

Food System Discovery – Actors and Activities in Luxembourg

Sustainable Food Practices,
University of Luxembourg

November 2022

About Sustainable Food Practices

The research project Sustainable Food Practices aims to strengthen sustainable perceptions and practices within the foodscape, with a particular sensitivity for social inequalities and everyday subjectivations. We undertake a deep analysis Luxembourg's food system and its current transitions to discover the challenges and opportunities within governance, production, retail and consumption. We adopt a praxeological approach to understanding the practices and motives of all actors within the system. Our scientific recommendations drive towards a more socially and environmentally just food system in Luxembourg.

Website: <https://food.uni.lu>

Authors:

Dr. Rachel Reckinger, Research Scientist and Principal Investigator rachel.reckinger@uni.lu

Dr. Diane Kapgen, Postdoctoral researcher

Dr. Helena Korjonen, Postdoctoral researcher

Ms. Anna Pax, External Expert, Codification and Assistance

Design by: Mrs. Sophie Margue,

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Corresponding address:

Faculty of Humanities, Education and Social Sciences

UNIVERSITÉ DU LUXEMBOURG

BELVAL CAMPUS

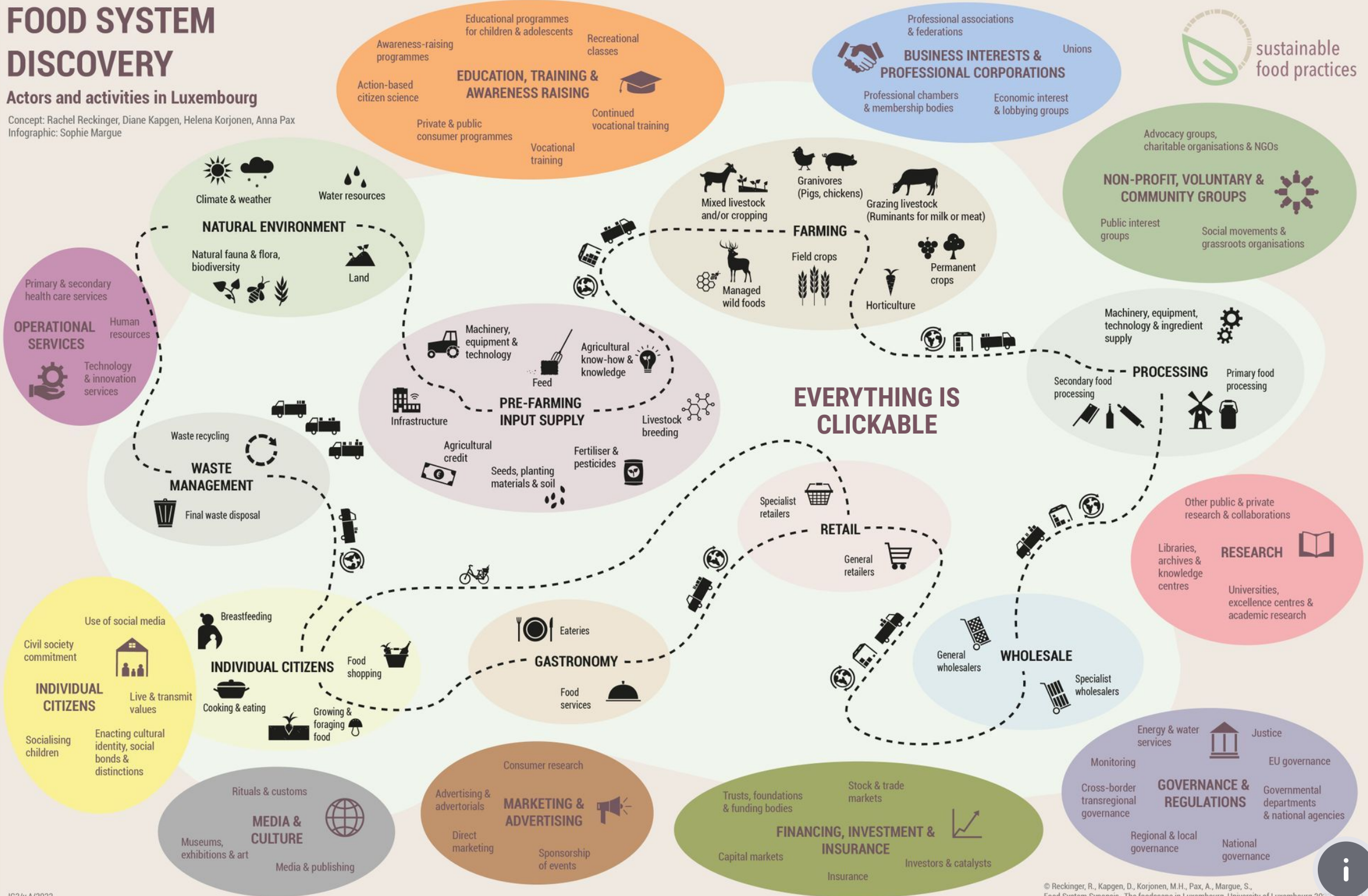
11, Porte des Sciences

L-4366 Esch-sur-Alzette

FOOD SYSTEM DISCOVERY

Actors and activities in Luxembourg

Concept: Rachel Reckinger, Diane Kapgen, Helena Korjonen, Anna Pax
 Infographic: Sophie Margue



WHAT IS A FOOD SYSTEM?

Description

A food system is an encompassing term, comprising actors that deal directly 'with' food – operating at the level of the food supply circuit (see '**Actors operating within the food supply circuit**' by clicking on the infographic background) and actors engaging in a varied array of activities revolving 'around' food – operating at the broader food system level (see '**Actors operating at the broader food system level**' by clicking on the infographic background). All food-related actors and their activities operate in different contexts (natural, socioeconomic, cultural, political etc.), which are interrelated and interacting.

The food system is thus not limited to the food supply chain, or farm to fork, which in themselves suggest linearity when actually there is no unique beginning and end, but rather complex feedback loops, activities and interactions, which happen constantly over short-, middle-, and long-term. They include varying numbers of different actors, connecting with or influenced by each other within the food supply circuit, or within the broader food system, and additionally between the food supply circuit and the broader food system actors.

A systemic and holistic approach to the food system is needed to identify the different parts with their respective actor groups and contexts and relate them to each other. There are great challenges created by various pressures and stresses from within the system and beyond, where contexts and developments in one part impact on other levels (interconnectedness), e.g. where structures and

processes at a global level set the frame of action for actors at a local level, in terms of natural resources, climate change, biodiversity loss, human exploitation, poverty, disease, political instabilities etc. Despite this vulnerability, food systems provide potential to contribute to addressing the beyond food-system challenges and become more resilient within at the same time. The transition to sustainable food systems is thus critical for addressing global challenges and building resilience is necessary to improve and secure access to sufficient, safe and nutritious food for all.

By using a systemic and holistic approach, it is possible to identify issues within each part of food system, the contexts, activities, relations and negotiations that lead to them, and eventually co-create joint-actor, locally adapted solutions, e.g. for reducing food waste, improving biodiversity in agriculture, stabilising food prices, preventing food shortage, enacting human rights and equity in food production and access etc.

*Luxembourg's
food system*



WHAT IS A FOOD SYSTEM?

LUXEMBOURG'S FOOD SYSTEM

Description

Food systems exist at different levels from the most local to global, so that it is possible to refer to the global food system, the EU food system, the German food system, the Greater Region food system, the Luxembourgish food system, the Minett food system etc. Each one of these food systems is composed of its actors operating at the food supply circuit level and its actors operating at the broader food system level, as well as of its inherent contexts (natural, socioeconomic, cultural, political etc.).

However, the food systems at different levels are not stand-alone entities - on the contrary, they overlap, interact and are interdependent, which means that developments at one level impact on other levels (interconnectedness). Structures and processes at a global level – and oftentimes out of their sphere of influence – set the frame for the scope of action of actors of local food systems.

This means that the Luxembourgish food system – which we depict here – is embedded in the larger vulnerability context of varying food systems, juxtaposed or operating at more international levels, with which they coexist, partly overlap and interact. Shocks, critical trends and seasonality aspects from various domains (ecological, economic, sociocultural, political, sanitary, etc.) and originating on more global levels, impact the Luxembourgish food system.

Food system actors at one level often lack resilience against these external influences, due to a limited ability to directly influence and act upon them, and reduced capability to cope with them – especially in the short-term.

Examples are changes in microclimate, weather hazards, pest migration; political and economic trends, especially trade agreements (shaped by the World Bank, the International Monetary Fund, the World Trade Organisation, the United Nations and its various food-relevant sub-organisations, etc.); and powerful private multinational actors in agro-industry, all augmenting the dependencies between local and global food systems.

THE FOOD SUPPLY CIRCUIT AND THE BROADER FOOD SYSTEM LEVEL

Description

A food system is an encompassing term, comprising actors that deal directly 'with' food – operating at the level of the food supply circuit (see '**Actors operating within the food supply circuit**') and actors engaging in a varied array of activities revolving 'around' food – operating at the broader food system level (see '**Actors operating at the broader food system level**'). All food-related actors and their activities operate in different contexts (natural, socioeconomic, cultural, political etc.), which are interrelated and interacting.

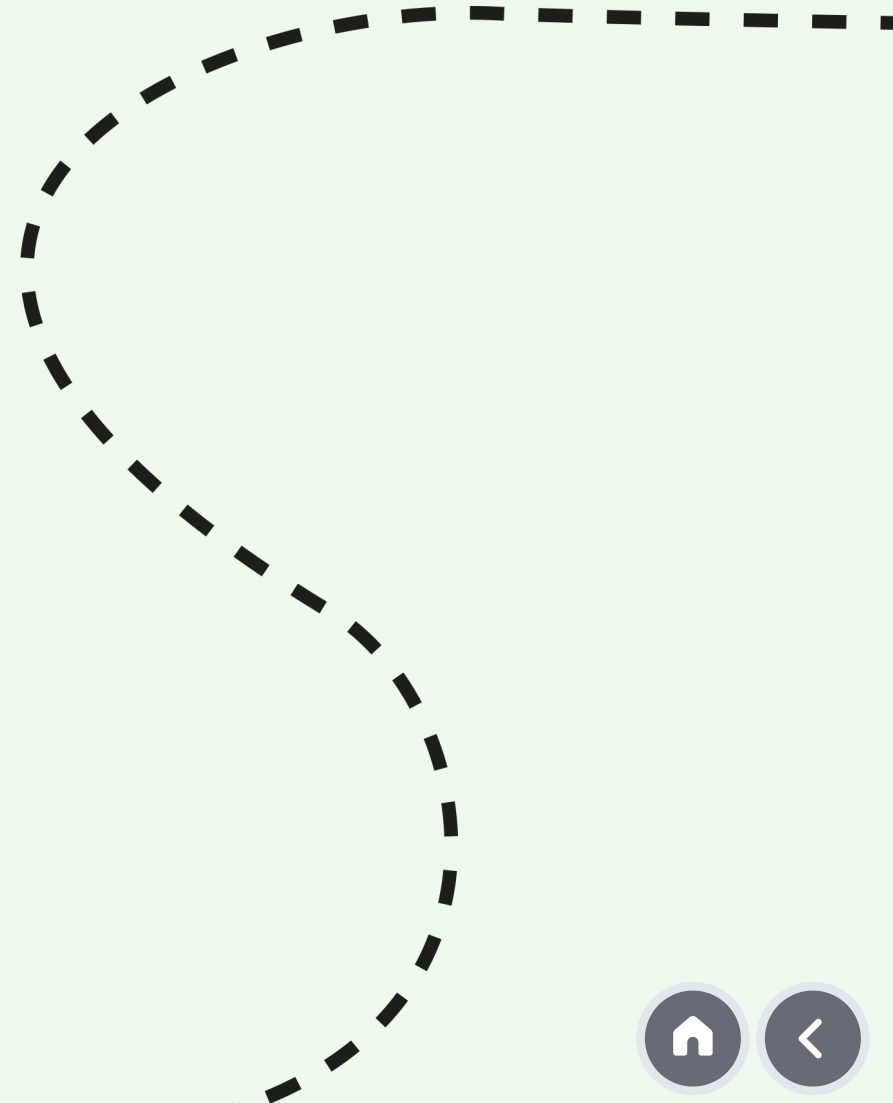
- ◉ Actors operating within the food supply circuit
- ◉ Actors operating at the broader food system level



ACTORS OPERATING WITHIN THE FOOD SUPPLY CIRCUIT

Description

The food supply circuit assembles actors through activities in pre-farming input supply, farming, processing, wholesale, retail, gastronomy, individual citizen engagement, and waste treatment. These actors operating within the food supply circuit are taking part in food production, either more directly by cultivating crops and raising livestock; by processing the primary products delivered by farming activities into manufactured foods; by preparing different ingredients into meals; or as mediators by running commercial spaces to sell final food products; by providing inputs and services needed at all stages of food production; by undertaking transporting and other logistical activities between the different stages; by ensuring treatment of waste and leftovers. In short, these actors work 'with' food (rather than 'around' food like **'Actors operating at the broader food system level'**). The food supply circuit is both an integral and core part of a general food system. Consequently, the activities by the actors within the food supply circuit are also shaped by actors, activities, structures and processes that are not in their immediate sphere of influence, as well as by the natural environment and general geopolitical context.

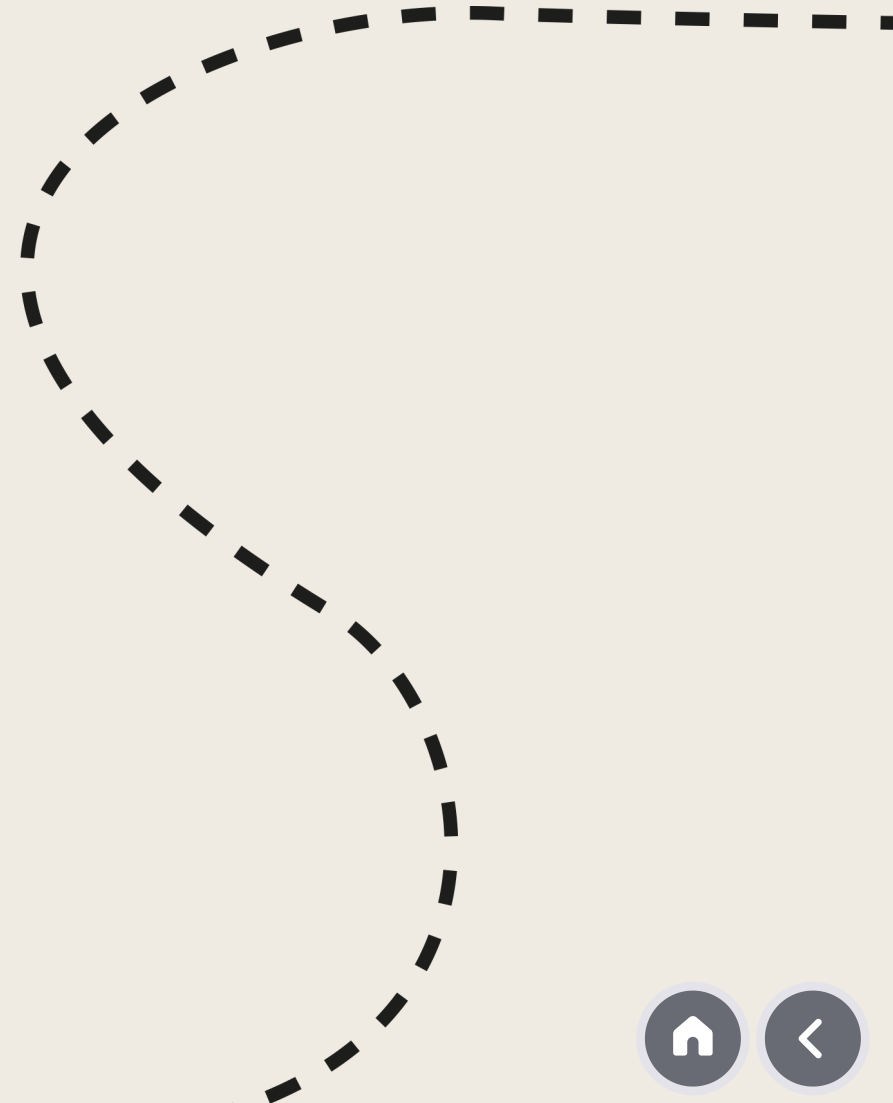


ACTORS OPERATING WITHIN THE FOOD SUPPLY CIRCUIT

Description

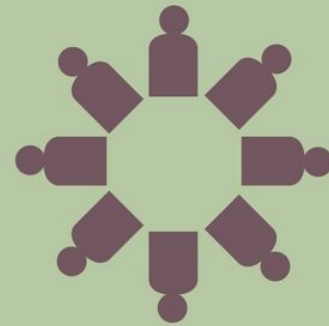
The broader food system assembles all the actors that do not have their main activities within the food supply circuit (see '**Actors operating within the food supply circuit**'). They operate around food (rather than operating with food). Actors of the broader food system engage in a wide range of activities around food in various domains, and ultimately have an influencing effect on the food supply circuit actors and their activities with food. They are public and private sector institutions, organisations, corporations etc. that set and implement policy and legislation, deliver financial, technological and other services, provide education and media programs, pursue social, political or environmental goals and represent various societal or professional interests, etc. also called 'structures'. Food supply circuit actors can have a transformational effect on these structures when engaging in negotiations with broader food system actors. However, the processes – embracing the laws, regulations, policies, agreements, societal and cultural norms, as well as all formal and informal practices that, in turn, determine the way in which structures operate – are often out of the sphere of influence of individual actors.

Between the actors operating mainly at the level the broader food systems and the ones operating mainly at the level of the food supply circuit, constant interactions and negotiations occur. The natural environment and general geopolitical context additionally frame broader food system activities, though to a lesser extent than they affect direct food production activities (see '**Actors operating within the food supply circuit**').



Advocacy groups,
charitable organisations
& NGOs

NON-PROFIT, VOLUNTARY & COMMUNITY GROUPS



Public interest
groups

Social movements &
grassroots organisations



NON-PROFIT, VOLUNTARY & COMMUNITY GROUPS

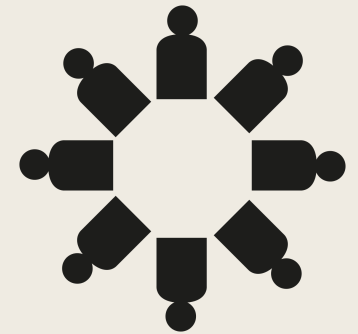
Description

A non-profit association is an organisation who unite for the purpose of pursuing a common non-profitable objective or goal (e.g. eradicate hunger or reduce waste). The formation and operation of their association is subject to law, and they rely on funding to support their activities. This complex group of actors undertake a variety of activities adding innovation, expertise and richness in skills to the foodscape locally, nationally and/or internationally. They are well placed to collaborate with the formal state systems to co-create beneficial outcomes for society.

In Luxembourg, non-profit, voluntary and community groups are registered in the Electronic Compendium of Companies and Associations (Recueil électronique des sociétés et associations - RESA). In addition, non-profit organisations registered as Association sans but lucratif can additionally seek the public interest status of 'reconnue d'utilité publique' which is awarded and regulated by Grand-Ducal decree.

ACTOR GROUPS

- ◉ Advocacy groups, charitable organisations & NGOs
- ◉ Social movements & grassroots organisations
- ◉ Public interest groups



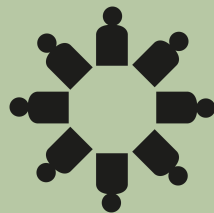
NON-PROFIT, VOLUNTARY & COMMUNITY GROUPS

ADVOCACY GROUPS, CHARITABLE ORGANISATIONS & NGOS

Description

These are non-profit groups that focus on philanthropically based objectives and social well-being, serving the common good (e.g. humanitarian work, environmental causes, development cooperation, policy monitoring, public health etc.) and largely without the aim of making profit apart from the continued funding of their activities and that of other similar actors that they may fund.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Foundations

Funding bodies

Advocacy & policy groups

NGOs

Exchange, dialogue & support organisations

Membership bodies

Charities

Think Tanks

Humanitarian and social welfare organisations

Volunteer services



EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

These actors act across the foodscape in all food system activities. They undertake farming activities, gastronomy and retail, research and policy, provide funding, extend grants, enable exchanges, dialogue and support and more. They offer consultancy services, operational services, connect people and groups through membership.

In Luxembourg we can observe involvement in the topics of environment and sustainability, water management, agriculture, farming and ecological movements, solidarity and social welfare, health, fairtrade, organic innovation, conservation, information and humanitarian action, political lobbying etc.



SOME OF OUR ACTORS

Caritas Luxembourg

Centre d'Initiative et de Gestion Local (CIGL)

Lëtzebuerger Landjugend a Jongbaueren

Meng Landwirtschaft

Mouvement Ecologique

Œuvre Nationale de Secours Grande-Duchesse Charlotte

Oikopolis Foundation

SOS Faim

NON-PROFIT, VOLUNTARY & COMMUNITY GROUPS

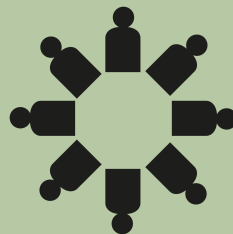
SOCIAL MOVEMENTS & GRASSROOTS ORGANISATIONS

Description

These are usually collectives that share the same beliefs, ideas and aims about the way society should be organised. These organisations are often loosely organised, sometimes spontaneous, but sustain campaigns in support of a social goal, typically either the implementation or the prevention of a change in society's structure or values. Sometimes they are primarily made up of civilians advocating a cause to spur change at local, national, or international levels.

They are organised around horizontal dialogue on equal footing between members, without formal control of leaders, not always defined by rules and procedures, they simply share a common outlook on society.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Dialogue & support movements

Community groups

Citizen science groups

Exchange organisations

Alliances

Advocacy groups

Associations

Co-operatives

Not-for profit community businesses

Start-up companies



SOCIAL MOVEMENTS & GRASSROOTS ORGANISATIONS

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

These often smaller, ground level and experimental groups are more loosely organised, but sometimes form alliances and join hands in social goals to deliver policy recommendations, engage in dialogue and support, provide training, and undertake informational and humanitarian effort.

In Luxembourg they are active in the topics of climate, social groceries, food supply, living conditions, quality of life, representing the seldom heard/disadvantaged, transitioning communities, reduction of food waste, sustainable farming, seed diversity, 'good, clean and fair food', health and nutrition such as gluten, veganism, etc.

