1988).

3.2.2 Double loop learning

Double loop learning refers to another possible response to the mismatch between intention and outcome (Anderson, 1997). However, in double loop learning the response goes beyond the search for alternative action strategies to satisfy the governing variables. It involves first an examination and alteration of the espoused values and theories in use, and then changes of the actions strategies (Argyris and Schön by Anderson, 1997; Armitage, 2008; Tosey et al., 2011). Therefore, in double loop learning change occurs both in action and governing values, involving two centres of learning (Flood and Romm, 1996).

The second centre of learning asks: "Are we doing the right things?"; which implies asking: "What should we do?" (Flood and Romm, 1996:594). This question leads to the reflection on the intentions and theories-in-use underling thinking and action in and by organisations (Anderson, 1997; Tosey et al., 2011). Hence, intervention in double loop learning is based on processes for debate and discussion, implying the recognition that there are several alternative view points on outcomes and several possible action strategies to meet them (Flood and Romm, 1996).

The changes resulting from such inter-subjective debating processes are more profound than those involving only one centre of learning. Double loop learning is, therefore, a more radical and transformative type of learning that leads to powerful organisational changes. As it implies changes in an organisation's governing values, it relates to fundamental changes both in the action strategies and the deeper elements of an organisation's culture, with potential to shift an organisation's core competences (Armitage, 2008; Nevis et al., 1995; Popper and Lipshitz, 2004).

However, according to Flood and Romm (1996), double loop learning is also target oriented, and follows the same ends-means thinking as single loop learning. Moreover, they argue that reflection and debating processes that characterise double loop learning is usually subject to coercitive forces, implying limitations to its transformational power (Flood and Romm, 1996). Hence, organisational learning scholars propose a third loop or centre of learning to the first two originally proposed by Argyris and Schön (1978), what is referred to as triple loop learning.

3.2.3 Triple loop learning

The concept of triple loop learning is not so well established in the literature on organisational learning; with serious controversies and imprecision among its various definitions (Tosey et al., 2011). Tosey et al. (2011) identify three distinct conceptutalisations of triple loop learning, which basically consider triple loop learning as a level beyond and hence superior to single and double loop learning. A second one considers triple loop learning as a third level of learning. One of those conceptualisations refers to triple loop learning as equivalent to the concept of deutero learning as proposed by Argyris and Schon[3] (1978, 1996). This way of defining triple loop learning emphasises reflexivity about the governance of single and double loop learning, being some sort of learning about the process of learning itself (Tosey et al., 2011). This is the perspective highlighted by this paper, particularly based on Flood and Romm (1996).

Triple loop learning directs attention to the governance system underlying single- and double-loop learning (Armitage, 2008). This third centre of learning asks "Is rightness buttressed by mightiness, or mightiness buttressed by rightness", what can be translated as "Why should we do it?" (Flood and Romm, 1996:594). Hence, triple loop learning is concerned with knowledge-power relations, and hence, with the fairness of learning practices (Flood and Romm, 1996). It enables awareness and reflection on the ways in which collective learning practices are subjected to might-right dynamics, or knowledge-power games (Flood and Romm, 1996). Triple loop learning does so by continuously looping around the questions from the three centres of learning, connecting them in one overall learning infrastructure (Tosey et al., 2011). As each centre of learning represents a radical different alternative discourse, triple loop learning provides a reflective mechanism, and leads to awareness about the diversity of issues and dilemmas faced and of the alternatives to address them (Armitage, 2008; Flood and Romm, 1996; Tosey et al., 2011). Thus, the reflective consciousness implied by triple loop learning creates a basis for making well-informed and more responsible choices, improving the structures and capacity of an organisation for learning and changing (Armitage, 2008; Flood and Romm, 1996).

4. Organisational learning for sustainability transitions – discussion and final remarks

This section outlines how the aspects of organisational learning and multiple loop learning processes and change highlighted in the previous sections can be related to learning in

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[3] There is a certain confusion about the concept of deutero learning, even within Argyris and Schön' work. According to Argyris and Schön (1978) and Argyris (2003), organisational deutero learning is about learning how to carry out single- and double-loop learning. Hence, deutero learning would represent a kind of meta level learning, instead of a further or superior level learning (Tosey et al., 2011). However, Argyris and Schön (1996) define deutero-learning as a "critically important kind of organisational double loop learning" (Tosey et al., 2011).

sustainability transitions, and discusses some general aspects that are relevant to those types of radical learning, particularly in the context of niche-regime interaction.

4.1 Types of organisational learning and sustainability transitions

Multiple loops learning processes can lead to deep changes in an organisation's culture and knowledge base, changing its routines, practices, values, beliefs, underlying assumptions, and in the case of triple loop learning, changes in the whole governance system upon which organisational learning is based upon. This implies rethinking the ways an organisation can create and apply new knowledge, changing their embedded systems of thinking and acting (Madrazo and Senge, 2011; Senge, 1990; Senge et al, 2006; Tosey et al., 2011). Those deep learning experiences represent a large scale and complex systemic change, implying not only new ideas, but also the development of new connections and social networks (Senge, 1990; Senge et al, 2006). Multiple loops learning is highly social and relational, implying that beliefs, values and underlying assumptions change both at the individual as well as organisational levels (Madrazo and Senge, 2011:3). Another key aspect of multiple loops learning is that it is circular, recurring, looping between cause and effect, back and forward (Tosey et al., 2011).

It can be argued that double and triple loop types of organisational learning correspond to learning and changes at regime level required for transitions. They lead to broad and deep changes, representing a break of the lock-in nature of regime changes, which are usually ordinary and incremental. In other words, sustainability transitions require radical cultural innovations within the dominant regime, which can be reached by multiple loops learning.

4.2 Pressures, awareness and willingness for learning and transformation

Organisational learning theories offer rich ways of conceptualizing how organisations respond to environmental pressures and challenges by not only changing their practices, business models and strategies, but also developing new worldviews, beliefs, values and theories-in-use (Antal and Sobczak, 2014).

It is widely accepted that organisations ability to face challenging environments, change and transform themselves through learning processes is a crucial aspect not only for their adaptation and growth, but also for their very survival. In transition terms, such challenging environments can be understood as changes at the landscape level putting pressure on regime organisations, which have to learning in order to manage and survive in a potential scenario of transition of the social technical systems they are part of.

Organisational learning studies shed some light on how regime organisations respond to broader landscape pressures. Regime organisations are open systems, as so they face constant pressure both from changing external environments (i.e. landscape), as well from diversity of internal contexts, with different sub-systems and corresponding subcultures.

Organisations' response to pressures and several cultural forces is reflect on how they prioritise issues when making choices about their actions strategies. Organisations engaged in multiple loops learning are more likely to respond to wider pressures and challenges as those related to sustainability (Tosey et al., 2011). Constant external and internal pressures, respectively from landscape as well as from regime's individual members, challenge organisations to reduce unsustainabilities that may turn their business models impracticable in the future, and above all to create sustainabilities that may transform completely their role in the larger socio-technical systems they belong to, and in fact, that may transform the entire system (Nevis et al., 1995; Senge et al, 2006).

These challenging environments help to increase organisational awareness of the importance of renewal and transformation, learning and change of organisational culture, including beliefs and assumptions (Nevis et al. 1995; Madrazo and Senge, 2011; Schein, 1990). Regime organisations' willingness to engage in transformational learning trajectories is intrinsically related to their awareness about the importance to engage in such radical learning processes and deep cultural changes.

Organisational learning that can bring about radical cultural innovations is a nontrivial process (Schein, 1990). Changing governing values – theories-in-use and espoused values, depend on overcome strong resistances, and raise awareness and willingness to change the process of learning itself (Madrazo and Senge, 2011; Tosey et al., 2011). Learning is a process of making choices about actions, and informed choice making requires awareness about wider systemic issues and challenges, such as sustainability, and about the alternatives actions strategies to address them (Flood and Romm, 1996; Madrazo and Senge, 2011).

The awakening of awareness by regime organisations would increase their willingness and commitment to take longer-term risks, and engage in deeper learning trajectories that challenge their own purpose and significance (Armitage, 2008; Madrazo and Senge, 2011).

Organisational learning for sustainability transitions implies the need of a holistic awareness about socio-technical systems (Senge et al., 2006). In order to engage in multiple loops learning for transitions, regime organisations need to be aware not only of larger systemic imbalances, but above all, of their outer systemic impacts (Madrazo and Senge, 2011). This systems thinking would also increase regime organisations' awareness about the alternatives offered by niche innovations, and would contribute for the development of a shared understanding of the complexity of socio-technical systems and the profound challenges for sustainability transitions (Flood and Romm, 1996; Senge et al, 2006).

This implies seeing sustainability as an opportunity to radical learning and change rather than a problem. From this perspective, interacting with niche initiatives may offer a multilayered learning opportunity for regime organisations, not only by raising their awareness about their roles in society, but also by opening up opportunities for playing a leading role in the systemic transformations required for sustainability transitions (Antal and Sobczak, 2014; Senge et al., 2006).

4.3 Learning together for transition

Cultural changes, as those implied by multiple loops learning, in which both governing values and learning governance are challenged and changed, can occur only through highly interactive learning processes, where all stakeholders collaboratively search for solutions. Collaborative learning processes are necessary for the creation of shared values and theories-in-use (Schein, 1990). Socio-technical systems, and socio-technical regimes in particular, are constituted by a global web of interconnectedness (Senge et al, 2006). Multinational corporations as the leaders of the global value chains are a good illustration of those global interdependencies.

Giving the complexity of sustainability transitions it is imperative that all relevant actors are included on stage, forming and nurturing a network of collaborations (Antal and Sobczak, 2014; Madrazo and Senge, 2011). Transitions require multiple network learning processes that can allow rich knowledge exchanges. Learning for sustainability transitions cannot be restricted to actors at any level. The engagement between niches and regime organisations is crucial for inoculating values into learning processes at regime level that can lead to more significant learning experiences. The interactive learning based on debate between niche actors and regime organisations can enrich all stakeholders' understanding of the world (Flood and Romm, 1996).

Moreover, the engagement between regime organisations and niche initiatives reduces risks of regime isolation, and has a potentially wider and deeper impact on regime shift. However, niche-regime interaction has also to face the challenges implied by competing worldviews, values and underlying assumptions in context of unequal relationships of power (Armitage et al., 2008). Shared collaborative learning for transitions, particularly in the context of niche-regime interaction, involves negotiation on how to prioritise issues and defining goals, requiring, therefore, political space (Armitage, 2008:93). Truly collaborative may be jeopardised by the large power differentials between regime organisations and niche actors (Armitage et al., 2008). The development of collective capacity of individuals, organisations and societies to network and collaborative learning requires significant efforts to build trusting relationships (Armitage, 2008; Madrazo and Senge, 2004; Senge et al, 2006).

4.4 Role of organisational members

Organisational members are both collective beings, participating in the shared learning processes within the groups they belong to, and also individual beings (Madrazo and Senge, 2011). Individual beings, with their values, assumptions and motivations, are not only the agents of transformational changes in organisations, but also the agents of transitions in society (Antal and Sobczak, 2014; Madrazo and Senge, 2011; Schein, 1990; Senge et al, 2006).

In addition to the organisations they work for, individual members are simultaneously engaged with several external networks (e.g. community, work, political, religious, educational, and leisure activities), being subject to a multiplicity of cultural forces (Antal and Sobczak, 2014; Schein, 1990).

Therefore, it can be claimed that individual members of regime organisations are central for bringing about learning and changes that have the potential to trigger transitions. Organisational members in the context of niche-regime interactions, or as individual beings in contact with niche initiatives, can bring new values and assumptions that can deeply impact organisational culture. They are instrumental for the challenging and questioning of organisations' shared governing values, and hence to multiple loop learning.

4.5 Organisational learning for transitions: some final remarks

The paper makes a theoretical contribution to transitions studies by bringing in elements of the organisational learning literature that can help to better understand learning by regime organisations and in the context of niche-regime interactions. The paper highlights aspects of learning in organisational contexts that seem relevant to the highly social and interactive learning processes required for transitions. Moreover, it points to the types of organisational learning that can be related to transitions, and discusses some general aspects that can contribute to the engagement of regime organisations in radical and transformative learning that have the potential to lead to transitions. Therefore, the analysis developed in the paper help to shed some light on how to better precise the concept of learning in sustainability transitions.

Furthermore, the paper provides a framework for empirical research on transformative learning involving regime organisations, suggesting the need for cultural analysis to understand regime organisations learning for transition. However, it shall be mentioned that further discussion is need in order to better operational the key concepts relevant for understanding learning *in* and learning *by* regime organisations. For instance, the concept of shared theories-in-use or shared-mental models, key in studies on organisational behaviour, organisational culture and learning organisations are rather abstracts, and their evaluation relies on parameters at individual level (Popper and Lipshitz, 2004). Moreover, the identification and discussion of organisational learning practices and frameworks that can be conducive to deeper organisational learning

experiences and changes, and hence transitions, was out of the scope of this paper. Digging further into the organisational culture and learning organisations literature may help to identify more objective concepts, which are easier to operationalise, along with get insights into the more appropriate methodological approaches to follow. This is a next step of the work leading to this paper.

Furthermore, the paper points to some aspects of organisational learning that may complicate empirical analysis of learning in sustainability transitions, not only at regime level, but also in the context of niche regime interaction. Firstly, learning that can lead to cultural transformation, i.e. change values and basic assumptions underlying actors' actions, is a long-term process. This means that the transformational changes implied by transitions can be only fully evaluate in long time framing. Secondly, socio-technical regimes are global in nature, significantly contrasting with the localised nature of niche innovations. Considering that transitions imply regime shifts, it can be claimed that transitions of societal systems are global processes; implying action is taken increasingly at international levels, requiring learning that is increasingly global and intercultural. This has serious implications for the analysis of social learning at regime level, and particularly in the context of niche-regime interactions. This raises some relevant issues, for instances: How learning gained through niche and regime interactions in localised contexts can spread over different locations across the globe? If niches are kept as protected learning spaces, how can they have a wider impact over dominant regimes, which operate rather globally? In other words, would localised niche initiatives risk being isolated, and hence fail to contribute to the shared, social learning required for transitions, i.e. regime shift?

It can be argued that the lack of attention to learning at the regime level, and the excessive focus transitions studies place on learning at niches, the "protected" learning spaces, compromises analysis of ongoing processes that may lead to sustainability transitions. Niche isolationism compromises social learning required for transitions. More important than scale up and survive, localised niche initiatives need to multiply and interact with regime organisations and with individual regime actors across the globe, challenging their governing values by inoculating new ideas and values into their social learning processes.

By drawing attention to the importance of interaction between regime organisations and niche initiatives in bringing about the types of organisational learning that can lead to transitions, the paper expect to have made a valuable contribution to the reflection (and learning) on the different levels of learning in sustainability transitions.

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ANNEX 2

ANNEX 2 – SCIENTIFIC REPORT 2017 ON THE CASE STUDIES

Authors (in alphabetical order):

Sibylle Bui – UCL

Ionara Costa – UCL

Helene Joachain – ULB

Tjitske Anna Zwart – KUL

1. Introduction

Food retail corporations and fast food chains are powerful actors of the dominant food system. Over the last few years, several initiatives involving these corporations have emerged in Belgium, such as the introduction of local products in supermarkets, and the emergence of new types of fast food chains, the so-called 'healthy fast-casual' (HFF) chains proposing healthier dietary patterns for eating on the go. Exploratory field work done in 2016 has shown that these processes are dynamic and involve a variety of actors: retail corporations can work together with local private initiatives and/or local authorities, and HFF chains can have strong interactions with organisations from civil society. Van Amstel et al. (2012) argue that such networks that establish coalitions between niche and regime players are at the basis of real innovations and transitions towards more sustainable food systems.

In this second stage of the Food4Sustainability project, we examine to which extent these interactions can contribute towards a sustainability transition in the food sector. We thus address the following research question:

Are interactions between food retail corporations, and local producers and local initiatives, and between healthy fast-casual food chains and organisation from civil society contributing to a deep transformation of the dominant food system in Belgium (i.e. leading to changes in practices and values within organisations), and if so, how?

This question is investigated through the analysis of six case studies in Belgium, five related to local provision by food retailers and one to fast food chains:

- The local product strategies of two main food retail corporations operating in Belgium (referred here as Retailer1 and Retailer2), and their interactions with local producers and local initiatives.
- Three initiatives of local food provision in Wallonia (Promogest, Hainaut Développement, Made-in-BW), and their interactions with retailers, producers, local authorities and other local initiatives.
- The case of a healthy fast-casual chain, and its interactions with NGOs and suppliers.

More precisely, in the cases related to local food procurement, we analyse if the introduction of local products on food retail corporations' sourcing is an opportunity for profound change (i.e. for alternative farming practices and social and solidarity economy practices to scale up) or if it rather reinforce the lock-in of the dominant system. For the HFF case, we analyse if the interactions of the company with organisations from civil society results in institutional changes that could lead to more sustainable practices within the company.

It is worth mentioning that there has been a redefinition of the case studies related to local sourcing in supermarkets. In terms of the food retailers, three food retailers were considered initially. However, one of the

retailers (referred to here as Retailer3) was reluctant to participate in the study. Many contact attempts were done, but only one interview with the Retailer3's Marketing Director was granted. Moreover, the content of the interview revealed irrelevant for getting insights on Retailer3's local procurement strategy. As for the local initiatives in Flanders, the initial goal was to study interactions between local platforms like Straffe Streek and Lekkers uit het Pajottenland, and the retailers. However, during the fieldwork, we found that the platforms do not have a strong importance for the retailers in Flanders. Indeed, the retailers seem to value working directly with producers more, or equally than working via platforms. We therefore chose to focus more strongly on the local product strategies of the retailers, rather than put the logistic platforms at the centre of attention. A detailed description of the case studies is presented in the scientific report.

