




Food and Agriculture
Organization of the
United Nations

National processes shaping food systems transformations

Lessons from
Costa Rica, Ireland and Rwanda



WAGENINGEN
UNIVERSITY & RESEARCH



National processes shaping food systems transformations

Lessons from
Costa Rica, Ireland and Rwanda

By

Joost Guijt

Knowledge Manager, Wageningen Centre for Development Innovation (WCDI), WUR

Seerp Wigboldus

Researcher, Wageningen Plant Research, WUR

Herman Brouwer

Senior advisor Multi-stakeholder Processes in Food Security, Wageningen Centre for Development Innovation (WCDI), WUR

Lotte Roosendaal

Urban Food Systems Advisor, Wageningen Centre for Development Innovation (WCDI), WUR

Siobhan Kelly

Agribusiness Officer, Food Systems and Food Safety Division (ESF), FAO

Pablo Garcia-Campos

Sustainable Food Systems Specialist, Food Systems and Food Safety Division (ESF), FAO

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2021

Required citation:

Guijt, J., Wigboldus, S., Brouwer, H., Roosendaal, L., Kelly, S. & Garcia-Campos, P. 2021. *National processes shaping food systems transformations – Lessons from Costa Rica, Ireland and Rwanda*. Rome, FAO.
<https://doi.org/10.4060/cb6149en>

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

ISBN 978-92-5-134807-9

© FAO, 2021



Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode>).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons licence. If a translation of this work is created, it must include the following disclaimer along with the required citation: “This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original [Language] edition shall be the authoritative edition.”

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization <http://www.wipo.int/amc/en/mediation/rules> and any arbitration will be conducted in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL).

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Cover photograph: General view of the room during an FAO-AUC-GoI workshop in Kigali, Rwanda
©FAO/Laura Mulkerne

Contents

Acknowledgements	v
Abbreviations and acronyms	vi
Executive summary	vii
1. Purpose and methodology	1
1.1. Background and purpose of the study	3
1.2. Methodology	5
1.2.1. General approach	5
1.2.3. Sense-making frameworks used in support of the analysis	11
1.2.4. Usefulness and limitations	11
2. Key learning: country-specific and common insights	14
2.1. Ireland: key insights	15
2.2. Costa Rica: key insights	17
2.3. Rwanda: key insights	20
2.4. Common insights about processes and capacities	23
2.4.1. Creating and maintaining a sense of urgency to change is crucial	23
2.4.2. Agendas for food systems transformation are essential	24
2.4.3. Implementation and accountability make change happen	24
2.4.4. Shared governance is key	25
2.4.5. Government must lead without taking over	26
2.4.6. Transformation requires investments in transformative capabilities and innovations	27
3. How other countries could draw on these lessons	29
4. Conclusion	31
References	34
Annexes	36
Annex 1. Sense-making frameworks used to interpret findings	37

Figures and boxes

Figure 1. Interacting dimensions of the methodology.....	6
Figure A1.1. Food system activities, drivers and outcomes	37
Figure A1.2. Multi-level perspective on sustainability transitions	38
Figure A1.3. Leverage points for intervening in systems and system characteristics.....	39
Figure A1.4. Options for leveraging system change	39
Figure A1.5. The strategic scoping canvas.....	40
Figure A1.6. Collective capabilities for food system transformation	41
Box 1. Organizations interviewed in Costa Rica, Ireland and Rwanda	7
Box 2. National food system performance	8
Box 3. Key questions guiding the interviews with country informants	10

Acknowledgements

The authors would like to thank interviewees for their time and patience in answering the researchers' questions. They also wish to thank colleagues from WUR and FAO country offices who helped with the individual country studies, which made the current comparative report possible: Seraphin Niyonsenga, Flor Prado-Rivera, Sileni Chaves-Brenes, Andrea Padilla-Arce, Marta Villegas-Murillo, Christine Mukantwali and Jeanne d'Arc Matuje Mukamwiza. In addition, thanks to Paul Kiernan (Irish Department of Foreign Affairs) and Harry O'Crowley (Irish Department of Agriculture, Food and the Marine) for their support in arranging the interviews with Irish informants and providing feedback on the study methodology.

Thanks are also owed to FAO colleagues that provided inputs at different stages of the study: José Valls-Bedeau, Jamie Morrison, Divine Njie, Maria del Mar Polo, Maryam Rezaei, Costanza Rizzo, Dubravka Bojic, Marco Sánchez-Cantillo, David Neven, Heiko Bammann, Milica Petruljeskov, Patrick Herlant, James Tefft, Markus Lipp, Cornelia Boesch, Dirk Schulz, Claudia Scuriatti, Claudia Trezza and others.

Acknowledgements are also due to David McDonald for his work as copy-editor, Pietro Bartoleschi (designer), and Marco Di Cosmo (Communication Specialist, FAO) for his support at different stages of the publication process.

Finally, the authors would like to offer their sincere gratitude to the Government of Ireland for their financial support.

Abbreviations and acronyms

AKIS	agricultural knowledge and innovation system
ASWG	Agriculture Sector Working Group
Bord Bia	Irish Food Board
CAADP	Comprehensive African Agricultural Development Programme
CFS	Committee on World Food Security
DAFM	Department of Agriculture, Food and the Marine
FSAI	Food Safety Authority of Ireland
ICAFFE	Coffee Institute of Costa Rica
MSMEs	Micro, small and medium enterprises
R&D	research and development
SDGs	Sustainable Development Goals
Teagasc	Agriculture and Food Development Authority



Executive summary

Governments and other food system actors from the private sector, civil society, research and education institutions are being called upon to work together to enhance the sustainability, resilience and inclusiveness of food systems. These objectives are essential components of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), and are receiving increased attention in the context of the United Nations' Food Systems Summit in 2021. This appraisal focuses on the necessary collaborative work for achieving food systems transformation. It builds on the experiences of Costa Rica, Ireland and Rwanda, each of which has made progress towards sustainability goals over recent decades. It also uncovers the different mechanisms and processes that have shaped the instruments, investments and efforts involved in creating the progress achieved.



THE SIX COMMON INSIGHTS

1. Creating and maintaining a sense of urgency to change is crucial.

A national, shared sense of urgency is the basis for shared willingness to work on transformational change.

2. Agendas for food systems transformation are essential.

An explicit food systems transformation agenda makes targeted investment, implementation and constructive accountability possible.

3. Implementation and accountability make change happen.

Implementation plans that are properly resourced, clear on roles and goals, and timebound, turn agendas from “paper promise” to “promised progress”. Strong and mandated accountability systems are critical to keep progress on track.

4. Shared governance is key.

Explicit governance processes are needed that safeguard and encourage broad engagement, and investments, in change processes, with all parties having a clear voice and real influence over key decisions.

5. Government must lead without taking over.

Aside from their critical role in putting and keeping food systems transformation on national agendas, and allocating public resources, they must also enforce legal and policy parameters for sustainability, and safeguard the ability of other stakeholders to influence decision-making and practical implementation.

6. Transformation requires investments in transformative capabilities and innovations.

This requires both understanding and acting from a systems perspective as well as the capability to allocate resources, act and deliver; relate and partner; adapt and self-renew; and finally, address diversity and achieve coherence.



The study takes a qualitative approach drawing on a methodology of key informant interviews in the three countries, a review of literature and statistics, and interpretation of results through a series of sense-making frameworks. The role of governments is used as a starting point to explore answers to questions such as: who needs to be involved in steering food systems, in what roles and supported by which cross-sectoral collaborative mechanisms, and what capabilities are required to fulfil these functions? Each country case offers specific insights and reflections, augmented by a synthesis that presents common insights across the three cases on these questions. While the report takes a ‘systems lens’ to the analysis carried out, it should also be noted that most of the policies, programmes and initiatives highlighted were conceptualized and implemented by countries to improve the agricultural or agrifood sectors, as opposed to the entire agrifood system.

The clear message underpinning these processes is the need for more constructive relationships between public policy, the private sector, civil society, research and education in order to resolve the challenges faced by the food system – ranging from food insecurity and rural poverty to climate change. Governments need to provide safe spaces for dialogue between food system actors on contested issues, and recognize that the political economy aspects of agriculture and food require careful moderation. The ongoing COVID-19 pandemic has been a harsh reminder of the need to forge more intricate linkages and adopt “joined-up” thinking to build resilient food systems capable of coping with short, medium and long-term disruptions.

National governments can draw on these insights to approach food systems transformation as an opportunity, facilitate the contribution of all stakeholders in the food system, and look at the experiences of frontrunner countries and adapt them to their own situation. As a next step, the methodology proposed in this appraisal could be adapted and applied to ongoing and more detailed food systems assessments being conducted by governments, international organizations and others.

1. Purpose and methodology



This study aims to provide insights into national mechanisms and other factors that contribute to food systems¹ transformation towards sustainability. It aims to learn from three countries selected based on progress made towards sustainability goals relevant to their food systems transformation, exploring the kinds of mechanisms and processes that have shaped the instruments, investments and efforts which have led to progress.

The present synthesis report highlights practical findings that could inspire government as well as other actors actively working to nudge their food systems in new, more desired directions. Conclusions are drawn from three country cases, each assessed in a similar manner using a structured methodology. This approach more readily allows for the determination of common traits as well as the identification of more context-specific ones. The detailed case studies are practice-based, making the findings more recognizable and thus actionable for government professionals tasked with changing their country's food systems. While the report takes a 'systems lens' to the analysis carried out it should also be noted that policies, programmes and initiatives referred to were, for the most part, conceptualized and implemented by countries to improve the agricultural or agrifood sectors, as opposed to the entire agrifood system.

Although findings are evidence-based, they are not exhaustive. More importantly, the intention is to offer inspiring and actionable insights that will help others initiate and strengthen relevant processes.

KEY QUESTIONS THE STUDY SEEKS TO ANSWER

This study focused on one overarching question:

What (multi-actor) processes and dynamics can be put in place to generate effective and appropriate policies and investments that support food system transformations to sustainability?

The study also considers the following aspects:

What elements inform and trigger such policies and investments?

What collective (multi-actor) capabilities are needed and strengthened through these processes?

What are the effects on food systems sustainability performance?

What complications or challenges are encountered, and how can these be overcome?

How country-specific are the findings?

¹ Food systems are understood as "the constellation of activities involved in producing, processing, transporting and consuming food" (UN, 2021). Besides a focus on the *activities* of the food system, a food systems approach implies a broader emphasis encompassing social, food security and environmental *outcomes* and the socio-economic and environmental *drivers* of these food system activities, as well as the ways in which these elements interact with each other (van Berkum, Dengerink and Ruben, 2018). In this study, the term "food system" has sometimes been used to refer to non-food agricultural products. Therefore, in some instances the term "agrifood system", which explicitly considers agricultural non-food products, could have been more accurate.

1.1. Background and purpose of the study

The Global Sustainable Development Report 2019 (Messerli *et al.*, 2019) identified food systems transformation as one of the key accelerators to achieve the 2030 Agenda for Sustainable Development. The United Nations Food Systems Summit,² which will take place in September 2021, has further positioned food systems high on the international agenda, providing countries and stakeholders with the space to share experiences, accelerate progress and mobilize support. The clear message underpinning these processes has been the need for more constructive relationships between public policy, the private sector, civil society, research and education to resolve the challenges faced by the food system, ranging from food insecurity and rural poverty to climate change. The ongoing COVID-19 pandemic has also been a harsh reminder of the need to forge more intricate linkages and adopt “joined-up” thinking to build resilient food systems capable of coping with long-term disruptions.