SOME OF OUR ACTORS

Action Solidarité Tiers Monde
(ASTM)

Attac Luxembourg

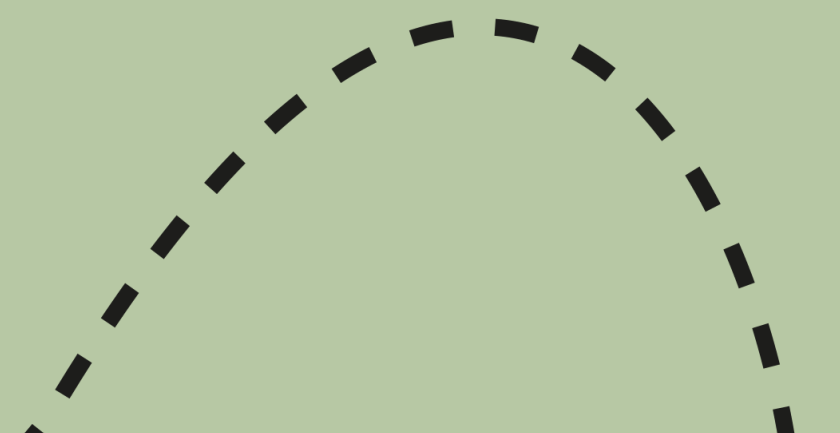
Cittaslow

Climate Alliance Luxembourg

Food Sharing Luxembourg

Slow Food Grand-Duché

Som fir d'Erhalen an
d'Entwécklung vun der Diversitéit
(SEED)



PUBLIC INTEREST GROUPS

Description

The public interest groups are often a combination of civil society commitments and collaborations between different actors, with broad representation from all sectors of society, on specific projects or topics, at a specific point in time, often for a determined duration (limited time), e.g. neighbourhood associations, pressure groups, a listening exercise before passing a new policy, or a consultation etc.

These organisations represent the interests of a specific group or part of the population by trying to influence decision-making and situations for the groups' benefit or that of the public at large to the benefit of society. Institutions seek the participation of citizens in public decision-making to promote transparency and addressing the limitations of representative democracy. They can also be long-term and form a regular alliance of members representing various parts of society. These organisations can agree and publish consensus statements, review new policy measures and contribute to disseminating information to the wider public.

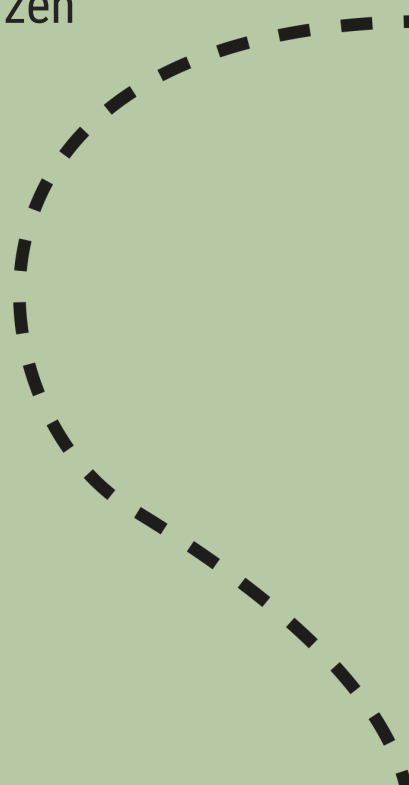
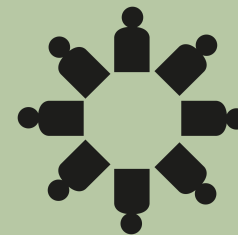
*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Informal or formally organised topic-based groups (short term or long-term)

Governance, policy & citizen groups



PUBLIC INTEREST GROUPS

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

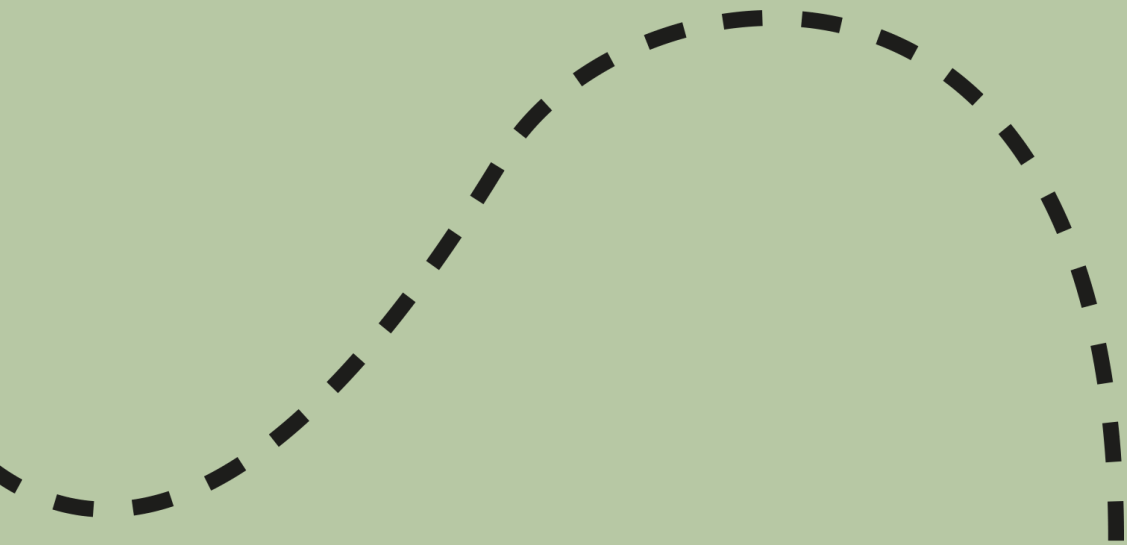
In Luxembourg there is the right to peaceful assembly and association, which are the pillars of collective citizen participation, and they are guaranteed by the Constitution (see also '**Individual citizens**').

SOME OF OUR ACTORS

Citizens' committee Luxembourg
in Transition

KlimaBiergerRot (Citizens' Council
on Climate)

The Luxembourg City placemaking
initiative



Educational programmes
for children & adolescents

Awareness-raising
programmes

Recreational
classes

Action-based
citizen science

EDUCATION, TRAINING & AWARENESS RAISING



Private & public
consumer programmes

Continued
vocational training

Vocational
training



EDUCATIONAL, TRAINING & AWARENESS-RAISING PROGRAMMES

Description

Educational, training & awareness-raising programmes are activities designed and organised to achieve certain learning outcomes or the completion of specific sets of educational tasks. Broadly, educational activities can be courses, classes in programmes of study, but also be free-standing courses or alternative methods of learning. They can include components such as work experience, research projects, or the study of a single subject leading to a qualification.

Many food system actors are involved in both professional and citizen education, training, and awareness raising programmes, e.g. nutrition and sustainable education, developing healthier food practices, learning and action around new or innovative ideas such as permaculture or food sharing schemes. These types of programmes also often aim at supporting local agriculture, strengthening local food systems and encouraging sharing and exchange.



ACTOR GROUPS

- ◉ Awareness-raising programmes
- ◉ Action-based citizen science
- ◉ Vocational training
- ◉ Continued vocational training
- ◉ Educational programmes for children & adolescents
- ◉ Private and public consumer programmes
- ◉ Recreational classes



AWARENESS-RAISING PROGRAMMES

Description

Awareness-raising programmes are community-wide or audience-specific activities and initiatives, and deliberate top-down communication strategies, which increase audience knowledge and encourage the sharing of information and resources for a topic. These can also be in the form of specific campaigns for the public, designed to be educational and encourage information seeking as well as changing behaviour.

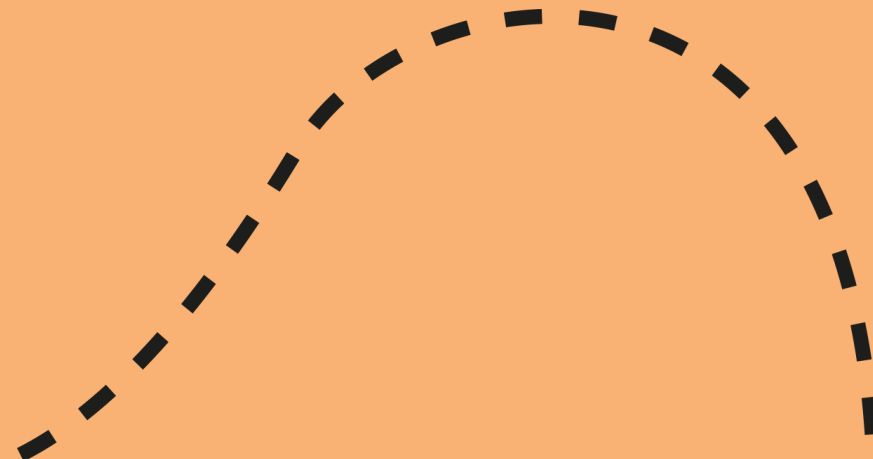
Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Educational programmes

Consultancy & Advisory services



AWARENESS-RAISING PROGRAMMES

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Association pour la promotion des
fermes d'accueil et pédagogiques au
Grand-Duché de Luxembourg
(APFAPL)

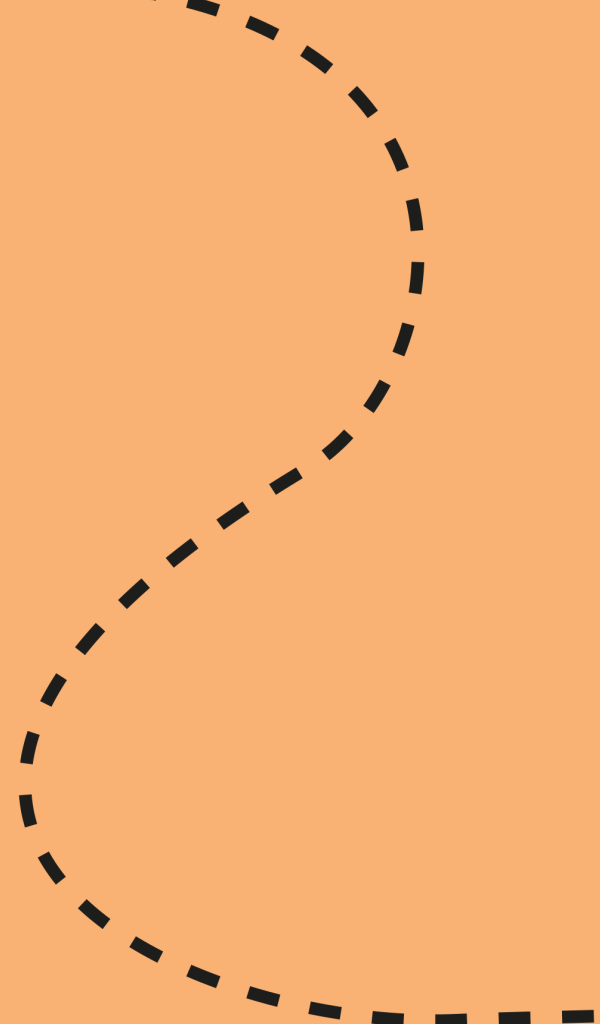
Fördergemeinschaft Integrierter
Landbau Luxemburg (FILL)

Haus vun der Natur Kockelscheuer

Natur&ëmwelt asbl

VegInfo Luxembourg

Zero Waste SARL



ACTION-BASED CITIZEN SCIENCE

Description

Citizen science is in essence 'public participation in scientific research'. It can be in the form of monitoring (of a specific activity) or in a more inclusive form like participatory action research, which involves researchers and participants working together to identifying and solving issues of social concern, often with a democratic focus on social change. There may be the more orchestrated involvement, or creation of parts of the activity of and by citizens in such science and sometimes more action-based groups that are experimental and information-based in specific topics, e.g. sustainable development, solidarity or post-carbon economy. In these activities, there is research, action, and reflection, often in iterative cycles.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Educational programmes

Centres for information

Research centres

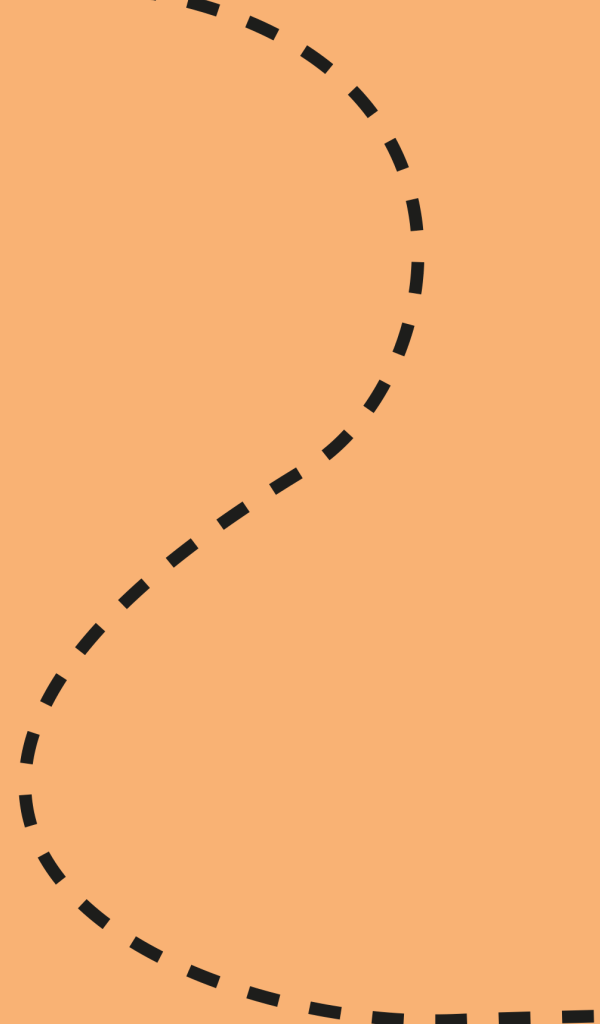


ACTION-BASED CITIZEN SCIENCE

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Centre for Ecological Learning
Luxembourg (CELL)

Centre d'Information Tiers Monde
(CITIM)



VOCATIONAL TRAINING

Description

Vocational training (also called technical training/education) can be a desirable option for individuals entering a highly technical or hands-on field, as well as for those who wish to develop new skills, in the food sector. They are instructional programmes or courses that focus on the skills required for a particular job function, profession or for specific careers. These often lead to certification, a diploma or even an associate degree. They can be programmes led in schools with apprenticeship options, on-the-job training, continuous development and distance learning programmes.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Skills training

Technical education

Apprenticeship programmes



VOCATIONAL TRAINING

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

Specifically in Luxembourg, the Department of Vocational Training (service de la formation professionnelle) is dedicated to establishing vocational and continuous training. They arrange various courses and options for gaining a vocational qualification, such as apprenticeship, on-the-job training, evening classes, validation of informal training and sandwich training (alternating between workplace and classroom). Some example professions are: farm worker, vegetable technician in horticulture, gaining a technical diploma in butchery or in cooking/chef, and apprenticeship schemes in milk production. In Luxembourg there is a lack of higher-level education in the food sector, e.g. engineering diploma in agronomy, in agroecology, in nutrition/dietetics, in food hygiene etc.

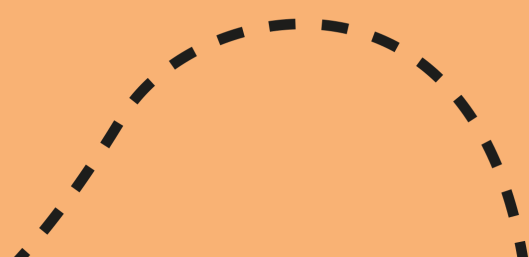
SOME OF OUR ACTORS

École d'Hôtellerie et de Tourisme du Luxembourg (EHTL)

Gréngland (led by LTA)

Lycée Technique Agricole (LTA)

Lycée Technique de Bonnevoie (LTB)



CONTINUED VOCATIONAL TRAINING

Description

Continued vocational training allows someone with initial training to obtain a diploma, learn a new skill, gain new knowledge, progress in their career, adapt to new technologies, and even change profession. It improves the participation of adults in lifelong learning, reinforces their employability and increases employment opportunities. These continued vocational training programmes include continued education and lifelong learning, for example course-structured lessons, seminars, day or evening training courses, e-learning and other further learning in food topics such as restaurant, cooking and hospitality, agriculture, food service and cooking, education in food and nutrition, commerce and retail etc.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Educational programmes

Continued professional development

Technical education

Lifelong learning



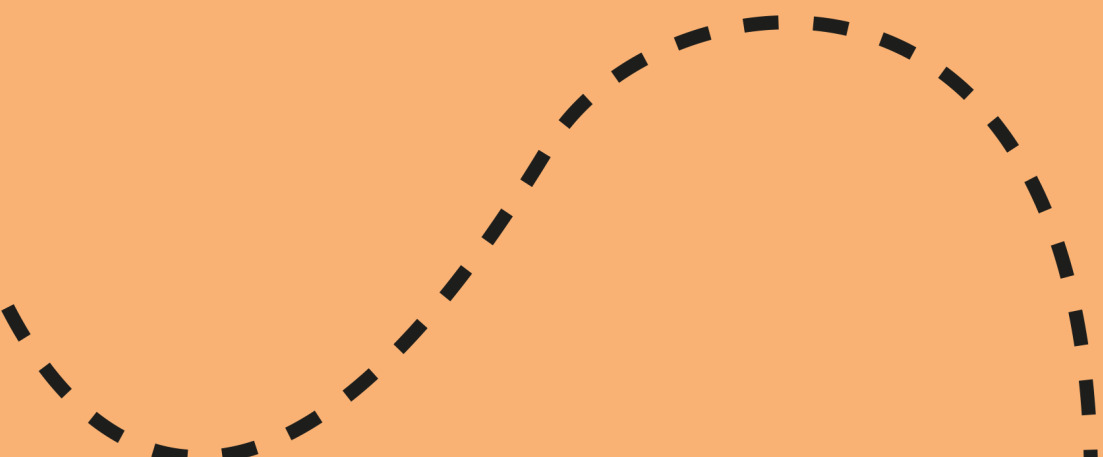
CONTINUED VOCATIONAL TRAINING

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Centre National de Formation Professionnelle
Continue (CNFPC)

Luxembourg Lifelong Learning Center (LLLC)

National institute for the development of
continuing vocational training (INFPC)



EDUCATIONAL PROGRAMMES FOR CHILDREN & ADOLESCENTS

Description

These include study, training and development, including knowledge exchange and other learning opportunities for young people. They are programmes that offer an educational component as well as information and awareness in topics such as pedagogical farms, sustainability, grow-your-own, camping, survival etc.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Educational programmes

Youth programmes



EDUCATIONAL PROGRAMMES FOR CHILDREN & ADOLESCENTS

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Bildung fir Nohalteg Entwécklung (BNE)

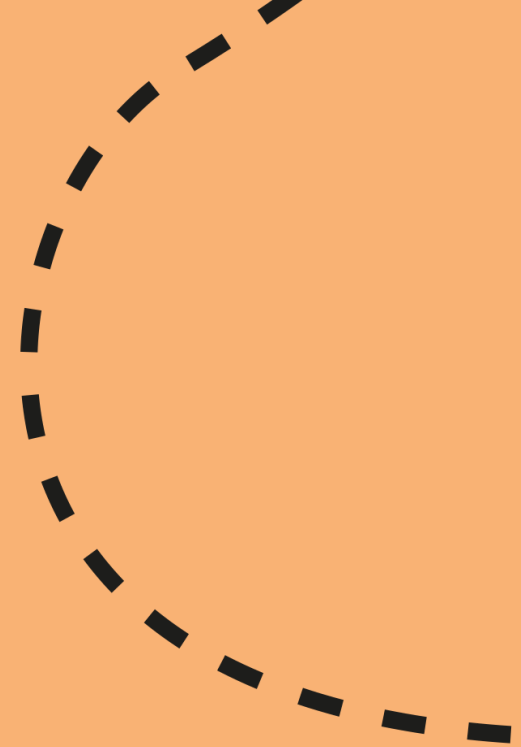
Ferme pédagogique MUHlti-KUHlti by
BioHaff Vitry

L'association pour la promotion des fermes
d'accueil et pédagogiques au Grand-Duché
de Luxembourg (APFAPL)

Natur- & Geopark Mëllerdall, Naturpark
Öewersauer, Naturpark Our

Scouting in Luxembourg asbl

Toodlermillen



EDUCATIONAL, TRAINING & AWARENESS RAISING PROGRAMMES

PRIVATE & PUBLIC CONSUMER PROGRAMMES

Description

These can be programmes aimed at guiding and supporting consumers in their everyday choices, for example food choices and other sustainability topics, e.g. waste or food safety. These can be arranged by private companies or public organisations with an aim to inform and/or change behaviour. These programmes are about awareness raising, empowerment, exchange, knowledge and information sharing on topics such as: food consumption and waste, anti-waste, labelling schemes, consumer law, etc.

Examples from Luxembourg



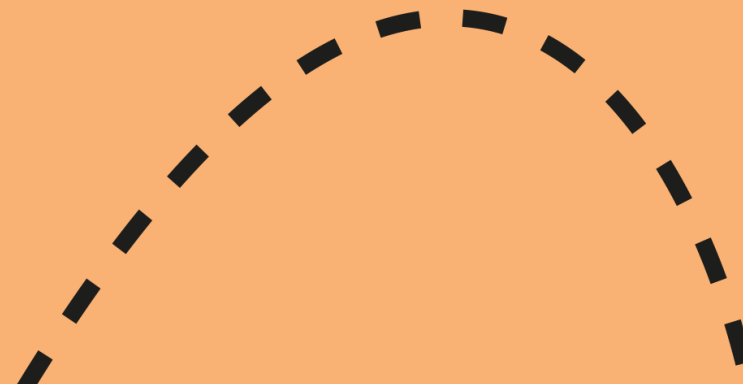
ACTOR TYPES WITHIN THE GROUP

Educational programmes

EU policy programmes

Consumer programmes

Information & advising



PRIVATE & PUBLIC CONSUMER PROGRAMMES

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Antigaspi (by Ministère de l'Agriculture, de la Viticulture et du Développement rural)

Bildung fir Nohalteg Entwécklung (BNE)

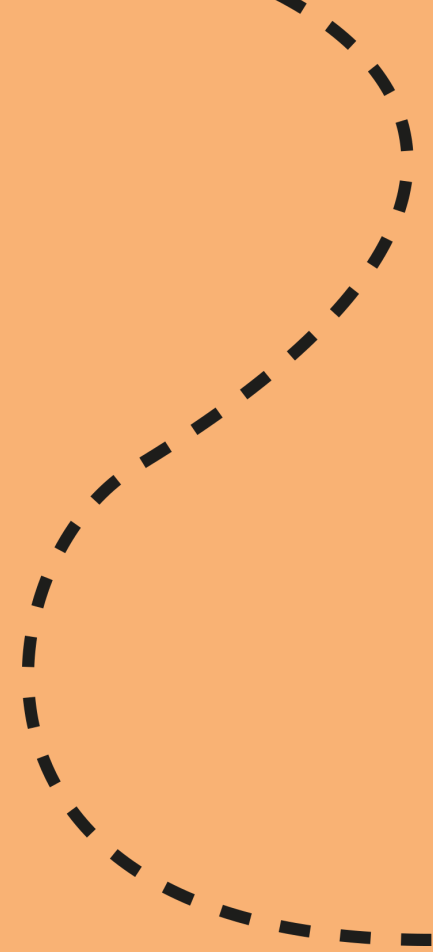
European Innovation Council and SMEs Executive Agency (EISMEA)

Null Offall Lëtzebuerg (by Ministère de l'Environnement, du Climat et du Développement durable)

Nohalteg öffentlech Beschaffung (NoBE) (by Ministère de l'Environnement, du Climat et du Développement durable and Umweltberodung Lëtzebuerg asbl)

Restopolis (Food4future)

Unicef Luxembourg



RECREATIONAL CLASSES

Description

Food related classes offer enrichment and educational activities for all ages. They include pleasurable activities, usually outside of ordinary training and work, for example in cooking and baking. These classes aim to provide lifelong learning, can be experimental, and raise awareness about topics and developing skills specifically aimed at the public and often are short term.