2. Materials and Methods

The cases studies are based on the qualitative analysis of semi-structured interviews and complementary data.

Archival work

Interviews were supplemented with information obtained from several documentary sources. Those sources include websites of the different actors interviewed, annual reports and sustainability report of retail corporations, local authorities and civil society organisations, student essays and research reports related to local procurement by large retailers; documents related to local sourcing and logistic platforms, such as internal strategy papers, minutes of internal communication and meetings, training programs, and national, local and electronic press articles.

Field observation

Regarding the initiatives of local food provision in Wallonia, we realized six observations during workshops and discussion meetings where the project holders were presenting their initiative. These workshops and meetings were situations of interactions between various actors of the food system as they gathered project holders, local authorities, civil society organisations, farmers and/or citizens. Moreover, in the local procurement cases, we visited the retailers' stores to obtain a general feeling of the way in which the local products were marketed. Most of the time these visits took place before an interview, so that prior to the interview we could get a general feeling of the in-store marketing of local products in that particular store and, if needed, slightly adapt the questionnaire accordingly. Regarding the HFF case, we also did many field observations in different restaurants of the chain which provided us with direct observation of products sold, staff members, customers, marketing, and more generally, of the atmosphere in the restaurants.

Selection of interviewees

In the cases of local procurement, we conducted interviews with actors from four different local initiatives (one in Flanders, three in Wallonia). These initiatives are mostly tied to the geographic boundaries on the provincial level and in most cases they are either initiated by or strongly supported by provincial government bodies. We first interviewed the person who initially developed the project, and then we interviewed other actors involved in these networks, making sure we would meet them all: producers, government officials and officers, managers and actors responsible for logistical issues and/or promotional and commercial actions.

Regarding the food retailers, the selection of interviewees followed a cascade procedure, in which we first identified and interviewed a person in charge of the local procurement concept in each retailer at the headquarter level. This person did then either put us in contact with regional coordinators or store directors, depending on the strategy of each of the retailers. Informants at regional level also suggested stores directors to be interviewed. For both retailers we aimed to interview a wide range of actors involved in the local strategy. Interviews were conducted with actors in different roles within the retailers: director and local product coordinator at the corporate level, local products regional managers, store directors and local products

managers at stores. Moreover, we aimed to obtain a wide view by including stores that were both very implicated in the local strategy, as well as stores that were less involved, so that we could get a clear view of the importance of the local strategy for the overall company. We also aimed to spread the interviews over the different regions and provinces of Belgium. However, the interviews in the region of Flanders were conducted mainly in the parts to the East and North of Brussels. Also, no interviews were conducted in the region of Brussels itself. This gap was partly balanced out since one of the researchers took part in and helped organise a workshop for retailers on the sourcing and added value of local foods in supermarkets. This workshop took place in the Western part of the region of Flanders, and also mainly included retailers and government officials from that part of the country. However, although multiple retailers took part in this workshop, from our cases only Retailer1 was present. Yet, the discussions during the workshop and informal conversations afterwards expanded our vision and knowledge of the local food strategy of Retailer1 over the whole Flanders region. In the case of Retailer1, we started with a double interview at the headquarters of the retailer. Next to that, we conducted semi-structured interviews with a mix of eleven regional coordinators, store directors and local product managers in the store. Some of the interviewees fulfilled multiple of these roles, or had, in the past, fulfilled several of these roles and thus had a broad overview both over the strategy itself as well as over the way in which the local strategy was implemented in practice. In the case of Retailer2, we started our interviews with the manager and founder of the local product strategy. From there, further interviewees were identified. We proceeded interviewing one of the managers of the sourcing of fruits and vegetables on the national level. Moreover, we interviewed five store managers, some of which also performed the role of Single Point Of Contact (SPOC) for local foods in their region.

Regarding the HFF case, our desk research had revealed that one of the founders was still directing the company. In the inductive perspective of our research, it was thus key to have the possibility to interview this person. Indeed, we wanted to have the longest timeframe possible to understand the evolution of the company, and especially how interactions with civil society had influenced the trajectory of the company. The interviews that followed were a mix of purposeful and snow ball sampling, as we were asking for specific managers to be interviewed, and were also suggested other people by the interviewees themselves. We also wanted to balance the account we would get from our interviews of managers with interviews from actors that were interacting with the company (civil society, franchisee, and supplier). However, we could only get limited access to them, especially suppliers, as they are part of the 'business secret' of the company.

Number and duration of the interviews

In total, we conducted 46 interviews, with lasted between 45 minutes and 4 hours. Regarding local procurement, we conducted 36 interviews. We interviewed 17 informants related to the local initiatives in Wallonia; some key respondents were interviewed twice. Interviews were done in French in Wallonia and Dutch in Flanders. Two interviews with producers related to the Promogest case were realized by Marlène Feyereisen from ULg-SEED in the frame of a collaborative research work. Moreover, we interviewed 19 informants occupying different positions within the food retailers; most of them working directly or indirectly with local procurement. The interviews duration varied according to the role of the interviewees and the number of informants per interview. For instance, while interviews at the headquarter level lasted more than 3 hours, interviews at the store level were shorter, lasting about 1 hour. In total, we had 26 hours of interviews with food retailers. Interviews were done in English, French or Dutch, according to the preferences of the interviewees. For further details see Table 1A. Regarding the HFF case: we interviewed nine informants, being five key managers in the company and four actors interacting with the company (civil society, franchisee, and supplier). For further details see Table 1B.

Table 1A. Interviews related to the cases of logistic platforms and local procurement by food retailers

Interviewee	Role	Date/ Length/Language
Government1	Officer in charge of short circuits in the Wallon Agence pour l'Entreprise et l'Innovation	15.04.2016/1h40m/French
ProjectHolder1	Head of the GAL Culturalités who carried the initial project	28.04.2016/1h/French
ProjectHolder2	Director of Promogest ASBL and Director of the Agriculture Services of the Liège Province	09.05.2016/1h/French 27.06.2016/3h45m/French
LocalProducer1	Producer working with Promogest	24.06.2016/-/French
ProjectHolder3	Responsible for logistics and customer relations at Promogest	27.06.2016/1h/French
ProjectHolder4	Promotion manager at Promogest	27.06.2016/1h/French
LocalProducer2	Producer working with Promogest	15.07.2016/-/French
Government2	Provincial officer responsible for the follow-up of the partnership between big retailers and local producers	01.09.2016/2h45m/ French
Government3	Ex-Director of Promogest ASBL	19.09.2016/2h50m/French
Government4	Elected official in Liège Province, in charge of Rural life and Short circuits	19.09.2016/1h40m/French
Government5	Officer in charge of social economy in the minister's office of JC Marcourt, Wallon minister of economy	30.09.2016/1h15m/French
Retailer1HQ1	General Director Quality and Sustainability at Retailer1, and the person responsible for conceiving Retailer1's local product charter	07.10.2016/4h/English
Retailer1HQ2	Responsible for Retailer1's local products (internal procedures) through an external company (consultant)	07.10.2016 (simultaneous with Retailer1HQ1)
Government6	Officer in charge of the GoodFood Strategy in Bruxelles Environnement	13.10.2016/2h30m/French
ProjectHolder5	Coordinator regional platform1	21.11.2016/1h30m/Dutch
LocalProducer3	Producer for Retailers 1 and 2, member and co-founder of regional platform	09.12.2016/2h/Dutch
Government7	Representative of a municipality working with regional platform	09.12.2016/1h/Dutch
Retailer2HQ1	Person in charge of the local products area at Retailer2's headquarters	20.12.2016/3h/English
*LocalProducer4	Producer Straffe Streek	20.01.2017/2h/Dutch
ProjectHolder7	Coordinator regional platform	23.01.2017/1h/Dutch
Retailer2Store1	Store director at a Retailer2's store in the province of Walloon Brabant	24.03.2017/1h/French
Retailer2Store2	Store director at a Retailer2's store in the province of province of Antwerp	11.04.2017/1h/Dutch
Retailer2Store3	Store director at a Retailer2's store in the province of province of Flemish Brabant	11.04.2017 (simultaneous with Retailer2Store2)
*Retailer3HQ1	Retailer3's marketing director	12.04.2017/1h/English
Retailer2Store4	Store director at a Retailer2's store in the province of Flemish Brabant	25.04.2017/1h/Dutch
Retailer1Reg1	Retailer1's Regional coordinator for local products covering three provinces in Flanders	20.04.2017/3h/English
Retailer2HQ2	Manager of Fruits and Vegetables procurement at Retailer2	21.04.2017/1h/English
Retailer2Store5	Store director at a Retailer2's store in the province of Liege	27.04.2017/45min/French
Retailer1Store1	Store director at a Retailer1's store in the province of Flemish Brabant	27.04.2017/2h/English (with some Dutch)
Retailer1Store2	Store director at a Retailer1's store in the province of Flemish Brabant	15.05.2017/1h/Dutch
Retailer1Store3	Store director at a Retailer1's store in the province of Antwerp	23.05.2017/1h/Dutch (with some English)
Retailer1Store4	Person in charge of the local products at a Retailer1's store in the province of Antwerp	23.05.2017/30m/Dutch
Retailer1Reg2	Retailer1's Regional coordinator for local products covering two provinces in Wallonia	02.06.2017/1h50m/English
Retailer1Reg3	Retailer1's Regional coordinator for local products covering one provinces in Wallonia	07.07.2017/1h30m/French
Retailer1Store5	Person in charge of the local products at a Retailer1's store in the province of Hainaut	07.07.2017 (simultaneous with Retailer1Reg3)
Retailer1Store6	Store director assistant at a Retailer1's store in the province of Hainaut	07.07.2017 (simultaneous with Retailer1Reg3)
Retailer1Store7	Store director at a Retailer1's store in the province of Hainaut, and previously Retailer1's Regional coordinator for local products covering one province in Wallonia	09.08.2017/2h20m/French

Note: Interviews marked with * were not incorporated in the analysis: LocalProducer4 does not not deliver to any of the retailers; Retailer3HQ1 because Retailer3 case has been dropped, as afore explained.

Interview procedures

With two exceptions, the interviews of retailers were conducted by at least two researchers. Hence, the researchers could discuss each interview and adjust the interview protocol. For the HFF case and for the cases of local initiatives, a single researcher conducted the interviews.

Interview guides

All the interviews were based on a common interview guide, which was elaborated after thorough discussions between all the partners of the project in order to cover the different analytical dimensions of the case studies (see Table 2, and for the interview guide see Annex III to the 2016 Annual Report). As such, the interview guide inquired about learning as well as changes in practices and values within the organisations and at the personal level of the interviewees. More specifically regarding changes, motivation and values, we inquired about initial goals and objectives at the level of individuals and structure, about the concrete practices into which these goals and objectives have (or have not) been translated) and about motivations and underlying values, in their temporal dimension. We also enquired about the impact of the interactions between retailers and organisation of the civil society and / or local producers on goals, motivations, practices and values, and more generally on the trajectory of the organisation and the personal trajectory of the interviewees. This was embedded in a more global concern for understanding how learning and changes towards sustainability took place within the different actors' organisations. In addition, this provided us with insights on the agency vs. structure aspect of these changes. Moreover, we also inquired about respondent's personal views on sustainability and the sets of values primed in the audience, here again, taken in their temporal dimension, whenever possible.

Table 1B. Interviews related to the case of the healthy fast food chain

Interviewee	Role	Date/ Length/Language
Fo1	Founder	14.06.2016/54m/French
Ma1	General Manager	09.09.2016/50m/French
Ma2	Product Manager	23.09.2016/1h5m/French
Ma3	Franchise Manager	04.10.2016/1h16m/French
Ma4	Marketing Manager	21.10.2016/1h12m/French
CSo1	Civil Society Organisation	11.10.2016/51m/French
CSo2	Civil Society Organisation	11.10.2016/51m/French
Fr1	Franchisee	20.10.2016/1h11m/French
Su1	Supplier	09.11.2016/48m/French

Analysis of interviews

In the local procurement cases, all interviews were first transcribed in the original language. For the Wallon initiatives, the results were analysed with the help of the analytical grid in Table 2, but instead of developing a table for each interview, we coded and analysed the material manually in order to identify the salient points in an inductive approach, producing intermediate analytical descriptions of each case. All interviews were re-transcribed, for a total of 258 pages. For the retailers, the results were also analysed with the help of the analytical grid presented in Table 2. First, each interview was coded and analysed based on the topics listed in Table 2. Based on this, a separate table was developed for each of the interviews. After this, a separate table was developed for each of the retailers based on the individual interviews.

The HFF case followed an inductive methodology. Following the full transcription of the interviews, in the early phase of coding, it is important to use an 'informant-centric' perspective on the data (Gioia et al., 2012). This implies to code the transcripts 'in vivo' (i.e. using the own words of the respondents), and we decided to use the qualitative software NVivo 11 as a support tool for coding. This first phase of coding focuses on identifying repeating ideas expressed by interviewees that are in line with our research concerns. Following attested grounded-theory techniques, we then move from these repeating ideas to our research concerns using incremental steps (Auerbach and Silverstein, 2003; Gioia et al., 2012). This implies to find relationships between

repeating ideas in a second phase of coding that form important 'themes' for our research concerns (second phase of coding). Finally, in the third phase of coding, we organise these 'themes' into 'theoretical constructs' that form our theoretical contribution.

Table 2 - Analytical grid for the case studies[1]

Learning	Aspects related to the learning processes within and between partners: – Autonomy and control (hierarchical issues….) – Formalisation of processes/practices – Diffusion of knowledge related to the learning event – Knowledge exchanges (within organization and with external actors) – Interactions/communications (internal/external: frequency, exchange venues (meetings, events, visits….) – Motivations to engage with external partners (related to values) Output of the learning processes: – Changes in practices and values (as described in the next two lines) – Innovativeness of new practices
Practices[2]	Production Processing Transportation Storing Buying (including price and margins) Selling (including price and margins) Marketing and communication Plus cross-cutting practices: - Standardization: formalisation of processes/practices; (re)organisation of HR i.e. people, skills, autonomy and control; diffusion - Coordination/negotiation activities: internal/external interactions (exchange venues, e.g. meetings, events, visits…), frequency, participants, content, outputs - Other knowledge exchanges between actors - Risk bearing
Values*	Initial goals and objectives at the level of individuals and structure Motivations and underlying values (in their temporal dimension) Definition of sustainability Definition of "local" Your organization's role The role of the other actors of the food system * Values are also identified by looking at the practices and the interactions

Notes: (1) This analytical grid is based on the conceptual framework which was Annex I to the 2016 F4S Annual Report; (2) Practices: We consider physical practices (those that can be placed in time and space) of production, buying, selling, storing, transportation, processing, communication and marketing; as well as cross-cutting elements that are present in all physical practices: standardization, coordination/negotiation activities, other knowledge exchanges between actors and risk bearing.

3. Results

The presentation of the results is organised as follow. Sections 3.1 present the six cases: three cases of local procurement initiatives in Wallonia, two cases of local sourcing by food retailers, and the case of the health fast food chain. Sections 3.2 present preliminarily findings on the impacts on the food system, which are organised according to the analytical perspectives adopted for the case studies as presented in Section 4.

3.1) Presentation of the case studies

3.1.1) The cases of local food procurement initiatives in Wallonia

Emergence and development of local food provision in supermarkets: the Liège and Hainaut initiatives

Contrary to what we expected before starting the fieldwork, the introduction of local products in supermarkets in Belgium was not impelled by not-for-profit organisations or public authorities, but by Retailer1.

Indeed, in 2011, in response to increasing criticisms of the agro-industrial food sector, but also to decreasing economic performance, Retailer1 Belgium decided to develop local sourcing to improve its image. It contacted the officer in charge of diversification inside one of the main farmers' union in Belgium, to propose a collaboration. To make sure the producers' interests would be respected, this person decided to gather some farmers to identify the barriers for small producers to supply supermarkets and to work out solutions, which he did during several months, with around 20 producers and with the help of the advisory services of the union. The outcome of this process is the creation of a specific contract for local producers that ensures they benefit from specific marketing conditions: they can work directly with the supermarkets – i.e. they don't have to go through Retailer1's central purchasing group -, they are not submitted to price negotiation and determine their prices, they benefit from a reduced payment period (30 instead of 60 days), they are not submitted to the series of practices that keep up pressure on prices and usually exclude small producers (back margins, payments for supply disruption and unsold products).

After this contract was created, the farmers' union stopped the collaboration with Retailer1, considering that further developments were not its jurisdiction. So Retailer1, who needed support to make contact with farmers, turned to the Provinces, since the Provinces are the organisations in charge of agricultural extension services. At first, it turned to two Provinces: the Province of Liège (Promogest) it had been in contact with for many years, and the Province of Hainaut (Hainaut Développement[4]) where the person in charge of process in the farmers' union – who had changed jobs in the meanwhile -, had been recruited. At that time, these two Provinces were looking for ways to support local agriculture, seeking new outlets for their local farmers in order to increase their incomes. Therefore, they immediately responded positively to the partnership proposal and both gave free rein to a dedicated officer. This shift from a partnership with a farmers' union towards a partnership with Provinces, whose jurisdiction is more broadly local economic development, caused the project to evolve: it no longer took only into account local farmers and on-farm processors, it also included local non-agricultural processors.