What is at stake here are far-reaching, multi-level and structural changes in food systems, transformations that will enhance their environmental, social and economic sustainability. Many desired outcomes of such changes are already captured in mechanisms such as the SDGs and the Action Tracks linked to the United Nations Food Systems Summit. Governments and other food system actors from companies, investors, knowledge institutes and civil society are being called upon to consider and reflect on their roles in such changes, as increasing and improving multi-stakeholder collaboration is often essential for enhancing sustainability, resilience and inclusiveness in food systems.

While there are myriad processes and institutions operating in the food systems arena at global, national and sub-national levels, including Committee on World Food Security (CFS) consultations, global and national food system dialogues, and multi-stakeholder platforms, the search for ways to effectively materialize bold ambitions is ongoing. This study is intended for governments and essential non-state actors working towards food systems transformation at any level or in any capacity. It is designed to increase their awareness of options for engaging effectively and appropriately with food systems transformations at different levels, and what it means to deliberately steer the entire agrifood system apparatus towards greater sustainability. It provides relevant examples of processes and practices, and types of policies and investments, that have been designed to play key roles in promoting sustainability in other countries.

² The Food Systems Summit 2021, convened by the UN Secretary-General António Guterres, will bring together key stakeholders from across the globe to “launch bold new actions to deliver progress on all 17 SDGs” (UN, 2021). Further information can be found on the Summit’s website: www.un.org/en/food-systems-summit/about.

This study also aims to provide positive, practical examples at country level that aim to help governments and other relevant actors determine what to prioritize, where to focus investments and which steps to take – and in what sequence – to achieve the desired outcomes for food systems. While the overall focus is on efforts that can help transform food systems towards greater sustainability, the study explores long-term, structural changes in food systems that increasingly incorporate multiple goals geared to economic, social and environmental sustainability. This journey involves both incremental programmatic initiatives that are adapted as lessons are learnt and bold policy reforms required during disruptive periods or to catalyse sectoral change, with the report considering the significance of both in facilitating longer-term transformation.

Three country studies in Costa Rica, Ireland and Rwanda provide different contexts for these change processes, underlining the point that deliberate change is possible in any environment. While each country has its unique features, comparison between the countries points to a number of common factors, such as the critical roles that governments play and the need to match good plans with the capacities and resources to implement them.

The study also provides a qualitative methodology that can be replicated in other countries. Application of this methodology at the country level provides a rapid, structured overview of the current situation regarding food systems, based on an historical review over the past two decades, which also helps to identify where further attention would be best directed. The methodology can also be applied to different countries in order to broaden the range of useful examples for stakeholders to draw upon. Although not tested as part of this study, a further intention was to develop a methodological approach that could be applied in other contexts, such as regional or (peri)urban food systems.

It is also important to note that this analysis is neither an evaluation of progress towards sustainable food systems made by countries nor a comprehensive academic study, as time allowed for only a limited consideration of key documents. Rather, the focus is on the mechanisms for change that are at play based on the target countries' experiences, with a synthesis of lessons based on stakeholder discussions. Moving forward, the methodology used could be adapted and applied to other more in-depth food systems assessments.

Additionally, it is important to note that the three case studies are not meant to be promotional pieces for these countries. While each case highlights progress, as with every country in the world, the three selected for the study also face significant challenges in their efforts to achieve sustainable food systems from a nutritional, environmental and socio-economic perspective.

1.2. Methodology

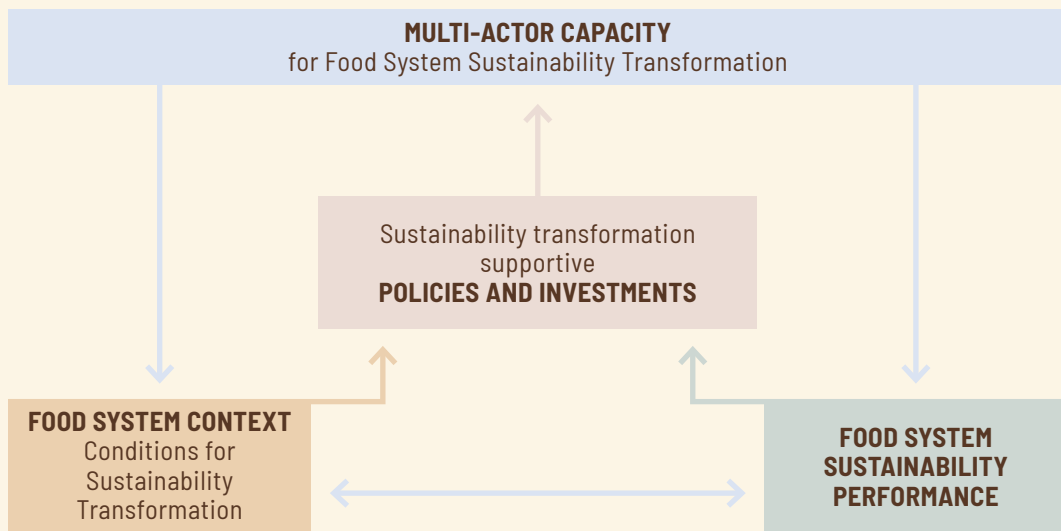
The methodology applied in the assessments evolved over time. It is essentially qualitative in nature, with key statistics used to characterize food systems conditions in each of the three country studies. The basic setup was developed before the country selection was finalized, and a number of features fine-tuned during the implementation process. The following four sections of this chapter present: the general approach (section 1.2.1), the application process (1.2.2), and the sense-making frameworks used to interpret interviews and selected literature (1.2.3), before closing with a discussion of the usefulness and limitations of the methodology (1.2.4).

1.2.1. General approach

The methodological approach is informed by existing food system assessment approaches and related literature (e.g. FAO *et al.*, 2020). It focuses on assessing (multi-actor) food system transformation capacity and the processes that have influenced and influence it, notably the role of policies and investments. The methodology combines preparatory assessments based on readily available resources with interviews carried out with key informants. The preparatory assessments produced a number of summary overviews that were meant to facilitate quick, informed interactions; however, the shift from face-to-face meetings to online interactions, necessitated by the COVID-19 pandemic, altered the nature of the interactions and the time they required (see section 1.2.4). As the methodology is geared towards tentatively identifying key insights through a rapid-appraisal approach, the aim was not to conduct an in-depth analysis, but rather to identify the most prominent lessons learned.

The methodology also focuses on eliciting a wide, country-level perspective. Consequently, it is informed by insights from specific parts of the countries but does not devote significant time to variations between (dynamics in) different parts of the country, nor different types of food systems represented in such an overarching country-level perspective. Figure 1 (see page 6) presents the key dimensions of the methodology.

Figure 1. Interacting dimensions of the methodology



KEY FOCI OF THE METHODOLOGY

Understanding processes (notably **policies, programmes and investments**) that may have contributed to important steps from the perspective of a food system transformation towards sustainability.

Understanding such processes in their relevant context in terms of **food system conditions and food system performance**, including a historical perspective, focusing on the past two decades.

Understanding how key processes (including policies and investment) shaped overall **food system transformation capacity** from a multi-actor perspective on collective capabilities, and how such capabilities in turn influenced the food system conditions and performance.

1.2.2. The application process

The application of the methodology involved preparing, carrying out and reporting on the three country assessments. The following brief outline explains what this process entailed for the three selected countries.

Preparations

A quick review of peer reviewed and grey literature (notably policy documents) provided an initial overview of important dynamics at play in the food system of the particular country. This review also helped identify possible key informants to interview as well as subjects that would require particular attention.

In Ireland, initial contact with informants was made through the Department of Agriculture, Food and the Marine (DAFM), while in Costa Rica and Rwanda this role was played by FAO’s country offices. A longlist was developed and then narrowed down to a shortlist of key informants. These key informants were identified as representatives of bodies representing the socio-economic, food and nutrition security, and environmental dimensions of the food system – notably government, the private sector, civil society, knowledge institutions and farmers’ organizations. Box 1 provides a list of the organizations that informants were affiliated to for each country.

BOX 1 Organizations interviewed in Costa Rica, Ireland and Rwanda

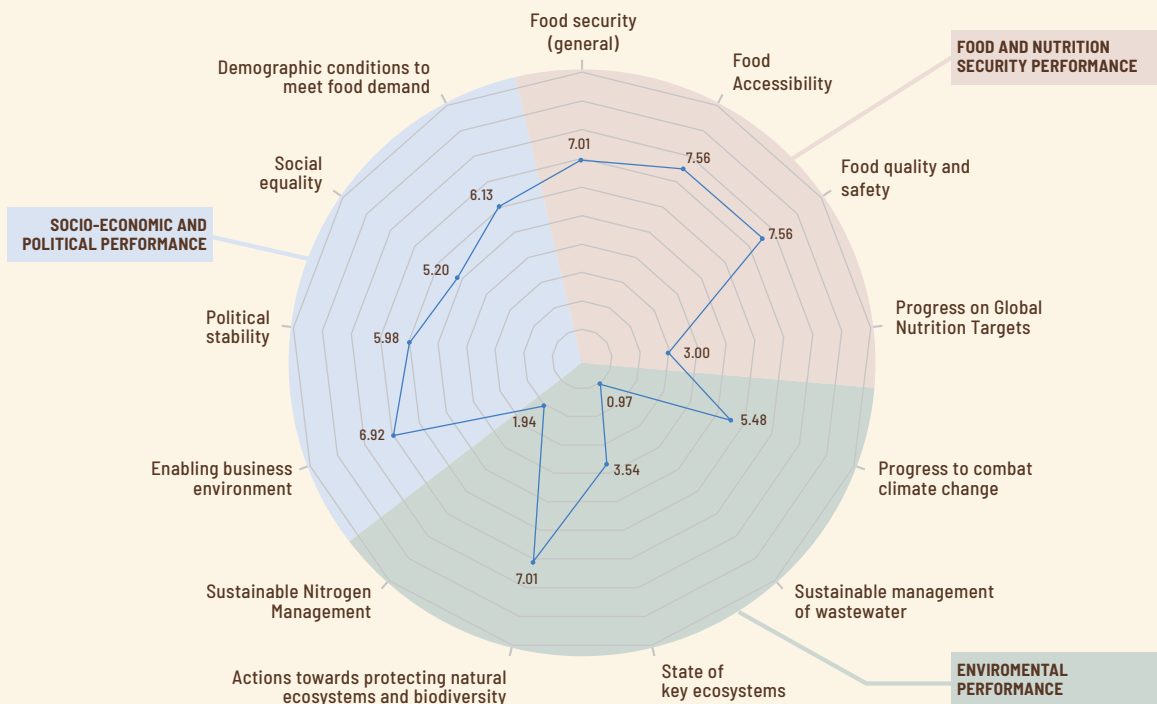
COSTA RICA	IRELAND	RWANDA
Agricultural Sector Executive Planning agency (SEPSA), Ministry of Agriculture (MAG)	Agrifood Strategy to 2030 Stakeholder Committee	Abertine Rift Conservation Society (ARCOS)
Association of Free Consumers	Agriculture and Food Development Authority (Teagasc)	Delegation of the European Union to Rwanda
Cooperativa Dos Pinos (dairy sector)	Birdwatch Ireland (conservation organization)	FAO Representation in Rwanda
Coopetarrazú (coffee sector)	Department of Agriculture, Food and the Marine (DAFM)	Farmer-to-Farmer Programme (F2F), Catholic Relief Services (CRS)
Costa Rica Farming and Agribusiness Chamber (CNAA)	Environmental Protection Agency (EPA)	Imbaraga Farmers Organization
Department of Sustainable Production, Ministry of Agriculture (MAG)	GriFin QCS Ltd. (poultry sector)	Institute of Policy Analysis and Research (IPAR)
Faculty of Agrifood Sciences, Universidad de Costa Rica, University of Costa Rica (UCR)	Irish Farmers’ Association	International Centre for Tropical Agriculture (CIAT), CGIAR
Farmers’ Fairs	Irish Food Board (Bord Bia)	International Food Policy Research Institute (IFPRI), CGIAR
Hivos Latin America	Kerry Ireland (dairy sector)	International Institute of Tropical Agriculture (IITA), CGIAR
National Centre of Organic Agriculture (CENAO)	Musgrave (grocery retail and wholesale)	Ministry of Agriculture and Animal Resources
National Union of Small and Medium Producers (UPANACIONAL)	Yield Lab Europe	Office of the Prime Minister
Secretariat for National Policy on Food and Nutrition (SEPAN), Ministry of Health		Private Sector Federation (PSF)
Office of the Vice-Minister, Ministry of Health		Rwanda Consumers’ Association (ADECOR)
Office of the Minister, Ministry of Agriculture (MAG)		Rwanda Environment Management Authority (REMA) Rwanda Land Management and Use Authority (RLMUA), Ministry of Environment The New Times

Note: The names of the representative/s for each institution can be found in the annex section of each country case study.
Source: Brouwer *et al.*, 2021; Roosendaal *et al.*, 2021; Wigboldus, Guijt and Garcia-Campos, 2021.