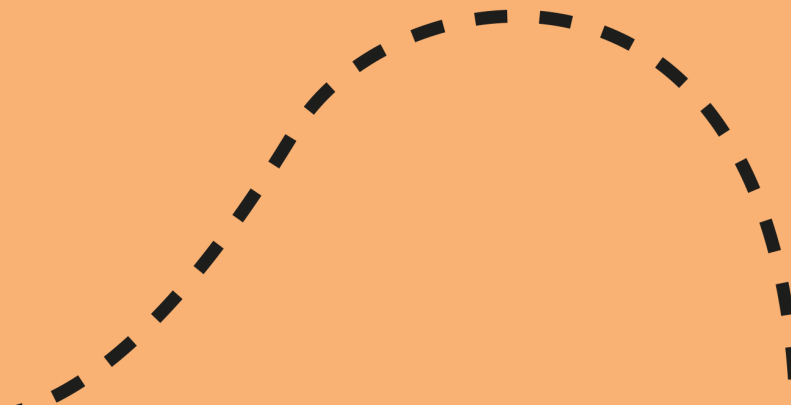
*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Educational programmes

Cooking classes



RECREATIONAL CLASSES

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

A Guddesch Kochstudio

Atelier de Cuisine Bertrand

Cactus Kachatelier

Cooking Art

TERRA Société Coopérative



Professional associations
& federations



BUSINESS INTERESTS & PROFESSIONAL CORPORATIONS

Unions

Professional chambers
& membership bodies

Economic interest
& lobbying groups



BUSINESS INTERESTS & PROFESSIONAL CORPORATIONS

Description

These actor groups are mostly membership organisations that represent a specific profession through support and protection, aim to maintain standards of a profession, and link members through networking and exchange activities. There are also groups that unite and arrange activities around specific topics of business or economic interest, to facilitate research & development innovation, in providing goods or services within the food domain, and other cross-border industrial, agricultural and commercial activities. They can be particularly vocal through lobbying, challenging and questioning the interests that they represent.

ACTOR GROUPS

- ◉ Professional associations & federations
- ◉ Unions
- ◉ Professional chambers & membership bodies
- ◉ Economic interest & lobbying groups



PROFESSIONAL ASSOCIATIONS & FEDERATIONS

Description

These associations are formal bodies consisting of individuals engaged in the same profession, often formed to control entry into the profession, maintain standards, and represent the profession, and their interests and specific topics, in discussions with other bodies. They can also be associations and networks around specific topics for different professionals, with specific interests in food-related areas.

These types of organisations offer information, support, employment protection (but not necessarily in the form of a union), lobbying, action for a cause, development, research, facilitating networking and exchange.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Professional support

Umbrella associations

Membership bodies

Network organisations

Federations



PROFESSIONAL ASSOCIATIONS & FEDERATIONS

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Cercle de Coopération des ONGD du Luxembourg

Confédération luxembourgeoise du commerce

Fédération des Artisans (FDA)

Ligue Luxembourgeoise du Coin de Terre et du Foyer
(Gaart an Heem)

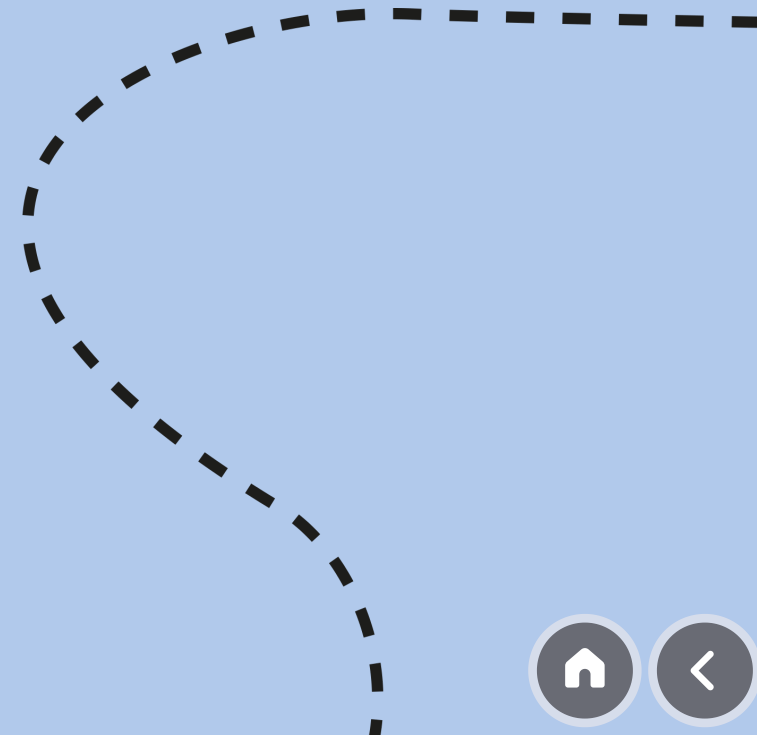
House of Entrepreneurship

La Fédération Nationale des Hôteliers, Restaurateurs
et Cafetiers du Grand-Duché de Luxembourg
(HORESCA)

Lëtzebuerger Landesverband fir Beienzuucht (FUAL)

Lëtzebuerger Landjugend a Jongbaueren

Meng Landwirtschaft



UNIONS

Description

A trade union, or simply a union, is an organisation of workers who come together to achieve common goals, such as protecting the integrity of their professions, improving safety standards etc. Trade unions reserve the right to conclude collective agreements and to represent workers. Unions also provide information and legal counselling concerning labour matters and work towards the improvement of the social situation through the work of the staff delegations.

They also undertake lobbying activities and provide information. They can be particularly vocal in society on specific topics or professional groups.

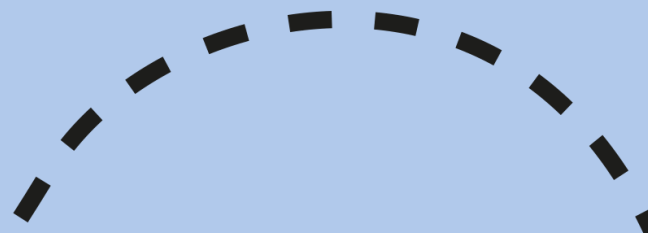
*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Unions

Associations that act as unions



UNIONS

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

In Luxembourg the unions can be multi-sectoral, with a focus on professionals and their employment, but also for consumer empowerment. There are two generalised unions concerning all workers: OGBL and LCGB. Other sectors have their own trade unions. In Luxembourg, around 30% of employees are members of a trade union (2015).

SOME OF OUR ACTORS

Union luxembourgeoise des
consommateurs (ULC)

Onofhängege Gewerkschaftsbond
Lëtzebuerg (OGBL)

Lëtzebuerger Chrëschtliche
Gewerkschaftsbond (LCGB)

Union des Entreprises
Luxembourgeoises (UEL)



PROFESSIONAL CHAMBERS & MEMBERSHIP BODIES

Description

Membership bodies exist for specific professions and professional chambers that represent individuals of specific professions. These bodies offer protection, support and undertake lobbying activities on behalf of the members.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Professional chambers

Membership bodies



PROFESSIONAL CHAMBERS & MEMBERSHIP BODIES

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

There are five professional chambers in Luxembourg for civil services, business, agriculture, employees, commerce, and trades and crafts. The professional chambers are created by the legislator of Luxembourg, as they are not provided for in the Constitution. Their main task is to safeguard and defend the interests of the professional groups they represent, by making their opinions known to the public authorities. The government must seek the advice of the professional chambers whenever new laws or grand ducal regulations concerning one or more of the chambers are being prepared. Employment law decisions are often taken after a consensus between employer chambers, employee chambers and government. This situation is specific to Luxembourg referred to as 'Luxembourg tripartite model'.

A membership body is any organisation that allows citizens, in their private or professional capacity, to join, and often requires them to pay a membership fee or "subscription", this could be for a voluntary cause, a professional membership body of trade or similar. They can also be professional groups and support groups for professionals, e.g. intellectual independent workers, architects, engineers, technology managers, and very specific groups for certain topics.



SOME OF OUR ACTORS

Chambre d'agriculture

Chambre de commerce

Chambre des fonctionnaires et employés publics

Chambre des métiers

Chambre des salariés

Lëtzebuenger Privatbësch

Limousin Lëtzebuerg

Richemont Club Luxembourg

Luxembourg Rural Network (led by the Ministry of Agriculture)

ECONOMIC INTEREST & LOBBYING GROUPS

Description

As representatives of firms and businesses, economic interest and lobbying groups lawfully attempt to influence or persuade official legislator and/or regulatory decisions according to the economic benefit of the represented entities. Their activities include those that support business and entrepreneurs in numerous ways, e.g. lobbying, networking and knowledge exchange. EIGs (economic interest groups) more particularly are legal entities that allow members to pool activities in a flexible partnership or structure, in agricultural, industrial or commercial activities. They are subject to very flexible legal rules, especially with regards to their capital and their objective. They do not aim to generate profit and therefore, any profit is usually returned directly to the members.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Associations

EU initiatives

Start-up and entrepreneurial support



ECONOMIC INTEREST & LOBBYING GROUPS

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

European Milk Board

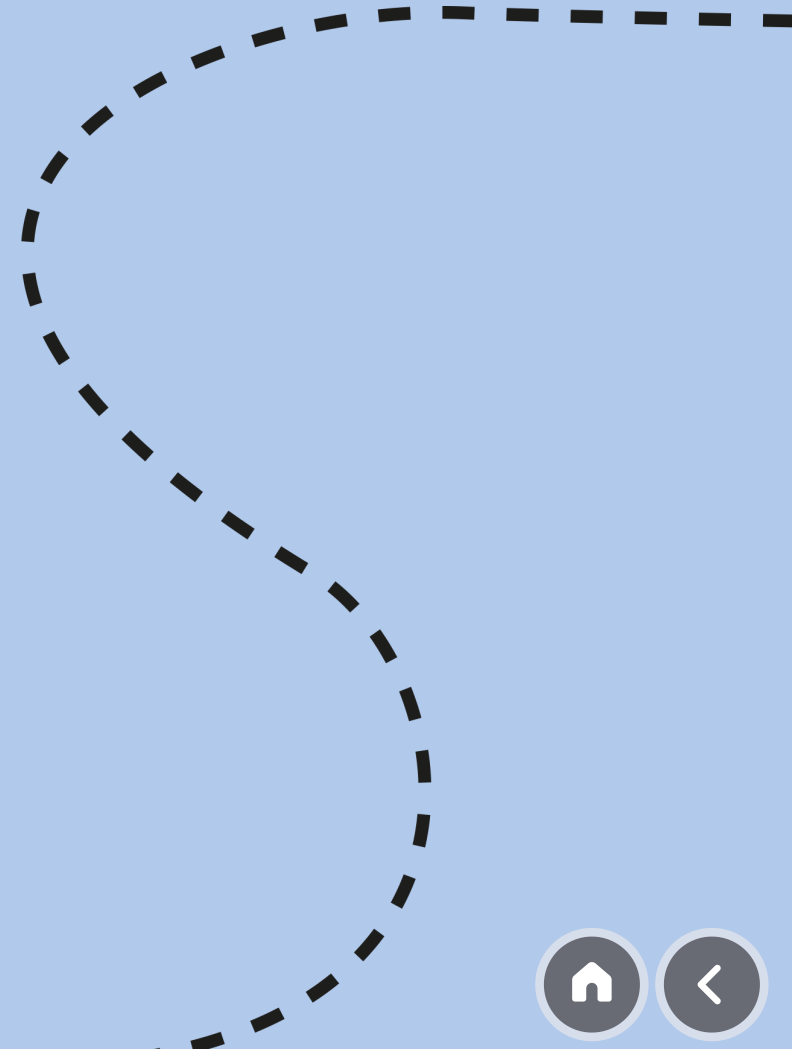
Liaison Entre Actions de
Développement de l'Économie Rurale
(LEADER)

nyuko

LuxInnovation

Luxembourg Business Angel Network
(LBAN)

Seed4Start



Other public & private
research & collaborations

Libraries,
archives &
knowledge
centres

RESEARCH



Universities,
excellence centres &
academic research



RESEARCH

Description

Research actors undertake research, and uniquely maintain, replicate, repurpose and increase, as well as disseminate, knowledge and research findings with implications for everyday practice. Research and innovation are a government priority in Luxembourg, which scores highly on the EU Commission Innovation Scoreboard for international research. The largest groups of research actors exist within the academic sector in Luxembourg, but research also takes place within the public and private sectors, as well as the not-for-profit sector, professional bodies etc. The actors identified in this section must be read in conjunction with other food system actors as many research groups are cross-sectoral and multi-disciplinary, with international, regional and local links.

ACTOR GROUPS

- ◉ Universities, excellence centres & academic research
- ◉ Libraries, archives & knowledge centres
- ◉ Other public & private research & collaborations



RESEARCH

LIBRARIES, ARCHIVES & KNOWLEDGE CENTRES

Description

National libraries, archives and research support services are essential to the free flow of ideas and to maintaining, increasing and spreading knowledge. Their focus is on content, not format, as human knowledge has been recorded on different media: stone, paper, film, videotape, DVD etc. Long-term preservation is necessary to safeguard this knowledge, ensure accountability, and protect basic human rights but faced with the digital revolution a preservation paradigm is evolving. These centres hold documents relevant to the food system (e.g. dedicated magazines, cookery books, non-fiction books etc.). They also offer access to databases and repositories of information that support researchers in sourcing relevant published and unpublished information and data. Furthermore, libraries and knowledge centres are instrumental in enabling information literacy, providing training and support in information seeking and critical appraisal.

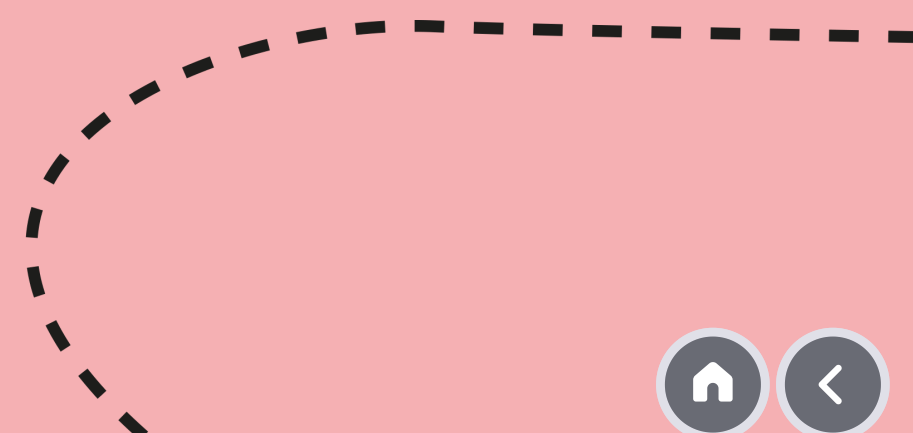
*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

National collections

Academic research support



LIBRARIES, ARCHIVES & KNOWLEDGE CENTRES

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Archives nationales de Luxembourg

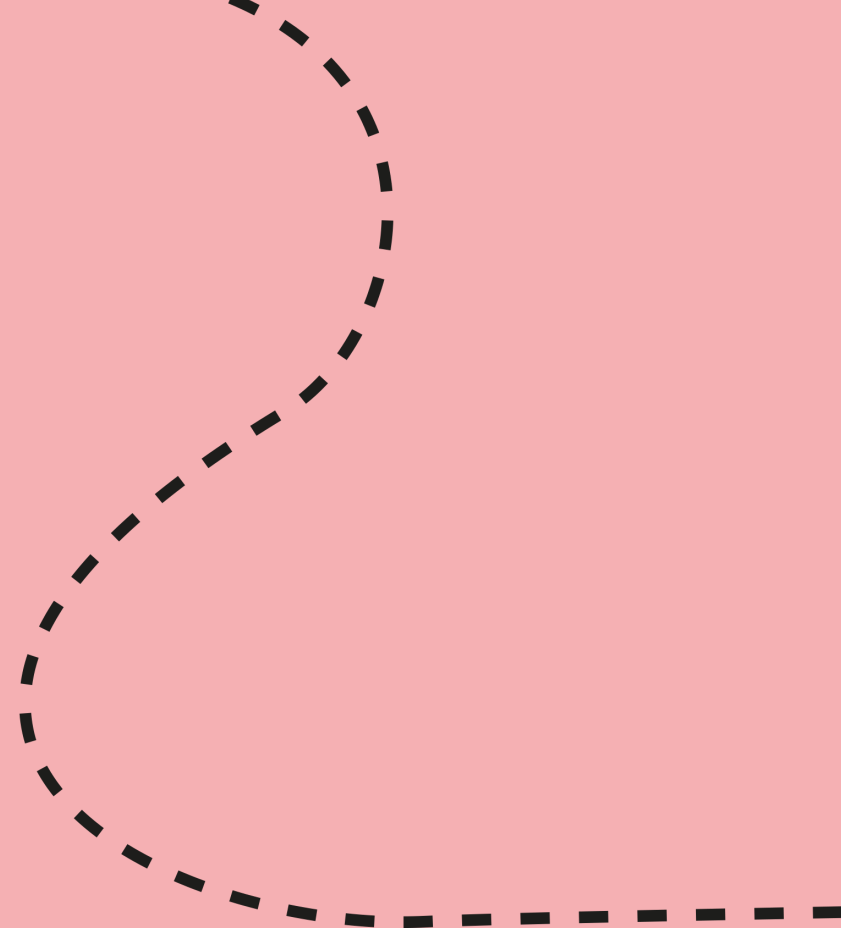
Bibliothèque nationale du Luxembourg
(BnL)

Bicherbus

Centre national de littérature (Lëtzebuenger
Literaturarchiv)

Cité Bibliothèque (City Library)

Luxembourg Learning Centre (LLC)
University of Luxembourg



RESEARCH

UNIVERSITIES, EXCELLENCE CENTRES & ACADEMIC RESEARCH

Description

Academic or scholarly research is a systematic, high-quality investigation, with processes of collecting, analysing and interpreting information and data, to understand something in which we have an interest. The research is designed to benefit the whole of society, to create knowledge, and aims to maintain objectivity. Often a lengthy process, it is focused, specific, intensive, and uses formal, scientific and systematic research discovery methods, often drawing from existing theories.

Examples from Luxembourg



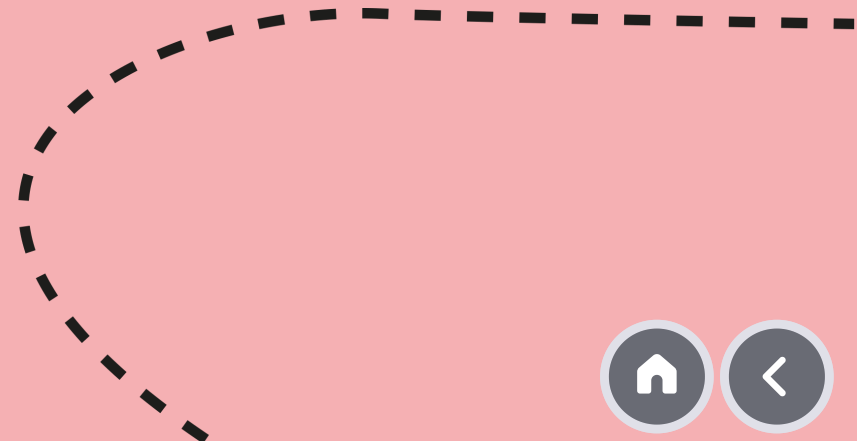
ACTOR TYPES WITHIN THE GROUP

Science & Technology

Socio-economic research

Multi-disciplinary research groups

Sociological research



UNIVERSITIES, EXCELLENCE CENTRES & ACADEMIC RESEARCH

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

There is a wealth of actors that are undertaking research related to the food system in Luxembourg, across the disciplines and with many multi-disciplinary collaborations. In Luxembourg innovative private and collaborative research in food related areas takes place, often also with cross-border partners. Examples of these include creating living labs in local areas involving citizens in food projects, exploring healthier eating habits, improved agricultural practices, in order to make our food system more sustainable and resilient.



SOME OF OUR ACTORS

Institut fir Biologesch Landwirtschaft
an Agrarkultur Luxemburg (IBLA)

Institut Grand-Ducal de Luxembourg

Luxembourg Institute of Health (LIH)

Luxembourg Institute for Science &
Technology (LIST)

Luxembourg Institute of Socio-
Economic Research (LISER)

University of Luxembourg



RESEARCH

OTHER PUBLIC & PRIVATE RESEARCH & COLLABORATIONS

Description

The public research sector includes entities that carry out or fund research and experimental development (R&D) for the government, higher education institutions or non-profit institutions (associations and foundations). Private research organisations undertake research for the public sector as well as for commercial purposes, and often offer research consultancy services. Research by nature is often cross-sectoral and multi-disciplinary collaboration between actors and are sometimes limited in time or set up for a specific period. Sometimes this makes it difficult to retain permanent examples of research collaborations.