However, the producers were still very reluctant to work with big retailers, because of profound mistrust. To consult with and reassure the local producers, the officer from the Province of Hainaut organised several reunions together with Retailer1. He circulated the invitation broadly[5], but only around 20 producers came along. During these reunions, Hainaut Développement helped to list the setbacks these producers had experienced with big retailers, and to identify and discuss possible solutions. Additional terms were agreed,

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[4] Promogest and Hainaut Développement are two provincial structures which provide extension services to farmers. Promogest is an ASBL but is a direct emanation of the Province, Hainaut Développement is a parapublic agency. Retailer1 was in contact with Promogest because his director had had frequent professional contacts with Retailer1 in his previous position.

[5] All products were welcome, except from fresh meat, because Retailer1 already had a direct supply chain structured around a few Belgian producers.

such as specific reception conditions (special "side-door" access, priority over semitrailers for quality control), no additional costs associated to hygiene standards[6]. This agreement was formalised in a charter Retailer1 committed to respecting. In this charter, local producers are defined as producers located within 40 km from the supermarket, and hiring less than 10 full-time employees (excluded seasonal workers).

Retailer1 further adapted its practices and organisation. First, it created the position of Regional manager[7], in charge of visiting the producers, tasting the products, helping to fill in reference files, to determine the selling price. Moreover, to encourage producers to join the program, it covers the costs of certifying the producer's self-monitoring system for compliance to hygiene standards. What is more, to build up and maintain trust, it organises annual meetings at the provincial scale where all producers are invited, to report on the collaboration and discuss possible issues. All these steps allowed producers who weren't able to work under food retailers' marketing conditions, to benefit from this new outlet.

The project was launched first in Liège in May 2012 and then in Hainaut in September, and it was such a success that Retailer1 rapidly decided to extend the operation to all its hypermarkets. The Province of Liège decided to create a logistic platform as a service for farmers, to help them with logistics but also with administrative and commercial aspects. The province of Hainaut also ensures the promotion of the local products, but it did not create a logistic platform because the elected officials considered it was not the role of the Province.

In regard to some aspects, the project started in a very informal way. For instance, working with retailers necessarily implies using barcodes, which represents a significant cost for the producers. In order to dispel the doubts the producers had expressed, Retailer1 lent them its own barcodes. Then, the two provinces, together with Retailer1, went to negotiate with the organisation in charge of managing the barcode system in Belgium (GS1) and obtained the creation of a new modality for local producers – fewer barcodes for a cheap price.

An interesting point to stress is that the issue of specifying the 'local' character was two-fold. First, it was raised by the producers involved in the consultation, asking about how suppliers would be selected in case several producers would propose the same products. Second, it was GS1 who asked for a specification that would allow to discriminate between local and regular producers, and thus restrain the access to the new modality. Indeed, the number of references was not discriminating, as some large-scale Belgian producers (e.g. Jupiler, the most important brewery in Belgium) sell a limited number of references.

Organization and governance features of the supply chains in Liège and Hainaut

Hainaut Développement acts as a mediator, an advisory and a communication service. The officer in charge of the project deals with the problems that occur between producers and retailers. When there is a problem, producers call him and he plays the role of an intermediary, contacting the store to find a solution. Every 3 to 6 months, he gathers Retailer1 together with all the producers it works with, to make an assessment of the collaborations and to identify where improvements could be made. Sometimes he simply helps alleviating the tensions that can exist in case of disputes between stores managers or department managers and local producers.

He also helps calculating the production costs, in order to determine a selling price that is reasonable for both parties. In this regard, we can stress a shift in HD's activity, which thereby provides a service which also benefits to big retailers. Indeed, as he says: "This way we can give a trade margin, I would say, which becomes interesting for intermediaries" i.e. for retailers.

What is more, he provides the retailers with communication tools, for example with some posters with pictures and addresses of the producers that Retailer1 displays in the shelves where the local products are sold.

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[6] Farmers in direct sales have a self-monitoring system to check they comply with hygiene standards. When working with intermediaries, they need to get this system certified, which generates additional costs. Retailer1 assumes these costs.

[7] Retailer1's regional managers are responsible for two or three provinces. There are five regional managers in total in Belgium.

Except from the follow-up meetings organized every 3 to 6 months, Promogest proposes the same (free) services as Hainaut Développement. Additionally, it organizes promotional events in supermarkets (tasting sessions), and dedicates equipment and a full-time position to that. Most of all, it provides producers and retailers with logistical solutions: invoicing (5% margin), product delivery by the logistic platform (+5% margin), product collection on farm (+5% margin). To ease invoicing, Promogest also developed an IT tool which fits snugly to the requirements of the various supermarkets: in the province of Liège – and contrary to other provinces, see Section 3.1.2, the learning process for local producers to work with food retailers mostly takes place at the level of Promogest (and retailers, cf. Sections 3.1.2 and 3.1.3). In total, seven people work to develop local sourcing for food retailers. Human resources from the Province also frequently – and informally - participate in this activity.

In terms of governance, what are the features of these two initiatives? In Hainaut, there is no specific governance arrangement. The development and follow-up of this program is carried by the officer who supported the process from the beginning. In Liège, the initiative is coordinated by a para-public organisation which already existed[8], whose board is composed of large-scale, conventional farmers and elected officials from the province. As we will see in Section 3.2, this has strong implications in terms of values and objectives.

Replication and hybridization: the Brabant Wallon initiative

The case of Brabant Wallon results from the conjunction of two projects. On the one hand, the one of the Province[9] which wished to answer Retailer1's proposition to develop local sourcing "in order to help local producers", but did not have the required skill in-house; and on the other hand, the one of a LEADER Local Action Group[10], which had led for 5 years a box-scheme project together with around 30 producers and was seeking a viable way to continue contributing to rural development by supporting producers and promoting fair, short food chains, environment-friendly farming practices and healthy diets. Also, the LAG was reflecting on how to reach a larger customer base, so as to bring about significant outlet to support local producers, and at the same time raise the awareness of the people who are not involved in alternative food chains. Together the Province and the LAG decided to create a not-for-profit organisation combining their projects in the form of a logistic platform. In 2015, they created the ASBL Made in BW, after the project was implemented for one year by the LAG. They benefited from the support of Hainaut Développement which was present during the first meeting between the Province and Retailer1, and from the experience of Promogest which shared with the LAG its know-how and information. Made in BW works in a very similar way to Promogest (same services for the local food procurement activity, same fees).

In the case of Brabant Wallon, the governance of the initiative is shared among the Province, small farmers and the LAG who participate in Made in BW's board. These new interactions induced the development of new ethical values within Made in BW. As a result, contrary to the other two case studies, the purpose of working with supermarkets is not only to support local farmers, it is to reach a broader customer base, whose awareness is not yet raised, and to create a viable logistic tool to foster regional enhancement. That is why Made in BW has commercial relations with a greater diversity of stores and presents itself as a public service.

Table 3: Activity indicators from 2016 for the local food provision initiatives of Hainaut, Liège and Brabant Wallon

Indicators/Provinces	Hainaut	Liège	Brabant Wallon
Number of producers/processors	130	75	26
Number of stores	-	-	35
Sales revenue	4.2 million € with Retailer1	≥ 2 000 000 € In total	-

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[8] Promogest takes charge of various activities: it has a laboratory of soil analysis, a milking farm and an insemination center for porks, as well as extension services providing technical, economic and administrative advice, and organizing promotion activities.

[9] More precisely, the Centre Provincial de l'Agriculture et de la Ruralité.

[10] The LAG Culturalités en Hesbaye Brabaçonne.

3.1.2) The case of Retailer1's local food strategy

Start and historical development of Retailer1's local strategy

As mentioned above, Retailer1's strategy was developed for its hypermarkets. Initially, the main goal of this strategy was to surprise customers, build a good image, and differentiate from Retailer1s main competitors. Moreover, the project needed to be embedded in the retailers' sustainability program. The project started with a pilot with twenty producers, which was a success. After this, 1-3 meters of local products were installed in three hypermarkets. Gradually the area dedicated to local products was enlarged, and the project was extended to other districts, first in the South of Belgium, and later in the North. Over time, many stores have dedicated a separate place for local produce.

As mentioned above, first, meetings were organised to check whether producers would be interested to work together with Retailer1. Based on the meetings it became clear that the 'traditional circuit' – which was characterized by electronisation, efficiency, minimal human intervention and harmonization to make the system faster and more reliable - was not suitable for the local producers. Retailer1 recognised the differences that characterise local food systems. Instead of trying to fit this system in their own system of efficiency, specialisation, and electronisation, it therefore decided to develop a separate logistical and financial circuit for the local producers and to produce a charter in which the requirements of the farmers to work with Retailer1 were summarized.

At the start, however, producers were weary of working together with large retailers, and it was difficult to find producers that wanted to cooperate. Later, based on the good experiences and ever-increasing sales, other producers also started to participate. Over time, the project grew and became an integral part of the DNA of the company. In fact, the project grew beyond expectation (nowadays more than 700 producers in the whole of Belgium) and now generates an income the retailer had initially underestimated.

Retailer1 prefers relationships in which the products are delivered directly to the store by producers, and in which contacts take place directly between the store and the producer. However, in some cases the producer prefers to deliver through a local platform, which is also possible, provided that the relationship is still directly with the producer.

The contracts are generally signed between the store manager and the producer. This contract has been developed specifically for local producers. The contract for local producers is six pages long, while a standard contract contains 256 pages. In general, there are no conditions or obligations for the producer towards Retailer1, and producers are allowed to stop delivering their produce to Retailer1 at any moment.

What does Retailer1 see as local?

Retailer1 has defined local products in its charter as a product that is:

  - Produced in a maximum radius of 40 kilometres around the store
  - Made by a production entity with less than 10 Full Time Employees (extra seasonal workers are allowed)
  - Artisanal
  - Made without additives

The criteria are followed strictly and, generally, no exceptions are made. However, there are no criteria on the inputs that are allowed in the processed products. Hence, the local charter may include processed, artisanal products like coffees, beers, olives and chocolates.

At the start of the strategy, Retailer1 mainly offered processed products. Over time, Retailer1 has also started to offer unprocessed products. These were difficult to introduce in some of the stores, as loose fruits could not easily be introduced into the scales of the store. Therefore, most local fruits and vegetables are now offered pre-packaged. Some stores also offer local non-food products, like music, books, clothing, and other crafts from the region.

Store and strategy organization by Retailer1

For the strategy, Belgium was divided in five regions. As mentioned above, in each region, a coordinator for local products was appointed. The tasks of the five regional coordinators are to find producers, visit them, decide upon the added value of new products, taste, check the production methods and come to an agreement with the producers whether the product should be marketed or not. Once this has happened, an external agency that organises the contracting and manages the database of local products is contacted. From there, the contact mainly takes place between store employees and managers and the local producers. The buying of local products by Retailer1 happens through direct relationships between the stores and the local producers. Hence, the procurement department is not involved in the strategy at any moment. Consequently, the 'normal' and 'local' systems are generally seen as separate from and complementary to each other. Moreover, it was argued that the local products attract clients to the store that will also buy other products than just the local ones, as they are able to make complementary purchases

The producer sets the price for his/her products. The regional coordinator may give information and advice, but generally, the price set by the producer is accepted by the regional coordinator. The price that the consumer will pay for the product in the end, however, is set by both the regional coordinator and the producer as it needs to be competitive with other products, while still having a certain margin on the product.

Furthermore, there is no generic way of implementing the strategy. Therefore, it is dependent on the motivation and input of individual employees. Generally, the local products are managed by the managers of the respective departments (e.g. dairy by the dairy department, fruits and vegetables by the fruits and vegetables department, etcetera). This is even the case if the local products take up a separate space in the store. However, for now, the management of local products is not included in the contract of department managers. Therefore, the local products are a job on top of the normal tasks of a manager. Because of this, routines are generally lacking. If someone falls ill for example, this may impact the management of the department of local products. Also, when it is really busy, managers may forget to order local products, while with the 'traditional products' everything is ordered automatically. In other words, the strategy is prone to mistakes of individual managers. Moreover, the success and motivation is dependent on how strongly the manager in charge of the local products department believes in the offering of local products. In order to diminish this effect, many stores have started hiring one department manager responsible for the local products. This person places the orders, monitors deliveries, analyses what is sold well and what is not, etc. This has made the strategy more manageable.

From a legal point of view, all products need to comply with the food safety regulations, and packaging and bar codes need to be in order. Producers often need to adapt their practices to be able to comply with these requirements. As this can be very complicated for producers, Retailer1 provides trainings, so that producers can learn, for example, how to deal with the invoicing. As mentioned above, Retailer1 negotiated with the institution providing bar codes for a new modality for small-scale producers, allowing them to buy small amounts of barcodes for low prices following a simplified procedure.

3.1.3) The case of Retailer2's local food strategy

Start and historical development of Retailer2's local strategy

The local strategy of Retailer2 started as a part of its sustainability strategy. Also, given an increasing demand for local products, Retailer2 saw marketing local products as an opportunity to show to its customers that it did not only work together with large multinationals. Lastly, the strategy was a way of keeping up with other retailers. To initiate the project, a meeting between departments to define the scope of the strategy and to develop a first test was organized. This test took place in three stores that already offered products that could be defined as local. Based on its success, the project further developed afterwards. Over time, the strategy was implemented in all provinces.

From the start, Retailer2 has been working with platforms of local producers to quickly identify large numbers of producers and facilitate communication. In Belgium, these platforms are often organized on a provincial basis. The way in which they are organized differs. Some organize e.g. transportation and invoicing, while others are just there to promote local producers, or defend producers' interests. Recently, though, the store has also opened up towards direct interactions with individual suppliers. Moreover, the restriction of working on a provincial basis became clear. Therefore, stores can also order products that come from outside of the provincial boundaries.

Although the strategy started off quite small, it has grown quickly, and it has become an important part of the retailer's strategy since then. Consequently, instead of being a pure sustainability strategy, it has now also become important from a business point of view:

What does Retailer2 see as local?

Unlike Retailer1, Retailer2 does not have a strict definition of what a local product is. Generally, for Retailer2 a local product should be:

- Known within the province
- Authentic
- Small scale
- From Belgian origin
- Be produced by a local family
- Two thirds of the added value should be made in Belgium (in terms of processing, there are no criteria for input ingredients).
- Connected to the local identity

This definition is used quite flexibly. Also, we found that – because of the fact no strict definition exists – local tends to mean something else to each of the interviewees. In addition, the 2/3 added value is not a hard criterion. Furthermore, in time the guidelines have also become looser and less typical Belgian products are now admitted in the store as well. Actually, the most important criterion is whether the product will have an added value for the store.

Moreover, the local assortment team only has the mandate over processed products. Fresh fruits and vegetables are sourced on a national scale and promoted as from Belgian Origin and therefore are out of the scope of the local assortment team. This was both since sourcing fruits and vegetables locally is complicated in terms of e.g. efficient logistics, cooling and food safety, but also because of the setting of prices.

Store and strategy organization by Retailer2

Over time, the project has become more embedded in the strategy of the company. However, the strategy is still dependent on a small team of which one person is the driving force. Moreover, the department has been a part of different departments within the company. The local assortment team is based in the central facilities of Retailer2, and approves all the local products for Belgium. Because of this, and the fact that the local assortment team is relatively small, the time span to admit a 'new' local product in the system can be quite long.

Products need to be admitted in the central system before stores are able to purchase them. Contracts are also made between the central and the producer. Once a producer is admitted to the system, the store managers receive a list with all the producers per province. Store managers can phone them, ask them about their minimum deliveries, and whether the producer is willing to supply the store. Also, prices are set centrally by the local procurement department and the producers together. Generally, the producer sets his own price, but this is done in concertation with the local assortment team. The prices are therefore differentiated per region. This effect is reinforced as the added costs for the transport and services by the platforms differ per region (e.g. moving through a platform can add 15-30% to the price).

Producers are expected to deliver their products in a proper packaging, as this is one of the standard practices in Retailer2. Also, the producers are supposed to provide their products with barcodes. It is the responsibility of the producers to comply with these rules, and Retailer2 does not provide further support. It is thus also the producer who bares the costs of the barcodes and packaging. It was argued that it therefore only makes sense for producers to offer their products that sell very well, as buying a bar code for a product is a serious investment for producers. Consequently, this may be a barrier to enter into the system, as adapting the packing and buying barcodes requires expertise and investments. As a result, only larger suppliers, with quite profitable sales are able to enter the system.

An increasing amount of requests for new products from store managers has made it hard for the small team to deal with them. Therefore a SPOC (Single Point of Contact) for local products has now been appointed for each region. This person is a store manager that becomes the point of contact between the store managers and the local assortment team, so that all communication can be regrouped per region and put forward to the central and communication with the local assortment team is smoothened.

3.1.4) The healthy fast food case

The Healthy Fast Food (HFF) case provides a contrasting picture compared to the retailer's cases in at least two aspects. Firstly, the object of study itself is not a specific event in the company's trajectory, as was the case with the introduction of local procurement for the retailers, but rather a long, slow and background process of institutional change that we could trace back with our interview material. Since we had the opportunity to interview people who were there from the start of the company and knew the whole story, this gave us a broad view and timeframe on our case study. Secondly, we aimed at understanding a process rather than a strategy, in addition to which we also put more emphasis on the role of values in bringing about these changes towards more sustainable practices. With this aim in mind, we started right from the words of our respondents, using an inductive approach in order to bring out the substantial elements that would contribute to a better understanding of the transformative role of the interactions of the HFF company with organisations from civil society.