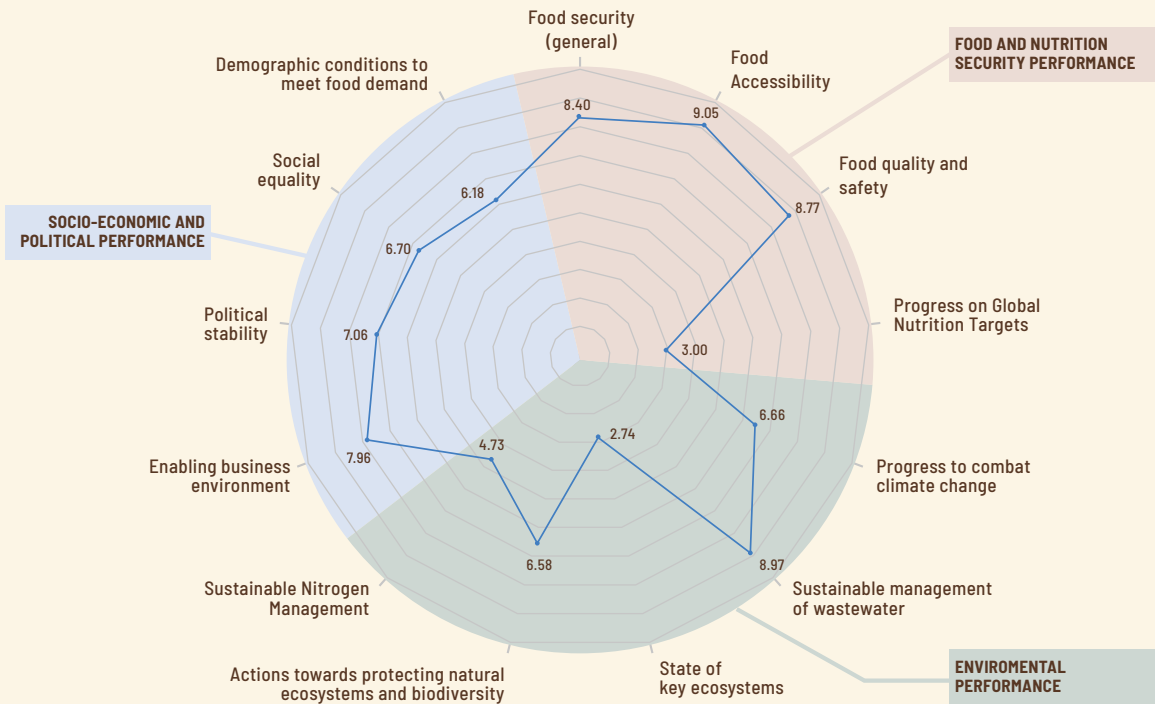
Data on food system performance enabled the creation of a spider-web graph characterizing the situation in each country, as shown in Box 2. This resulting impression informed the interviews (e.g. “what led to the situation shown by this set of indicators?”). Only indicators for which data were collected within the past ten years were selected. A second criterion was the availability of data for (almost all) countries in the world, in order to allow for replicability. Where possible, indices were used rather than primary indicators to give a comprehensive and integrated perspective on the food system. The indicators selected are internationally recognized as being reliable within general global data limitations.

BOX 2 National food system performance

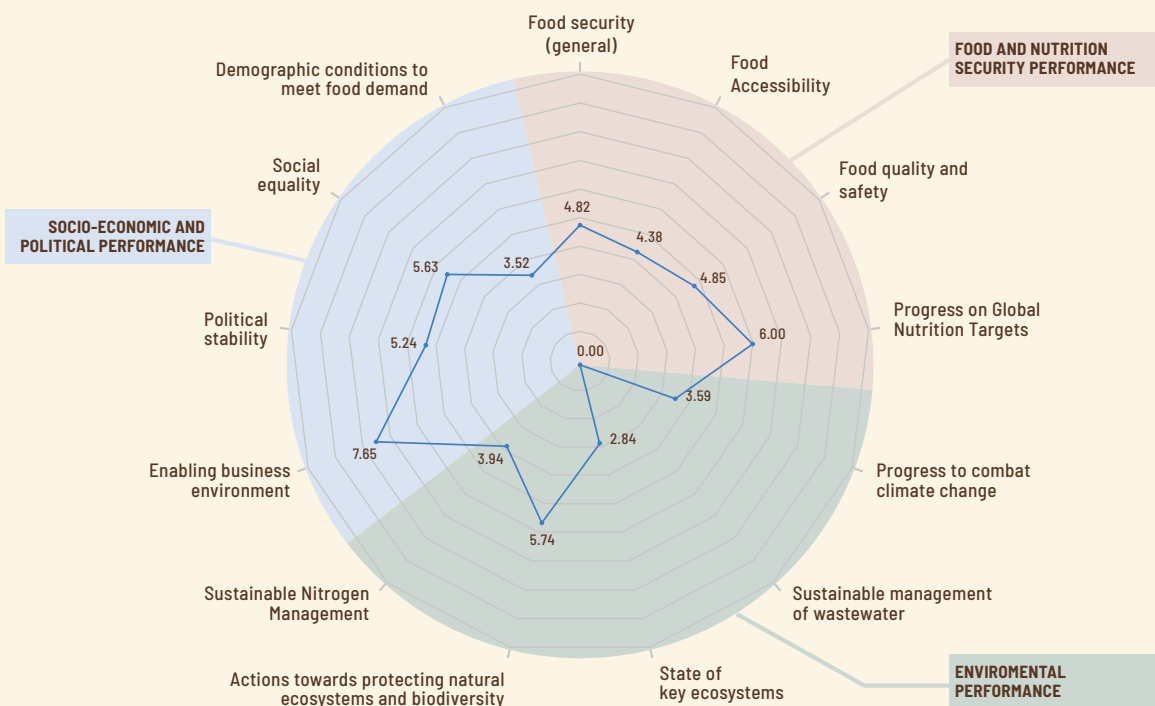
Performance of the Costa Rican food system across three dimensions



Performance of the Irish food system across three dimensions



Performance of the Rwandan food system across three dimensions



Sources: Brouwer, H., Guijt, J., Kelly, S. & Garcia-Campos, P. 2021. *Ireland's journey towards sustainable food systems. The processes and practices that made a difference.* Rome, FAO. (also available at <https://doi.org/10.4060/cb5996en>); Roosendaal, L., Brouwer, H., Garcia-Campos, P. & Prado-Rivera, F. 2021. *Costa Rica's journey towards sustainable food systems. The processes and practices that made a difference.* Rome, FAO. (also available at <https://doi.org/10.4060/cb5997en>); Wigboldus, S., Guijt, J. & Garcia-Campos, P. 2021. *Rwanda's journey towards sustainable food systems. The processes and practices that made a difference.* Rome, FAO. (also available at <https://doi.org/10.4060/cb6057en>).

Implementation

Between 12 and 20 persons were interviewed for each country (Box 3 provides a list of the key questions that guided the interviews). Each recorded interview lasted one hour on average. In many cases, interviewees provided additional reading suggestions, such as specific policy documents or evaluation reports. A short report on each interview and a variety of secondary literature informed the development of a zero draft. This zero draft was then validated with key informants through email communications and an online interactive workshop.

BOX 3.

Key questions guiding the interviews with country informants

The following questions were proposed, elaborated, explained and contextualized as appropriate for each interview:

1. What have been the biggest changes and events over the past 15 years in the agrifood sector, and what are the key outcomes of these changes to date?
2. What historic events, or key steps (including institutional, policy reforms, crises and opportunities) have contributed to this context?
3. What behind-the-scenes dynamics/relationships (including mindset changes, etc.) contributed significantly to a shift towards a sustainable food system?
4. What were the key learning points in terms of processes, policies, etc. that worked well in this context and those that did not (and what was changed as a result of this learning process)?
5. What important challenges still need to be overcome in order to transition the food system towards sustainability?

Reporting

The country reports present the highlights of this process, both in a descriptive and analytical sense. This involves three dimensions:

1. **Descriptive (what)** – this dimension involves the creation of a sufficient evidence base consisting of processes, performance and perspectives.
2. **Analytical (why, how)** – this dimension involves generating findings and seeking explanations regarding what approach (seems to have) worked, and why, as well as how it came into place.
3. **Interpretative (so what)** – this dimension involves drawing general insights that could be relevant for other countries, while presenting them in their specific context. This interpretative part was informed by a series of sense-making frameworks (see section 1.2.3).

1.2.3. Sense-making frameworks used in support of the analysis

A series of sense-making frameworks were employed as guidance tools when engaging with stakeholders and analyzing the research findings, due to their ability to enrich insights on the food system transformation process. The five sense-making frameworks used were: 1) types of food sustainability transformation, 2) a multi-level perspective (MLP) on sustainability transitions, 3) leverage points for intervening in systems, 4) a strategic scoping canvas, and 5) collective capabilities for food systems transformation. Explanations and accompanying figures for each perspective can be found in Annex 1.

Most of these frameworks are well-known and have been adapted to serve the purpose of this study. They have been used mainly in an informal manner to elicit a variety of perspectives on the findings. Some relate to organizational change; however, their application in the context of a multi-actor transformation process is not intended to produce a direct correspondence, but rather to function as a heuristic tool to diversify the type of lessons that can be learnt. The Costa Rica and Ireland case studies were conducted earlier than the Rwanda study and, therefore, the frameworks were applied in a more implicit manner. In the Rwanda case study, these frameworks were used in ways to articulate the findings more explicitly.

1.2.4. Usefulness and limitations

The following section reflects on the usefulness of the methodology, its limitations and its potential application in other contexts.

Preparations

As mentioned earlier, the intended face-to-face interviews and workshops had to be dispensed with in favour of online interactions due to the COVID-19 pandemic, a decision that changed the nature of the interactions. The initial two-pronged approach was developed to create interactively a shared understanding about food system characteristics before delving deeper into less obvious and informal aspects of the transformation process. As a result of the change in approach, preparations to select key informants for interviews and the scheduling of online meetings took more time than anticipated, and the appraisal, initially conceived of as rapid, took longer than intended.