Examples from Luxembourg

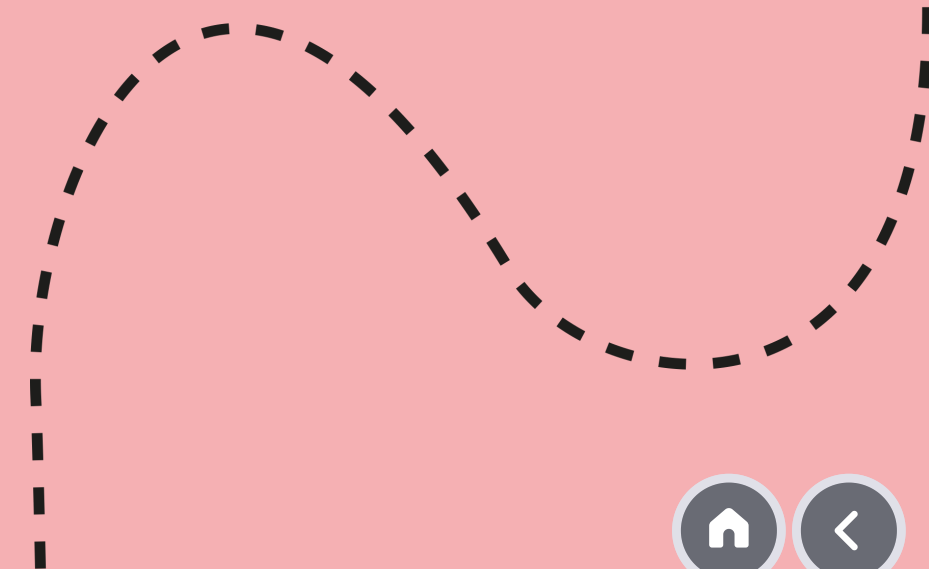


ACTOR TYPES WITHIN THE GROUP

Professional associations & federations

Research & advisory services

Competence centres



OTHER PUBLIC & PRIVATE RESEARCH & COLLABORATIONS

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

There is a wealth of actors that are undertaking research related to the food system in Luxembourg, across the disciplines and with many multi-disciplinary collaborations. In Luxembourg innovative private and collaborative research in food related areas takes place, often also with cross-border partners. Examples of these include creating living labs in local areas involving citizens in food projects, exploring healthier eating habits, improved agricultural practices, in order to make our food system more sustainable and resilient.



SOME OF OUR ACTORS

Association Luxembourgeoise pour le Droit de l'Environnement (ALDE)

EU funded projects, e.g. AROMA, FRUGAL, FUSILLI

Institut fir Biologesch Landwirtschaft an Agrarkultur Luxemburg (IBLA)

Institut Viti-Vinicole (Wine Institute)

Luxembourg in Transition



Energy & water
services



Justice

Monitoring

EU governance

Cross-border
transregional
governance

GOVERNANCE & REGULATIONS

Governmental
departments
& national agencies

Regional & local
governance

National
governance



GOVERNANCE & REGULATIONS

Description

This broad group of actors includes public authorities, government departments, and official organisations that oversee law making, manage the different domains of society, provide and control public services etc. It also includes the legal authorities that supervise at a national and regional level. There is evidence of increased collaborative governance, meaning social and political engagement between and among several actors of society, including citizens. This is partly due to the need to involve skilled non-governmental actors in an increasingly complex, interconnected and information-dense world. Furthermore, decision-making increasingly crosses the boundaries of public, private and civic spheres for a public purpose and there is an increased need for engagement with people.



ACTOR GROUPS

- ◉ Monitoring
- ◉ National governance
- ◉ Regional & local governance
- ◉ Cross-border trans regional governance
- ◉ Governmental departments & national agencies
- ◉ Energy & water services
- ◉ Justice
- ◉ EU governance

MONITORING



Description

Monitoring, audit and evaluation services assess the ongoing performance of activities, projects, institutions and programmes set by governments, laws, standards and other organisations and NGOs. Monitoring and evaluation processes are undertaken by different actors in the system: by organisations themselves, with varying levels of independence, and/or by third party companies or other allocated organisations to ensure independence or impartiality. The credibility and objectivity of monitoring and evaluation reports depends very much on the independence and expertise of the evaluators, a major importance for trust and transparency.

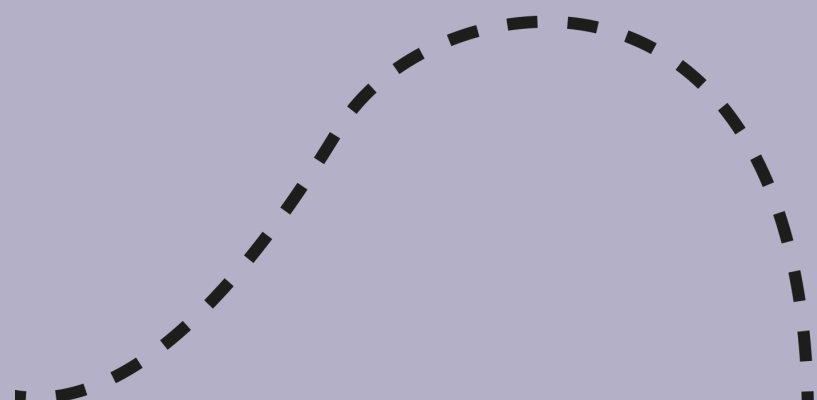
ACTOR TYPES WITHIN THE GROUP

Regulatory agencies

Monitoring services

Boards of Governance

Examples from Luxembourg



MONITORING

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

Specific examples for monitoring actors in the more technical domain exist for activities such as the chemical, biochemical and microbiological analysis of food, feed and seed and the control of safety and regulations in the food chain, such as HACCP or ISO norms.

There are also monitoring groups of the more societal expertise, skills and advice needed for sustainable development, collective capacity building for communities and in the management of the territory. Currently, a Food Policy Council at national level is being established in Luxembourg, whose role it will be to advise and deepen a national food policy, enabling accountability to food for all parties and ensuring inclusivity of all food actors in food strategy and innovative projects. As a financial centre in the EU, Luxembourg also offers a diverse range of financial services connecting investors and markets around the world, including financial sector regulators.



SOME OF OUR ACTORS

Conseil Supérieur Aménagement
du Territoire

Conseil Supérieur pour un
Développement Durable (CSDD)

Food Policy Council

National Reference Laboratory for
Luxembourg

Signa Groupe

Commission de Surveillance du
Secteur Financier - Financial
Centre regulator (CSSF)



GOVERNANCE & REGULATIONS

NATIONAL GOVERNANCE

Description

National governance includes all levels of official government having the power to make laws, regulations and govern. Politics in Luxembourg takes place in a framework of a parliamentary representative democratic monarchy, whereby the Prime Minister of Luxembourg is the head of government, and the multi-party system. Executive power is exercised by the government, by the Grand Duke and the Council of Government (cabinet), which consists of a prime minister, two deputy prime ministers and 16 ministers. The members of the government meet on a weekly basis in the Government Council.

According to the Constitution of Luxembourg, the political parties contribute to the formation of the will of the people and the expression of universal suffrage. They express democratic pluralism.

Examples from Luxembourg

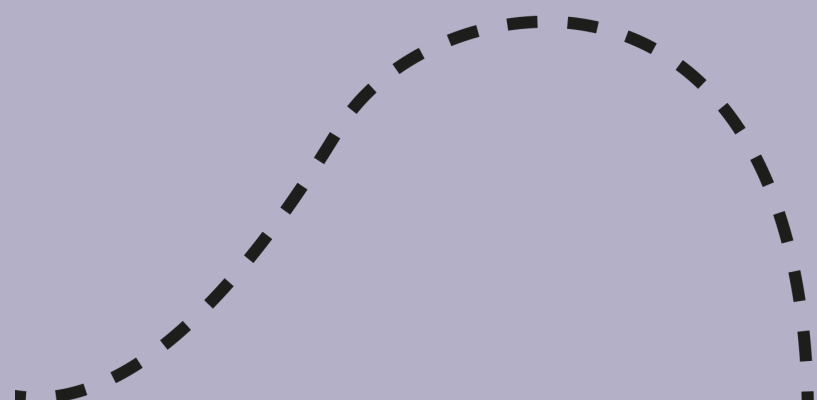


ACTOR TYPES WITHIN THE GROUP

Government

National political parties

Members of the Parliament



NATIONAL GOVERNANCE

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

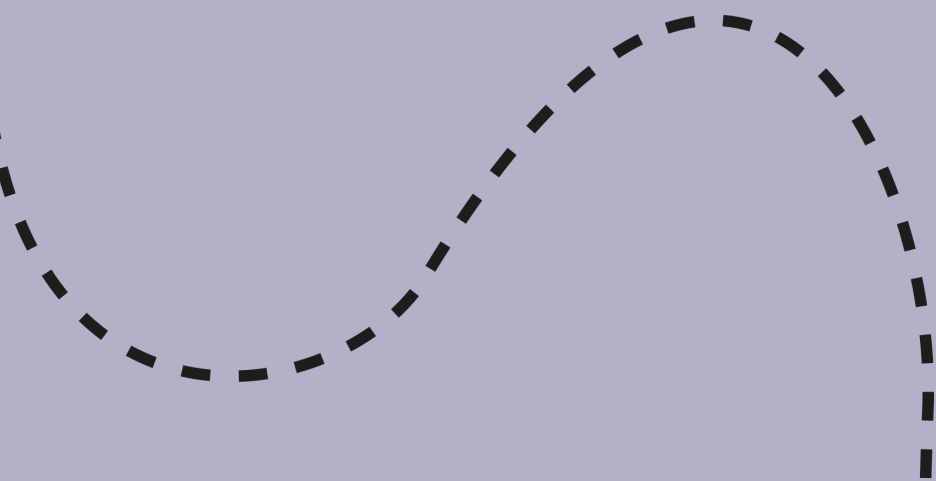
National governance in Luxembourg consists of the Parliament who sets national legislature, and eight Ministries undertaking policy and strategy for the country (Ministry of Agriculture, Ministry of Environment, Ministry of Education, Ministry of Energy, Ministry of Economy, Ministry of Consumer protection, Ministry of Health, Ministry of Higher education & research). These representatives are elected by organised elections.

SOME OF OUR ACTORS

Chamber of Deputies

Ministries

Political parties



GOVERNANCE & REGULATIONS

REGIONAL & LOCAL GOVERNANCE

Description

Regional governance (e.g. municipalities) refers to the rules, procedures and practices used by institutions at a regional level.

Municipalities have a major impact on regional performance in terms of social and economic development. They play a key role in creating an enabling environment for businesses and citizens, by delivering essential public goods and facilitating economic activity.

The inter-communal syndicates (laid down in public law since 1900) are associations built around a topic and combine at least two communes.

*Examples from
Luxembourg*

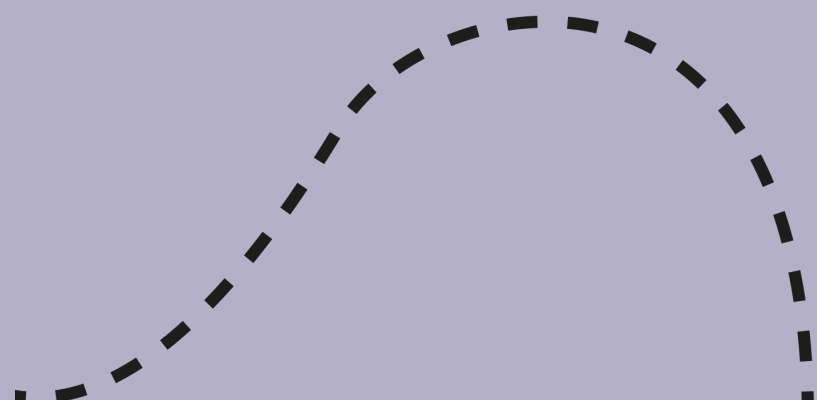


ACTOR TYPES WITHIN THE GROUP

Regional governance;
municipalities

Inter-communal syndicates

Regional environmental
conservation



REGIONAL & LOCAL GOVERNANCE

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

There are the municipalities that lead local town and village management and development, for example school food, local waste management etc., and inter-communal syndicates that work together on conservation efforts, nature parks, protection of flora and fauna or specific landscapes as well as educational initiatives and fund exploratory research. Related to food there are multiple syndicates for waste, water (see '**Energy & water services**'), natural parks, etc. usually divided into geographic areas. All syndicates are administered by committee and are overseen by Syvicol.

SOME OF OUR ACTORS

Syndicat des Villes et Communes
Luxembourgeoises (Syvicol)

Inter-communal syndicates, e.g.
Naturpark Our, SICONA, MINETT-
KOMPOST

Municipalities



GOVERNANCE & REGULATIONS

CROSS-BORDER TRANSREGIONAL GOVERNANCE

Description

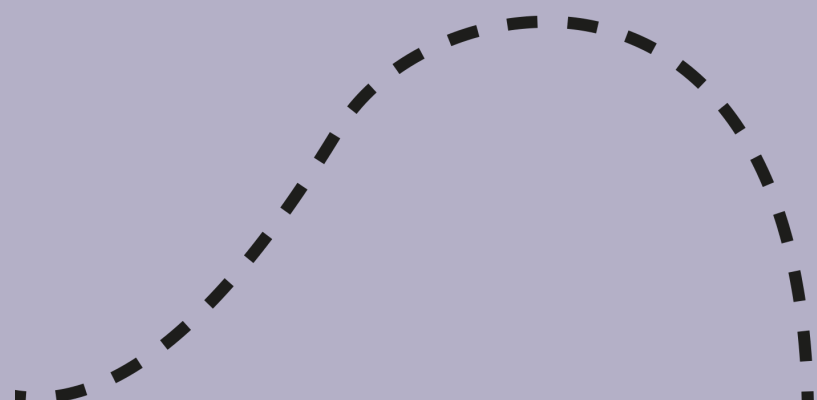
Knowledge, collaboration, research and innovation are rarely contained within regional boundaries, and instead transcend national borders. 'Transregional' means the governance transcends borders, and 'interregional' means that various regions are included. Transregional collaboration includes actors that connect to and benefit from such collaboration and shared resources and are often designed for actions external to administrative regions and overcoming fragmentation. They address challenges and barriers affecting cross-border regions.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Cross-border interregional collaborations



EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

For a small country like Luxembourg, the cross-border management and cooperation plays an important role in sustainable development and as a founding member of the European Union the spirit of cooperation has always been a core priority.

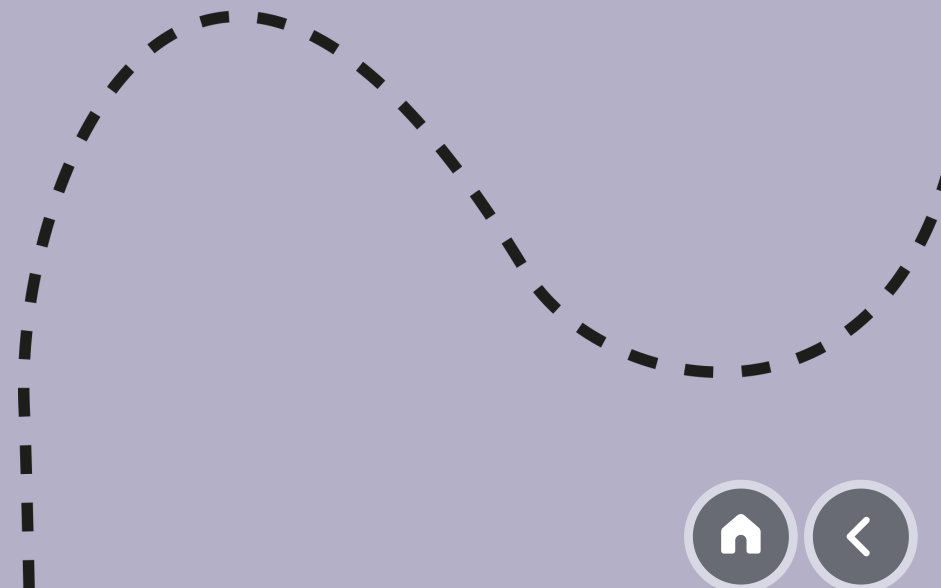


SOME OF OUR ACTORS

The Greater Region

Institut de la Grande Région (IGR)

Interreg Europe



GOVERNANCE & REGULATIONS

GOVERNMENTAL DEPARTMENTS & NATIONAL AGENCIES

Description

Governmental departments & national agencies include the sections in the different ministries and public administrations that provide consultancy and services in the more specific context of food and agriculture. They can also refer to teams or sections in the different ministries and public administrations providing services more loosely related to the food system but still with impact on the system.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Food safety

Customs and excise

Competent authorities

National agencies

Government

Land registry

Corporate income tax & property tax

National offices



EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

These national agencies and sections of agencies, undertake a wealth of activities related to the food system including technological and administrative tasks such as analysis, food safety and security, food risk communication, inspections and audits, management of professional authorisations and of CAP subsidies, certifications, regulations related to import and export, administering taxation on land and property, but also setting up economic and public health policies in food-related domains (e.g. breastfeeding and infant feeding, healthy diets, obesity, non-communicable diseases, alcoholism etc.)

There are departments that provide services, for example, the consumer protection act, providing technical services for agriculture, representing rural economy at European level, handling CAP payments and reporting, managing veterinary services and handling animal welfare, and town and country planning.

These actors are also writing policy and strategy and are involved in environmental protection, energy and spatial planning, economic and social planning, rural development etc. They provide funding and opportunities for national innovation and research, compile geodata and statistical information.



SOME OF OUR ACTORS

Administration de l'environnement

Administration de la nature et des forêts (ANF)

Administration de la gestion de l'eau (AGE)

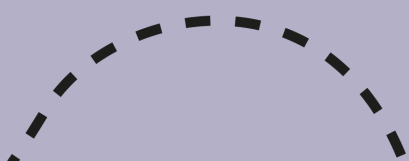
Administration des services techniques de l'agriculture (ASTA)

Commissariat du gouvernement à la qualité, à la fraude et à la sécurité alimentaire (Ministère de la Protection des consommateurs)

Luxinnovation

Service d'économie rurale (SER)

Veterinary Services Administration (ASV)



ENERGY & WATER SERVICES

Description

Compared to other Governmental departments and national agencies, energy and water services providers have a special position because there is a higher prevalence of mixed public-private actors in these domains, and at the same time, water and energy are prerequisites for every activity within the food supply circuit.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Energy providers

Intercommunal syndicates for water
management



EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

In the water sector, concerning the urban water cycle (drinking water supply and wastewater collection and treatment) there are no private actors in Luxembourg. Services are handled through municipalities or syndicates of municipalities, whereas the state is assuming the overarching control function (see also '**Inter-communal syndicates**').



SOME OF OUR ACTORS

Energy providers (e.g. Myenergy, Eida, ENOVOS etc.)

Water syndicates (e.g. SESE, SEBES, DEA, SES etc.)



JUSTICE



Description

At national level the justice system includes legal bodies and the court system, enforcing existing laws. Their role is in enabling law, handling civil and commercial cases including criminal cases. They also include administrative hearings such as taxes, duties etc. Justice and law related to food is closely linked to the activities of the government departments and the EU governance actors. For example, the Ministry of Agriculture, Viticulture and Rural Development is preparing a new administration that merges the Food Safety Unit (Health Directorate), the Veterinary Services and some of the food safety and technical agricultural services into a new body with underpinning law. Similarly, the Ministry for Consumer Protection ensures compliance with the legislative and regulatory frameworks in force in Luxembourg in collaboration with other relevant Ministries.

At EU level, the General Food Law Regulation sets out a framework for the development of food and feed legislation both at Union and national levels, through general principles, requirements and procedures in matters of food and feed safety, covering all stages of food and feed production and distribution.

Examples from Luxembourg

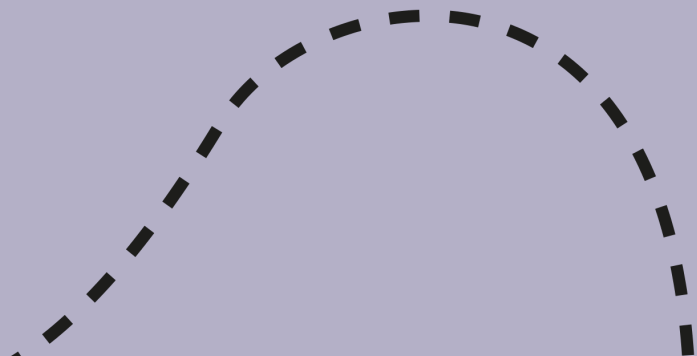


ACTOR TYPES WITHIN THE GROUP

Courts

Legal bodies

Government agencies



JUSTICE

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

Any food safety related matters are first brought to the attention of the Government Commissariat for Quality, Fraud and Food Safety (see '**Governmental departments & national agencies**'), which operates the single focal point for international authorities (Commission, EFSA, Codex Alimentarius, etc.) and for bringing Luxembourgish law in line with European food safety regulations.

The national courts come into play where there are national civil or commercial legal food cases. Luxembourg has a Constitutional Court, and two jurisdictions; the judicial branch dealing with civil disputes, disputes of a penal nature and disputes regarding political rights; and an administrative branch which rules on disputes with the authorities. There are Magistrate Courts and District Courts, through which all matters civil or commercial are handled. The Supreme Court rules on internal court matters. The Administrative Tribunal rules on appeals.



SOME OF OUR ACTORS

Supreme Court of Justice

District Courts (civil and commercial)

Luxembourg's Magistrates Courts
(civil and commercial)

Administrative Court

Administrative Tribunals



EU GOVERNANCE



Description

'European governance' designates the body of rules, procedures and practices that relate to the way powers are exercised in the European Union (EU). The objective is to strengthen democracy at the EU level and to bring citizens closer to the EU institutions. It is based on principles such as transparency, involving civil society in decision-making, creating consistent policies, a framework to support growth, etc.

The principle of subsidiarity seeks to safeguard the ability of the Member States to take decisions and actions, and reversely also authorises the intervention by the Union, where an action cannot be sufficiently achieved by the Member States alone. This principle guarantees a sharing of powers between several levels of authority.

The EU General Food Law Regulation ensures protection of human life and consumers' interests in relation to food, while ensuring the effective functioning of the market. The Regulation also includes the existence of the European Food Safety Authority (EFSA), who support and create the main procedures and tools for the management of safety emergencies and crises. The EU also drafts and implements EU-wide food policies and promises such as the framework strategic priority European Green Deal, striving to be the first climate-neutral continent the 21st century. The Farm to Fork Strategy is at the heart of the European Green Deal aiming to make food systems fair, healthy and environmentally friendly.

SOME OF OUR ACTORS

EU Common Agricultural Policy (CAP)

EU Common Fisheries Policy (CFP)

EU Parliament

Eudralex (Body of European Union legislation)

European Commission

European Food Safety Authority (EFSA)



European Green Deal

International Food Safety Authorities Network (INFOSAN)

Trusts, foundations
& funding bodies

Stock & trade
markets

FINANCING, INVESTMENT & INSURANCE



Capital markets

Investors & catalysts

Insurance



FINANCING, INVESTMENT & INSURANCE

Description

The finance and funding sector play a critical role in food system transformation and food security. By welcoming financial actors into the food system, the sector becomes an enabling force behind sustainable transformation. The sector is involved in designing clear economic cases to achieve food system transformation by proposing business models, providing incentives with funds or market access, enabling public investment support for institutions and producers and the provision of economic opportunities to urban and rural communities.