Starting off with the HFF company

The HFF company was started on the premises that people who had only little time to eat in big cities could not find a healthy 'grab and go' lunch. The basic idea was thus to reconcile fast food with healthy food. We can thus posit that the HFF company started with internal values anchored into providing well being and good health to its customers.

At this stage, it is interesting to make a parallel with the concept of 'life goals' as it is conceived at the level of the individual. Indeed, life goals share much conceptual overlap with values as they also reflect what people's aims are. However, life goals contribute, in addition, to a better understanding of how people organise their lives in order to reach these goals. In the context of a company, this could thus be translated as 'shared views and goals', a concept that could be useful for the understanding of the transformative process that takes place within the company. Indeed, in the research we do, it is not only changes in 'values' that are of interest to us but, most importantly perhaps, changes in 'shared views and goals' that result in actual changes towards more sustainable practices.

Studies converge to show that there are only a limited number (i.e. around a dozen) of life-goals (Sheldon et al., 2011; Grouzet et al., 2005; Schwartz, 1992). An important dimension that structures these life goals is the physical self vs. self-transcendence axis. In this axis, we find, at one end of the spectrum, goals related to caring for one's physical self (e.g. safety and health, bodily pleasures and hedonism, financial success as a material means to achieve those ends) and, at the opposite end of the spectrum, dimensions that transcend the self (e.g. benefitting society, taking future generations into account, seeking universal meaning and understanding). If we translate these dimensions in the case of the HFF company, we could say that they started with 'shared views and goals' oriented towards caring for the physical self.

It is however clear from the data, that these goals were conceived not only from a short-term perspective (pleasure of eating a good healthy meal) but also from a longer-term perspective (positive effect on the health). This longer-term positive effect on health provided a first dimension to the word 'sustainability' within the company. Indeed, this positive effect would show if clients are loyal and come regularly and, in turn, loyal customers would ensure the sustainability of the company over time. More transcendent shared views and goals, such as these related to environmental concerns only emerged later from a process of institutional change within the HFF company.

It is also worth noting that business considerations rooted in rational thinking also regularly came up from our interview material. This brings us to the second axis that structures life-goals, namely the extrinsic vs. intrinsic axis. According to Grouzet et al. (2005), self-acceptance, affiliation, community feeling, and physical health are common intrinsic goals. They are related to the psychological needs for relatedness, autonomy, and competence, as explained in self-determination theory (Deci and Ryan, 2000; Ryan and Deci, 2000). At the opposite side of the spectrum, financial success, image, and popularity form typical extrinsic goals aiming at obtaining some external reward or social praise.

In the case of the HFF, economic objectives and financial viability are clearly part of the picture. However, the company seeks to achieve these economic objectives through providing healthy meals to customers who only have limited time to eat. In addition, the interviewees repeatedly stressed the importance of coherence and sense making within the company, which relate more to intrinsic shared views and goals.

Process of institutional change

Our material suggests that the process of institutional changes towards more transcendent shared views and goals, such as these related to environmental concerns, is a slow and sort of background process. Interviewees repeatedly use terms like 'by chance' or 'along our way' regarding their interactions with organisations from civil society. This tends to indicate a form of serendipity rather than strategy, at least in the beginning of this process. In addition, the company's staff seems to play a non-negligible role as a driving force towards more sustainable practices (e.g. including more organic products or proposing more vegetarian and vegan meals). Even regarding the interactions of the company with organisations from civil societies, we can see that some of them resulted from an initial contact with a staff member. This importance of the staff in the institutional move towards sustainability came as an unexpected result and is reinforced, as we will see later, by the willingness to provide greater cohesion, sense making and adhering to shared views and goals within the company.

Shedding light on the interactions with organisations of civil society led the interviewees to verbalise the importance of these interactions in the transformation process of the company. Indeed, several changes took place within the HFF further to these interactions (e.g. introduction of organic products, fair trade products, lowering energy use, seeking solutions for packaging issues, favouring local productions, or greater emphasis on seasonal products). We can thus observe a progressive move towards integrating more self-transcending shared goals to the initial well-being goals of the society. Progressively, however, our interview material reveals a sense of the fact that because of their move in this direction, they attracted other actors with similar or, at least compatible views. This idea of 'virtuous circle' is reinforced by interviews material we collected by some of the organisations and suppliers the company was working with. They clearly felt the existence of compatible views, and, one of them expressed the thought that if you were predominantly driven by extrinsic goals like image, money or status, it would not work with the HFF company. This was echoed on the side of the HFF company which explained how these changes made them more selective in the choice of further suppliers for instance.

3.2) Impacts on the food system

3.2.1) Impacts related to the local food procurement initiatives in Wallonia

At first, the coordination between the farmers' union and Retailer1 helped combining the retailer's and the farmers' interest and resulted in some innovations allowing fairer marketing conditions for small producers. Indeed, this whole process resulted in several innovations: a specific contract for producers, a charter, a logistic platform, and a new possibility for small producers in the barcode system.

In Hainaut and Liège, the involvement of the Provinces allowed extending these conditions to all supermarkets. As a matter of fact, various supermarkets – including Retailer2 - had previously asked both Provinces for their support to develop local sourcing, but the marketing conditions they offered were very unfavourable for the producers (e.g. obligation of working with the central purchasing unit, no price negotiation, and request for exclusivity). The innovations built up in interaction with Retailer1 provided the Provinces and the producers with a basis for negotiation to work with other retailers. Also, the success of the project together with the general trend of "consuming local" forced other retailers to also propose local products and therefore to open up for negotiations. Some retailers even offer now more favourable conditions (e.g. regarding payment terms) than those co-constructed with Retailer1. In other words, the collaboration with Retailer1 paved the way and at the same time generated pressure on its competitors, which makes the Provinces and the producers now in a position to impose their conditions to retailers.

This interaction between Retailer1, producers and the 2 Provinces of Liège and Hainaut led to a significant development, given that it impacted significantly the practices of the various actors involved, as well as the practices of other retailers and created the conditions for many local producers who were previously excluded from the dominant system to integrate it and benefit from fairer marketing conditions. Also the availability of local products in supermarkets and their strong visibility thanks to promotion tools make consumers who usually shop only in supermarkets aware that there are farmers in their neighbourhood, and thereby « conventional » consumers gradually raise their awareness on agri-food issues (local, seasonal, small-scale farming) and some even change their consuming practices. Indeed, some farmers who have an on-farm shop noted an increase of visits and sales by new clients who said they had learnt about their farm or plant thanks to Retailer1 promotion tools.

However, even though new practices and new sourcing and consumption patterns have emerged, the underlying values and visions are unchanged. For food retailers, the market share of local products is negligible (e.g. for Retailer1 the target is to reach 2%). It represents a niche activity for them, not a new sourcing model to base their activity on (cf. Sections 3.2.2 and 3.2.3).

For the province of Liège and Hainaut, the project is in line with the projects they have supported or developed since the 2000's, where the development of short circuits is also a marginal program, focused on maintaining medium and small-scale farms and not related to the reconnection of producers and farmers or on the relocation of food systems. Indeed, both Provinces have been working on the issue of the valorization of local products since the 1990's - as all local authorities in the EU in the 1990's, as a consequence of the 'quality turn' and the 'endogenous turn' of UE rural development policies. In Liège, first actions were focused on the promotion of agricultural products locally produced and processed on farm. This question became more accurate with the milk crisis in 2008/2009. These actions, called "opérations Agricharme", consisted of tours in rural areas, farm visits for people to know better how food products are produced and what a peasant's life is like. The idea was to give local agriculture a good image and to enhance local consumption of local products that had lost their international outlets. Nowadays, the "opérations Agricharme" still exist but are restricted to farms visits for school children. The activity was restricted because it implied provincial officers to work weekends and was therefore expensive for the Province – reflecting its marginal position in the Province's strategy for agriculture. Later, actions related to the meat sector, which was suffering from various sanitary scandals, were implemented. Actions involved export promotion, in agricultural shows such as the SIAL in Paris and Anoga in Cologne, and various Belgian fairs. This also demonstrates that the development of local food

chains was not considered as a strategic orientation. More recently, the agricultural service created a website Agricharme.be, presenting the farmers, with their name, address, products. As international outlets remain insufficient, local outlets are targeted once again. It is in this context that the local food procurement program of Promogest emerges, which its director presents as a way to propose new outlets to local producers, without ever mentioning other features usually associated to local food chains, such as reconnecting producers to consumers, enhancing local economy, environmental benefits, and support to small-scale farming.

The producers involved are actually mostly medium-scale producers. Indeed, during the initial concertation process, only middle-scale farmers who were able to supply supermarkets agreed to participate. Consequently, the definition of a local producers (located within 40 km from the store, hiring less than 11 employees exclusive of seasonal workers), de facto includes almost all producers in Belgium.

Eventually, there has been very little evolution in terms of values for each actor. The interactions between these actors led to a new framing, in the sense that e.g. for Retailer1 store managers, the point is not only to contribute to creating a positive image of the brand, but also to support local producers. For the provinces, there is no significant evolution, in the sense that they are still on a very sectorial approach, focusing only on the support to local producers and not yet connecting the development of short circuits with broader rural development issues. Regarding consumers, as shown by the posters displayed by Retailer1 in its supermarkets saying « support local farmers with us! », there seems to be a certain endogenizing of criticisms and the change in consumption patterns that has been observed will most likely to remain marginal. Although there are different governance arrangements between the two initiatives, the associated subsystems of actors – apart from the logistic platform in Liège that acts as an intermediary actor, practices and values are very similar. We assume that the fact that only mainstream actors are involved explains this similarity.

In the case of Brabant Wallon, the new interactions between the Province, small producers and the LAG induced the development of new ethical values within the local dominant food system. Indeed, the Province has now adapted its training program, which was exclusively oriented towards mainstream agricultural issues, and is now proposing many workshops related to short food chains with the logic of reconnecting consumers and producers.

What is more, it participates through Made in BW in the structuration of alternative food chains, which uphold values it previously did not relate to the agricultural sector, including social justice for instance. For example, Made in BW works with a citizens' cooperative supermarket which is trying to build a socially just and inclusive local food system and which couldn't develop without the logistic support of Made in BW. Although Made in BW's impact is still extremely limited in terms of volume and revenue, the new interactions it has fostered could be a first step in a transition process, as they enable higher diversity within the dominant system.

3.2.2) Impacts related to Retailer1's local procurement strategy

The strategy to source and market local food by Retailer1 is seen as on top, and never intended to compete with its 'general system/practices'. Rather a complementary strategy, aimed at attracting extra consumers, and for a good image.

Retailer1's local strategy started in a context in which the retailer was moving towards increased electronisation, more efficient administration, minimal human intervention and harmonisation to make the system faster and more reliable. Retailer1 recognised the differences that characterise local food systems. Instead of trying to fit this system in their own system of efficiency, specialisation, and electronisation, a separate system was created, that was adapted to the needs of local producers. Hence, the local strategy was something that was completely separate from the general tendencies within the company, as it was characterised by an increase of human intervention, less electronisation, and less efficient administration. Generally, the local system was completely separate from the traditional practices of Retailer1, did not get into contact with it, or changed the traditional system or activities in the stores of Retailer1.

Although it was seen as complementary, the local strategy already had gained an important place within the company. This is illustrated by the fact that targets were attached to the strategy already, and that financial gains of the strategy had grown significantly throughout the years. However, it was also found that in some moments the strategy did not fit with the routines and practices of the retailer. Indeed, in many cases the store employees also had to adapt their practices and routines to this new way of working, and at the start were sometimes opposed against it. However, in time, habits have started to grow and most employees became accepting towards it. For example, the local strategy was something that was not an integral part of the contracts of the employees from the store. As such, the sourcing and marketing of the local products was something that happened on top of the 'normal practices'. As such, if someone falls ill, this may have an impact on how well the department for local products is managed. Also, when it is really busy, managers may forget to order local products. While with the 'traditional products' this is much more embedded in strict routines and practices. In other words, for now there are some routines that are lacking. It is not something that is in the standard planning or contract of the manager, so it is something that needs to happen on top of the normal job of a manager. In this sense, the strategy is very dependent on mistakes, or successes of individual managers. This is less the case with the 'normal' products, as they are automated, and not dependent on individual motivation.

This already illustrates that, although the strategy is starting to find its place within the company, it is not strongly embedded yet within the structures of Retailer1. Another example illustrating this is the fact that generally, the local department is managed by different departments in the stores, according to the type of product. To smoothen this, some of the stores now have a local manager dedicated to the local products area. However, there are no targets yet attached to the local products as a category. As such, the local manager becomes responsible for the targets of other employees, which can create frictions within the store between the employees.

However, the local strategy already grew to such an extent that in some cases it did get into contact with and had an impact on the traditional practices. In some stores, the importance of local products grew so much that large spaces were dedicated to local products, which came at the expense of other products. Moreover, in some cases, sales of some products grew so big that they competed with the traditional products of Retailer1.

How producers need to adapt to Retailer's practices

Although the traditional and local circuit were generally separated from each other, both parties adapted and learned from each other. Indeed, for some producers, working with Retailer1 consisted of a steep learning curve in practices like invoicing and working with retail in general. For some of the producers working with the retailer, adapting these practices were hard, as some did not comply with the needed regulations, have the needed labels, packaging or barcodes. As this could be a hurdle both in terms of knowledge and financial input, Retailer1 tried to support the producers by giving them trainings, and offering barcodes at a lower price.

How Retailer1 adapts to producers

Many of the interviewees of Retailer1 also indicated that they had learned and changed a lot since the collaboration with local producers. Indeed, many of the retailer's practices were adapted in order to facilitate the interactions with the local producers. In other words, the learning and adaptation between the retailer and the local producers happened in both directions. And by giving trainings and support to smaller producers, Retailer1 made it more accessible for small producers to deliver their produce in the mainstream system.

3.2.3) Impacts related to Retailer2's local procurement strategy

As in the case of Retailer1, Retailer2's local food strategy is rather complementary to the traditional procurement system/practices. However, the impacts on the food system of Retailer2 differ from those observed for the case of Retailer1 (as presented above).

In the case of Retailer1, the local strategy was designed separately from the general system, and a conscious effort was made not to make the general system and the local system clash. Therefore, the sales of local products were seen as something on top and in no case were conflicting with the general products. Moreover, the two systems were seen as compatible and reinforcing each other, rather than competing. Indeed, the local products have an added value for the consumers, as they can make complementary purchases in the supermarket, instead of having to go to different local producers, they can find them all together at their supermarket, together with other products they might possibly need.

However, the local strategy was seen as an on-top system, separated from the general practices of Retailer2. Generally, Retailer2 tried to 'push' the local strategy into its centralised frame, but more flexibility was granted for some of the sourcing and marketing practices. Indeed, most administration and contracting practices still take place through the central model of Retailer2, except for the placing of the orders and deliveries. Moreover, the local products were seen as something additional. It were thus the producers that had to adapt their practices and learn to comply with the rules and practices of Retailer2. However, there was some extent of increased flexibility from the side of Retailer2, in terms of placing orders (not always automated, but also by phone, e-mail or fax), and times of delivery. Also, some practices were more flexible and differentiated (like placing, promoting, buying and selling, transportation), and hence the way in which the strategy was given shape was highly dependent on the individual motivation of the store managers and employees, as well of the local producers. The strategy was thus more differentiated per region, and even per store than the general practices of the retailer.

3.2.4) Learning impacts on the food system related to retailers' local procurement strategies

Learning can be analysed at the different levels – individual, group, organisational and at a more system level. In or cases we are particularly interested at learning at the level of the food system. However, it is important to bear in mind that system level learning (learning by the system) influence and is influenced by the other levels of learning. Based on the findings, at this stage of the analysis we cannot claim that nor each of the retailers as an organisation as a whole has learnt, and neither that the food system as a whole has learnt. Considering the learning by the food retailers (organisational level learning), the local sourcing concept in Retailer1 appears to represent a more radical innovation than in Retailer2. However, even in Retailer1, the local concept is still a rather "parallel system" to its traditional network of suppliers. Evidences from the interviews suggest that new knowledge related to Retailer1's local procurement strategy has not yet diffused and embedded across the organisation as a whole – neither to other operating areas of the company, nor to its operations in other countries. Therefore, the findings suggest that the local product strategies in both retailers are not (yet) transformational. The two cases of local sourcing are rather very localised and in progress learning experiments. This also suggests that the learning impacts on the food system as a whole are rather limited, i.e. we cannot identify any changes of practices and views at the system level as a whole. However, it is worth nothing that the analysis of learning at any level needs to take into account the time window of the study. In a short time frame, as in the local procurement cases, it is difficult to capture learning, particularly at the system level, as learning outcomes take time to spread to and embedded within a whole system. In fact, given that transitions require powerful learning developments throughout long time periods, our findings need be carefully considered when analysing learning. This does not mean the cases have no transformational potential. This is an aspect we aim to consider in the analytical articles described in Section 4.3.

3.2.5) Impacts related to the healthy fast food case

The institutional changes reported in Section 3.1.4 have an impact on the practices of the HFF company in several ways. Indeed, these changes impact the procurement process (e.g. with more organic, fair-trade, local and seasonal products). Moreover, they also impact other practices such as the processing of food and packaging issues, the sorting of wastes, as well as the reduction of use of resource and waste. From a value perspective, these changes also lead to a model that integrates not only intrinsic – physical-self concerns, but also, to a certain degree, more self-transcendent shared values and goals. However, the communication on these more profound changes in the company was mostly kept for the staff. Indeed, as expressed by some

interviewees, these changes are complicated to explain and understand. Therefore, it is difficult to convey them to the public. Conversely, explaining the sustainability issues that underpin these changes to the staff is seen as a very valuable way of motivating them and developing shared understanding around the values and goals within the company.