Implementation

Interaction via an online platform is a less personal experience than talking face-to-face, and thus is less conducive to eliciting information. In addition, an interview duration of one hour is not sufficient to build a rapport and acquire valuable input. While more time could have been requested, such a proposal would not have been convenient for many interviewees. To a certain extent, this comes with the territory when planning rapid appraisals: they are not intended to provide comprehensive overviews; rather, the intention is to identify common threads from among a limited number of interactions. The evolving situation led to a realization that the data gathered from interviews would need to be complemented with insights from relevant formal and grey literature, especially in terms of critical reflection. Since a food system has multiple different dimensions and dynamics, it was also difficult to capture insights related to all these different elements. As a result, the case studies tended to concentrate more on certain elements, often guided by the focus of country policies, especially in agriculture. To address this situation in future appraisals, specific questions on different elements of the food system could be added to the main list of topics in order to facilitate the interviewer's job and improve the quality of the data gathered.

Data analysis and interpretation of results

The methodology was applied at the national level in each of the countries. As a result, the interviews findings lack higher-resolution insights in relation to variations between different regions and food systems at the country level. Such a rapid appraisal therefore serves as a starting point for dialogue to be elaborated upon through further specification.

Articulating key insights on the basis of a rapid appraisal is a complex process. For this reason, validation with key informants was critical to help triangulate the insights. Due to the nature of the consultations, the insights remain tentative in terms of requiring more in-depth elaboration and validation based on a more broad-based study. Interpreting insights in the light of a number of sense-making frameworks added significant value and helped make the insights more inspiring.

Possible application in other countries and contexts

It is hoped that the country reports will prove useful as inputs into country-level dialogues on the transformation of food systems towards sustainability. The aim was to draw out lessons, articulated as key insights, that could inspire other countries as they engage with their own (ambitions regarding) food system transformation. As noted in these key insights, contextualizing food system transformations is critical. Many principles apply across different contexts, but the way in which they are applied will often need to be different. A major part of being able to make progress in a transformation process relates to the ability to contextualize policies, strategies and programmes appropriately.

Additionally, while Costa Rica, Ireland and Rwanda were chosen because of plausible positive trends in their food systems outcomes, they are unique in all being small nation states with strong, relatively stable governments over the past 20 or more years.

The methodology may also be applied at other levels, including particular food systems. It is also flexible enough to be used to examine, for example, metropolitan-led, peri-urban food system transformation, an area increasingly seen as a hub of transformational change (FAO, 2019). Finally, sense-making frameworks could inform the design phase (including the types of questions to be asked) to a greater extent than in this study.

2. Key learning: country-specific and common insights



©FAO/Laura Mukeme

This chapter examines in more detail the experiences of Ireland, Costa Rica and Rwanda in terms of government efforts to steer food systems onto new, more sustainable pathways. It explores the instruments available in the policy and investment mix that can influence food systems, the involvement of other actors besides the public sector, the allocation and negotiation of different roles, and the cross-sectoral collaborative mechanisms and support structures that need to be in place to enable actors to play their roles effectively. It also seeks to answer two key questions: “What forms of public dialogue are needed to define the direction of food system transformation?” and “What is the nature of the food future that citizens want?”

Insights from the three country cases are followed by common insights about processes and policies required for food system transformations.

2.1. Ireland: key insights

The case of Ireland’s food system and the transformation it has undergone in recent decades offers important insights into the ability of the public sector to lead, adapt and collaborate. The past 50 years of Irish agriculture have been characterized by major political choices at the European level about Ireland’s adaptive capacity to deal with the challenges and opportunities of European Union membership, and deep, economic, social and cultural changes in Irish society (Arnold, 2008). The country’s trajectory from small-scale farming focused on commodity exports with little value added, to gradual integration into high-value international supply chains, and its current ambition to contribute to solving world hunger, reflects profound shifts that have taken place within and around the boundaries of Ireland’s food system.



Seven key insights arise from the rapid appraisal of Ireland's food system transformation (Brouwer *et al.*, 2021). The appraisal was based on a literature review as well as interviews and validation workshops with 12 key persons representative of the wide scope of actors active in the food system.

1. Provide strong leadership, but be open to societal dialogue. Many of the policies and investments that have led to important transitions in the dairy sector, for example, have come about because of strong leadership and ownership on the part of the Irish government in driving sector development. Yet, the quality of leadership is less about rolling out a solution, and more about co-designing it with stakeholders from the outset. This requires upfront and continuous investments in collaboration with industry, knowledge institutes and citizens. Such institutional ability to coordinate informed conversations across sectors increases the likelihood of stakeholder engagement and acceptance in the long term.

2. Leverage existing rolling strategy process to learn, align and adapt. Ireland's ten-year strategy processes help create coherent policy narratives including action plans. In addition, they build new spaces for deliberation and networking, which makes cross-sector collaboration easier. The shifting foci of each iteration of these strategies, and the changing composition of committees, testifies to the fact that these strategies can be adaptive and operational documents that take lessons learned into account. This approach has accelerated the achievement of targets, with initiatives reworked where needed. The strategy process has led to an aligned vision of public and private actors in the agrifood sector built on consumer and market insights and foresight. The next level of adaptation will be to increase effective engagement with environmental interest groups.

3. Build on comparative advantages to develop a competitive agrifood sector. Ireland has substantial natural and socio-economic assets at its disposal, including: a maritime climate favouring sustainable, grass-based production systems; the highest proportion of grassland in Europe translating into carbon efficiency in dairy and beef production; no water scarcity concerns; a high-quality marine environment; and world-leading food safety and traceability systems. The ability to capitalize on such assets for sector growth and sustainability is an essential prerequisite for any national government.

4. Combine top-down and bottom-up innovation processes. Innovation in agrifood in Ireland is driven by two parallel dynamics: a centrally guided policy and strategy process, and bottom-up action learning and experimentation by farmer groups supported by researchers. Both of these distinct elements are indispensable for healthy sector transformation as they drive constant feedback loops between consumers, food chain actors, service providers, farms and research institutes. By building capacity at both levels, Ireland's food system has been able to innovate, adapt and evolve over recent decades. These processes were also aided

by dynamics such as strong market intelligence on the market side through the Irish Food Board (Bord Bia), and strong mechanisms for food safety and quality standards leading to high-quality products.

5. Recognize that strong institutions representing all parts of the food system require ongoing investment. Despite the many and different agrifood initiatives in Ireland, there has been an effort to combat fragmentation by providing strong mandates to specific institutions such as the Food Safety Authority of Ireland (FSAI), the Agriculture and Food Development Authority (Teagasc) and Bord Bia. These institutions represent various factions of the food system, have invested in partnering capabilities and are well-connected with all sector players.

6. Nurture niche initiatives today to provide a basis for sustainability and growth tomorrow. Niche initiatives need active nurturing, otherwise they remain a ripple in a pond without producing deeper systemic changes. Examples of niche initiatives include the Burren Programme (ecosystem services payments to farmers), new precision agriculture technology developed by start-ups and new ways to nudge consumers to adopt healthier diet choices. However, before promising niche initiatives can graduate to maturity and be scaled up, they require facilitation with soft investment capital, knowledge services and effective regulatory support.

7. Create a sense of urgency to change course. In the aftermath of a crisis or disruption, where the agrifood sector may help drive recovery, efforts must be aligned towards supporting this sector. Ireland's strategy after the 2008 economic crisis proved that this is possible. The country shifted incentives towards promising indigenous sectors such as dairy and beef through a combination of policies, investments, and research and advisory services.

2.2. Costa Rica: key insights

In Costa Rica, the developments of recent decades have set the scene for transformation towards a sustainable food system. Since the 1970s, the country has moved beyond rhetoric to steadily embedding principles and practices of “conservation” and sustainable development into its economic development. Key ingredients needed to further leverage this transformation are now in place, and include: political commitment; policies, institutions and laws; basic infrastructures in the political, social and economic domains; and a critical population increasingly demanding sustainability.

Five key insights arise from the rapid appraisal of Costa Rica's food system transformation (Roosendaal *et al.*, 2021). During the appraisal 16 persons were interviewed, and a range of key documents and online references were reviewed.



1. The public sector plays a key role in laying the groundwork. First, structures such as education systems, social protection, policies, legal frameworks and formal institutions constitute the basis for sustainable development, and thus form key enablers for food system actors, enabling them to work towards achieving sustainability goals. However, these structures can only enable transformation when complemented with resources, clear and transparent participatory processes, and leading examples of interdisciplinary collaboration. Second, significant funds were invested in the agricultural knowledge and innovation system (AKIS), which has played a crucial role in shaping the agricultural sector. AKIS is underpinned by a strong R&D arm and a widespread network of agricultural extensionists, and has provided farmers with access to inputs, technology and finance. Third, the government has invested in basic structures of the food system, such as Farmers' Fairs, which facilitate stable access to nutritious food for the population.

2. Costa Rica's comparative advantage is key to the development of its agricultural sector. While the country has several natural characteristics which provide the basis for a successful agricultural industry, it is the marriage between these resources and political efforts that has shaped the agricultural sector. Through foreign trade agreements, among other mechanisms, Costa Rica has positioned itself on the global market in the process triggering a transformation of the agricultural sector as well as the natural landscape. The environmental costs of this transition represent a significant trade-off, with monocropping and pesticide use in particular negatively impacting the country's natural resources. However, access to global markets also introduced new income opportunities for many producers and partnerships, as well as sustainability standards that stimulated producers and cooperatives to innovate and encourage their respective sectors to become more sustainable.

3. A sense of urgency is crucial to leveraging change. From the 1990s onwards, the inevitable need for environmental sustainability increasingly characterized the debate in Costa Rica, fostering revision of the whole development model. This included increased engagement with the global community around sustainability, which in turn reinforced the sense of urgency in the country and sparked concrete actions towards sustainability. Examples include the integration of environmental objectives into agricultural policies, investment in technical training for staff and the implementation of sustainable development programmes in collaboration with foreign development agencies. Issues related to environmental crises function as key entry points for dialogue around sustainability, and help create a sense of urgency.

4. Cooperatives can play a key role in the transition towards sustainability. Cooperatives are in a unique position to pursue social as well as economic objectives, unlike companies where profits usually come first. Collectively, they constitute a platform that can give voice to a wide variety of food system actors, with an explicit focus on smallholders. In negotiations they privilege the longer-term interests of their members, which by default places an emphasis on sustainability as a necessity for long-term social and economic development. Cooperatives can also play a key role in innovation for sustainability, due to their close links with producers and their knowledge, for example, of environmentally friendly composting techniques, fertilizers and pesticides. Inspiring examples can be found in the coffee sector, among others. Many cooperatives engage frequently with a variety of actors, as evidenced by numerous collaborations with knowledge partners within and outside Costa Rica. In addition, the different functions of agrifood cooperatives are supported by national law.

5. A transparent civic space can contribute to sustainable policies and practices. Civic space plays a crucial role in all societies because it establishes a dynamic between state and non-state actors that is essential for the healthy functioning of a democracy. A specific example of this dynamic in Costa Rica was the mobilization of civil society against the introduction of genetically modified crops by a multinational firm. Food system actors voiced their interest and disagreements, and took steps to bring them forward (e.g. through platforms, legal steps or by mobilizing others) and the government responded to those issues by giving these actors space to do so without repercussions, while also respecting the outcomes of those measures.