Incentive mechanisms are most effective when complemented by incentives from other sectors or where actors work together to realign incentives. For example, working with insurance companies that offer consumer incentives to improve food choices, or shifting food policy or higher economic costs related to transitioning (e.g. higher costs of providing environmentally and socially responsible food) does not exacerbate current inequalities.

The sector also provides the more familiar services of basic financial management of money, investing, borrowing, lending, budgeting, saving, forecasting, insurance, risk, land and property management etc. Note that many actors that provide funding are also found elsewhere in our infographic in their various groups.

ACTOR GROUPS

- ◉ Trusts, foundations & funding bodies
- ◉ Investors & catalysts
- ◉ Capital markets
- ◉ Stock & trade markets
- ◉ Insurance agents & agencies



INVESTORS & CATALYSTS

Description

An investor is a person (or company/group of people) who commits money in order to earn a financial return. A catalyst is an entrepreneur or company that precipitates a fundamental change in business or technology. The actors are providing support, advice and financial investment in projects. They offer financial credit, loans and insurance, both in the short and long term. They also offer guarantees prior to seeking a loan for new business and provide access to finance and equity internationally.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Investments

Micro-finance

Multi-actor forum

Subsidies

Catalysts for development



INVESTORS & CATALYSTS

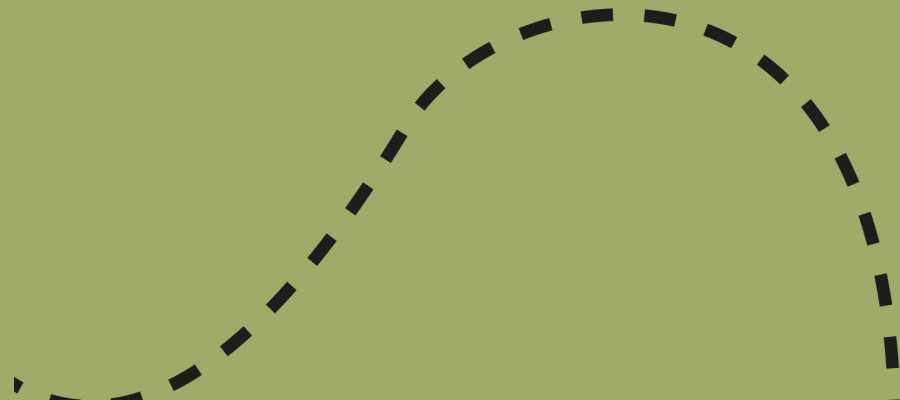
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

ADA - Appui au Développement Autonome

Global Green Growth Luxembourg

Luxembourg Roundtable on Microfinance
(LRTM)

Savills Luxembourg



TRUSTS, FOUNDATIONS & FUNDING BODIES

Description

A foundation or trust can be an organisation or institution established by endowment with provision for future maintenance, or by an established funding stream. A trust is a specific legal entity, limited by guarantee, created when two or more individuals declare in a deed that they hold assets (cash, land or other) for charitable purposes. Funding bodies can be organisations that offer funding of grants to specific projects that are in the interests of the common good or for a specific cause – such as food systems interventions, incentives, policy development and research projects. The trusts, foundations and funding bodies provide financing of various types.

There can be funding streams set up by organisations for specific causes, to which an organisation can apply for funding. These tend to be in the form of grants, donations or even loans. There is also charitable funding by profit making organisations, where money is set aside from profit making activities to fund other organisations for example in research or in innovation. There is also ethical or alternative financing, responsible investment and credit for projects of social and cultural utility, solidarity and support for ecology.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Not-for-profit or charitable funding or grants

Charitable funding by profit making organisations

Research funds

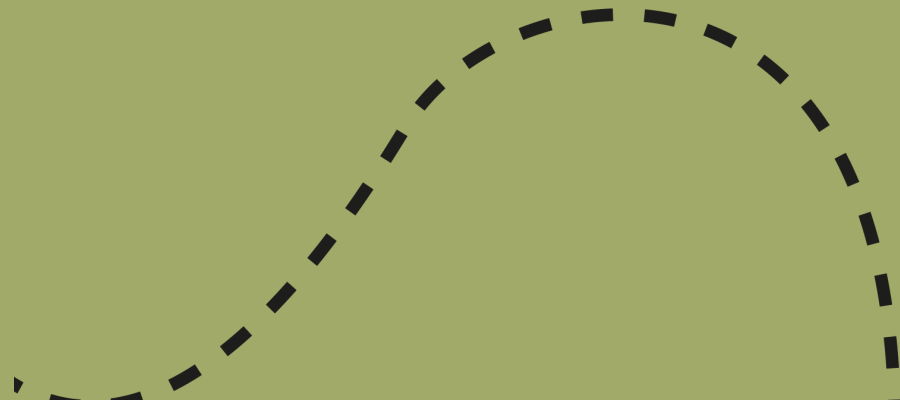


TRUSTS, FOUNDATIONS & FUNDING BODIES

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Etika

Luxembourg National Research
Fund (FNR)



CAPITAL MARKETS

Description

This is the part of a financial system concerned with raising capital by dealing in shares, bonds, and other long-term investments, and providing support in securing finance and loans.

Capital markets include a broad group of actors, who provide the more standard short to long term credit & loans to business and organisations. The capital market actors are highly regulated, controlled by laws and standards. In addition to offering credit and financing projects, they offer guarantee and leasing services, advisory and consultancy services, risk assessments, facilitate business development etc.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Central banking & banking institutions

Loan agencies

Guarantee & leasing companies

Private equity funds

Advisor & facilitator

Investment bankers & private investors



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Banque centrale du Luxembourg (BCL)

Crefilux ING Luxembourg SA

European Investment Bank (EIB)

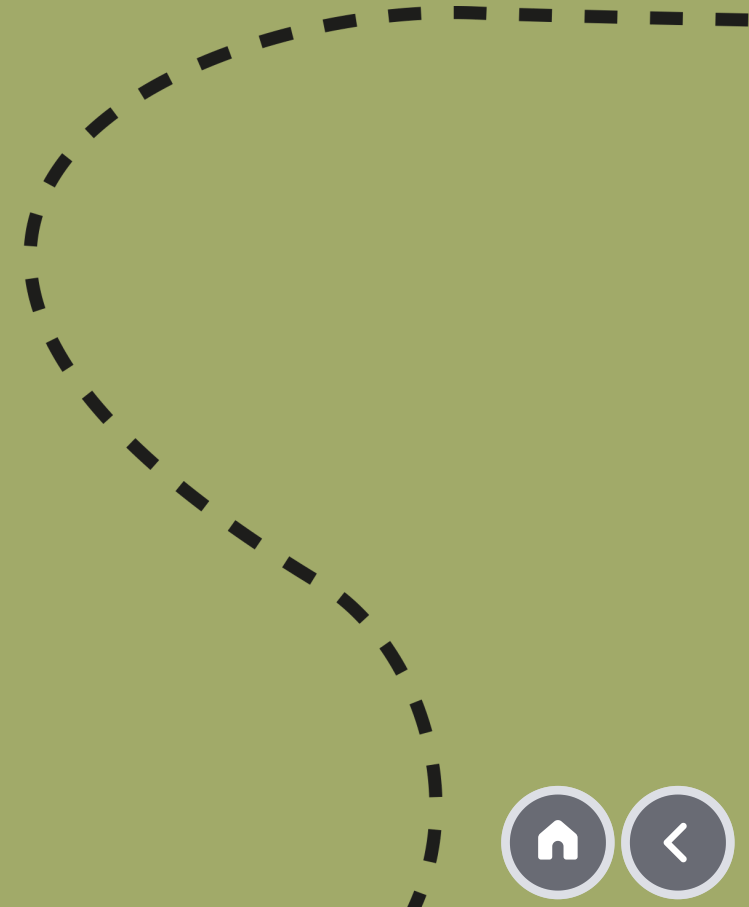
European Investment Fund (EIF)

Mutualité de Cautionnement (MC)

Mutualité des P.M.E.

Société Nationale de Crédit
et d'Investissement (SNCI)

Sociétés de participations financières
(SOPARFI)



STOCK & TRADE MARKETS

Description

The stock market refers to the collection of markets and exchanges where regular activities of buying, selling, and issuance of shares of publicly -held companies take place. The actors in this field are involved in wealth management, monitoring funds and assets. They provide advice and investment proposals to private and public investors.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Trade

Fund & wealth management



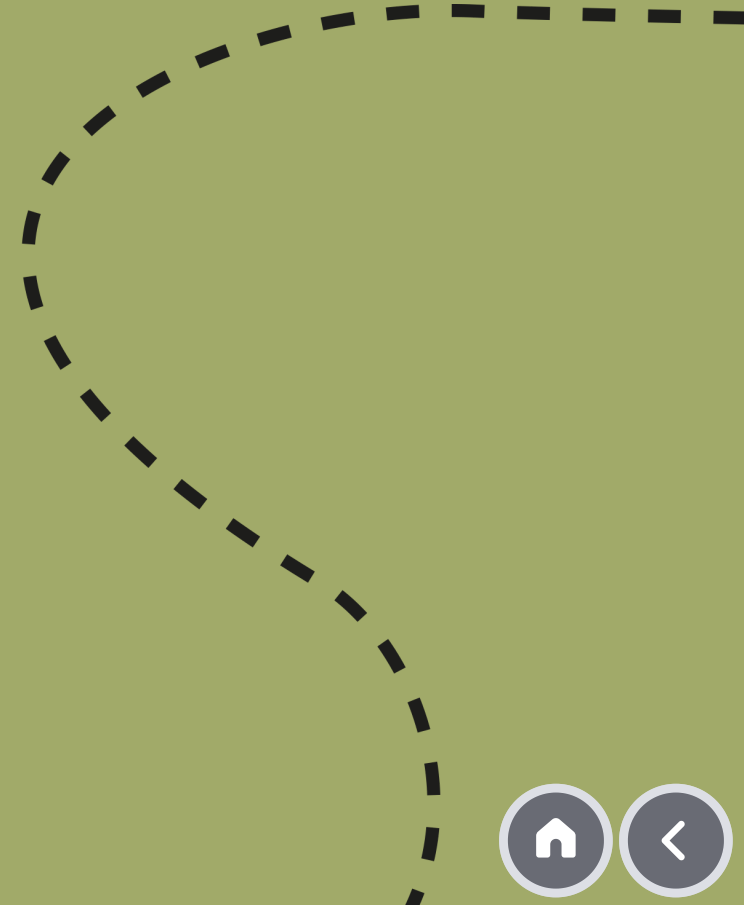
STOCK & TRADE MARKETS

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Luxembourg Stock Exchange (LuxSE)

Various banks

Industry-focused assurance, tax and
advisory services



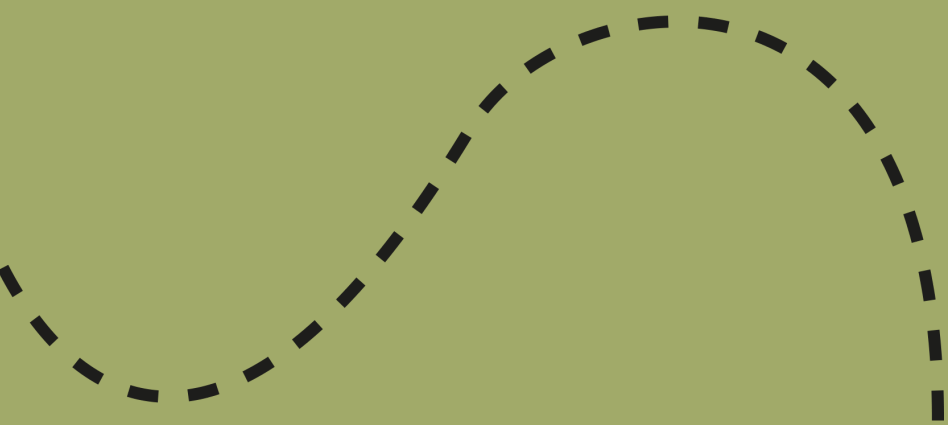
INSURANCE AGENTS & AGENCIES

Description

Insurance agents & agencies undertake risk and damage evaluation, offer advisory services and insurance protection against such potential risks, business interruption and crisis management. Specifically, they offer insurance to catering, food industry and wholesaler business, logistics and agriculture. Often insurances are attached to lending. In Luxembourg, ACA defends the interests of Luxembourg insurance and reinsurance companies at national and international level.

ACTOR TYPES WITHIN THE GROUP

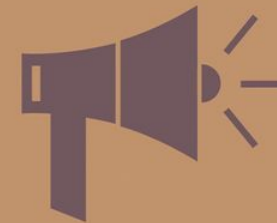
Insurance companies



Consumer research

Advertising &
advertorials

MARKETING & ADVERTISING



Direct
marketing

Sponsorship
of events



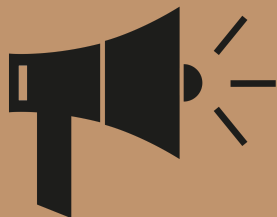
MARKETING & ADVERTISING

Description

Marketing & advertising take place within the food system anywhere between the farm gate and end consumers. This can include direct marketing, advertising food in print media, consumer research, product brand marketing, supermarket promotions etc.

There is a close link between marketing & advertising and '**Media & culture**', for example the increase of online influencers and the use of social media and other technology, which is effective in promoting product brands and opinions. The actors may have a gradient of indirect to direct activity relating to food, but nevertheless their (often) cross-boundary and interdisciplinary activities influence the food system.

It is increasingly difficult to distinguish content, advertising, product promotion from that of factual content in marketing and advertising, e.g. in social media etc. Therefore, legislation aims to make this more transparent through new laws and guidelines.



ACTOR GROUPS

- ◉ Consumer research
- ◉ Direct marketing
- ◉ Advertising
- ◉ Sponsorship of events



CONSUMER RESEARCH

Description

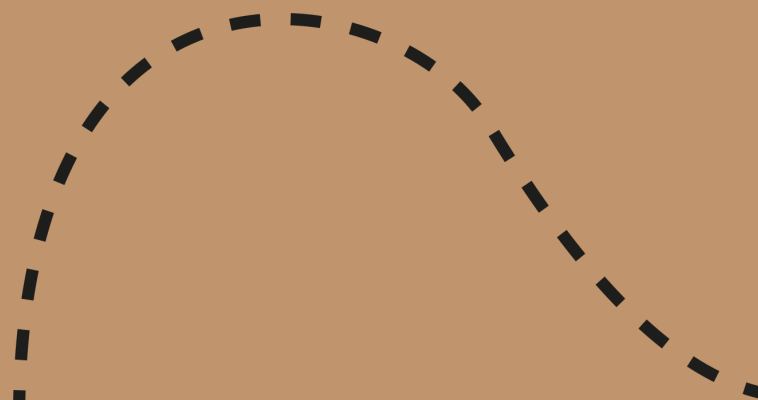
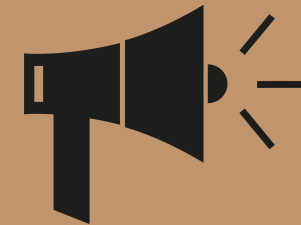
Consumer research is the practice of identifying the preferences, attitudes, motivations, and buying behaviour of the targeted customers, through interviews, surveys, web surfing behaviour, link analysis and other research methods.

Both industry themselves, such as supermarkets, and product owners, undertake research about their own goods and competitor goods, and analyse statistics, trends, and generate content to stimulate appetite and use push behaviour and psychology to entice shopping.

ACTOR TYPES WITHIN THE GROUP

Industry

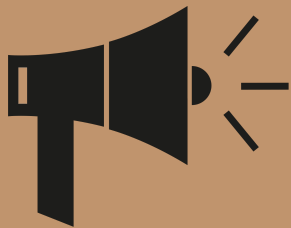
Communication agencies



DIRECT MARKETING

Description

Direct marketing consists of any marketing that relies on direct communication or distribution to individual consumers, rather than through a third party. Direct marketing is extremely broad and consists of traditional methods such as flyers, mail, email and websites as well as product sales via farms, but also using online tools, push technology and social media, to promote products and content (e.g. farms, events, restaurants).



ACTOR TYPES WITHIN THE GROUP

Supermarkets

Food selling shops

Marketing & Advertising agencies



ADVERTISING & ADVERTORIALS

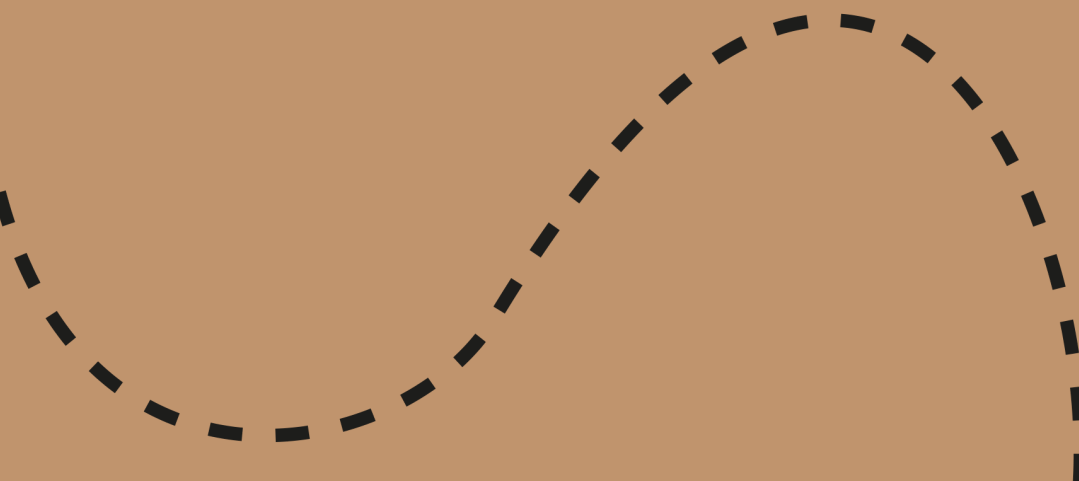
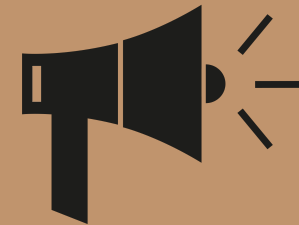
Description

An advertisement (advert or ad) is the promotion of a product, brand or service to an audience in order to attract interest, engagement and sales. Ads come in many forms, from copy, (e.g. flyers, giveaways, materials, branding) to interactive video and online content and have also evolved into new technology such as features in the App marketplace, social media posts, etc. Further types of adverts are the advertorials that feature in newspapers or magazines giving product information, in the style of an editorial or journalistic article.

ACTOR TYPES WITHIN THE GROUP

Digital & branding agencies

Public relations agencies



MARKETING & ADVERTISING

SPONSORSHIP OF EVENTS

Description

An event sponsor is a company that supports an event, usually by providing funds, in exchange for marketing opportunities. This often comes in the form of increased brand exposure, access to attendee data, speaking opportunities at the event, or discounted event tickets.

These actors can be professional content and marketing agencies or local shops or businesses that provide funding or products towards an event in exchange for marketing.

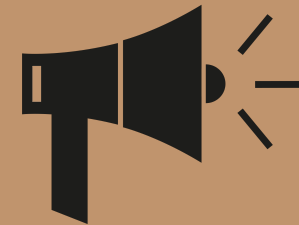
ACTOR TYPES WITHIN THE GROUP

Supermarkets

Shops

Product owners

Associations



Rituals & customs

**MEDIA &
CULTURE**



Museums,
exhibitions & art

Media & publishing



MEDIA & CULTURE

Description

Media refers to content disseminated in mass media such as broadcasting, publishing, documentary filmmaking and the Internet, where facts or current opinions are conveyed to the general public. Culture refers on the one hand to the creative, and sometimes fictional, content of the arts and other manifestations of human creativity (e.g. painting, photography, sculpture, literature, film, music, exhibitions), and on the other hand to our societal norms, beliefs and values guiding daily interactions.

Media and culture both form and are formed by messages that they communicate through various channels. Media and culture are areas of activity not bound to distinct actors that are specifically, or necessarily, only related to the food system. The actors and their activities freely cross borders and can be directly or indirectly involved in interdisciplinary collaborations, but also, with many other actors in the food system, that support and create debate, information and knowledge around food and related themes, internationally and in Luxembourg. The actors often utilise interconnectivity, creating fluidity between the online and physical environment (through social media, the web, and for example exhibition spaces).

There are many links to other actor groups and activities, for example to research, education and marketing and of course every day cultural activities undertaken by citizens (see '**Individual citizens**').

ACTOR GROUPS

- ◉ Media & publishing
- ◉ Museums, exhibitions, art & creative literature
- ◉ Rituals & customs



MEDIA & PUBLISHING



Description

Mass media refers to a diverse array of media technologies that reach a large audience via various outlets (e.g. broadcast media such as TV and radio, but also via other online broadcasting outlets). New media refers to newer technology such as podcasts, blogs, discussion boards etc. Any of these may be professional, or non-professional, and may be affiliated with specific broadcast or other groups, with or without a specific agenda attached. We also include factual publishing, whether academic or other research based, in any publication form. These media offer food related content such as articles, broadcasts, opinion pieces, advertising, visual content etc. that may be written/provided by journalists, reporters, researchers, bloggers, or online news outlets.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Publications

Newspapers

Radio broadcasts

Radio

News provisions (online or print)

Filmmaking (documentaries and food-related fiction)

New dissemination methods (blogging, podcasts etc.)