This results in the fact that these changes have an impact on the HFF company itself. Moreover, these changes could also impact the actors that interact with it. Indeed, the congruence of values between these different actors seems a driving force for changes. In turn, the interview show that the HFF company can also exert a certain amount of influence on its suppliers in order for them to meet the higher requirements of the company in terms of sustainability. In addition to this the HFF company is well aware to be constantly watched by their competitors, including major retailers. The replication by other actors of some of the changes in their products, for instance, could thus lead to more important changes in the food system.

However, these changes, although clearly affecting the trajectory of the company, were not fully communicated to the public. Indeed, despite the changes that took place inside the company, external communication kept predominantly priming values and life goals related to well-being and physical self in their customers, while the more in-depth changes were mostly used for building internal coherence. Although researches in the field stress the importance of priming values related to the community or future generations, for instance, when communicating around sustainability (e.g. Sheldon et al., 2011); this does not seem to imply that actors such as the HFF company consider yet that priming these values in customers is legitimate. This clearly limits the transformational power of these institutional changes on the wider public.

4. Discussion

The discussion of the case studies will consist of four analytical articles, co-authored by different members of the F4S team. The title, leading author and abstract of each article is presented below. The full articles will be submitted with the F4S final report, and submitted for publications to international journals.

4.1) Governance of sustainable agri-food systems: key values and features derived from Belgian initiatives aiming at introducing local products on supermarket shelves[11]

Food retail corporations are powerful actors of the dominant food system, accounting for more than 95% of food market share in Belgium. Driven by motives of profit maximisation, they exert strong lock-in effects that hinder the transition towards a more sustainable food system. Through the criteria they impose on the upstream part of the food chain (e.g. homogeneity standards, volume and uninterrupted supply requirements) and through their marketing practices (e.g. back margins), they exclude a significant part of sustainable food products from their shelves which makes them lowly available for consumers.

Recently, several initiatives aiming at enabling the introduction of local, low-input, small farmers' products on supermarket shelves have emerged in Belgium. These initiatives mainly take the form of logistic platforms, that have been launched by local authorities and/or civil society organisations (CSOs). As supermarkets seek to improve their image, they are becoming a flourishing activity. This raises the following question: is the development of local sourcing in supermarkets an opportunity for a transition towards more sustainable food systems (i.e., for sustainable farming and food practices and for fair marketing practices to be broadly adopted), and if so, under which conditions?

In our research, we combine the multi-level perspective with a pragmatist approach to analyse three initiatives, which rely on different governance arrangements and produce different subsystems. In order to assess the

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[11] The leading author of this analytical article is Sibylle Bui (UCL). This paper was presented at the XXVIIth European Society for Rural Sociology – ESRS congress held Krakow, Poland, in July 2017. It was published as a short paper in the congress proceedings which is annexed to the administrative report as Annex 4, and has been accepted as full paper for a special issue on *"The role of ethics in food system governance and sustainability transition"*, to be published in 2018 in Sociologia Ruralis.

impact of these initiatives on the broader food system, we take into account all the actors involved (producers, processors, retail corporations, alternative retailers, public authorities, CSOs, consumers), and for each one of them, we jointly analyse: the key ethical issues and professed values, and their evolution over time; the implementation (or absence) of related practices; and the coordination and governance features they participate in and their evolution over time.

Our results show that hybrid governance arrangements which bring together producers, large retailers, CSOs and/or local authorities produce hybrid ethical framings. Depending on the ethical framing, actors are stimulated to adopt or develop more or less sustainable farming, processing, marketing and food practices. At first, the coordination between the farmers' union and Retailer1 helped combining the retailer's and the farmers' interest and resulted in fairer prices and marketing conditions for small producers. Then, in the cases of Hainaut and Liège, the involvement of the Provinces allowed to extend them to all supermarkets. In the case of Brabant Wallon, the governance of the initiative is shared among the Province, small farmers and the LAG. This governance feature allows the LAG to uphold its values of regional enhancement and raising consumers' awareness, to enrol the Province's training services and thereby favour the development of ethical values within the local dominant food system. Moreover, alternative food chains, relying on radically different ethical framings (including social justice for instance) benefit from the local platform. Although the impact of this new governance arrangement is still extremely limited in terms of volume, it could be a first step in a transition process, as it enables higher diversity within the dominant system.

4.2) Strategies of supermarkets to source and market local food[12]

In recent decades most Western European countries have witnessed a move towards the rationalisation, centralisation and specialisation of food supply chains. This has gone accompanied by a substantial restructuring of the retail sector, which is characterised by among others a growth in store size and a high level of concentration in the food retailing industry. Consequently, most food in Western European countries is now bought in supermarkets (Chkanikova, 2016; Ljungberg et al., 2013). For example, in the Nordic countries and Western Europe, three to five major supermarkets represent the main food marketing channels (Chkanikova, 2016). In Belgium, three retailers represent more than 70% of the market share (Aevermaete et al., 2015) and almost 80% of all food is bought in supermarkets (Platteau et al., 2016). Retailers thus reach the largest segment of consumers in Western European countries. Moreover, large food retailers take a central place between the production and consumption of goods. And therefore can strongly influence farming, food processing, retailing and food consumption (Oosterveer, 2012; Clark and Inwood, 2015; Ljungberg et al., 2013; Chkanikova, 2016).

At the same time the need for 'sustainable', 'healthy', 'just' and 'climate smart' foods has become clear and consumer demand for such foods has grown rapidly (Brunori, et al., 2016; Lehner, 2015; Tjärnemo and Södahl, 2015). It has been argued that large retailers are able to take on the role of change agents by using their central position to steer both upstream and downstream practices towards sustainability (Chkanikova, 2016; Aertsens, 2011; Lehner, 2015; Kotzab et al., 2011) by buying more sustainable foodstuffs and promoting them in their stores and external communication (Tjärnemo and Södahl, 2015). Moreover, due to their size, retailers have the possibility and leverage to upscale markets of sustainable foods (Chkanikova, 2016; Dunne et al., 2011). As a reaction to this, retailers have increasingly started to offer 'sustainable foods' as a part of their Corporate Social Responsibility (CSR) strategies and retailers are now the largest outlet for 'sustainable foods' (Dunne et al., 2010; Oosterveer et al., 2014; Brunori et al., 2016).

In this article, we aim to empirically examine the way in which a part of the CSR strategy is implemented by two of the largest retailers in Belgium. In this, we will focus on the way in which local foods are sourced and marketed by these retailers as a part of their sustainability strategy. This choice has been made since the 'local' is often associated with sustainable, just and healthy production (Brunori, et al., 2016; Feldmann and Hamm, 2015; Trivette, 2015). Also, Richards et al. (2017) argue that an increased demand from consumers for foods

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[12] The leading author of this analytical article is Tjitske Anna Zwart (KUL).

that have been produced, sourced or grown locally is one of the most important developments in the food industry for the past twenty years (Richards et al., 2017). Both cases in this article have incorporated the marketing of local foods as a part of their CSR strategy.

We are especially interested in retailers' practices of sourcing and marketing local goods given that practices in local food systems are often different from practices of large food retailers. Indeed, local food systems and large retailers can be seen as two different 'worlds' operating with different organisational forms and strongly different rationales (Mount, et al., 2013). Following this, we are interested in the way in which the practices of the sourcing and marketing of local foods by retailers are shaped by and in their turn shape the standard practices of retailers.

We aim to address this question by taking a social practices perspective. Specifically, we focus on the practices of provisioning products and in-store marketing. We take interest in the sourcing of local foods because this is what determines what is available and where it is made available. We take interest in the in-store marketing since this is where the decisions of consumers can still significantly be influenced (Oosterveer et al., 2014; Tjärnemo and Södahl, 2015).

4.3) Learning for sustainability transitions: a discussion on the role of mainstream business actors towards more sustainable food systems[13]

Sustainability transitions involve the disruption of pre-existing commitments, roles and rules, and the development of new practices, values and identities, implying the transformation of the governance of the whole socio-technical system (Marques et al., 2012). It is widely emphasised by sustainability transitions scholars that such powerful changes are the outcome of multiple interactions, developments and learning processes within and between the three levels of a socio-technical system – niches, regime and landscape (Geels, 2004; Geels and Schot, 2007; Smith et al., 2010; Marques et al., 2012).

Regime encompasses the mainstream actors of a socio-technical system, and is characterised by relatively stable configurations and alignments of different cognitive and normative elements, activities and processes, including knowledge, techniques, artefacts, routines, practices, rules, worldviews, values, problem definition and interpretation (Geels, 2004; Schot and Geels, 2007). The stability of a regime's basic architecture locks it within path-dependent trajectories, implying that regime changes are rather incremental (Geels, 2004; Schot and Geels, 2007; Marques et al., 2012; Smith et al., 2010). However, sustainability transitions are characterised by deep and broad structural changes in technical and social components of the basic architecture guiding interpretations and actions of different regime actors (Geels, 2004; Schot and Geels, 2007; Smith et al., 2005; 2010). Thus, transition requires the transformation or shift of a dominant regime into a different regime (Geels, 2004; Schot and Geels, 2007; Smith et al., 2005; 2010).

Giving regime's stability, the driving force for such regime shift is argued to come from niches, which are conceived as protected learning spaces, where radical innovations with potential for triggering transitions can flourish (Geels and Schot, 2007; Marques et al., 2012). This may explain why the great bulk of scholarly work on the topic focuses largely on learning dynamics at the niche level, with little attention being given to the dynamics of learning at the regime level (Elzen and Barbier, 2012). However, in order to break a regime's stability, transitions require powerful systemic learning processes, implying that actors from the different socio-technical levels, particularly from niche and regime, engage to, and learn from each other (Elzen and Barbier, 2012; Loorbach et al., 2009; Marques et al., 2012). In other words, the multiple interactive learning processes required for socio-technical transitions clearly need to go beyond protected spaces, as those represented by niches. As claimed by Elzen and Barbier (2012:18), "the dynamics of system innovations also implies that niche developments should tie into regime developments in order to have a wider impact."

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[13] The leading author of this analytical article is Ionara Costa (UCL). This empirical paper departs from a conceptual one, which is presented in Annex 1 of the administrative report. Based on feedbacks received in two conferences and a workshop, and on internal discussions between the authors, this paper extends the conceptual discussion presented in the first paper, and applies it to the two cases.

Despite being at the heart of transition theory, such interactive learning is only vaguely defined and operationalised in most of the conceptual and empirical studies on sustainability transitions (Armitage et al., 2008). This paper aims to contribute to bridge this gap by discussing the rather neglected role played by mainstream business actors in collaborative learning for sustainability transitions, particularly in the context of niche-regime interaction. It does so by looking at two cases of local procurement by large food retailers in Belgium through their interactions with local producers and local initiatives supporting them.

Food retail corporations are powerful actors of the dominant food system. They exert strong lock-in effects that hinder transition towards more sustainable food systems. This occurs through the criteria they impose to the upstream part of the food chain, and through their products offering, which make sustainable food products lowly available for consumers. Over the last few years, large food retailers have been adopting novel business strategies, and increasingly engaging in collaborative initiatives with government and civil society actors to address sustainability issues (Loorbach et al., 2009). The cases discussed in this paper constitute an instance of such developments.

The aim is to identify aspects in the studied cases that can give some hints on the learning processes by the food retailers - mainstream business organisations, as they interact with local producers and local initiatives – non-mainstream actors that can be somehow considered as niche actors. The question driven this analysis is whether the introduction of local products on food retailers' sourcing represents an opportunity for transformation of the dominant agri-food system by triggering profound changes in strategies, practices and values of incumbent regime actors (e.g. food retail corporations); or instead, whether the learning processes and changes engendered by such niche-regime interactions represent marginal adjustments in the socio-technical system. More specifically, can those interactions engender learning processes both at regime as well niche levels that are powerful enough to contribute to a transition of the agri-food system, by changing not only practices and strategies of the actors involved, but also the values and world views underlying their actions?

In order to define the analytical framework for the cases, the paper borrows insights from the scholarly work on organizational learning, inter-organisational learning and network learning. This analytical framework has two dimensions. The first dimension provides elements to look at the learning and changes in food retailers' practices and shared views engendered by their local sourcing strategies. Hence, it focuses on learning by mainstream business actors, and how this can be related to transitions. More specifically, this dimension of the analytical framework looks at the social learning theory of action, as proposed by organisational behavioural studies, and discusses learning orders, and how they relate to different complexity levels of organisational change. The core idea in based on the concepts of learning loops – single, double and triple loop learning. While single loop learning can lead to ordinary incremental adjustments in action and behaviour, multiple loop learning can lead to changes of deeper elements of organisational culture and knowledge base, implying more radical or fundamental changes, or transformations.

The paper argues that sustainability transitions require regime organisations to engage in multiple loops learning (double and triple loop learning), which can lead to radical changes in their strategies, practices, perceptions and values; in other words, learning that can break the lock-in and change regime's basic architecture. In the cases of local sourcing by food retailers the aim is to search for evidences of the impacts of such strategies in terms of their practices and values, and trying to identify if changes are localised or if they have the potential to spread to the retailers' organisations as a whole.

The second dimension of the analytical framework addresses the transformative power of food retailers' local sourcing strategies, particularly in the context of their interactions with non-mainstream actors such as local producers and local initiatives. The aim here is to get insights for the discussion of learning in the context of niche-regime interactions. It turns to the related concepts of inter-organisational learning and network learning, both departing from the concept of organisational learning, and focuses more specifically on the inter-organisational network learning as proposed by Knight (2002). Inter-organisational learning focuses on the appropriation of learning by an individual organisation in the context of collaboration or interaction between groups or pairs of organisations (Janowicz-Panjaitan and Noorderhaven, 2008; Knight, 2002). Contrasting to this

atomised view of learning, inter-organisational network learning focuses on the collective learning by a group of organisations as a group, implying that learning has to be embedded across the group of organisations as a whole (Knight, 2002). As described by Knight (2002:437), inter-organisational network learning "is more than the sum of the learning of individuals, groups and organizations that constitute the network; network learning processes would result in changes to the attributes of the network such as interactions processes and structures, and shared narratives".

Following these lines, the paper argues that transitions requires learning at the level of the socio-technical system as a whole, and that such system learning is more than the sum of the learning of the individual actors from the different (analytical) levels of a socio-technical system (i.e. niche, regime and landscape); instead socio-technical system learning implies changes in the core attributes of the system, resulting its transformation into a new system. In the cases of local sourcing by food retailers the aim is to search for evidences of the impacts of the interaction between food retailers and the non-mainstream actors in terms of their practices, views and believes across the food system as a whole.

The paper is organised as follow. Section 2 presents the analytical framework, discussing the different concepts (i.e. organisational learning, inter-organisational and network learning). It put forward the main arguments guiding the analysis about multiple loop learning and system learning and how they related to learning for sustainability transitions. Section 3 presents the methodological aspects of the study. Based on the previous section, it identifies the variables to operationalise the learning constructs and conduct the analysis of the cases. Section 4 presents the two cases of local procurement by food retailers and their interactions with non-mainstream actors, and the main findings. Section 5 discusses those findings, and presents the concluding remarks.

4.4) Greener on the inside? The role of values in institutional change towards more sustainable practices in the case of a healthy fast-casual food chain[14]

Recent years have seen the emergence of new types of fast food chains, the so-called 'healthy fast-casual' chains proposing healthier dietary patterns for eating on the go. In the healthy fast-casual case we study for this paper, the interactions of the company with organisations from civil society result in institutional change that could lead to more sustainable practices within the company, and, in turn, could reinforce the emergence of socio-cultural values that give more importance to sustainability.

This paper aims at understanding this process of institutional change in the case of a healthy fast-casual food chain. More specifically, we focus on the role of values in bringing about changes towards more sustainability practices within the company. Indeed, according to Dolfsma and Verburg (2008) socio-cultural values play an important role in the legitimacy of institutions. However, translating abstract socio-cultural values in actual changes of practices within the company is a complicated process that requires further research to be better understood. Moreover the role of values in institutional change has not received the attention it deserves yet. Indeed, self-interest and rationality predominates in mainstream economics' perspective while technological changes are key explanatory factors in more structural approaches.

Besides the fact that 'tensions' related to values can act as a trigger for change, as argued by Dolfsma and Verburg (2008), our first results show that congruence of values with other actors could also be an important trigger for a company in the process of translating abstract socio-cultural values into changes of practices. In this sense, interactions with organisations from civil society could act as a catalyst for institutional changes towards more sustainable practices in the company. However, in our case, these changes, although clearly

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[14] The leading author of this analytical article is Helene Joachain (ULB). This paper still deserves further work in the time remaining for the project, especially as the initial ambition was to also use material from retailers' interviews in order to integrate a contrasting case in the paper. This would enable the paper to dwell more on the agency / structure issue than it does now. However, the integration of material from retailers' cases has not proven an easy task, especially regarding the coherence and theoretical framework of the paper. Despite exchanges and discussions with partners to the project about that topic, it has so far remained an obstacle and we intend to pursue this common work in 2018.

affecting the trajectory of the company, were not fully communicated to the public. Indeed, despite the changes that took place inside the company, external communication kept predominantly priming values and life goals related to well-being in their customers, while the more in-depth changes were mostly used for building internal coherence. In that sense, it seems that, although there could be a form of synergy between actors with congruent values in a move towards more sustainable practices and values, this does not imply that these actors consider yet that priming these values in customers is legitimate, which limits the transformational power of these changes.