2.3. Rwanda: key insights

Rwanda's experiences in the food system transformation over more than two decades offer insights from which other (notably post-conflict) countries can benefit. Crucially, they show that an adverse starting situation is no reason for not setting ambitious goals.

In the aftermath of the Tutsi genocide in 1994, the government focused initially on ensuring political stability and security, and guaranteeing sufficient food supplies (stabilization focus). Gradually, the focus shifted towards increasing productivity and efficiency in agriculture, notably through the Crop Intensification Programme (optimization focus). More recently, increased attention has been paid to environmental sustainability, food safety and nutrition (reform and transformation focus). Over 25 years, there has been a gradual shift adoption of an inclusive and participatory approach not only in terms of implementation, but also policy and plan-making. Major achievements include improved food system outcomes, with the caveat that much still remains to be addressed, notably a further reduction in malnutrition. Significant challenges include the impacts of climate change, skills/education levels (capacity development) and persistent high stunting rates.

Rwanda's lessons can be divided into those that underpin strategy and those that are more operational in nature (Guijt, Wigboldus and Garcia-Campos, 2021). The following five key insights relate to strategy:

1. Food system transformation processes need to be considered within and be relevant to the context. The case of Rwanda was characterized by a very specific history which informed transformation governance, with an emphasis on finding a pathway appropriate for the country. Other (post-conflict) countries can interpret and adapt these lessons to their reconstruction efforts.

2. Responsible leadership is critical, and participation is the foundation of continued success. It is important to find the right balance between having a strong government and allowing sufficient space for other actors to contribute to transformation. This includes negotiating a balance between benefits for the faster moving parts of society and attention to the welfare of the more vulnerable and less seen parts of society.

3. Key roles and the choice of approaches need to be continually reviewed. As food systems change, new dynamics are introduced, and new information and insights are brought to the table. Periodic recalibration is essential, including in terms of the different roles key actors need to play.

4. A food systems transformation process involves a balancing act. Transforming Rwanda's food system involves finding the right balance between different priorities that can be hard to reconcile. At times, disequilibrium is inevitable. It is thus important to remain open to constructive criticism and advice throughout the process.

5. The food system transformation may halt if continuity needs are not addressed. Rwanda has experienced its share of disappointments, for example in relation to hunger and undernutrition. Significant progress in these and other areas may take time. A key factor here is continuity in governance and national unity, both of which are essential to making advances and maintaining progress.

More operationally relevant insights are:

1. Policy development and implementation requires coordination and coherence. In Rwanda, policy guidance, coordination and accountability occur at the highest levels. The government makes sure that policy is implemented by allocating the necessary funds and asserting control over implementation.

2. Diversify approaches and programmes to connect to different realities across the country. Rather than using blanket approaches and "silver-bullet solutions", it is important to consider context specifics such as agro-ecological conditions and actor groups, and to identify appropriate and fitting approaches. For example, some crops will perform better in one region than another, while others, such as rice, may not be as profitable for Rwandan farmers. This underlines the need for grassroots input on policy goals and priorities.

3. Food system transformation involves more than optimizing one dimension. A strong push to increase the productivity of staple crops in Rwanda has had positive effect on food availability. However, this outcome has proven insufficient to address conditions such as widespread stunting. Adopting a systems approach means trying to reconcile multiple targets simultaneously.

4. New institutions need to anchor existing progress and establish a basis for future steps. Rwanda has put in place not only a wide range of policies, strategies and related programmes, but also created new legislation and ministries, and platforms for joint policy formulation. This approach has played a critical role in “institutionalizing transformation”.

5. Draw on resources and skills of partners. Rwanda has made it a priority to take a lead in partnering with development agencies, such as multilateral donors and research organizations, and ensure that such agencies respond to the needs of the government.

Rwanda’s experience illustrates that transformation is not a quick process and will inevitably involve trial and error, as well as disappointments regarding hoped-for achievements; furthermore, not everyone will agree on the chosen pathways. Importantly, there are no short-cuts to success. In the midst of this, a government that seeks to serve the needs of all citizens, which is open to learn and adapt, and which keeps momentum going, will make the difference. How the government plays this role remains the subject of serious debate.

2.4. Common insights about processes and capacities

2.4.1. Creating and maintaining a sense of urgency to change is crucial

A national, shared sense of urgency is the basis for shared willingness to work on transformational change.

In each of the three countries there is a broadly shared sense of urgency that there were – and still are – critical issues linked to national food systems that need to be addressed as soon as possible. Such urgency continues to drive ongoing efforts and engagement with systemic issues. While the drivers underpinning this sense of urgency differed and were specific to national contexts, in each case the need for transformational change became a national priority.

Urgency can be triggered by disasters or acute problems, such as the current climate change crisis, the debt crisis in Costa Rica in the 1970s and 1980s, conflict and threats to food security in the 1990s in Rwanda, and the impact of the financial crisis in Ireland in 2007. In some cases, the need for urgent action is readily apparent, for example a financial crisis or a famine. In other cases, food system actors such as civil society or agribusinesses take a leading role in drawing attention to these issues and bringing them to the policy agenda. In many cases, the interaction between different processes creates the necessary momentum for an issue to be perceived as urgent. One argument for ongoing structural improvements is that they actively maintain a sense of urgency through more institutionalized processes in which food system outcomes are monitored and stakeholders (e.g. the private sector and civil society) are invited to participate in dialogue.

For all three cases, as with countries globally, the need to improve nutrition outcomes has assumed an increasingly important place on the agenda, whether in the form of combating undernutrition, overweight and obesity, or both. In addressing these issues, attention is paid to the need to link the different elements of a food system and food system outcomes as well as combining food security, economic and environmental sustainability objectives. Again, the context of each case dictates the importance of these priorities. In Costa Rica, for example, a thriving, high-quality and increasingly sustainable coffee sector has become a hallmark of high-value production. Ireland started to combine these different perspectives on sustainability in the national agenda by incorporating them into the last five-year plan, but recognizes the need for more structural attention. Rwanda has started to tackle the issue of erosion as production levels intensify.

2.4.2. Agendas for food systems transformation are essential

An explicit food systems transformation agenda makes targeted implementation and constructive accountability possible.

Each country has developed ways to transform urgency into new agendas for their food systems. Such shared, explicit agendas have proven critical to ensuring that all actors are working towards shared goals with reasonable clarity around roles. Such “transformational agendas” have also provided the framework for government investments, as well as shaping the necessary capacities to deliver on said agendas.

Each country, as always, has its own agenda. Ireland, for example, is currently elaborating the 6th five-year national agricultural strategy, each of which sets a ten-year horizon. Most actors in the Irish food system consistently refer to these national strategies as being “theirs”, and acknowledge that it guides their efforts. Rwanda has been publishing Strategic Plans for Agricultural Transformation since the early 2000s, and is now developing its 4th national strategy. Costa Rica has included environmental sustainability objectives in its national policies on production and rural development since the 1990s, with the most recent strategy taking the form of an integrated multisectoral approach that targets not only environmental but also social and economic sustainability.

2.4.3. Implementation and accountability make change happen

Implementation plans that are properly resourced, clear on roles and goals and timebound, transform agendas from “paper promises” to “promised progress”. Strong, mandated accountability systems are critical to keep progress on track.

Effective transformational agendas in all countries were more than paper agendas: they were actively implemented by multiple actors. Civil, public and private sector actors are all involved in new business development, quality assurance, R&D, and large-scale rollout, albeit at different scales in each case. Budgets for these activities all varied over time, and in all cases, investments were aligned with national multi-year strategies. Costa Rica also has strong sector-specific multi-stakeholder platforms

(e.g. in coffee and fruit) that coordinate activities in the sector and ensure the necessary internal funding is in place. While the role of different actors is stronger or weaker depending on the maturity of the private sector and civil society organizations involved – in Rwanda this process is just starting to grow, while in Costa Rica civil society has led the drive to change national food systems – broad engagement on the part of a range of actors is increasingly important to address the complex agendas needed to catalyse food systems transformation.

Explicit and strong mechanisms of accountability help to ensure that implementation is heading in the right direction. Rwandan interviewees consistently referred to a “culture of accountability” as an essential part of government-led efforts. In the other two countries, a mix of dialogue, negotiation and judicial confrontation all play an important role in helping to keep national efforts more or less on track. High-level leadership explicitly backs accountability processes in Ireland, where the Minister for Agriculture personally chairs quarterly national progress meetings. Such a high level of accountability ultimately contributes to the quality of governance processes.

2.4.4. Shared governance is key

Explicit governance processes are needed that safeguard and encourage broad engagement in change processes, with all parties having a clear voice and real influence over key decisions.

In each country considered, transforming the food system implies broad engagement across multiple areas. Aside from government, farmers, civil society and private sector must all be actively involved in signalling needs, developing plans, implementation and monitoring the direction of progress. Every country struggle with truly reconciling tensions and trade-offs between dominant economic aspects and emerging nutrition and environmental imperatives. Often it simply is not possible to find synergies, and choices or priorities must be set. At this point, it becomes even more essential to ensure the participation of a wide range of voices shaping food systems transformation and to avoid “capture” of the agenda by any single group.

This process of governance usually works in a collaborative manner, as it is the case with sectoral organizations such as the Coffee Institute of Costa Rica (ICAFFE) or the multi-stakeholder Agriculture Sector Working Group (ASWG) in Rwanda. Such governance arrangements must connect stakeholders across different sectors or different types of stakeholders within the sector (horizontal linkages) and ensure connections across levels – from the grassroots to the government (vertical linkages). As such, these platforms allow for a diversity of voices, representation

and the possibility to introduce issues into national policy dialogues. Alternatively, governance processes can imply a role for the government to invite these stakeholder groups to the table and provide space for multi-stakeholder platforms to develop and play their part in food system transformation. Ireland, for example, has established a consultation group for strategic plans which comprises over 30 different stakeholders.

Time and effort are needed for partners to get to know and trust each other, but once interactive platforms and processes have been institutionalized, it adds greater efficiency to change processes. However, good collaboration is not always enough. At times it can be necessary for conflict to take place in a safe and legally supported manner. This was in fact the starting point for Costa Rica's journey to completely rethink production practices. More recently in Ireland, in March 2021, the Irish "environmental pillar" very publicly stepped out of the ongoing Irish consultation process to develop its next food system strategy; apparently, they considered this necessary to add greater urgency to desired environmental outcomes from Irish food systems.

2.4.5. Government must lead without taking over

The role of government is critical to bringing and keeping food systems transformation on national agendas, putting in place and enforcing sustainability legal and policy parameters, and safeguarding the possibility of all other stakeholders to influence what is decided and done.

Government is a critical actor in all the countries considered. The key roles they have and continue to play include:

Leading and/or facilitating national processes of consultation and agenda setting, thus allowing the voice of multiple actors to influence national policy and strategy. In all countries, interviewees mentioned the importance of government being seen to lead food systems transformations to greater sustainability. Leading then not only means that a national policy or strategy is developed, but also strategizing which stakeholders are involved, how they are involved, and carefully planning the process and tools to be used. The processes of Ireland's ten-year strategies represent a good example of how such a process can be carefully planned.

Institutionalizing transformational goals into law. For example, Costa Rica has enshrined the right to food and the right to a healthy environment into its constitution, and incorporated them into the national Food and Nutrition Security Policy 2011-2021.

Establishing and enforcing relevant regulations that specifically promote sustainability standards and accountability, such as Rwanda's performance contracts regarding implementation of agricultural strategies that set and evaluate implementation at different government levels.