MEDIA & PUBLISHING

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Business magazines, e.g. Delano, PaperJam

Cookery shows, books, blogs e.g. Anne's Kitchen

Food and lifestyle magazines, e.g. KACHEN Magazine

Government magazines, e.g. GUDD

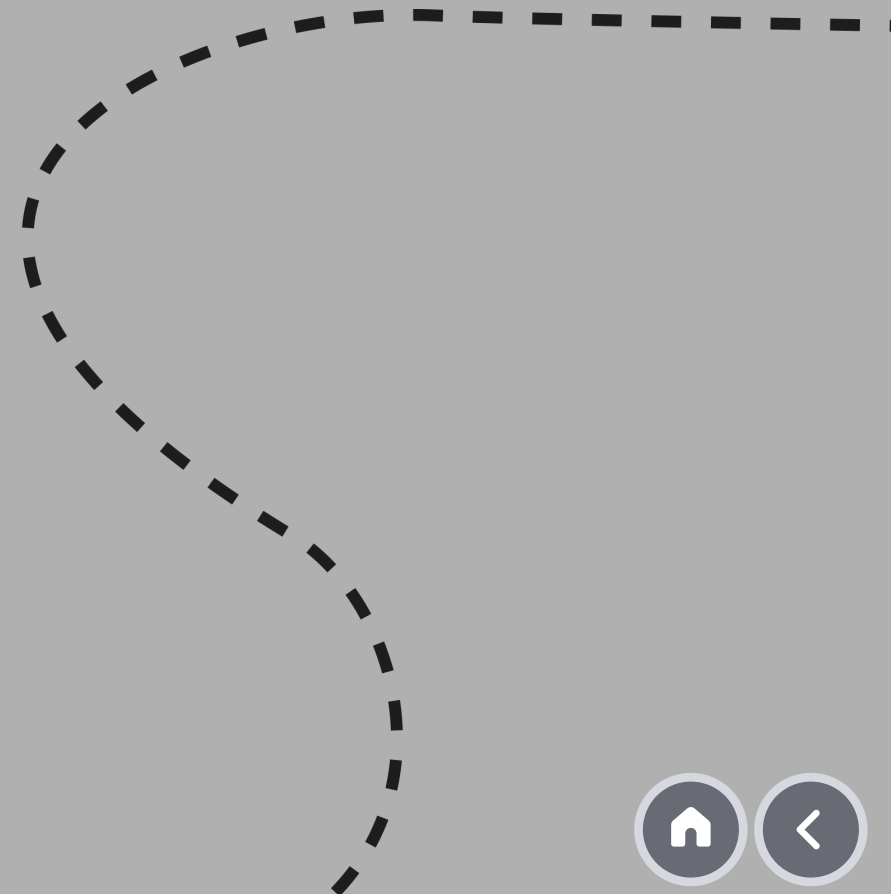
Literature thematising food related topics

News media, e.g. RTL

Newsletters, online and offline, e.g. Infogreen

Non-fiction books on food matters, e.g. academic publications or books for the general public

Print media, e.g. Luxembourger Wort



MUSEUMS, EXHIBITIONS, ART & CREATIVE LITERATURE

Description

Museums, exhibitions, art, and creative literature related to food and culture are creative arts whose products are to be appreciated by sight (or other senses) and evoke an emotion through an expression of skill and imagination such as painting, sculpture, filmmaking (fiction), creative literature and the written form, musical or dramatic performances, and photography and art installations.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Exhibitions

Displays

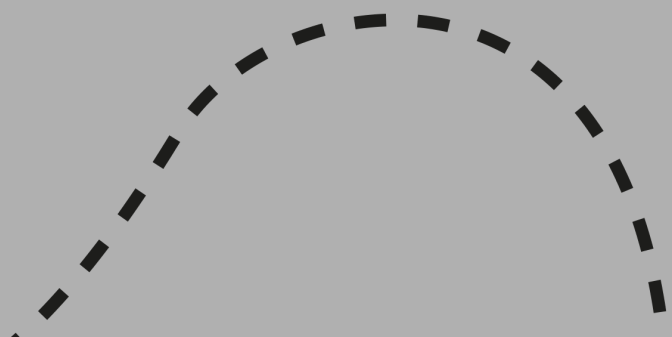
Dance

Painting

Drawing

Films

Photography



MUSEUMS, EXHIBITIONS, ART & CREATIVE LITERATURE

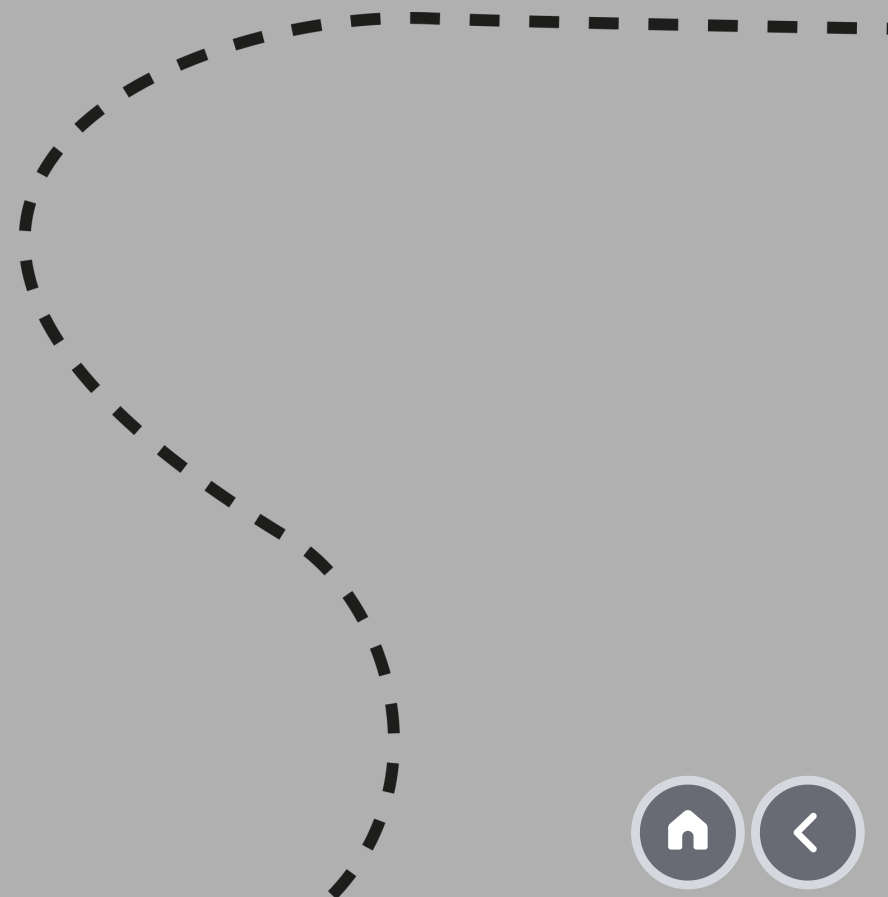
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Gastronomy trade shows, e.g. Expogast

Food-related museum exhibitions, e.g. Le Musée du Déchet (The MuD), Villa Vauban, Luxembourg City History Museum

Regular exhibition locations, e.g. Rotondes

Visual science installations, e.g. Cloaca



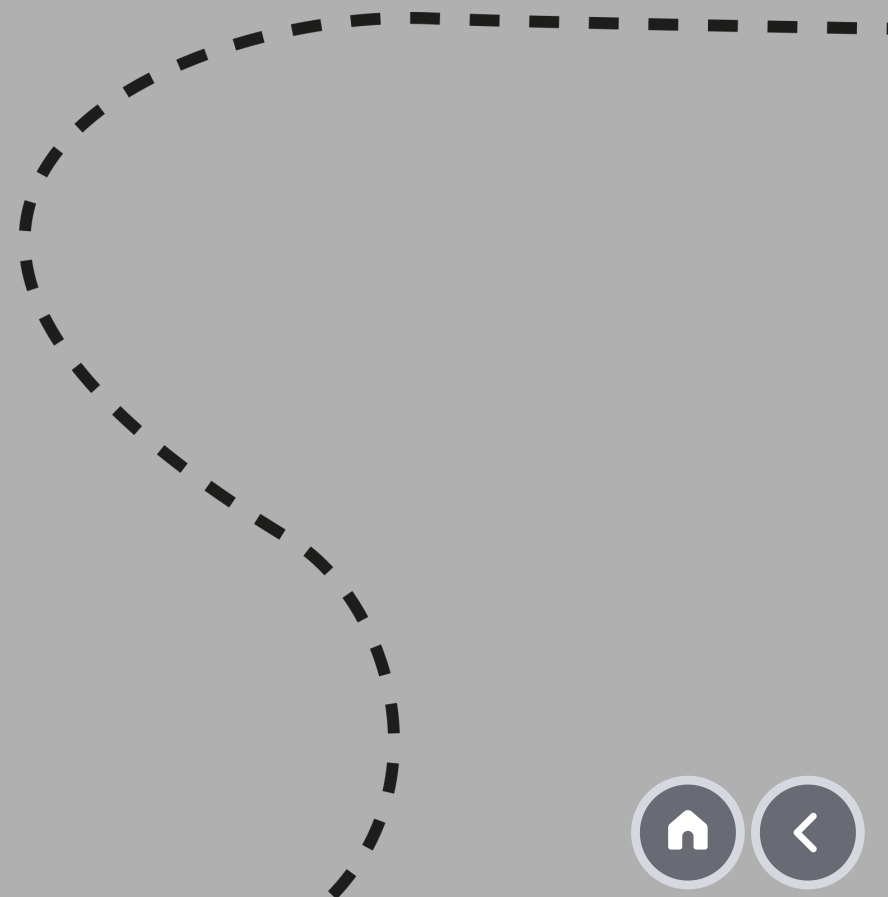
RITUALS & CUSTOMS

Description

Rituals and customs are social behaviours specific to a culture, used to reinforce social bonds and structure. They may include religious or secular reinforcement and may indicate membership or status in a self-defining cultural group. Food plays a large role in rituals and customs within a tradition, but also in popular culture, (e.g. bonding with friends, trends). Rituals and customs can also include food sharing, cooking activities, baking, and crafts related to food.



Examples from Luxembourg



RITUALS & CUSTOMS

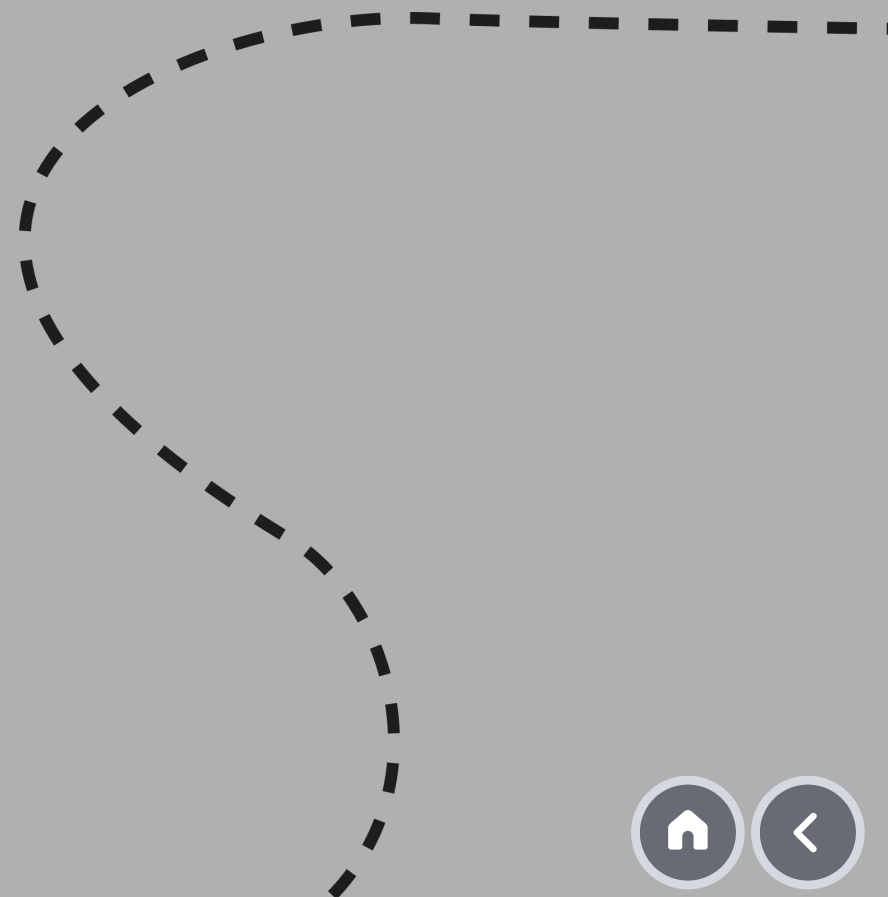
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Religious, secular and humanist traditions and celebrations e.g. weddings, funerals

Fairs and festivals e.g. Schueberfouer, kermesses

Gastronomy fairs and tastings

Marches gourmandes



Use of social media

Civil society
commitment



INDIVIDUAL CITIZENS

Live & transmit
values

Socialising
children

Enacting cultural
identity, social
bonds &
distinctions



INDIVIDUAL CITIZENS AT THE BROADER FOOD SYSTEM LEVEL

Description

We are all citizens, who act individually and collectively, and participate in society. Individual citizens play diverse and multiple roles in the food system, both directly 'with' food and indirectly 'around' food, and they interact with other food actors. Indirect influence on the food system happens through a range of everyday actions and experiences 'around' food, whereas direct influence means the concrete dealings 'with' food. Individual citizens are therefore the only group represented with distinct actions in both parts of the food system. As actors of the broader food system, citizens can shape the food system through their food citizenship, engaging with and exploring food related matters and ultimately through their activities 'around' food.

Citizens can interact with numerous food system actor groups. For citizens' direct dealings 'with' food, see '**Individual citizens within the supply circuit**'.

ACTOR GROUPS

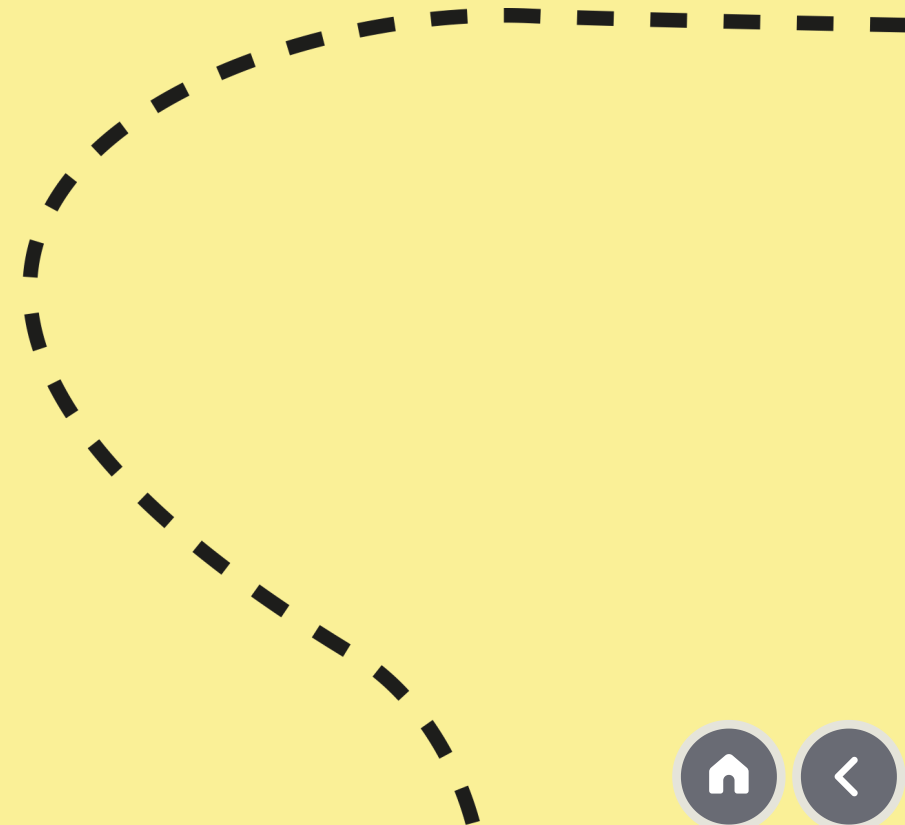
- ◉ Use of social media
- ◉ Live & transmit values
- ◉ Enacting cultural identity, social bonds & distinctions
- ◉ Socialising children
- ◉ Civil society commitment



USE OF SOCIAL MEDIA

Description

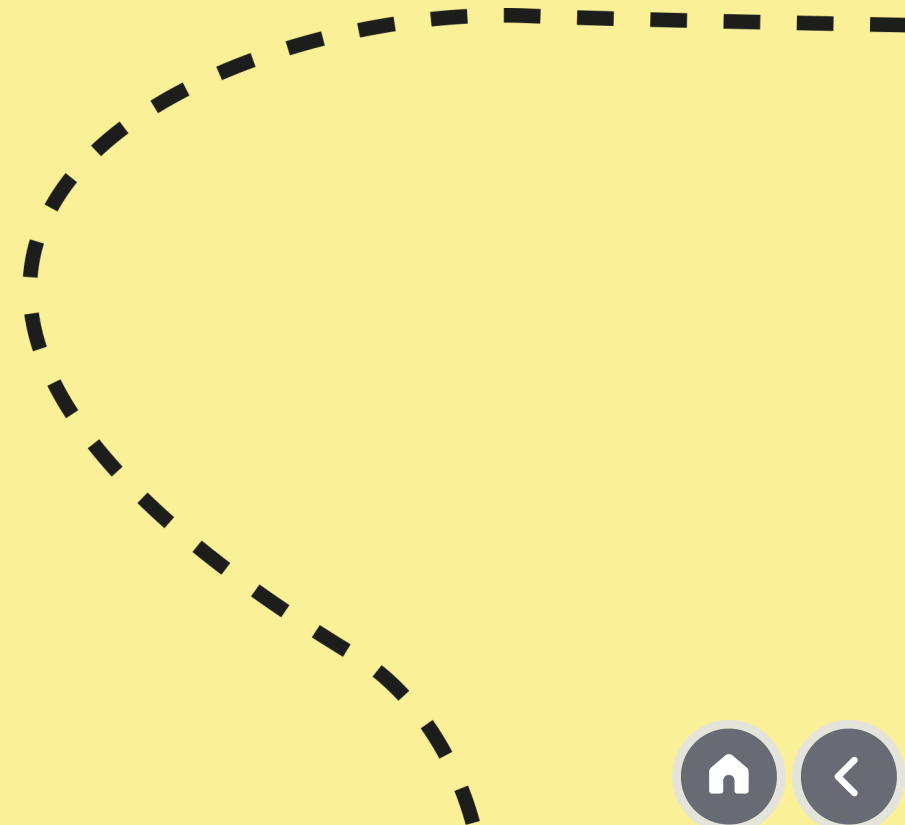
As in other domains of life, social media has a role in how individual citizens interact with food. Social media can influence our food related choices and through social media we in turn can influence others, interact with a wider range of people and contribute to spreading ideas. This can be seen through targeted marketing and advertising, the rise of food, diet and lifestyle influencers, food trends that spread quickly online (e.g. Dalgona coffee, the 24-hour potato, Coldbrew, Kombucha, Carrot bacon), access to cooking shows and channels online, recipe browsing, dietary blogs etc. Inherent to social media and connectivity is also the idea of access to recipes, ideas, people, and foods that may previously have been unheard of, whether for geographic or social reasons.



LIVE & TRANSMIT VALUES

Description

As individuals, and as members of society and manifold communities, we transmit values related to food and the food system. These values include table manners, notions of whom it is appropriate to include in or exclude from meals, implicit social distinctions via food choices and food knowledge, cultural values on which foods are considered edible or on what constitutes conviviality and hospitality, sharing favourite dishes and family recipes with friends, eating according to specific dietary guidelines etc. Individuals can use their careers and multiple other roles in life to transmit personal, cultural, ethical and class-related values to other people. A more specific way of transmitting values is through socialising children (see '**Socialising children**').

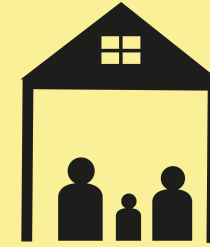


ENACTING CULTURAL IDENTITY, SOCIAL BONDS & DISTINCTIONS

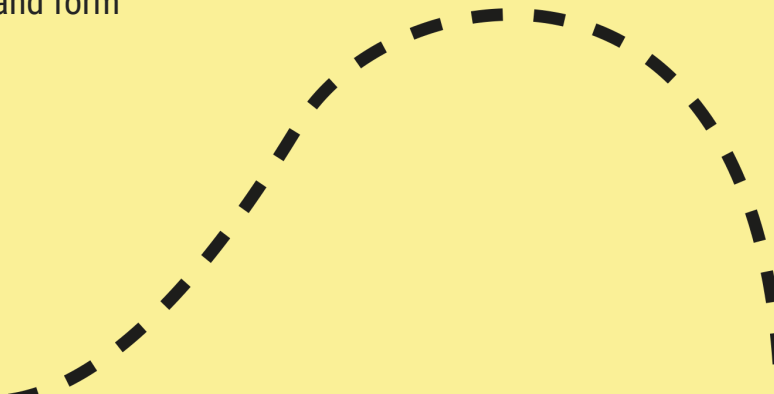
Description

As individuals we enact cultural and social bonds through everyday actions. These bonds of belonging and distinction are interrelated sides of community- and society-building processes. Belonging and distinction, or non-belonging, are also vital to personal and collective identity formation.

Cultural and social belonging (and non-belonging) with reference to food and the food system can be demonstrated in many ways: national foods and dishes, use of regional products (e.g. Terroir products such as wine, olive oil etc.), intergenerational and/or gendered knowledge on how to prepare certain dishes, national, cultural, and religious celebrations involving food and values related to food consumption etc. Sharing meals in all the forms this practice can take has been a strong social bonding activity in cultures around the world for centuries. Traditions around food also developed from what the natural environment has allowed humans to grow. Specific ways of preparing foods into final dishes and cultural norms on how and with whom to consume them, further strengthen cultural peculiarities between regions and form their cultural food traditions.



Cultural and social boundaries of distinction can be 'horizontal', such as distinction from neighbouring countries or far-away culinary "peculiarities", or 'vertical', within a given society in different social groups and environments, and often with a hierarchy of reputations. Food-related boundaries of distinction can be based on rarity, originality, audacity or cost of ingredients, as well as on the implicit and codified knowledge surrounding their consumption.

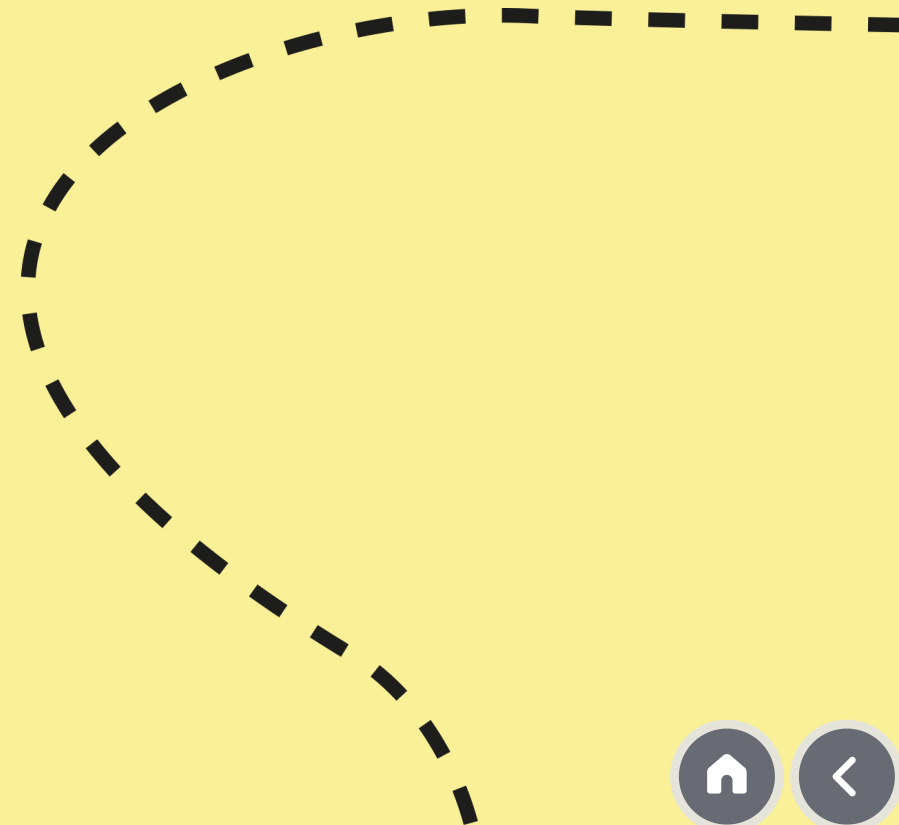


SOCIALISING CHILDREN

Description

Children are surrounded by different values and influences from different sources, including their families, friends, schools, leisure associations, and everyday activities such as watching TV, shopping, media use etc. Socialising children happens through various efforts in teaching values, beliefs and morals, in educating youth and new generations in a range of habits and values such as table manners, choice of food, sensitising children to food advertising and healthy dietary behaviour, sustainable food production methods, food waste avoidance etc. Through socialisation there is a process through which young people acquire skills, knowledge and attitudes relevant to their future as citizens in society. It's a way to transfer social norms to future generations.