As this paper focuses on understanding institutional changes within the company, we opted for a grounded theory approach which provides a good methodological fit for exploring how processes unfold (Edmondson and McManus, 2007). We carried out qualitative interviews of managers in the healthy fast-casual food chain, as well as interviews of actors involved in interactions with the company. Following attested techniques of qualitative analysis (Auerbach and Silverstein, 2003; Gioia et al., 2012), our data analysis is based on a 3-step coding of the interviews transcripts using qualitative software NVivo 11 as a support tool for coding.

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ANNEX 3

D4.1A MAPPING AND ANALYSIS OF MAJOR MARKET-RELATED COLLECTIVE GOVERNANCE ARRANGEMENTS RELYING ON EITHER PARTICIPATORY CERTIFICATION SYSTEMS OR INDUSTRY WIDE CODES OF CONDUCT

Paula Fernandez-Wulff – UCL

1. SUMMARY

The aim of the present document is to map major market-related collective governance arrangements that rely on either participatory certification systems or industry wide codes of conduct. It does so in two sections. In the first section, key concepts used throughout this document are defined in order to clarify their meaning, given that Food4Sustainability is an interdisciplinary project. Secondly, an analysis of major governance arrangements is offered, following a typology based on what actors are behind each governance arrangement: civil society, the food industry, or public institutions. Under each sub-section, specific arrangements are subsequently presented. Civil society market-related arrangements include Participatory Guarantee Systems (PGSs) and the Marine Stewardship Council (MSC). Food industry arrangements include the topic of self-regulation and supermarket schemes to promote local products. Arrangements developed by public institutions focus on the role of AFSCA in encouraging environmental commitments in the food industry in Belgium, the Flemish regional label Streekproduct, and two local government initiatives to promote sustainable agriculture in peri-urban areas.

2. DEFINITIONS

The goal of this section is to provide common definitions to core concepts used in this document, namely "market-related collective arrangements", "participatory certification systems", and "industry-wide codes of conduct".

A) MARKET-RELATED COLLECTIVE ARRANGEMENTS

With the exception of Elinor Ostrom, very few authors have attempted to theorize the concept of 'collective arrangement'. Oftentimes the adjective 'collective' is used interchangeably with 'institutional', and vice versa; the word 'arrangement' is also often used to mean 'agreement'. The expression 'collective arrangement', as such, is used in different contexts and bodies of literature, including peace and security studies,[15] economics,[16] and environmental governance.[17] Among the

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[15] See for instance, Arie M Kacowicz et al., STABLE PEACE AMONG NATIONS. Rowman & Littlefield Publishers (2000), at p 115.

[16] See for example, MULTIDISCIPLINARY ECONOMICS (Peter de Gijsel & Hans Schenk eds.). Springer (2005), at pp 62-63.

[17] Examples have been found that are related to land and property rights (e.g. Jeremy Burchardt, PARADISE LOST: RURAL IDYLL AND SOCIAL CHANGE SINCE 1800, I.B. Tauris & Co Ltd (2002)); forest management (e.g. Clare Barnes et al., Uniting forest and livelihood outcomes? Analyzing external actor interventions in sustainable livelihoods in a community forest management context, INTERNATIONAL JOURNAL OF THE COMMONS,

latter, it is worth noting that the term collective arrangement usually involves social and environmental purposes, rather than purely economic ones.

According to Ostrom, institutions are "the prescription (rules of the game) that individuals use to organize all forms of repetitive and structured interactions including those within families, neighborhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales".[18] As a result of this broad definition, the line between institutions and collective arrangements can become very fine. This may indeed explain why the terms 'institutional' and 'collective' are oftentimes used interchangeably. Other authors such as Davis and colleagues, in turn, define institutional arrangement as "an arrangement between economic units that governs the way in which these units can cooperate or compete",[19] thus reducing the actors involved in the concept to economic ones.

In this study, governance arrangements are analyzed in two contexts: (1) institutional arrangements, particularly focusing on collective processes in the institutional development of market standards and labeling; and (2) collective arrangements, specifically collaborative processes among actors operating in transition pathways.

A *collective* is a group of entities (individuals or organizations) that share a common issue or interest, thus being motivated to working together towards achieving a common objective. Because arrangements are generally understood as forms of organizing or setting up an agreement between different parties, an *arrangement* will therefore be inherently positive and generally collective. A *collective arrangement* can be therefore understood as a form of self-organization (not necessarily contractual) by a group of entities with a shared issue or motivation to achieve a common goal. Finally, a *market-related collective arrangement*, for the purposes of this study, will be a form of self-organization (not necessarily contractual) by a group of entities with a shared issue or motivation to achieve a common goal that includes including social, economic, and/or environmental concerns.

B) PARTICIPATORY CERTIFICATION SYSTEMS

The start of the history of the international standardization of commercial products can be traced back to 1947, year of both the creation of the International Standardization Organization (ISO) and the signature of the General Agreement on Tariffs and Trade (GATT) agreement. The ISO was instrumental in the establishment of international standards for the global circulation of commodities, while the GATT was aimed at lowering trade barriers so that global circulation could become a reality.

Since then, certification schemes have never ceased to evolve, from field of applicability, to actors involved. While during the 50's and 60's the motivation of these international organizations was primarily to standardize food safety regulations across countries, environmentalist movements starting in the 70's shifted the focus to more nuanced priorities, including questions such as who defines the standards and based on which criteria. Particularly, the creation in 1972 of the International Federation of Organic Agriculture Movements (IFOAM) and the launch of the first Fairtrade label in the late 80's

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Vol. 11, No. 532 (2017)); and fisheries' and marine ecosystems' management (e.g. Peter Mackelworth, MARINE TRANSBOUNDARY CONSERVATION AND PROTECTED AREAS. Routledge (2016), at p 280, or Simon Marsden, TRANSBOUNDARY ENVIRONMENTAL GOVERNANCE: INLAND, COASTAL AND MARINE PERSPECTIVES. Routledge (2012), describing arrangements among institutions as collective)

[18] Elinor Ostrom, UNDERSTANDING INSTITUTIONAL DIVERSITY. Princeton University Press (2005), at p 3.

[19] Lance E Davis, Douglas C North & Calla Smorodin, INSTITUTIONAL CHANGE AND AMERICAN ECONOMIC GROWTH. Cambridge University Press (1971).

were instrumental in the creation of a multiplicity of certification and labeling systems from different sources. Since then, public institutions (nation states through the third-party certification model and lower administrative levels such as regions or municipalities) and civil society (with the rise of participatory guarantee systems) have launched different forms of labeling that include environmental and social concerns.[20] In general, as Radomsky and Leal point out, participatory certification systems – at least those focusing on ecolabeling – include collective accountability mechanisms as well as participatory inspections by those directly involved, thus blurring the lines between inspectors and inspected.[21]

C) INDUSTRY-WIDE CODES OF CONDUCT

An industry-wide code of conduct can be defined as: "principles, values, standards, or rules of behavior that guide the decisions, procedures and systems of an organization in a way that (a) contributes to the welfare of its key stakeholders, and (b) respects the rights of all constituents affected by its operations".[22]

The start of codes of conduct regarding food safety can be traced back to post-World War II. Particularly in the 1960's, economic recovery began to be felt by the general population, leading among others to higher consumption levels of meat and poultry. Following concerns on food hygiene and food safety, especially due to the exponential increase in international food trade, the idea of having international guidelines for harmonization of food safety standards began to consolidate. Two main processes can be highlighted here: the "Hazard Analysis and Critical Control Points", or HACCP, and the UN FAO/WHO Codex Alimentarius. While the first one is directed at companies' and food businesses' processes, the aim of the Codex Alimentarius is to make recommendations to FAO and WHO member states.

The official launch of HACCP is said to be the 1960's when the US National Aeronautics and Space Administration (NASA) asked one of the largest grain producers in the country to design and manufacture the first foods for space flights .[23] HACCP allows for the auditing of food production practices and is based on seven risk-assessment principles.[24] Although the HACCP was developed by NASA, and was integrated into the Food and Drug Administration (FDA) in the 70's, it is said that the use of HACCP, at least in the United States, was driven by the food industry itself – for instance,

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[20] For a more detailed account of this evolution see for instance Guilherme F. W. Radomsky & Ondina F. Leal, Ecolabeling as a Sustainability Strategy for Smallholder Farming? The Emergence of Participatory Certification Systems in Brazil, JOURNAL OF SUSTAINABLE DEVELOPMENT, Vol. 8, No. 6, pp 196-207 (2015).

[21] *Ibid*. at p 197.

[22] This definition was developed by the International Federation of Accountants, in "Defining and Developing an Effective Code of Conduct for Organizations", https://www.iasplus.com/en/binary/ifac/0611conduct.pdf, in Point 2.4 at p 5.

[23] For more information see Karen L Hulebak & Wayne Schlosser, Hazard Analysis and Critical Control Point (HACCP) History and Conceptual Overview, RISK ANALYSIS Vol. 22, No. 3, pp 547–552 (2002).

[24] These principles are: conduct a hazard analysis; identify critical control points; establish critical limits for each critical control point; establish critical control point monitoring requirements; establish corrective actions; establish procedures for ensuring the HACCP system is working as intended; and establish record-keeping procedures. See for more information: https://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm [Note: Unless otherwise specified, all websites were last accessed in November 2017.]

McDonald's required all of their suppliers to implement HACCP to ensure the safety of the food sold in their restaurants, and other suppliers followed suit.[25]

The Codex Alimentarius was established in 1963 by the UN Food and Agriculture Organization and the World Health Organization to "create harmonized international food standards to protect the health of consumers and ensure fair trade practices".[26] It is a collection of standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission, which is formed by 188 members (187 member countries and 1 member organization, the EU), and 219 observers (56 IGOs, 147 NGOs, 16 UN agencies). The goal is to provide standards to member states, who can use them when formulating national policies and plans regarding food safety and quality.[27]

3. ANALYSIS OF COLLECTIVE GOVERNANCE ARRANGEMENTS

This section is devoted to different examples of collective governance arrangements, developing how the arrangement and its governance structure were built, and, where information was available, how the criteria and practices evolved over time. In this document, examples have been grouped according to which entity initiated or led the process of creation of the arrangement, namely civil society, private companies, or public institutions. This way of classifying arrangements was chosen in the interest of clarity, although it must be acknowledged that arrangements being inherently collective, they are never fully led by a single entity.

A) MARKET-RELATED ARRANGEMENTS LED BY CIVIL SOCIETY

i) Participatory Guarantee Systems

Third-party certifications started to flourish in the 80's and 90's with examples such as ECOCERT[28] or the Organic Crop Improvement Association (OCIA) certification.[29] Participatory Guarantee Systems (PGSs) for organic products were initially conceived as an alternative to these certifications, with the idea that they can be especially adapted to local markets and short supply chains.

The International Federation of Organic Agriculture Movements (IFOAM) defines PGSs as follows: "Participatory Guarantee Systems (PGS) are locally focused quality assurance systems. They certify producers based on active participation of

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[25] John G. Surak, The Evolution of HACCP. Food Quality & Safety (February 1, 2009). Available at: http://www.foodqualityandsafety.com/article/the-evolution-of-haccp/

[26] World Health Organization, "International food standards (Codex Alimentarius)". Available at: http://www.who.int/foodsafety/areas_work/food-standard/en/

[27] Food and Agriculture Organization of the United Nations, "About Codex Alimentarius". Available at: http://www.fao.org/fao-who-codexalimentarius/about-codex/en/

[28] For more information, see http://www.ecocert.com/en

[29] For more information, see http://www.ocia.org/about-ocia

stakeholders and are built on a foundation of trust, social networks and knowledge exchange".[30] It is also said that participation in PGS can empower farmers by basing their activities on long-lasting social processes and connection to their communities.[31]

PGSs are traditionally associated with developing countries, where they began and rapidly expanded. For instance, the Philippines has an estimated number of 10 620 farmers involved in PGSs, Uganda 6 436, and India 5 977.[32] However, although numbers are much lower, PGSs are not complete strangers to European countries, with examples having been documented among others in Spain,[33] France,[34] and Italy.[35]

ii) Marine Stewardship Council (MSC)

The Marine Stewardship Council (MSC) was established in 1996 in order to set a standard

for sustainable fishing. A team of experts, independent from both the fishery and the MSC, assesses the fisheries who wish to demonstrate they are well-managed and sustainable. Although it was founded by the World Wide Fund for Nature (WWF) and Unilever, it quickly became independent from these organizations, establishing itself as the lead sustainable fishing certification. The standard was developed over two years through a consultative process involving more than 300 expert organizations and individuals around the world. Today, over 12% of the world's marine wild caught fish is MSC

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[30] IFOAM Organics International, Participatory Guarantee Systems (PGS). Available at: https://www.ifoam.bio/en/organic-policy-guarantee/participatory-guarantee-systems-pgs

[31] Robert Home, Hervé Bouagnimbeck, Roberto Ugas, Markus Arbenz & Matthias Stolze, Participatory guarantee systems: organic certification to empower farmers and strengthen communities, AGROECOLOGY & SUSTAINABLE FOOD SYSTEMS, Vol. 41, Iss. 5, pp 526-545 (2017).

[32] Research Institute for Organic Agriculture (FiBL) & IFOAM Organics International, "The World of Organic Agriculture Statistics and Emerging Trends 2015". Available at: http://www.sinab.it/sites/default/files/The%20World%20of%20Organic%20Agriculture%20-%20Statistic%20%26%20Emerging%20Trends%20-%202015.pdf, at p 136.

[33] José Ignacio Gómez, Carolina Yacamán & Alberto Navarro (Heliconia s.coop. mad y Fundación Biodiversidad), "El Mercado de la Custodia Agraria: Una propuesta para la certificación de los acuerdos de custodia del territorio". Available at: http://custodia-territorio.es/sites/default/files/recursos/guia-el_mercado_de_la_custodia_agraria_paginas_96.pdf; Mamen Cuéllar-Padilla & Ángel Calle-Collado, Can we find solutions with people? Participatory action research with small organic producers in Andalusia, JOURNAL OF RURAL STUDIES, Vol. 27, Iss. 4, pp 372-383 (2011).

[34] Fondation Nicolas Hulot, « Les Systèmes Participatifs de Garantie », VEILLE ET PROPOSITIONS no. 21 (2015). Available at: http://www.fondation-nature-homme.org/sites/default/files/publications/150215_vp21-systemes-participatifs-garantie.pdf; Hervé Bouagnimbeck, "The Global Comparative Study on Interactions Between Processes and Participatory Guarantee Systems", (2014). Available at:
https://www.ifoam.bio/sites/default/files/global_study_on_interactions_between_social_processes_and_participatory_guarantee_systems.pdf, at p 27.

[35] Alessandro Triantafyllidis & Livia Ortolani, La certificazione partecipativa in agricoltura biologica, AGRIREGIONIEUROPA Vol. 9 No. 32, pp 45 (2013). Available at: https://agriregionieuropa.univpm.it/it/content/article/31/32/la-certificazione-partecipativa-agricoltura-biologica

certified, with around 300 fisheries in almost 40 countries worldwide are certified to the MSC Standard.[36]

In order to obtain the certification, fisheries must demonstrate that they meet the MSC standard, which is based on three principles: the fishing activity must be at a level which is sustainable for the targeted fish population; fishing operations should be managed to maintain the structure, productivity, function, and diversity of the ecosystem on which the fishery depends; and the fishery must meet all local, national, and international laws and must have a management system in place to respond to changing circumstances and maintain sustainability.[37]

Recent critiques and accusations of conflict of interests within the organization have tainted the reputation and trustworthiness of the label, leading some to believe that the MSC label may be too accessible to unsustainable fishing operations, thus rewarding fisheries that are actually depleting already overexploited stocks, such as those of yellow tuna or skipjack tuna.[38]

B) MARKET-RELATED ARRANGEMENTS LED BY PRIVATE COMPANIES

i) Food Industry Self-Regulation

Self-regulatory practice by private companies (more generally known as 'industry self-regulation' or 'non-statutory regulation') is a regulatory process whereby an industry-level organization sets reference standards or codes of practice relating to the conduct of firms in the industry.[39]


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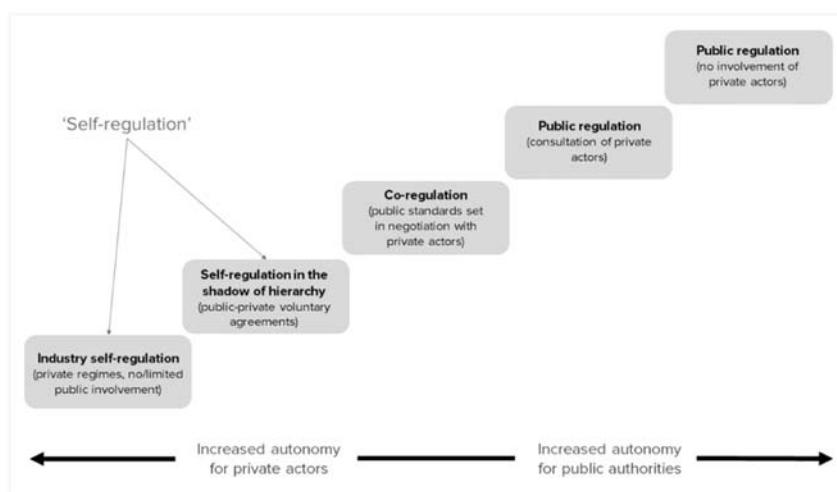
[36] Paragraph based on the history of the MSC certification as referenced in: http://20-years.msc.org/

[37] MSC Standards, available at: https://www.msc.org/about-us/standards/fisheries-standard/msc-environmental-standard-for-sustainable-fishing

[38] Le Monde, "Polémique autour du label « pêche durable »" (November 30, 2016). http://www.lemonde.fr/planete/article/2016/11/30/polemique-autour-du-label-peche-durable_5040914_3244.html; The Times, "Fishing's blue tick benchmark tainted by 'conflict of interest'" (November 26, 2016). https://www.thetimes.co.uk/article/fishings-blue-tick-benchmark-tainted-by-conflict-of-interest-3qrsr5w0k

[39] Neil Gunningham & Joseph Rees, Industry Self-Regulation: An Institutional Perspective. LAW & POLICY, Vol. 19 pp 363–414 (1997).