Investing in the means to inform and implement the transformation process, such as ensuring necessary capacity building within government and drawing on the capacity of other actors, as well as building government investment portfolios that clearly align with national strategies. For example, Costa Rica has re-directed extensive R&D to emerging priorities, while Ireland has invested in top-class quality assurance institutions such as the FSAI and Bord Bia to maintain the global quality of Irish produce.

Managing the inevitable trade-offs in food systems requires that governments ensure policy coherence. The practice of policy integration from a food system perspective (e.g. reconciliation of environmental policy, nutrition policy and farmer income policy aspects) is urgently needed, but generally speaking seldom seen.

It is essential for governments to realize and embrace the fact that a transformation process does not take place overnight. In all cases, initial triggers for change and roots that underpin a (still ongoing) transformation process can be traced back several decades. Hence, system transformation will transcend electoral cycles and needs commitment not only from the government but food system actors themselves. Again, this reinforces the need for engaging food system actors throughout the process, developing multiannual adaptive strategies and embedding transformation efforts in institutions with a distinct food systems focus.

2.4.6. Transformation requires investments in transformative capabilities and innovations

Transformation needs transformative capabilities of governments to plan, and implement a national agenda, but also to facilitate other actors to invest and contribute to this agenda and strengthen capacities to do so.

Taking on the kind of processes and programmes seen in these cases implies matching growth and investment in the abilities to understand and act from a systems perspective. In particular, government needs strong planning and facilitation skills based on a sound understanding of agricultural and food systems, in order to play its essential convening, catalysing and steering roles.

Each study points to the need for both multiple capabilities (see Figure A1.6 for details), which represent an important area of investment in itself, and catalytic investment in innovations. The Ireland case discusses the approach taken in integrating research, education and extension and the progress yielded in innovations on various levels from improvements in on-farm sustainability practices to public-private investment partnerships in areas such as tertiary education to build human capital for the sector and post-farm gate innovations in value addition for the meat and dairy industries. The Costa Rica case also discusses investments by the public sector in integrating sustainability into agricultural knowledge and innovation systems, while also strengthening legal frameworks that led to the forging of alliances with private sector actors investing in research and innovation. Notable examples of the achievements of these investments can be found especially in the coffee, dairy and livestock sectors. In Rwanda, the government has demonstrated the motivation and political will to take risks in investing in innovations and capabilities in order to develop new opportunities for the economy. In doing so, it is highly supportive of research and actively seeks out proven innovations applied elsewhere to capitalize on their potential for Rwanda.

Which capabilities and investments to prioritize depends very much on where capabilities exist among the many stakeholders, and where priorities lie in national strategic plans at a given moment. The main point is to invest in capabilities and innovations as well as processes (e.g. mandated multi-stakeholder platforms/groups) and instruments (e.g. redirected R&D or appropriate investment policies).

3. How other countries could draw on these lessons

3 HOW OTHER COUNTRIES
COULD DRAW
ON THESE LESSONS



©FAO/Giuseppe Carati/Faunol

There are three ways that national governments could draw benefits from the range of experiences shared:

1. Approach food systems transformation as an opportunity and learning journey. The contextual characterizations given for Costa Rica, Ireland and Rwanda make clear that each country has made great strides forward in improving the productivity, viability, inclusiveness and/or environmental sustainability of its food systems. None are perfect, and stakeholders would be the first to acknowledge that. But they do show that taking signals of necessary change seriously and acting boldly on them can, and does, build much stronger food systems with increasingly broad benefits. The cases have also clearly demonstrated the important role that government plays in steering the agrifood system, which also includes the need to maintain continuous momentum and the pace of transformative action. The insights shared also recognize that the road to sustainability is long, and planning and investments in mid-term milestones and supporting actors in the multiple transition phases is key.

2. Facilitate the contribution of all stakeholders. In a world where civic space is structurally declining, and micro, small and medium enterprises (MSMEs), the backbone of many food systems, are being dominated by a small number of very large firms (van Berkum, 2021), governments would do society a great service by supporting diversity, voice and inclusive governance. Food systems are shaped by a vast number of activities and drivers, with an even larger diversity of actors and voices. Strong engagement from a wide range of actors proves to be a great advantage in structurally improving the functioning and desired outcomes of food systems. If governments provide safe spaces for interaction and collaboration, they can tap into the experience and motivation of those who are deeply vested in change for greater public value. This process is not always comfortable – change often needs (guided) conflict – but it can grow into respectful and effective collaboration. It can also lead to recognition of the value of co-existing and pluralistic food systems in a country.

3. Look at how frontrunners are adapting different approaches to their own situation. Each of the three cases include specific examples of consultation processes, planning mechanisms, and legal and institutional anchoring that can inspire many others wanting to know “How do we go about transforming our food systems?”. Since these examples have shown to be effective in some form, it is worth using such examples as a starting point and seeing how they might be adapted to a different context, with different priorities, natural assets and so on.

4. Conclusion



The approach taken to develop the country cases was highly qualitative and rapid, offering the target countries and peer nations a high-level and detached perspective of the current status of the policy frameworks governing the respective food systems, based on the perceived outcomes of past investments, programmes and policy decisions.

Although actions towards transformation should be by definition context-specific, the cross-country comparison in this report has also enabled the identification of important common insights, such as the need for disruptions and crises to be seized as opportunities to reorient policies or to pivot investments to catalyze innovations in sustainable solutions, including in nutrition, which many countries are, for instance, doing on the back of the COVID-19 crisis.

The role of explicit national transformational agenda for the food systems was also underlined as foundational if different, and often conflicting, interests from across sectors, institutions, line-ministries and disciplines are to be converged in order to identify both synergies and trade-offs. In this respect, the regional programmes and policies supporting national systems are crucial. The ongoing national dialogues leading up to the Food Systems Summit in September 2021 have also highlighted the commonality of opportunities (e.g. knowledge sharing) and challenges (e.g. climate change) facing food systems across countries within, and even across regions. Regional programmes and policies such as the European Union's **Farm to Fork Strategy** and the African Union's **Comprehensive African Agricultural Development Programme (CAADP)** provide important platforms where countries, and partners in development, can converge and pool resources, knowledge and initiatives to collectively improve the global agrifood system.

The need to balance and invest in processes that ensure accountability for action, referred to in the Rwanda case study as a 'culture of accountability', while at the same time creating mechanisms for trust and shared governance, was also underlined. In this regard, the presence of high-level government support to oversee and encourage accountability and multi-stakeholder dialogue processes was also seen as a major critical success factor for progress in engaging the private sector in the design and success of Ireland's rolling agrifood sector strategy process. Furthermore, investing in organizational and technological innovations and capabilities was reiterated throughout the cases, as was the need for integrated approaches across disciplines in order to fully leverage investments in data compilation efforts, research, education, and on and off-farm entrepreneurship.

Using the methodology proposed in this study can support national multi-stakeholder consultative processes to bring different voices together in order to reflect on ongoing actions and determine where they are beneficial or are less effective. The resulting country case studies can provide helpful discussion starting points to consider where improvements in processes behind transformation efforts would be useful.

Ultimately, countries that aspire to transform their food systems can be encouraged by the experiences of the three countries referred to in this report. The most important conclusion to draw is that deliberately nudging and steering food systems to deliver on very different, desired food system outcomes is possible: food systems can be transformed. Food systems are not simply the result of 'given' market mechanisms and there is no definitive outcome on the path to sustainability; rather, policies and programmes need to pivot as the food system and stakeholders' needs evolve. Food systems needs are equally shaped by deliberate political and societal processes, as well as by autonomous change resulting from impacts of internal and external drivers, including bordering systems, such as energy, tourism, forestry, construction and transport, among others, which effect and are effected by food systems.

Finally, publicly sharing the results of these cases will also allow the international community to focus on mechanisms that can help countries improve their own national multi-stakeholder dialogues and transformation efforts in preparation for and beyond the Food Systems Summit.

References

Abson, D.J., Fischer, J., Leventon, J., Newig, J., Schomerus, T., Vilsmaier, U., von Wehrden, H., Abernethy, P., Ives, C.D., Jager, N.W. & Lang, D.J. 2016. Leverage points for sustainability transformation. *Ambio*, 46(1): 30-39. (also available at <https://doi.org/10.1007/s13280-016-0800-y>).

Arnold, T. 2008. Europe and the revolution in Irish agriculture. In M. Callanan, eds. *Foundations of an ever closer union: An Irish perspective on the fifty years since the Treaty of Rome*, pp. 97-120. Dublin, Institute of Public Administration.

Baser, H. & Morgan, P. 2008. *Capacity, change and performance study report*. ECDPM Discussion Paper 59B. Maastricht, ECDPM. 157pp. (also available at <https://ecdpm.org/publications/capacity-change-performance-study-report>).

Brouwer, H., Guijt, J., Kelly, S. & Garcia-Campos, P. 2021. *Ireland's journey towards sustainable food systems. The processes and practices that made a difference*. Rome, FAO. (also available at <https://doi.org/10.4060/cb5996en>).

FAO, IFAD, UNICEF, WFP & WHO. 2020. *The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets*. Rome, FAO. (also available at <https://doi.org/10.4060/ca9692en>).

FAO. 2019. *FAO framework for the Urban Food Agenda*. Rome. 44pp. (also available at <https://doi.org/10.4060/ca3151en>).

Geels, F.W. 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy*, 31(8-9): 1257-1274. (also available at [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8)).

Geels, F.W. & J. Schot. 2007. Typology of sociotechnical transition pathways. *Research Policy*, 36: 399-417. (also available at <https://doi.org/10.1016/j.respol.2007.01.003>).

Meadows, D.H. 1999. *Leverage points: Places to intervene in a system*. Hartland, VT, USA, The Sustainability Institute.

Messerli, P., Murniningtyas, E., Eloundou-Enyegue, P., Foli, E.G., Furman, E., Glassman, A., Hernández Licona, G., Kim, E.M., Lutz, W., Moatti, J.P. & Richardson, K. 2019. *Global sustainable development report 2019: The future is now, science for achieving sustainable development*. 216pp. (also available at https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf).

Roosendaal, L., Brouwer, H., Garcia-Campos, P. & Prado-Rivera, F. 2021. *Costa Rica's journey towards sustainable food systems. The processes and practices that made a difference*. Rome, FAO. (also available at <https://doi.org/10.4060/cb5997en>).

UN. 2021. *Food Systems Summit 2021. About the Summit: Why food systems?* [online]. New York, United Nations. [Cited 30 March 2021]. www.un.org/en/food-systems-summit/about

Van Berkum, S., Dengerink, J. & Ruben, R. 2018. The food systems approach: Sustainable solutions for a sufficient supply of healthy food. *Wageningen Economic Research*, no. 2018-064. (also available at <https://doi.org/10.18174/451505>).

Van Berkum, S. 2021. *The role of trade and policies in improving food system outcomes*. Background papers for the Rural Development Report 2021. Rome, IFAD.

Wigboldus, S., Brouwers, J. & Snel, H. 2020. How a strategic scoping canvas can facilitate collaboration between partners in sustainability transitions. *Sustainability*, 12(1): 168. (also available at <https://doi.org/10.3390/su12010168>).

Wigboldus, S., Guijt, J. & Garcia-Campos, P. 2021. *Rwanda's journey towards sustainable food systems. The processes and practices that made a difference*. Rome, FAO. (also available at <https://doi.org/10.4060/cb6057en>).