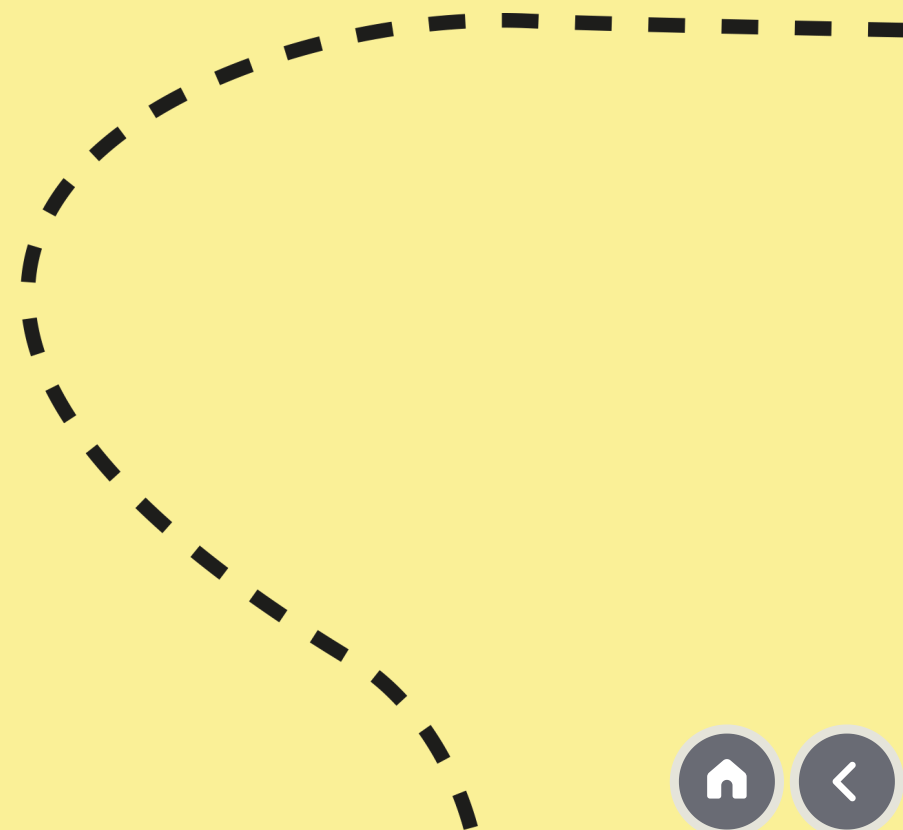
In this process, own values (see '**Live & transmit values**') shape what we pass along to children, but their socialisation is also influenced by financial, social and educational constraints within their immediate personal environment, which makes educational and leisure actors important socialising partners for families, especially in a concern of equity. Confrontation with food can happen from a very young age through dedicated workshops for smelling, tasting and feeling of foods, and continues with age-adapted education of food provenance and sustainability issues, as well as health components.



CIVIL SOCIETY COMMITMENT

Description

Individuals can also take certain actions as part of civil society commitment. Civil society initiatives can have diverse goals such as reducing inequality, encouraging transparency and good governance, promoting prosperity for all, raising awareness etc. These may overlap with any number of actors and issues in the global food system and as such our participation or commitment to any goal can have a lasting influence on any number of issues as well as on our daily lives (see also '**Non profit, voluntary and community groups**').



Primary & secondary
health care services

**OPERATIONAL
SERVICES**

Human
resources

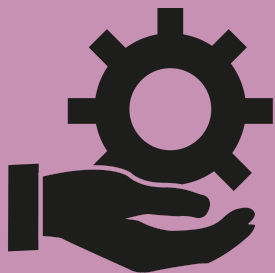


Technology
& innovation
services

OPERATIONAL SERVICES

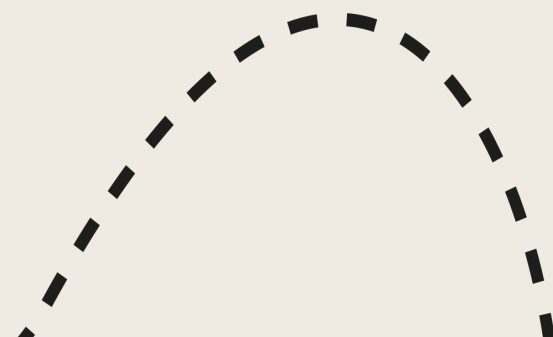
Description

Operational Services support the actors within the food supply circuit and the broader food system. They include mainly actors within human resources, primary and secondary health services and technology services, as their roles often vary between a direct and indirect relation with food. Actors outside of these three larger groups can also provide operational services, and they may be dotted around within other actor groups.



ACTOR GROUPS

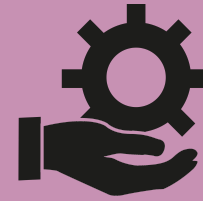
- Human resources
- Primary and secondary health care services
- Technology & innovation services



HUMAN RESOURCES

Description

Human resources include agencies or anyone who provides food related employment, supports employers and employees and human resources administration, those working in change management, and those actors involved in providing apprenticeship opportunities and skills training as part of employment in food domains. These actors offer employment services or are embedded within organisations to ensure that the company hires and trains adequately skilled staff in specific food topics. This can also include occupations such as training, coaching and mentoring in career and lifestyle change. Some actors are involved in apprenticeship schemes and social labour, providing skills to improve prospects for staff.



*Examples from
Luxembourg*

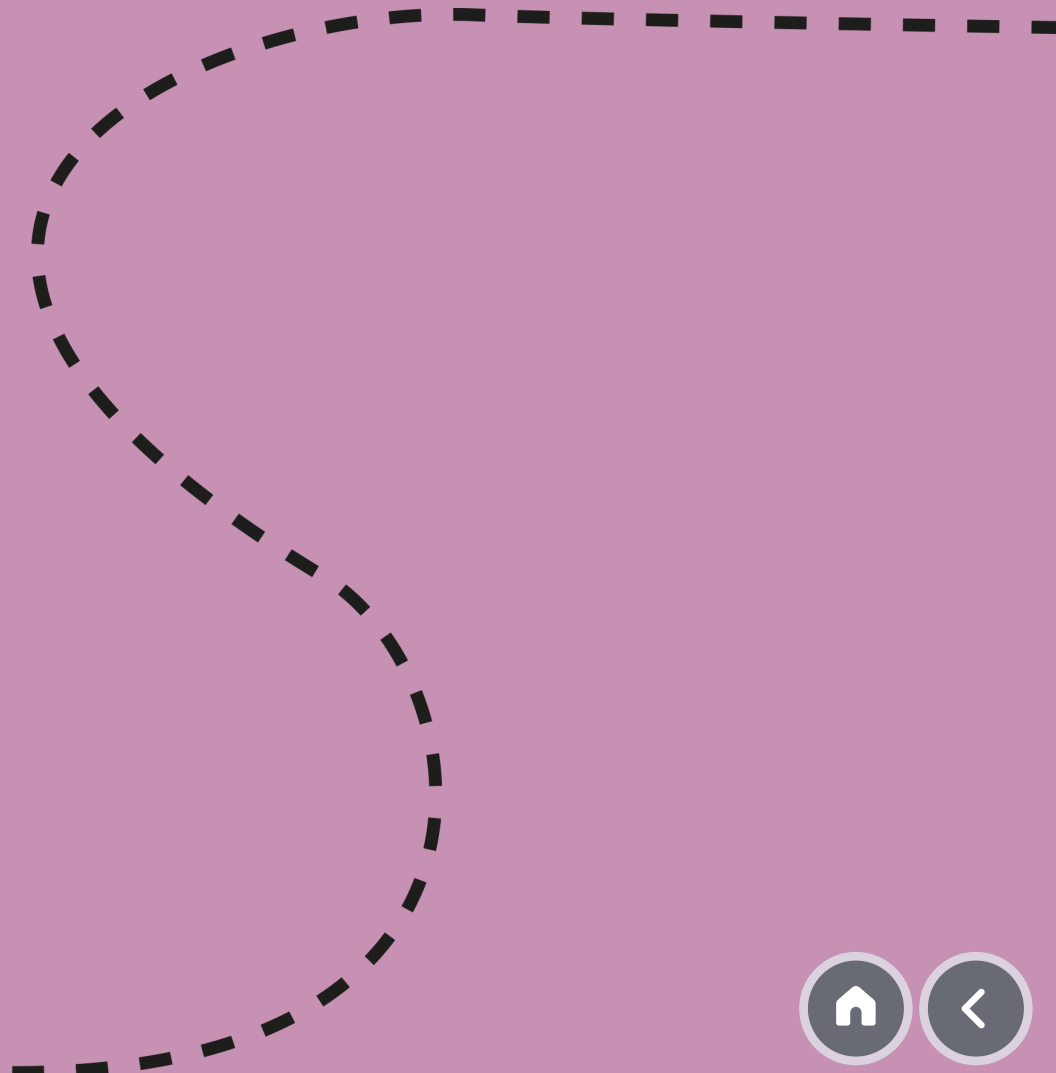


HUMAN RESOURCES

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Adecco Luxembourg

Jobs.lu



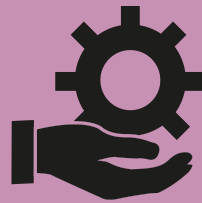
OPERATIONAL SERVICES

PRIMARY & SECONDARY HEALTH CARE SERVICES

Description

Primary health care (PHC) is a whole-of-society approach to health with aims of ensuring the highest possible level of health and well-being, and its equitable distribution. It includes health promotion and disease prevention to treatment, rehabilitation and palliative care. Secondary Health Care (SHC) is the specialist treatment and support provided by doctors and other health professionals for patients who have been referred to them for specific expert care, most often provided in hospitals.

*Examples from
Luxembourg*



ACTOR TYPES WITHIN THE GROUP

Physicians

Nurse

Dentists

Allied health professionals

Community health workers

Breast feeding consultants

Specialists

Health workers

Caretakers

Dietitians



PRIMARY & SECONDARY HEALTH CARE SERVICES

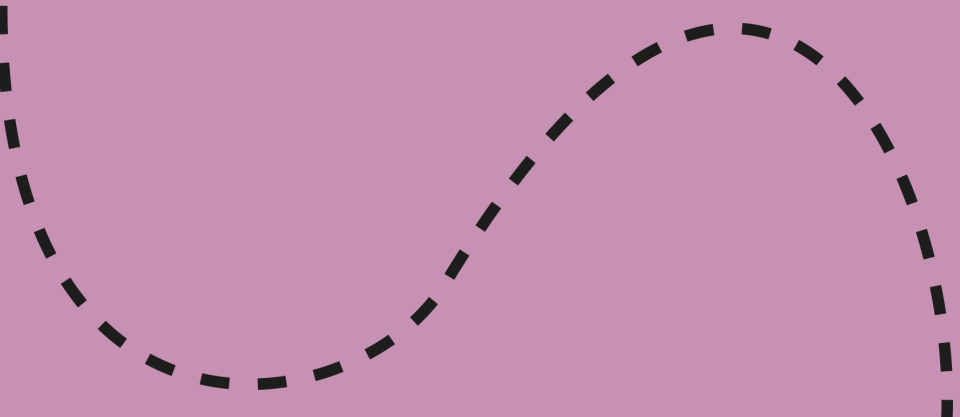
EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

The health services actors are involved in activities such as advocating good, clean, fair food, providing dietary advice, breastfeeding and infant feeding support, involved in activities around quality of life, public health, health inequalities, social determinants and health promotion. They are also specialists and offer services around eating habits, special diets, food allergies, eating disorders, obesity, dentistry, and other specialist areas.

SOME OF OUR ACTORS

There is a large array of health and medical professionals with specialism in food or diet related research and disease management in Luxembourg that can't be listed individually here.



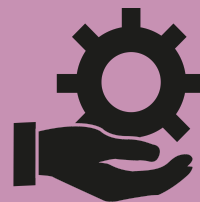
OPERATIONAL SERVICES

TECHNOLOGY & INNOVATION SERVICES

Description

Any company testing and providing technological solutions and innovation in food supply circuits, or the food system as a whole, which includes a technological component, including that of engineering, planning, and consulting. These actors are broadly categorised into technology services, and activities vary from innovation projects, advisory and consultancy services, project management, urban and rural regeneration, planning and development, architecture etc. Some of the topics they may be involved with include automation, robotics, big data, food safety, agri-food blockchain, logistics, cybersecurity, food traceability etc.

Examples from Luxembourg



ACTOR TYPES WITHIN THE GROUP

Start-up companies in food tech

Consultants

Planners

Advisors

Engineers

Architects



EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

There is an ambition to support fast-growing companies, start-up companies and innovation in food, drink and agricultural tech industries in Luxembourg. This interest can be seen in various calls and events held by government and food industry, for example Food Tech events held in partnership with cross-border financial and technological companies. These aim to offer the opportunity for industry and entrepreneurs to meet and share expertise.

SOME OF OUR ACTORS

CONVIS s.c.

Emweltberodung Lëtzebuerg asbl
(EBL)

Oekozynter Pafendall

Ville de Luxembourg Urban
Development





Climate & weather



Water resources

NATURAL ENVIRONMENT

Natural fauna & flora,
biodiversity



Land



NATURAL ENVIRONMENT



Description

The natural environment consists of all natural resources (air, water, soil, minerals, flora and fauna) grouped into five 'spheres': the geosphere or lithosphere (solid surface layer of the earth), the atmosphere (layer of air above the lithosphere), the hydrosphere (water on the surface, in the ground, and in the air) the cryosphere (all frozen parts of the earth) and the biosphere (a large and complex ecosystem of living and non-living entities). Earth's spheres overlap and interconnect; changes in one affect another. Human activities are framed by the given biophysical conditions in a specific place, yet humans also co-construct ecosystems. Human food production is subject to landscape features, soil type, climate, freshwater availability, natural vegetation patterns and flora habitats. For centuries, humans have altered and managed natural ecosystems to produce food, requiring a skilful equilibrium between extractive and regenerative activities. In recent decades, there has been an increased tendency, related to all food system activities, to deplete the natural resource base humans depend upon for survival. In response, the United Nations Human Rights Council adopted a resolution recognising the right to a clean, healthy and sustainable environment in 2021.

Natural resource management efforts happen throughout the entire food system (biodiversity conservation, marine and coastal environment protection, capacity and skill building around sustainable resource management, rewarding policies for ecosystem services provided by agriculture, green financing, sustainability research, etc.).



ACTOR GROUPS



- Land
- Climate & weather
- Water resources
- Natural fauna, flora & biodiversity



NATURAL ENVIRONMENT

LAND



Description

The term 'land' describes the geological and geomorphological landscape features (relief, elevation, slope etc.) as well as the natural soil types in a given region.

Soils are living, dynamic ecosystems, with microscopic and larger soil organisms that perform vital functions like converting dead and decaying matter as well as minerals to plant nutrients (nutrient cycling); controlling plant disease, insect and weed pests; improving soil structure with positive effects for soil water and nutrient holding capacity, and ultimately improving crop production. While healthy soils are the foundation of food systems, intensified agricultural production (including frequent use of heavy machinery, high mineral fertiliser input, and reduced use of mixed cultivation, cover crops and rotational systems with leguminous plants, etc.) has been degrading soils, thus reducing the productive capacity of land. Furthermore, deteriorations like soil compaction, decreasing soil life and destabilised root systems diminish soil water retention capacity and increase the risk of topsoil erosion during extreme weather events (intensive rainfall, extended drought periods, etc.) (see also '**Climate & weather**').

On the positive side, along with forests and oceans, healthy soils constitute one of the main contributions to mitigating climate change by maintaining or increasing its carbon content.

Land is also a commodity and is prone to land speculation, land grabbing and land concentration.

See more



LAND

LAND SPECULATION, GRABBING & CONCENTRATION

Description

Land speculation happens because private investment funds and real estate investors, as well as sovereign wealth funds, have increasingly been investing in land, intending to make their investment portfolios more diverse and to speculate upon the rise in land (and commodity) prices. Pension funds, including in Luxembourg, are reported to be one of the largest institutional investors in farmland worldwide. In countries with formally recorded land registration systems, like Luxembourg, farmland investments are easy to retrace and less prone to misuse. Nonetheless, funds from these countries can take advantage of non-transparent land ownership in many countries through questionable investments.

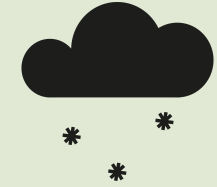
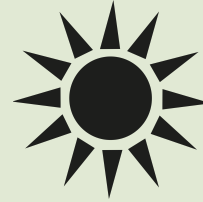
Land grabbing usually refers to large-scale land acquisitions by private investors but also by public investors and agribusinesses that lease farmland on a long-term basis to produce agricultural commodities – including non-food crops or so-called flex-crops for biofuel and animal feed. Both public and private buyers, leasers and sellers take advantage of the fact that in many countries, traditional land rights are not formally acknowledged, making operation in legal grey areas easy. Land grabbing also happens in transitioning periods of traditional tenure systems into formal “modern” forms of property. This may lead to new colonial relationships imposed by the private sector.



At smaller scales, and especially in poorer regions, land grabbing by local elites is widespread. While being a common problem in developing countries, land grabbing can also be observed in the EU. Romania is particularly targeted, with up to 10% of agricultural land being in the hands of investors from third countries and a further 20-30% controlled by investors from the EU. Some EU policy areas have direct or indirect effect on land grabbing, not only on EU territory but worldwide (biofuel and sugar production for import have been for example shown behind land grabbing projects in Africa and Asia). Countries with a large number of small farms are more prone to land grabbing.

Farm size also points to a larger problem in the EU, namely land concentration. While most of the EU's farms are small holdings (ca. 65% of EU farms are less than 5 ha in size), the ca. 7% of farms that are 50 ha or more in size work a little over two-thirds (68%) of the EU's utilised agricultural area (UAA). In 2018, larger farms (of 50 hectares or more) were most common in Luxembourg (52% of farms), followed by France (41%), and Denmark (35%), which means that Luxembourg is one of the EU countries with highest land concentration.

CLIMATE & WEATHER



Description

The climate of an area includes seasonal temperature and rainfall averages, and wind patterns over time. Different regions have different climates. The term 'weather' refers to the temporary conditions of the atmosphere. Climate and weather are crucial for agricultural production because it relies on rain and sun, as well as on the predictability of these elements.

Climate change refers to the long-term structural shifts in temperatures and other weather patterns. These shifts may be natural (i.e. variations in the solar cycle or varying glaciation periods of the Earth), but human activity is increasingly the main driver of climate change, primarily due to the burning of fossil fuels (e.g. coal, oil and gas).

Food systems are both impacted by climate change and major contributors to it. When climate change in a given region leads to less predictable and unreliable weather, agricultural production becomes more vulnerable because the different operations of the agricultural calendar (e.g., pre-tillage and tillage, seeding, weeding, harvesting and post-harvesting tasks) depend on precise weather conditions and are organised according to the known weather patterns. Disturbances at one point in the agricultural calendar can lead to complex chain reactions in the entire production system. Also, extreme weather events like torrential rains, prolonged drought periods, hurricanes etc. have been showing a tendency to increase in relation to climate change, which can have devastating effects, like the loss of harvests of an entire agricultural season.

Recent estimates show that food systems contribute more than a third of global greenhouse gas emissions causing climate change. On the positive side, the agriculture and forestry sector (together with other land use) has serious mitigating potential by becoming a net emissions sink through creation and protection of carbon sequestration in forests and soils (as well as oceans).

Climate change also impacts ecosystems and the services they provide to agriculture more indirectly, such as contributing to decrease of pollinators and natural predators that provide natural pest control or may be used in integrated pest management (see '**Natural fauna, flora & biodiversity**').

We need to place food systems at the centre of global discussions on climate change impacts and solutions and include politics of good governance, financial investment, social protection and inclusion, while ideally collaborating with all concerned actors.



WATER RESOURCES

Description

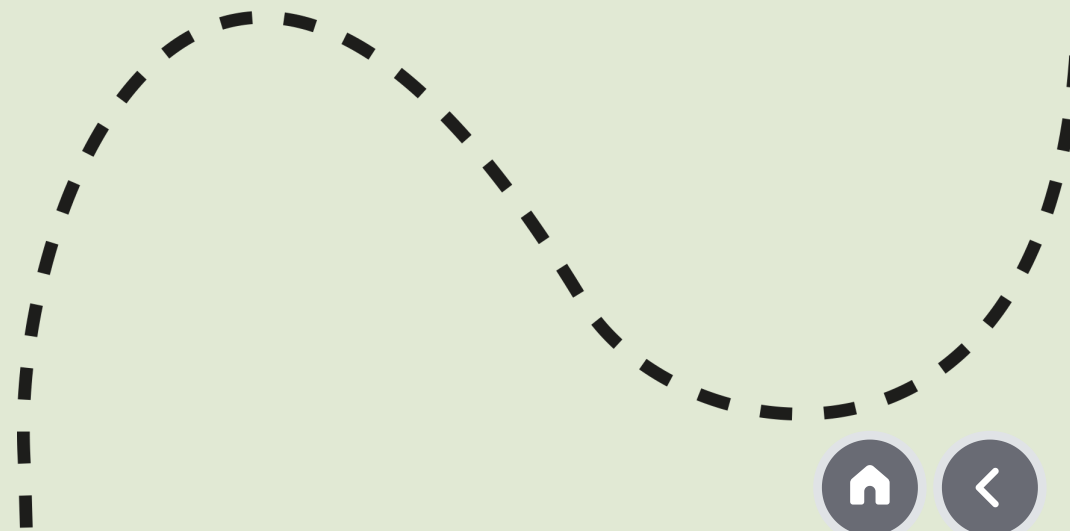
Food production relies on water availability. Globally, only about 1% of Earth's fresh water is readily available for human use. Approximately 69% of Earth's freshwater is in the form of ice in glaciers and polar ice caps, and another 30% is under the surface in the form of groundwater.