Self-regulation among over governance options by the European Public Health Alliance (2016)[40]
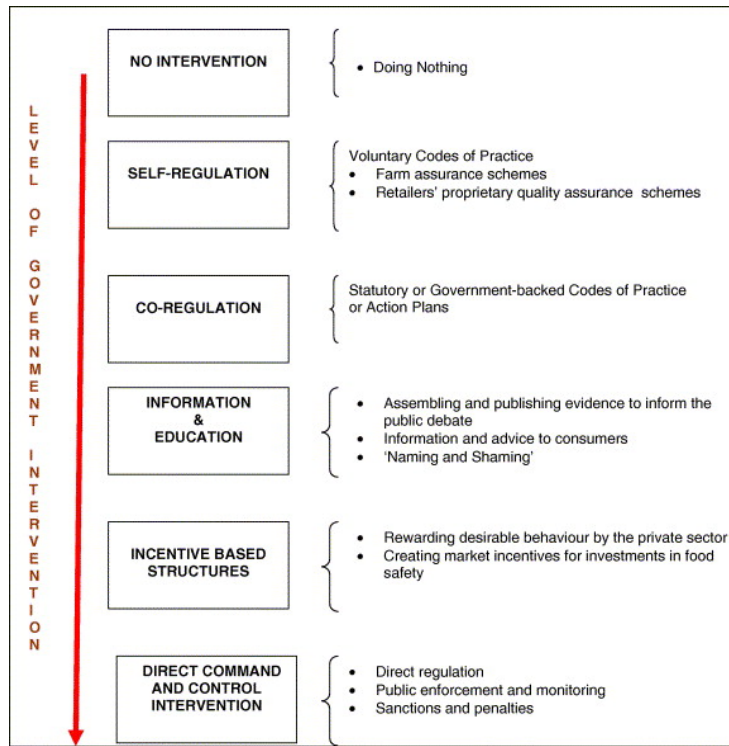
Levels of government intervention by Marian Garcia Martinez et al. (2007)[41]

Self-regulation, in contrast to statutory regulation, "is voluntary and is typically framed as a socially responsible industry practice that has consumer welfare as its central feature."[42] Motivations to appeal to or engage with self-regulation can come from a variety of sources, but they can be grouped into proactive and reactive motivations. Proactive motivations can include fear of excessive government intervention, shortage of statutory tools, and fear of litigation and other actions that could affect sales. Reactive motivations can include disasters related to the environment (e.g. oil spills or nuclear accidents), visibility of and public concerns regarding sustainability issues (e.g. deforestation or fish stocks' overexploitation), and public health concerns (e.g. tobacco, alcohol, or fashion). These motivations, among others, can lead private companies to publicly promise or engage in self-regulation, with higher or lower degrees of effectiveness.

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[40] European Public Health Alliance, "Self-Regulation: a False Promise for Public Health?" Briefing paper I (December 2016). Available at: https://epha.org/wp-content/uploads/2016/12/Self-Regulation-a-False-Promise-for-Public-Health_EPHA_12.2016.pdf, at p 2, in turn adapted from Tanja A. Börzel and Thomas Risse, Public-Private Partnerships: Effective and Legitimate Tools of International Governance? (2002)

[41] Marian Garcia Martinez, Andrew Fearne, Julie A. Caswell & Spencer Henson, Co-regulation as a possible model for food safety governance: Opportunities for public–private partnerships, FOOD POLICY, Vol. 32, pp 299–314 (2007).

[42] Lisa L. Sharma, Stephen P. Teret, & Kelly D. Brownell, The Food Industry and Self-Regulation: Standards to Promote Success and to Avoid Public Health Failures, AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 100, No.2, pp 240–246 (2010), at p 242.

The debate around the effectiveness of industry self-regulation is largely tied to that of the role of the government in regulating firms' actions in the market. Generally speaking, proponents of high levels of government intervention in the market will often highlight the ineffectiveness of industry self-regulation, adducing the inability for self-interested economic actors to monitor their own ethics, particularly as this may incentivize concealing the ethical or unethical *appearance* of their actions as opposed to their ethical or unethical *nature*. Proponents of low levels of government intervention in the market will in turn posit that industry self-regulation decreases government costs and increases industry compliance, restricting the role of the government to monitoring and supervising said compliance. However, a closer look into these debates quickly yields more nuanced results – arguments for and against industry self-regulation are largely based on research on the effectiveness of self-regulation in specific industry sectors.

An example of this is the industry of alcoholic beverages. While this industry has a long history of self-regulation[43] proponents, it has also been heavily criticized for public health reasons. The European Commission, for instance, has been a strong proponent of industry self-regulation in the alcohol sector,[44] as has also done the industry group European Advertising Standards Alliance.[45] This contrasts with the strong opposition to industry self-regulation by civil society groups,[46] and strong questioning by recent scientific research on the matter.[47]

In the food industry itself, self-regulation has also had both proponents and detractors.[48] In the interest of space and clarity, the remainder of this section will focus on self-regulation in food-related marketing and advertisements.

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[43] For more information on the state of the alcohol industry self-regulation in the EU, see: Linda Wilks, Ross Gordon, Douglas Eadie & Susan MacAskill, Report prepared for the European Commission DG SANCO, "Self-Regulation. Mapping Exercise Report", 40 pp (July 2009). Available at:

https://ec.europa.eu/health/archive/ph_determinants/life_style/alcohol/forum/docs/regulation_en.pdf; National Foundation for Alcohol Prevention in the Netherlands (STAP) "Alcohol Marketing in Europe: Strengthening Regulation to Protect Young People", 13 pp (2007). Available at: http://ec.europa.eu/health/ph_projects/2004/action3/docs/2004_3_16_frep_a6_en.pdf

[44] See, for example, the Commission's answer to a parliamentary question, inviting industry proposals for self-regulation in the sector of alcoholic beverages: http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2017-004762&language=EN

[45] Statement from EASA's website: "Ensuring responsible marketing communications for alcohol beverages has been a long-standing priority for EASA's self-regulatory network. While rejecting suggestions of a causal link between advertising for alcohol drinks and alcohol-related social problems, the alcohol beverage industry recognises the need for social responsibility in the sphere of commercial communications." Available at: http://www.easa-alliance.org/issues/alcohol

[46] See, for instance, the press release issued by the civil society group European Alcohol Policy Alliance: http://www.eurocare.org/media_centre/press_releases/self_regulation_is_no_an_answer#_ftn2

[47] Jonathan Noel, Zita Lazzarini, Katherine Robaina, & Alan Vendrame, Alcohol industry self-regulation: who is it really protecting?. ADDICTION, Vol. 112, pp 57–63 (2017).

[48] An example of a sector where self-regulation has been considered successful by the European Commission is the fruit juice sector, mentioned in the 2008 EC "Green paper on agricultural product quality: product standards, farming requirements and quality schemes", available at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52008DC0641&from=FR. Moreover, the Commission Directive 2009/106/EC of 14 August 2009, amending Council Directive 2001/112/EC relating to fruit juices and certain similar products intended for human consumption, affirms that: "The AIJN [European Fruit Juice Association] Code of Practice establishes quality factors for fruit juice from concentrate and is internationally used as a reference standard for self-regulation in the fruit juice industry". The reason the AIJN states for self-regulation is that "The EU Fruit Juice Directive neither contains characteristics of the defined products nor analytical methods necessary for the control of the composition" (Martin Greeve Chairman, A.I.J.N. Code of Practice Expert Group, "Industrial Self-Regulation in the fruit juice industry. AIJN Codes and guidelines". Regional Workshop on Fruit and Vegetable processing in the EU Belgrade, Republic of Serbia 23-24 September 2009. Available at: http://www.pks.rs/SADRZAJ/Files/Biro%20za%20saradnju%20sa%20EU/industrial%20self-regulation%20in%20the%20fruit%20juice%20industry-aijncodes%20and%20guidelines.pdf

Much research has been produced establishing links between obesity and marketing and advertisements, particularly when messages are directed at children and they are related to sugary and processed foods and beverages. Translating this issue into policy-making is an extremely complex endeavor, raising questions of whether, and if so how, regulations should restrict marketing strategies and advertisements targeting children, and based on what criteria, e.g. which advertisements, appearing on which media and at what time, targeting what age ranges, etc. As a result of this complexity, industry self-regulation has been proposed as a solution. Proponents of industry self-regulation as a solution argue that the role of the government should be to support self-regulation through monitoring and supervising only.[49]

In 2007, an industry self-regulation initiative was launched on this topic in collaboration with the European Commission. The "EU Pledge" is "a voluntary initiative by leading food and beverage companies to change food and beverage advertising to children under the age of twelve in the European Union."[50] The pledge itself is said to consist of two main commitments: "no advertising for food and beverage products to children under the age of twelve on TV, print and internet, except for products which fulfil common nutritional criteria"; and "no communication related to products in primary schools, except where specifically requested by, or agreed with, the school administration for educational purposes".[51] However, a study investigating whether the signatory companies were refraining from marketing food products high in fat, sugar, and salt to children showed that, of 281 identified child-marketed products, only 29 met the WHO's nutritional criteria for the use of child-directed food marketing[52] – criteria referred to as "common nutritional criteria" in the second EU Pledge commitment mentioned above.

ii) Market-related Arrangements led by Private Companies: Supermarket Schemes to Promote Local Products. The example of *Filière Qualité Carrefour*

The French supermarket Carrefour launched a strategy called "Filière Qualité Carrefour" (FQC) in 1992, initially devoted to specifically label meat from Normandy. The idea behind the concept was to buy sustainably-produced products from local producers at a fair price and through a 3-year partnership commitment. According to the supermarket group, each *filière* has their own technical specifications that include quality, social, and environmental requirements, which are

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[49] Mamoru Miyamoto & Yayoi Tanaka, Food Industry Self-Regulation and the Role of the Government, INTERNATIONAL JOURNAL OF MARKETING STUDIES, Vol. 7, No. 4 (2015).

[50] As referenced in the initiative's website http://www.eu-pledge.eu/content/about-eu-pledge

[51] *Ibid*.

[52] Oliver Huizinga & Michaela Kruse, Food industry self-regulation scheme "EU Pledge" cannot prevent the marketing of unhealthy foods to children, OBESITY MEDICINE Vol. 1, pp 24–28 (2016), doi:10.1016/j.obmed.2016.01.004. For more information on this debate, see http://www.decideum.com/the-eu-policy-perspective-issue-7-a-review-of-food-market-regulation/ . Other publications with similar arguments include European Public Health Alliance, "Self-Regulation: a False Promise for Public Health?" Briefing paper I (December 2016): "Evidence consistently shows that self-regulation fails to deliver benefits for public health" (p 3), available at: https://epha.org/wp-content/uploads/2016/12/Self-Regulation-a-False-Promise-for-Public-Health_EPHA_12.2016.pdf; as well as Martin Caraher & Ivan Perry, Sugar, salt, and the limits of self-regulation in the food industry, 357 BMJ j1709 (2017).

expected to be met by every level of the food chain and are controlled by independent organisms.[53]

One of the main challenges that tend to characterize labels and strategies led by the food industry is the lack of an organized producer counterpart capable of negotiating contract conditions on equal footing. For this reason, among others, the French public organism "Institut National de l'Origine et de la Qualité" (INAO) is "responsible for the implementation of policies on official signs of identification of the origin and quality of agricultural and food products". This includes labels such as *appellation d'origine contrôlée* (AOC), protected designation of origin (PDO), protected geographical indication (PGI), traditional specialty guaranteed (TSG), label rouge (LR), and organic farming (AB).[54]

In February 2014, the firm decided to change its strategy name from "l'Engagement Qualité Carrefour" to "Origine et Qualité".[55] Because Carrefour "imposes producers a set of technical specifications and controls chain operations",[56] and it included under this strategy both officially labelled and unlabeled products, INAO filed a lawsuit against Carrefour for "usurpation of notoriety", positing that the use of the new expression could lead to widespread consumer confusion, and that this would be unfair for officially labelled products whose producers have to wait close to ten years to obtain the label.[57] As a result, Carrefour has been accused of using the FQC label as a strategy to label products at the distributor level, and not at the producer level, thus inflating prices paid by consumers but not reflecting this premium on the price paid to the producer.[58] After a few months of negotiations, Carrefour decided to go back to its original "Filière Qualité" label and INAO dropped the lawsuit.[59]

Today, there are over 20 000 producers involved in this strategy,[60] and out of the over 550 *filières*, 6 are now in Belgium (devoted to each of the following products: *fromage de Herve*, *fromage d'abbaye*, *porc d'antan*, *jambon braisé*, *viande blauwe van vlaanderen* and *moules de Zélande*).[61]

C) CERTIFICATION SYSTEMS INITIATED BY PUBLIC INSTITUTIONS

1. The Role of AFSCA in Encouraging Environmental Commitments in the Food Industry in Belgium

AFSCA is the Belgian Federal Agency for Food Chain Safety (*Agence Fédérale pour la Sécurité de la Chaîne Alimentaire*). It was created in 2000, under the Ministry of Social Affairs and Public Health, as

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[53] As referenced in http://www.carrefour.com/fr/content/favoriser-la-biodiversite-en-mangeant-du-miel-agroecologie

[54] As referenced in https://www.inao.gouv.fr/eng/The-National-Institute-of-origin-and-quality-Institut-national-de-l-origine-et-de-la-qualite-INAO

[55] LSA Commerce et Consommation, « Découvrez "Origine & Qualité", la nouvelle identité des filières Carrefour » (February 11, 2014). Available at: https://www.lsa-conso.fr/decouvrez-origine-qualite-la-nouvelle-identite-des-filieres-carrefour,162535

[56] Marc Vandercammen & Nelly Jospin-Pernet, LA DISTRIBUTION. PERSPECTIVES MARKETING. De Boeck Supérieur (2010) (own translation, at p 128).

[57] Sudouest, « Origine et qualité : L'Inao dépose plainte contre Carrefour » (May 7, 2014). Available at: http://www.sudouest.fr/2014/05/07/origine-et-qualite-l-inao-depose-plainte-contre-carrefour-1546592-713.php

[58] L'Humanité, « Ce que cachent les labels Carrefour » (May 29, 2014). Available at: https://humanite.fr/ce-que-cachent-les-labels-carrefour-538583

[59] LSA Commerce et Consommation, « Carrefour renonce à sa marque "Origine et qualité" » (July 7, 2014). Available at: https://www.lsa-conso.fr/carrefour-renonce-a-sa-marque-origine-et-qualite,179716

[60] Philippe Aurier & Lucie Sirieix, MARKETING DE L'AGROALIMENTAIRE - 3E ED.: ENVIRONNEMENT, STRATEGIES ET PLANS D'ACTION. Dunod, 372 pp (2016).

[61] As referenced in http://www.carrefour.com/fr/content/favoriser-la-biodiversite-en-mangeant-du-miel-agroecologie

well as that of Middle Classes, SMEs, Self-employed, Agriculture and Social Integration.[62] The role of AFSCA is "to evaluate and manage risks likely to affect consumers' health and animal and plant health, and to control food safety all along the food chain".[63] The federal agency has the following duties:[64]

- Control and analysis of foodstuffs and other products present at every step of the food chain
- Delivery of licenses and permits for certain activities in the food chain
- Implementation of a traceability and identification system for foodstuffs all along the food chain
- Research and production of scientific reports on risk evaluation and management strategies regarding the food chain
- Information and communication to the general public on food safety

Regarding environmental protection, one of the main challenges cited by the federal agency is that AFSCA does not have jurisdiction over many areas related to the environment itself. For instance, the federal agency is not in charge of supervising the respect of animal wellbeing in slaughterhouses, a competence that now belongs to Belgian regions and not to the federal government.[65] Another example is pesticides and fertilizers – AFSCA is responsible for granting permits and licenses to companies and laboratories, and controlling that regulations are respected, but it is the Federal Agency for Public Health, Food Chain Security and Environment (SPF SSCE) the one that actually writes those regulations, and it would be up to the regions to develop environmental protection policies on this matter.[66] Regarding the control of the presence of these fertilizers in products for human consumption, AFSCA is in charge of ensuring that toxic or endocrine-disrupting substances, including carcinogenic chemicals (e.g. arsenic, lead, PCB, HAP, and other dioxins) are absent or under the allowed threshold in controlled foodstuffs and feed,[67] but this does not include the reduction of fertilizers in the environment. For instance, while AFSCA is one of the reporting agencies in the Program for Pesticide and Biocide Reduction, its role is limited to traceability and control of agricultural pesticide residues in foodstuffs, and the ratio of authors from SPF SSCE and AFSCA in its report represents additional evidence of this.[68]

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[62] As decided in the Ministers' Council meeting of October 23, 2014. Available at:
http://www.lachambre.be/kvvcr/pdf_sections/newsletter/54-006-ministers01F.pdf

[63] As reported in http://www.afsca.be/rapportactivites/2016/afsca/organisation/ (own translation.)