Annexes

A ANNEX

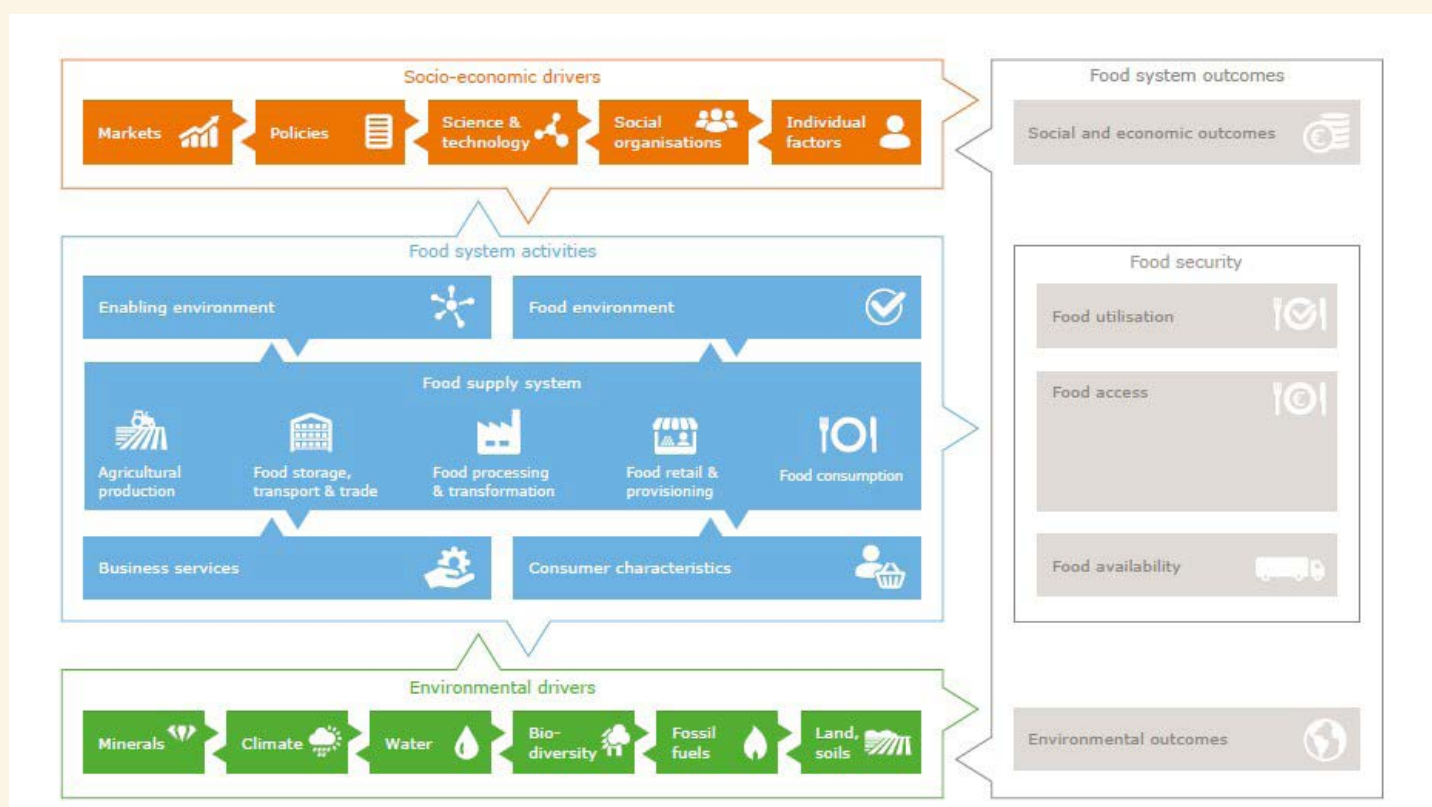
1. Sense-making frameworks used to interpret findings

Annex 1. Sense-making frameworks used to interpret findings

The following five frameworks are described in section 1.2.3 and have been used to interpret findings from the three country cases.

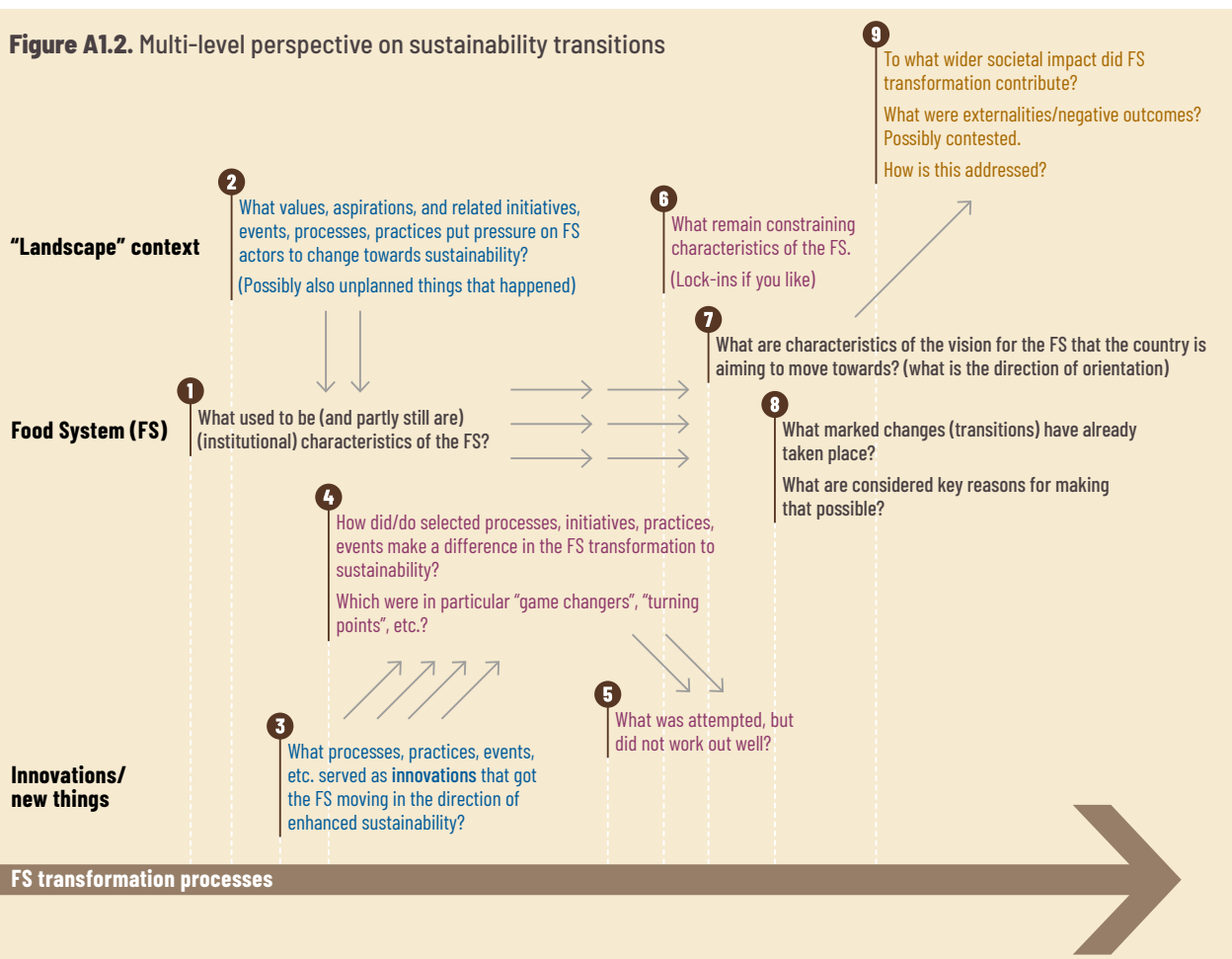
1. Types of food sustainability transformation. Three main dimensions of food system sustainability can be considered, namely socio-economic sustainability, food security sustainability and environmental sustainability (van Berkum, Dengerink and Ruben, 2018). Interpretation of the findings along these lines considers the main focus of policies and investments and how they evolved over time. Figure A1.1 provides a representation of these dimensions in the context of the overall food system.

Figure A1.1. Food system activities, drivers and outcomes



Source: van Berkum, Dengerink and Ruben (2018).

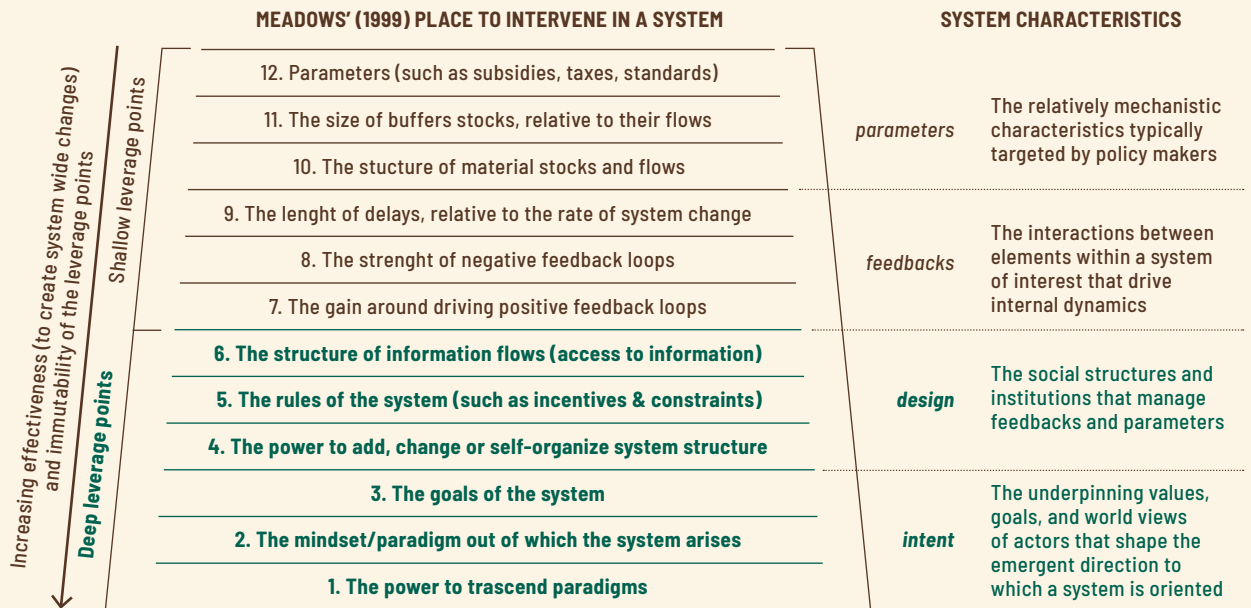
2. The multi-level perspective (MLP) on sustainability transitions. This perspective considers ways in which the performance of a (food) system changes over time as a result of internal dynamics, wider context dynamics (in society and the natural environment) and, specifically, the introduction of innovations (see Figure A1.2). It helps to problematize the efficacy of introducing innovations by considering how dominant (food) system characteristics (e.g. type of land governance) may present challenges to innovate in a particular field, and also how innovations may influence the external elements within an existing system (Geels, 2002; Geels and Schot, 2007).



Source: Adapted from Geels (2002).

3. Leverage points for intervening in systems. The leverage points perspective considers a range (see Figure A1.3) of ways of influencing (food) system change and the difference in potential for change that each of these ways offers (Meadows, 1999; Abson *et al.*, 2016). For example, changing production levels does not lead to the depth of change (transformation) that a change in mindsets or paradigms brings about. It does not mean that one is better than the other, but rather that different options (with their different potential for influencing change) need to be strategically considered in relation to goals and ambitions (see Figure A1.4).