[64] Service Public de Wallonie & CERES (Centre d'Enseignement et de Recherche pour l'Environnement et la Santé, University of Liège), « Alimentation et environnement », p 23. Available at:
http://environnement.wallonie.be/publi/education/alimentation_environnement.pdf

[65] AFSCA, Communiqué de Presse « Mise au point sur les responsabilités et compétences des autorités de contrôle dans les abattoirs en Belgique » (March 27, 2017). Available at: http://www.afsca.be/communiquesdepresse/2017/2017-03-27.asp .

[66] See for a full description of the division of powers on this topic: http://fytoweb.be/fr/engrais/nos-competences, as well as Comité Régional PHYTO, « Législations relatives à l'utilisation des pesticides à usage agricole en agriculture : Ce que le producteur doit savoir » (July 2011), available at: http://crphyto.be/sites/default/files/pdf/guide_agriculteurs_2011.pdf

[67] SPF SSCE, « Deuxième rapport fédéral en matière d'environnement, Partie 2 : les autres politiques fédérales environnementales, (2015), pp 136-138. Latest report published by the federal agency, available at:
https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/19103856/Rapport%20f%C3%A9d%C3%A9ral%20 environnement%20-%20RFE%20--%202015.pdf

[68] SPF SSCE, « Rapport de clôture du Programme de Réduction des Pesticides et des Biocides, 2005-2012 », see traceability in p 9 and control of agricultural pesticide residues in p 11-12, p 35. Available at:
http://fytoweb.be/sites/default/files/content/reduction/rapport_final_du_prpb_2005_-_2012.pdf

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One of the current challenges AFSCA faces is that it needs to develop regulations that are adapted to both large and small operations. Regarding the latter, recent developments in the food system, including the trend towards localization and trust-based food systems, have led to increased controversiality of the role of the federal agency. On the one hand, AFSCA has been criticized by different civil society groups for its inability or unwillingness to adapt regulations, particularly food safety inspections, to small producers.[69] On the other hand, the agency has also been praised for its decision to not include consumer groups (such as community-supported agriculture groups, GAC) in the list of organizations that have to register with the agency.[70] However, none of these actions regarding small food businesses relate to environmental protection commitments.

Regarding larger food operations, AFSCA favors the principle of self-regulation or self-control of food business operators – this mission is developed in different legislative measures and regulations.[71] The implementation of these self-regulation systems can be summarized in the following chart:
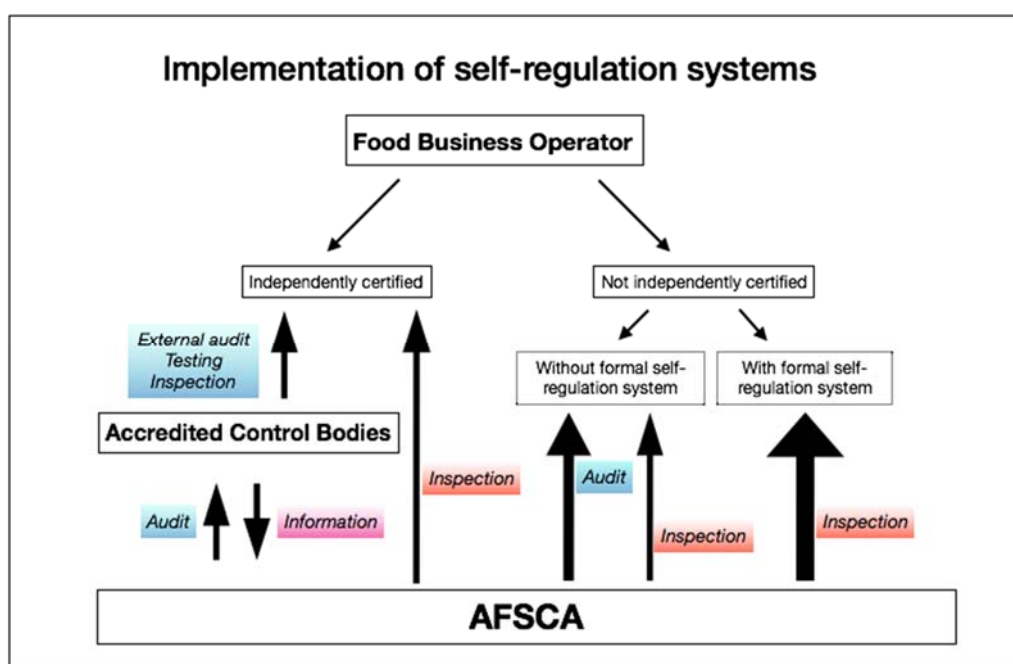
Source: Adapted from AFSCA (2010)[72]

These controls have been criticized by the Court of Auditors, on the grounds that criteria set forth by the EU for determining the frequency of inspections are not applied systematically by AFSCA,

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[69] See, for instance : Kairos « AFSCA : des normes sanitaires pas normales du tout » (December 1, 2016), available at: http://www.kairospresse.be/article/afsca-des-normes-sanitaires-pas-normales-du-tout ; or the response from civil society to the closing of an Herve cheese producing facility by AFSCA: Le Soir "« Sauvons le fromage de Herve », la pétition en ligne qui cartonne" (June 12, 2016), available at: http://www.lesoir.be/938/article/2015-06-12/sauvons-le-fromage-de-herve-la-petition-en-ligne-qui-cartonne

[70] RTBF, « Les groupes d'achats alimentaires ne devront pas s'enregistrer auprès de l'Afsca » (November 23, 2016). Available at: https://www.rtbf.be/info/belgique/detail_les-groupes-d-achats-alimentaires-ne-devront-pas-s-enregistrer-aupres-de-l-afsca?id=9462526

[71] For the list of applicable regulations, see: http://www.afsca.be/professionnels/autocontrole/legislation/

[72] AFSCA, Herman Diricks Director-general Control Policy "The implementation of self-checking systems in Belgium" (2010). Available at: http://www.favv-afsca.be/selfcheckingsystems/presentations/_documents/2.ACS-20101117v6HermanDiricks.pdf; see also http://www.afsca.be/businessplan-fr/2015-2017/introduction/#autocontrole

among other objections.[73] The reality remains, however, that these AFSCA self-regulation systems for the food industry relate to issues such as food hygiene, traceability, and labeling, but not environmental protection.

ii) Other Institutional Certification Systems

Three institutional efforts can be cited as examples of certification systems at the sub-national level.

Created in 1999, the Flemish label *Streekproduct* was launched by the NPO VLAM (Vlaams Centrum voor Agro- en Visserijmarketing) to make local, artisanal food products made in Flanders more recognizable by consumers.[74] Critically, this logo does not reflect quality in any way, as this would go against other quality-focused official controls. Products must instead match the following five criteria: [75] Products must be made with regional raw materials and/or raw materials that could be considered as regional; products must be generally accepted by the population as regional; products must be prepared according to traditional methods; regional products sold as such cannot be produced in a different region; and products must have existed for a minimum of 25 years.

Constituted in 2013, the association *Città del Bio* brings together a number of Italian municipalities and other sub-national government bodies into a network aimed at promoting organic farming as a cultural project.[76] Its main achievement has been the creation of two 'bio-districts', and the support another three 'bio-districts' launched in collaboration with other organizations. A 'bio-district' is a term used to describe a territorial governance scheme where different public administrations, business, associations, and consumers work together in a specific territory in Italy in order to protect the landscape and environment through organic and sustainable farming activities. It builds on other sustainable agricultural and tourism labels and certifications, both regional and at the EU level, to promote the produce grown in the bio-district.[77]

Another example of institutional work on the topic of local agriculture is the Spanish city of Zaragoza. Located in an otherwise semi-arid climate, the city is situated at the crossroads of three rivers: Ebro (one of the largest in the country), Gállego, and Huerva. The presence of these rivers meant the peri-

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[73] Cour des Comptes, « Autocontrôle des opérateurs de la chaîne alimentaire Encadrement par l'Afsca, Rapport de la Cour des comptes transmis à la Chambre des représentants » (February, 2017). Available at: https://www.ccrek.be/Docs/2017_05_AutocontroleOperateursChaineAlimentaire.pdf; and the response issued by AFSCA to this report, http://www.afsca.be/communiquesdepresse/2017/2017-03-02.asp

[74] Teresa de Noronha Vaz & Peter Nijkamp, TRADITIONAL FOOD PRODUCTION AND RURAL SUSTAINABLE DEVELOPMENT: A EUROPEAN CHALLENGE. Routledge (2016), p 241.

[75] VLAM, "Zeg nooit zo maar 'streekproduct' tegen een 'traditioneel streekproduct'", p 1 (2010). Available at: https://www.vlam.be/public/uploads/files/feiten_en_cijfers/bistro/samenvatting_kwalitatief_onderzoek_streek_2010_.pdf

[76] Città del Bio, "Who are We?" Available at: http://www.cittadelbio.it/pdf/1_Who%20we%20are.pdf

[77] For more information on the individual bio-districts: http://www.cittadelbio.it/cosa-facciamo/promozione-biodistretti

urban area of Zaragoza was historically known for its high-quality produce. However, while self-sufficiency rates for the city were high in the past centuries, the use of land for feed (particularly corn and alfalfa) and rapid urban growth led to the progressive abandonment or replacement of agricultural lands, and to the need to bring most fruits and vegetables from other regions.[78] Starting from this diagnosis, the local government decided to launch an initiative to recover nearby peri-urban land and agricultural knowledge, create agricultural jobs, and improve agrobiodiversity levels.[79] This initiative led to the creation of the labels *Huerta de Zaragoza*, for local agricultural products, and *Huerta de Zaragoza Agroecológica*, for certified (or transitional) organic products. The label was approved by a local ordinance passed in June 2017: it can be used by farms, stores, restaurants, or events for fruits and vegetables produced within approximately 20 km and distributed through short chain arrangements or direct sales; for the label "Huerta de Zaragoza Agroecológica", the producer needs to additionally be organically certified and prove that 5% of the farm is devoted to favoring biodiversity.[80]

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[78] Ayuntamiento de Zaragoza, "Huertas LIFE Km0 Project & Results". Available at:

http://www.zaragoza.es/contenidos/medioambiente/huertas/ResumenProyecto_WEB_ING.pdf

[79] Ayuntamiento de Zaragoza, "Sembrar el futuro de la agroecología en las ciudades LIFE / Sowing the future of agroecology in cities. Informe Layman / Layman's Report" (bilingual document) (February 2017). Available at: http://www.zaragoza.es/contenidos/medioambiente/huertas/Informe-Layman.pdf

[80] Ayuntamiento de Zaragoza, "Ordenanza para el Uso y Gestión de la Marca "Huerta De Zaragoza"" (June 26, 2017), see Article 7. Available at: http://www.zaragoza.es/ciudad/medioambiente/huertas/detalle_Normativa?id=7903

ANNEX 4

GOVERNANCE OF SUSTAINABILITY TRANSITIONS: KEY VALUES AND FEATURES DERIVED FROM BELGIAN INITIATIVES AIMING AT INTRODUCING LOCAL PRODUCTS ON SUPERMARKET SHELVES

S. Bui, I. Costa, O. de Schutter, T. Dedeurwaerdere

– *Shortpaper presented at the XXVIIth European Society for Rural Sociology – ESRS congress, 24-27 July 2017, Krakow, Poland*

Abstract –

Despite their importance in the dominant agri-food system, the role that food retail corporations can play in transition processes has received little attention from scholars. We study three initiatives aiming at introducing local products on supermarkets' shelves in Belgium, to analyse how the development of local sourcing in supermarkets impacts the broader agri-food system. Hybrid governance arrangements which bring together small producers, large retailers, CSOs and local authorities produce hybrid ethical framings. Enabling higher diversity within the dominant food system, these could be a first step towards a transition process.

Introduction

Food retail corporations are powerful actors of the dominant food system, accounting for more than 95% of food market share in Belgium. Driven by motives of profit maximisation, they exert strong lock-in effects that hinder the transition towards a more sustainable food system. The criteria they impose on the upstream part of the food chain (e.g. homogeneity standards, volume and uninterrupted supply requirements) and their marketing practices (e.g. back margins) exclude a significant part of sustainable food products from their shelves which makes them lowly available for consumers.

Recently, several initiatives aiming at enabling the introduction of local, low-input, small farmers' products on supermarket shelves have emerged in Belgium. These initiatives mainly take the form of logistic platforms that have been launched by local authorities

and/or civil society organisations (CSOs). As supermarkets seek to improve their image, these are becoming a flourishing activity. This raises the following question: is the development of local sourcing in supermarkets an opportunity for a transition towards more sustainable food systems (i.e., for sustainable farming and food practices and for fair marketing practices to be broadly adopted), and if so, under which conditions?

Method

To answer this question, we analyse three initiatives which aim at introducing local products on supermarket shelves. We chose these initiatives because they are the ones that first emerged in Belgium and they are located in different provinces, thus embedded in distinct agricultural and political backgrounds[81].

In order to assess their impact on the broader food system, we take into account all the actors involved (producers, processors, the main retail corporations in Belgium, alternative retailers, public authorities, CSOs, consumers), and for each one of them, we jointly analyse: the key ethical issues and professed values and their evolution over time; the implementation (or absence) of related practices; the coordination and governance features they participate in and their evolution over time.

For this research, we conducted 32 interviews of actors involved in these initiatives, we realized 6 observations of situations were these actors interact, and we gathered complementary data from a diversity of documents (press articles, annual account of retailers, public authorities and CSOs).

Results

The studied initiatives rely on specific governance arrangements and produce different impacts on the agri-food system.

The introduction of local products in supermarkets was impelled in the early 2010's by Carrefour, in response to increasing criticism of the agro-industrial food system. Initially, Carrefour contacted the officer in charge of agricultural diversification inside the main farmers' union, to propose the project. Together with about 20 producers, they gathered several times to identify the barriers for small producers to supply supermarkets and to work out solutions. At the end of the process, Carrefour elaborated a charter and a simplified contract reflecting the main outcomes, so that local producers don't have to work with Carrefour's central purchasing group and therefore are not submitted to price negotiation (the producer defines the price), back margins, payments for supply disruption, and other practices with disadvantages.

The first two provinces to work with Carrefour were Hainaut and Liège. In both cases, the objective for the Province was to increase producers' income and outlets. Hainaut's Province engaged in an informal partnership with retail companies (other retailers later engaged in similar projects): the Province contacts the producers and markets the local products in the stores - e.g. providing posters with local producers' pictures and addresses and organising promotional events -, as long as the retailers comply with Carrefour's charter and provide monitoring data. The Province helps producers to calculate cost-prices so that they can define an appropriate selling price. In Hainaut, this project now gathers around 130 producers and generates a turnover of several million euros.

In Liège, the Province decided to create a logistic platform via Promogest, one of its semi-public organisation. Promogest offers logistic solutions for producers and supermarkets,

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[81] In Belgium, Provinces have jurisdiction in agriculture and provide farmers with extension services.

as it takes in charge deliveries, orders, invoicing, payments, and also marketing (as Hainaut's Province, but it also makes available staff for promotional events). It also searches for new producers and carries out regular monitoring to solve farmers' and stores' problems. Promogest's board is composed of elected officials and mainstream farmers. It works with approximately 75 producers and its annual turnover reaches 2 million euros.

In Hainaut and Liège, these initiatives have allowed the continuity and development of small farms and processing units, with many cases of job creation. As local products represent less than 1% of retailers' sales, the impact on food practices is marginal. However, the fact that these products benefit from a large dedicated shelf contributes to raise consumers' awareness. Indeed, many producers involved in the project observe that customers from supermarkets come to their on-farm store to experience the extensive range of products and therefore notice a growing on-farm activity. Moreover, promotional activities encourage networking and thereby local sourcing for small processors.

The third initiative we studied is located in Brabant-Wallon, and results from the conjunction of two projects. On the one hand, the one of the Province which wished to answer Carrefour's proposition to develop local sourcing in order to help local producers, and on the other hand, the one of one LEADER LAG which had led for 5 years a box-scheme project but, considering that one of its mission was to raise consumers' awareness, wanted to reach supermarkets' consumers and therefore create a logistic platform to supply stores in the whole province. Together the Province and the LAG decided to create a CSO combining their projects. Its board is composed of elected officials from the Province, small producers' representatives, and the LAG. Its objective is to work with supermarkets to reach a broader customer base, whose awareness is not yet raised. It is also to reach economic viability, in order to propose a logistic tool for more emerging and alternative stores. This CSO has commercial relations with a diversity of stores, including a citizens' cooperative supermarket and other emerging breakthrough initiatives. The Province has adapted its training program, which was initially oriented towards mainstream ag. issues, and is now proposing a variety of workshops related to short food chains.

Discussion

Hybrid governance arrangements which bring together producers, large retailers, CSOs and/or local authorities produce hybrid ethical framings. Depending on the ethical framing, actors are stimulated to adopt or develop more or less sustainable farming, processing, marketing and food practices. At first, the coordination between the farmers' union and Carrefour helped combining the retailer's and the farmers' interest and resulted in fairer prices and marketing conditions for small producers. Then, in the cases of Hainaut and Liège, the involvement of the Provinces allowed to extend them to all supermarkets. In the case of Brabant-Wallon, the governance of the initiative is shared among the Province, small farmers and the LAG. This governance feature allows the LAG to uphold its values of regional enhancement and raising consumers' awareness, to enrol the Province's training services and thereby favour the development of ethical values within the local dominant food system and facilitate the emergence and scaling up of alternative subsystems. Although its impact is still extremely limited, it could be a first step in a transition process, as it enables higher diversity within the dominant system.

Acknowledgement