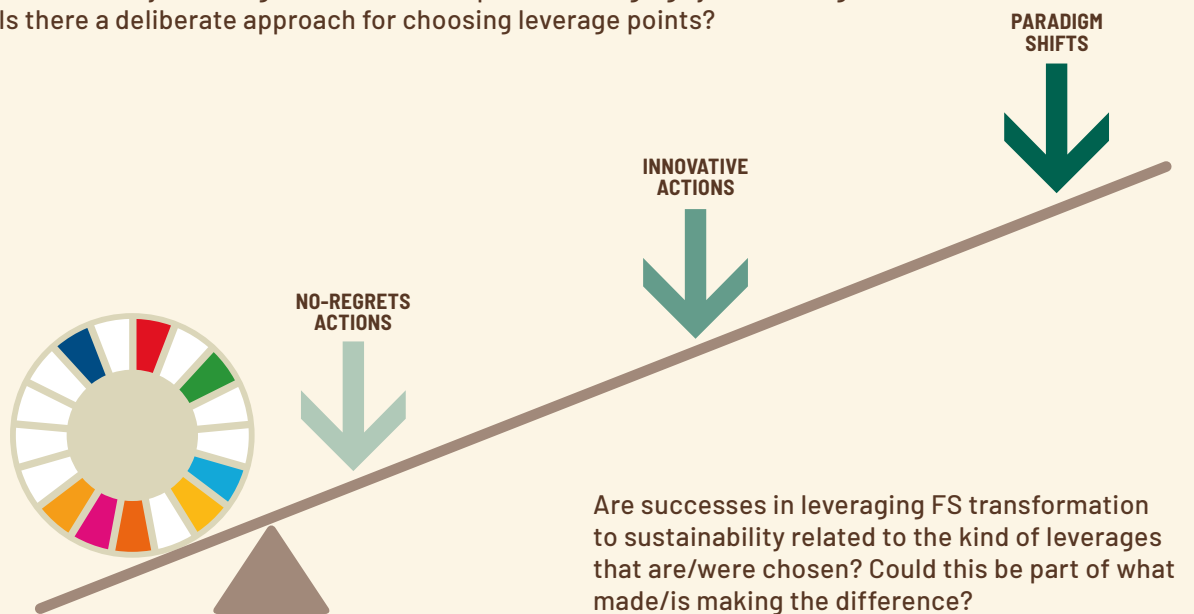
Figure A1.3. Leverage points for intervening in systems and system characteristics



Source: Adapted from Abson *et al.* (2016).

Figure A1.4. Options for leveraging system change

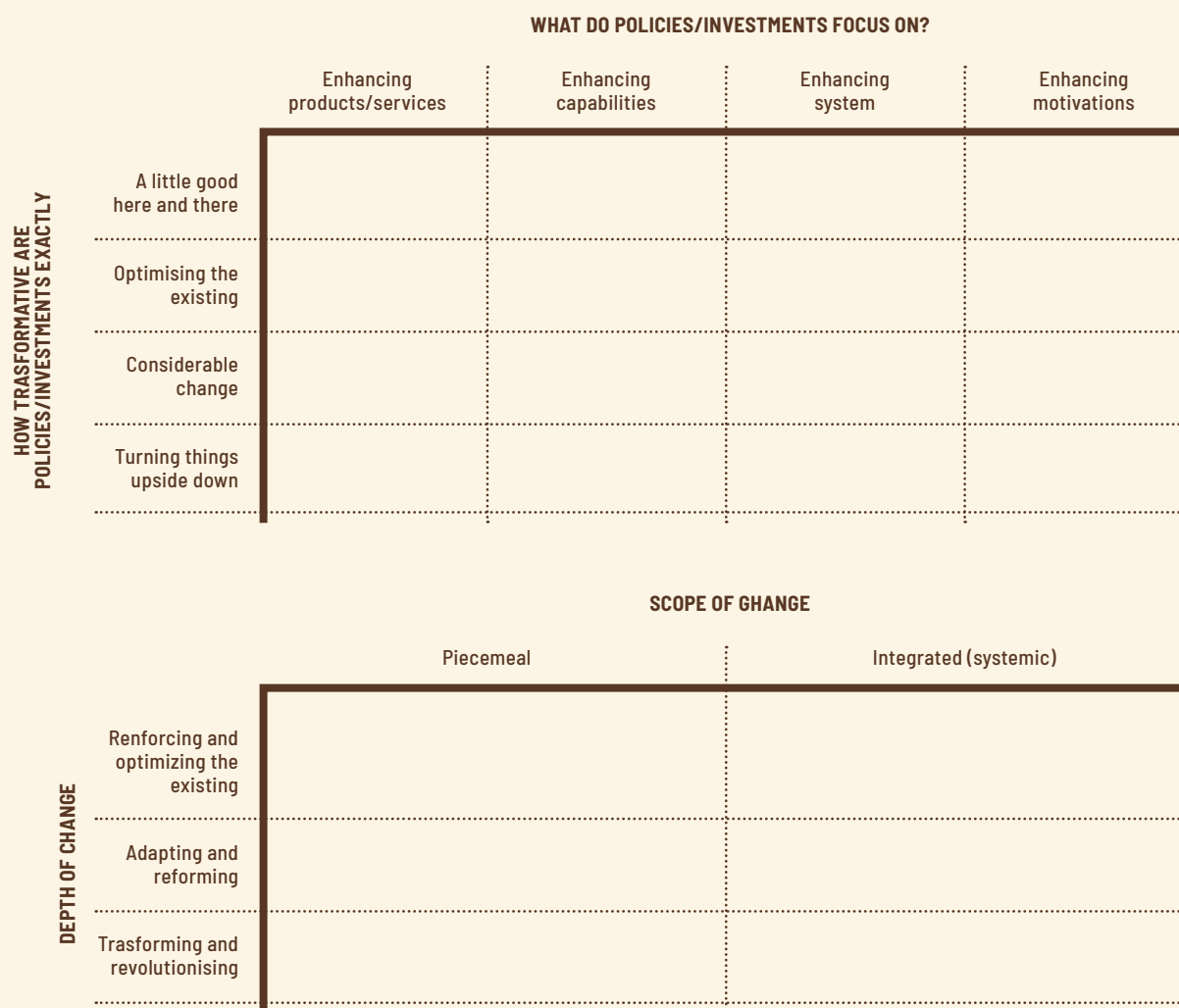
Considering transformation strategies, policies, and actions, what are they focusing on in terms of depth of leveraging system change? Is there a deliberate approach for choosing leverage points?



Source: Authors' own elaboration.

4. The strategic scoping canvas. As shown in Figure A1.5, the strategic scoping canvas can help consider the ways in which the focus of policies and strategies may change over time, in terms of a focus ranging from optimizing existing practices to redesigning and transforming practices, and in terms of a focus ranging from piecemeal engineering (focus on separate food system elements) to systemic/integral/wholistic approaches (Wigboldus, Brouwers and Snel, 2020).

Figure A1.5. The strategic scoping canvas



Source: Adapted from Wigboldus, Brouwers and Snel (2020).

5. The five collective capabilities for system transformation. This perspective considers five core capabilities which shape overall capacity (see Figure A1.6), and focuses on human and social capital. It is applied here to food system transformation capacity. All food system actors have something to contribute in terms of their abilities. They include farmers, traders, processors, retailers, the food service industry, various government agencies, research and education, environmental advocates and consumers. Together and interactively, their collective capabilities shape food system transformation capacity (Baser and Morgan, 2008).

Figure A1.6. Collective capabilities for food system transformation

	CHARACTERIZATION OF RELATED PROCESSES
<p>Capability to resource, act and deliver for sustainability transformation</p> <p><i>Key words: intervention management (doing things right), resource allocation</i></p>	<p>Examples of aspects to consider by way of proxy indicators/evidence:</p> <ul style="list-style-type: none"> • The existence and quality of strategies and plans. • Use of methods to anticipate future dynamics. • Effective monitoring and evaluation of transformation process and outcomes. • The availability of financial support. • Evidence of actively engaged individuals with appropriate competencies. • The range of products and services provided. • Good organizational setup. • Documented agreement on the purpose of food system change (outcomes). • Policies and plans that connect to what lies beyond the food system. • Effective monitoring of the effects (social, economic, environmental) of the wider use of innovations.
<p>Capability to relate and partner for sustainability transformation</p> <p><i>Key words: relationships and collaboration</i></p>	<p>Examples of aspects to consider by way of proxy indicators/evidence:</p> <ul style="list-style-type: none"> • Ratio of actors that need to be involved and those who are. • Existence of Memoranda of Understanding and similar formal agreements. • Absence of legitimacy issues. • Satisfaction regarding collaborative arrangements. • Absence of relationship issues. • No a priori obstacles to the involvement of relevant food system actors.
<p>Capability to adapt and self-renew to align with sustainability transformation requirements</p> <p><i>Key words: urgency responsiveness and willingness to change</i></p>	<p>Examples of aspects to consider by way of proxy indicators/evidence:</p> <ul style="list-style-type: none"> • Development of effective options for adaptation developed, or clear evidence that they are not needed. • Existence and use of a plan for food system change. • Effective monitoring and evaluation in place. • Identifiable course changes linking back to learning. • Identifiable changes in organizational arrangements. • Existence of deliberate dialogues among partners in food system change. • Identifiable new ideas that were incorporated along the way.
<p>Capability to address diversity and achieve coherence in sustainability transformation</p> <p><i>Key words: inclusion and coordination, leadership, doing the right things</i></p>	<p>Examples of aspects to consider by way of proxy indicators/evidence:</p> <ul style="list-style-type: none"> • Existence/absence of legitimacy issues. • Tensions and conflicts fully resolved at all times. • Documented agreement on a shared interest. • Satisfaction across stakeholder groups. • Existence of frequency of communication channels used. • Conflicts managed in adequate ways. • Competent leadership/coordination. • Effective monitoring of benefits across relevant groups in society. • No deliberate or undesirable exclusion of users based on e.g. gender, youth, disadvantaged groups, etc. • Effective monitoring of potential trade-offs.
<p>Capability to anchor food system sustainability transformation in relevant institutions</p> <p><i>Key words: institutionalization and consolidation of achievements</i></p>	<p>Examples of aspects to consider by way of proxy indicators/evidence:</p> <ul style="list-style-type: none"> • Relevant institutions mapped and used in the food system change plan. • Broad-based support for food system change efforts. • Articulated link to relevant policies and operational connection to policy-makers. • Existence of institutions where these are a documented part of standard processes and procedures.

Source: Adapted from Baser and Morgan (2008).

Related publications

Brouwer, H., Guijt, J., Kelly, S. & Garcia-Campos, P. 2021. *Ireland's journey towards sustainable food systems. The processes and practices that made a difference*. Rome, FAO. (also available at <https://doi.org/10.4060/cb5996en>).

Roosendaal, L., Brouwer, H., Garcia-Campos, P. & Prado-Rivera, F. 2021. *Costa Rica's journey towards sustainable food systems. The processes and practices that made a difference*. Rome, FAO. (also available at <https://doi.org/10.4060/cb5997en>).

Wigboldus, S., Guijt, J. & Garcia-Campos, P. 2021. *Rwanda's journey towards sustainable food systems. The processes and practices that made a difference*. Rome, FAO. (also available at <https://doi.org/10.4060/cb6057en>).

With financial support from the
Government of Ireland



Rialtas na hÉireann
Government of Ireland

Contact information

Food Systems and Food Safety

ESF-Director@fao.org

www.fao.org/food-systems

Food and Agriculture Organization of the United Nations

Rome, Italy

ISBN 978-92-5-134807-9



9 789251 348079

CB6149EN/1/08.21