Agriculture relies on water and uses an estimated 70% of the world's readily available freshwater, mostly for irrigation. Development of adapted techniques like drip irrigation systems have potential to reduce fresh water use for agriculture yet encounter various adoption barriers, like the high price in the case of drip irrigation, making inaccessible for many farmers worldwide.

Water resources are also at risk by negative externalities of agriculture like the presence of nitrate and phosphorus from fertilisers. In some types of water bodies, this may lead to a progressive over-enrichment with minerals and nutrients, resulting in overdevelopment of vegetable biomass, which corresponds to a process called eutrophication of water. This includes changes in species composition and their balance. Measures to avoid extensive spreading of mineral and organic fertilisers in areas prone to run-off into fragile waters have tried to counter this negative externality in many countries, including Luxembourg.



Climate change alters rainfall distribution patterns around the world: some regions are experiencing changes in overall rainfall quantities (increased or decreased rainfall quantities compared to mean quantities during the same period in the past years). Other regions are experiencing changes in rainfall patterns (usual quantities of rain are distributed over sensitively shortened time periods, involving very heavy rainfalls, alternated by drought periods in-between, instead of a regular pattern of a rainy season or of usual seasonal patterns throughout the year). The consequences of these alterations will likely intensify conflicts over water in the decades to come.



NATURAL ENVIRONMENT

NATURAL FLORA, FAUNA & BIODIVERSITY

Description

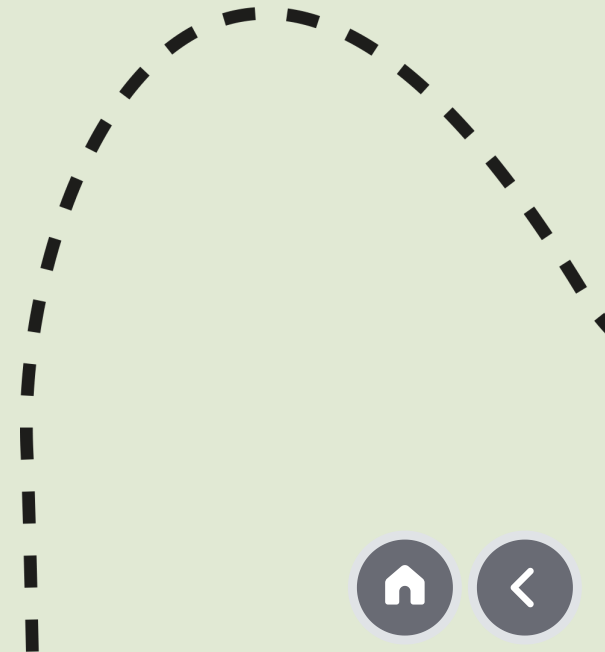
Natural fauna, flora & biodiversity are grouped in the biosphere, containing a wide range of organisms, including fungi, plants, and animals, that compose complex ecosystems. This variety of life is referred to as biodiversity.

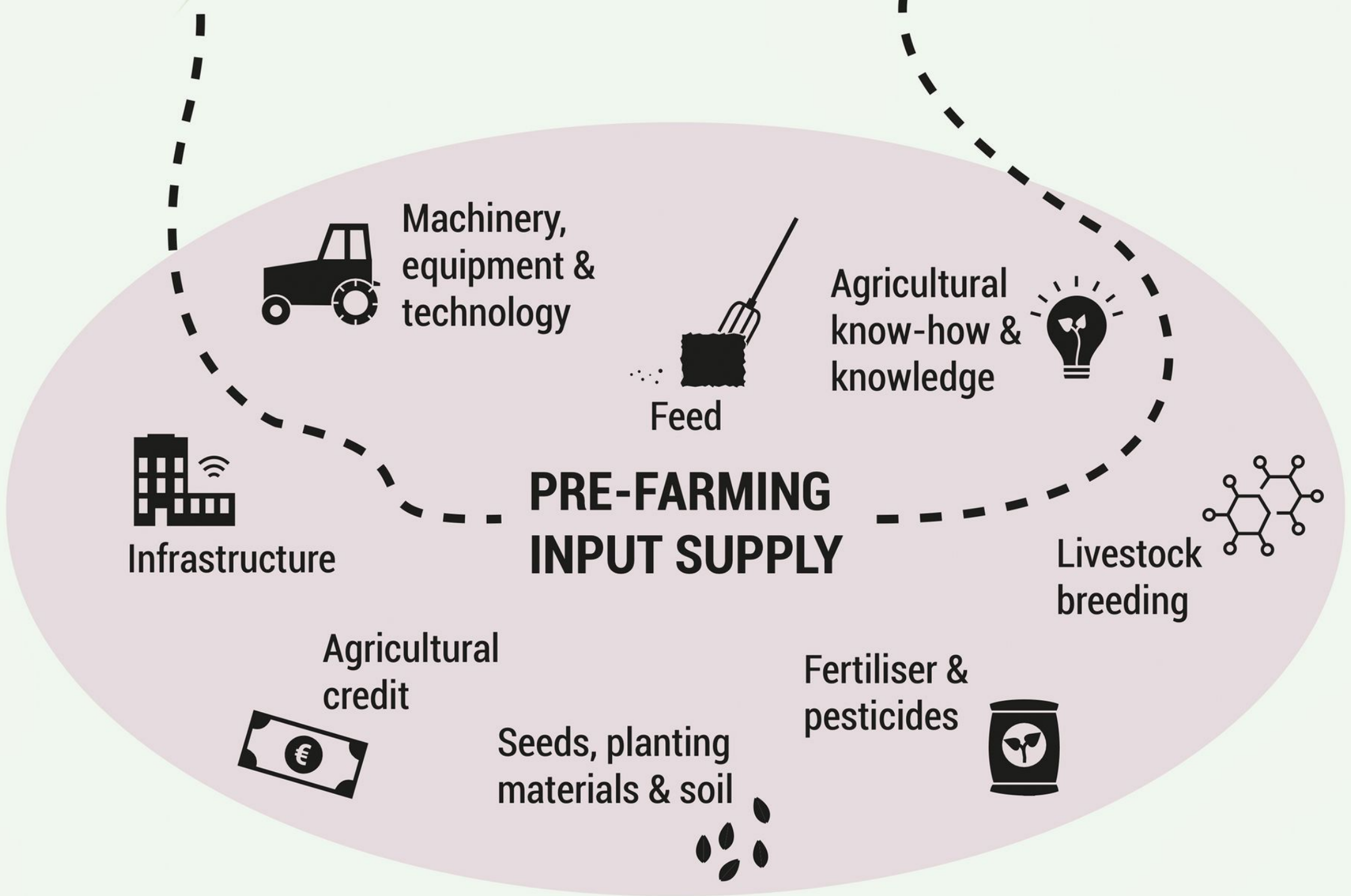
Food production is dependent on natural vegetation patterns (distribution of vegetation that grows naturally in a given region), phytogeographic domains (combination of the fauna species that occur naturally in a given region), naturally occurring flora, etc. For example, natural grasslands lend themselves to extensive livestock systems, while forestry patterns may lend themselves better to non-sedentary agriculture with slash and burn and long fallow periods, etc. At the same time there is often a sense of contradiction inherent to nature; many naturally occurring insects can destroy crops whereas others act as natural pest controllers, wild boars can devastate harvests, but wild grazing animals can also fertilise soils by passing through fields and leaving manure, etc.

However, biodiversity loss is accelerating around the world. The global rate of species extinction today is unprecedented, leading scientists to raise alarm. Over the past 50 years, the conversion of natural ecosystems for crop production or pasture by the global food system has been the principal cause of natural habitat loss, reducing biodiversity. Many wild plant species forming the genetic base of domestic plant breeding are threatened by extinction.



In order to restore biodiversity and protect it, we need to redesign our food system, for example by changing our dietary patterns, protecting and setting aside land for nature and by shifting to more sustainable farming, and ensuring coherent, stringent and encouraging food policies and stakeholder participation.



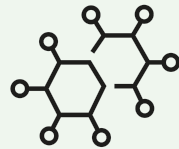
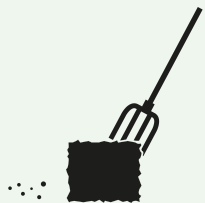


PRE-FARMING INPUT SUPPLY



Description

Besides relying on natural resources, farming needs several types of inputs deriving from upstream activities in order to produce agricultural commodities. Grouped together under pre-farming input supply, these activities produce agricultural inputs (seeds, planting materials and soils; fertiliser and pesticides; animal feed), farm machinery, equipment and technology, as well as farming infrastructure. Service input such as agricultural know-how, or credit, round off the large palette of farming operation prerequisites. The use of pre-farming inputs, machinery and services varies on the type of farming, as some farmers may for example produce some agricultural inputs themselves or use less farm machinery. Still, all farmers depend on external pre-farming input supply to some degree – and in consequence on upstream actors and farmer peers or cooperatives that produce or provide these services and products.



ACTOR GROUPS



○ Seeds, planting materials & soil

○ Fertiliser & pesticides



○ Feed

○ Machinery, equipment & technology

○ Agricultural know-how & knowledge

○ Infrastructure

○ Agricultural credit



○ Livestock breeding



SEEDS, PLANTING MATERIALS & SOIL

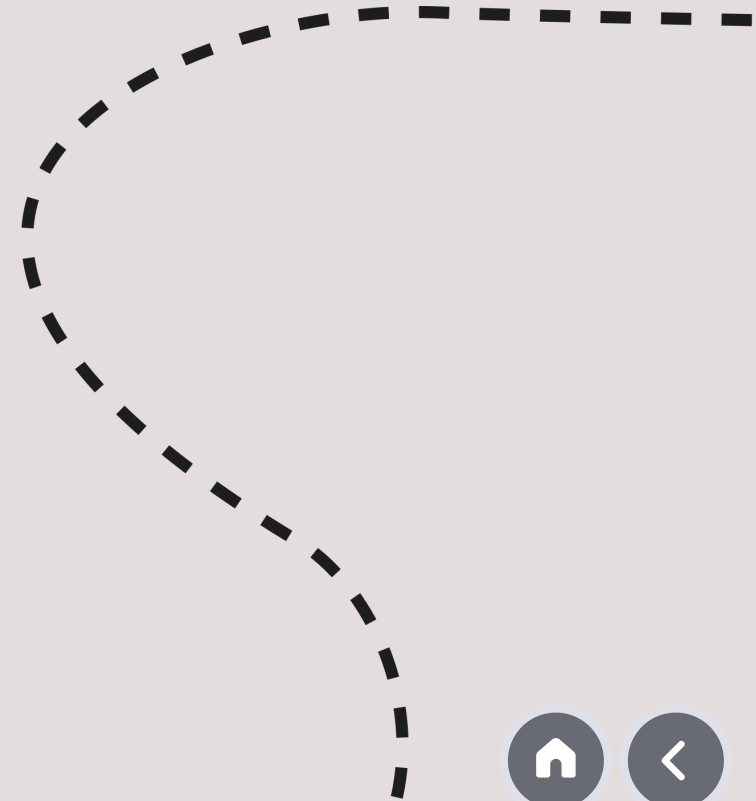
Description

Seeds and planting materials (seedlings in different growing stages) are planted into the soil or into another substrate (growing medium) by farmers, horticulturalists and fruit growers to obtain a plant or parts of a plant that can be harvested for consumption by humans or animals.

Seeds and planting materials are the foundation of agriculture, based on the domestication of wild plants. All crops need seeds from which to grow, and there are different ways to categorise these, for example according to the three most basic agricultural product categories: grain (cereal and legumes) and oil plant seeds; forage plants seeds (including grass seeds); horticultural seeds (including potato seeds and tree seedlings).

There is a general distinction between organic seed and conventional seed, because organic seed is produced according to different active organic laws, and suppliers often form an independent supply chain. There is also a growing informal seed market mostly led by small associations and horticulturalists, with the goal of propagating heirloom and ancient varieties, genetic seed diversity, and avoidance of hybrid breeding.

*Examples from
Luxembourg*



SEEDS, PLANTING MATERIALS & SOIL

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

Because of the vast array of possible provenances, it is not possible to identify all seed suppliers for Luxembourg nor to determine their exact product range. Platforms exist that list organic seed producers for the Luxembourg Greater Region.

Most countries import and export seeds, for example Luxembourg exports field crop seeds and potato seeds. The global seed market is highly concentrated with very few major players dominating the market with impact on price, the production of and the access to seeds, and particularly on the genetic diversity of seeds. Diminished genetic seed diversity leads to a loss in agrobiodiversity and in resilience against climate change, weather hazards, pests, etc.

SOME OF OUR ACTORS

Bingenheimer Saatgut

Kraizschouschtsechgaart

Krautgaart

Luxemburger Saatbau
Genossenschaft (LSG)

Michelman

organicXseeds

SEED asbl

SYNPLANTS

V-AGRAR



FERTILISER & PESTICIDES

Description

Fertilisers are substances put into or onto the soil (or growing substrate) to fertilise crops and promote their growth and increase yields. They are classified according to the type of chemical compound and the number of nutritional elements; their origin or source area; or their mode of action. A basic categorisation of fertilisers is the distinction between chemical/artificial fertiliser and natural fertilisers, although complex in practice.

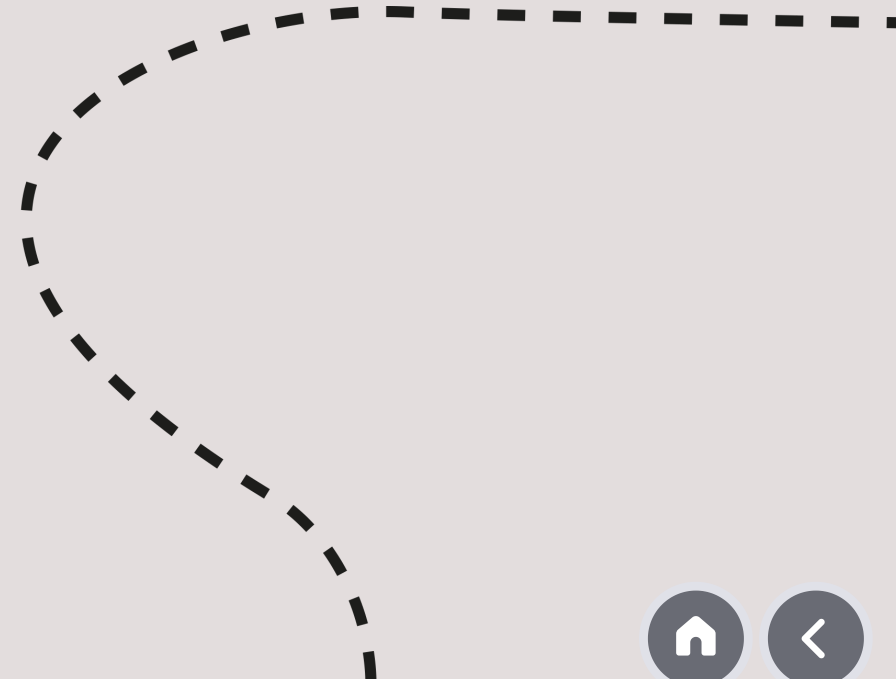
Fertilisers also include materials that change the structure of the substrate, with for example the aim of making existing nutrients more easily absorbable or to provide better grip for roots and hence indirectly enhance the plant growth, e.g. gravel.

Pesticides are the umbrella term for chemical compounds with toxic effects on target organisms, with the aim of protecting crops. Pesticides are generally categorised and termed according to the organisms they target (fungicides, herbicides, insecticides, etc.). They are also called plant protection products (PPPs) and contain at least one active substance.

In organic agriculture, a main aim is to significantly reduce pesticide use, however some active substances are still allowed according to active organic laws (EU organic regulations, Luxembourg organic regulations, etc.).

ACTOR GROUPS

- ◉ Fertiliser
- ◉ Pesticides



FERTILISER & PESTICIDES

FERTILISER



Description

Fertilisers are substances put into or onto the soil (or growing substrate) to fertilise crops and promote their growth and increase yields. They are classified according to the type of chemical compound and the number of nutritional elements; their origin or source area; or their mode of action. A basic categorisation of fertilisers is the distinction between chemical/artificial fertiliser and natural fertilisers, although complex in practice:

- Chemical/artificial fertilisers (or mineral fertilisers) refer to inorganic substances that are produced industrially, thus excluding carbon-containing materials (except urea).
- Natural fertilisers are composed of organic substances that occur naturally in living or formerly living materials, and include: animal sources, compost, manure, crop residues, seaweeds, etc.
- Organic fertiliser is also used as a term to refer to fertilisers that meet the criteria of organic agriculture. While most of these organic fertilisers are natural and organic (in the chemical sense described above), they can also include inorganic substances (for example extracted from rocks) and be produced industrially.

Fertilisers also include materials that change the structure of the substrate, with for example the aim of making existing nutrients more easily absorbable or to provide better grip for roots and hence indirectly enhance the plant growth, e.g. gravel. From a food supply circuit point of view, distinguishing between suppliers that provide organic and conventional fertilisers makes sense. For Luxembourg, conventional ones are more easily identifiable while organic ones appear mostly as product ranges from conventional suppliers.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Agri-Produits

Barenbrug

Fertilux SA

Michelman

V-AGRAR



FERTILISER & PESTICIDES

PESTICIDES



Description

Pesticides are the umbrella term for chemical compounds with toxic effects on target organisms, with the aim of protecting crops. Pesticides are generally categorised and termed according to the organisms they target (fungicides, herbicides, insecticides, etc.). They are also called plant protection products (PPPs) and contain at least one active substance.

In organic agriculture, a main aim is to significantly reduce pesticide use, however some active substances are still allowed according to active organic laws (EU organic regulations, Luxembourg organic regulations, etc.). Their use must be essential for the control of a harmful organism or a particular disease and is only recommended when other biological, physical or breeding alternatives, cultivation practices, or other effective management practices are not available. Furthermore (see Council Regulation (EC) No 834/2007), if products are not of plant, animal, microbial or mineral origin and are not identical to their natural form, they are only authorised if there is no direct contact with the edible parts of the crop. Other strategies to fight or prevent pests also exist. These need a thorough knowledge of agroecosystems. Organic farmers might invest more in agricultural know-how and knowledge input than the more reactive approach of conventional farming does, leading to a higher dependence on pesticide suppliers.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

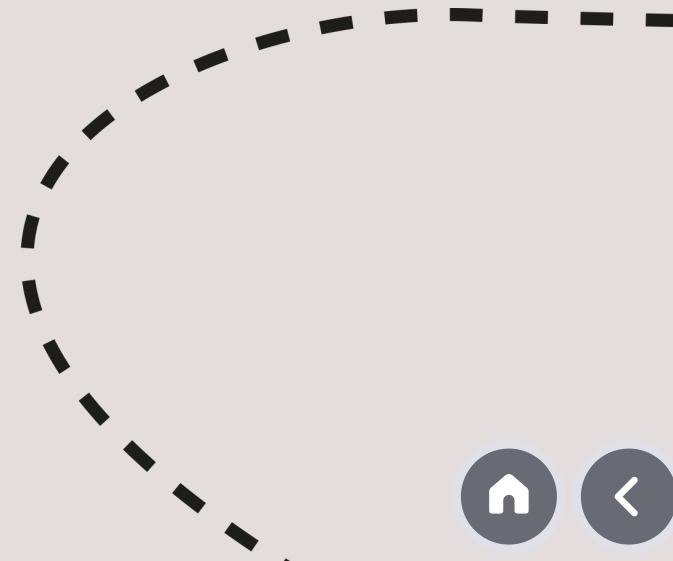
Agri-Produits

Barenbrug

Fertilux SA

Michelman

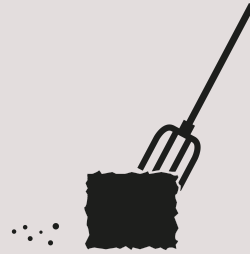
V-AGRAR



PRE-FARMING INPUT SUPPLY

FEED

Description



Animal feed is food for livestock. It can take many different forms, depending on the type of livestock, but also on many other factors, and especially on the husbandry system used by the livestock holder. In extensive grazing systems, livestock exclusively feed on natural grasslands and other edible plants on the pastures, which can include wooded areas, meadows or fields etc. In more intensive, mechanised non-grazing systems, livestock is entirely dependent on its feeder and fattened fast through high energy and/or nutrient density feed, as well as high-protein feed. Most farms figure between or constitute a mix of these most-extensive and most-intensive systems.

Generally, omnivores like pigs and chicken tolerate concentrated feed – especially high-protein feed – better than ruminants whose digestive system prefers roughage. Therefore, the protein-intensive feed based on soybean meal is used in larger amounts in pig and poultry livestock industry than in the beef and dairy industry.

Feed can take different forms; generally, one can distinguish between feed gained from forage plants, plants products and plant by-products, or feed from animal origin as well as feeds based on food waste. There are also feed additives like minerals, vitamins, pharmaceuticals, fatty acids, amino acids and other. The production of fodder mixtures has become a highly industrialised process with at least part of ingredients being imported, making it complicated to trace producers and supplier chains. In Luxembourg, it is possible to identify some main feed manufacturers and dealers; however, the exact supply chains at work are difficult to disentangle.

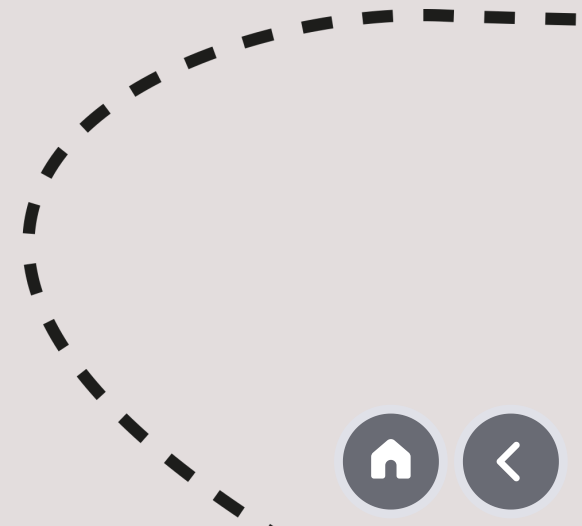
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Agri-Produits

Barenbrug

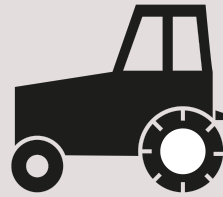
V-AGRAR

Van Luijk Piet SARL



PRE-FARMING INPUT SUPPLY

MACHINERY, EQUIPMENT & TECHNOLOGY



Description

Specialisation of equipment was one of the conditions through which sedentary agriculture on larger surfaces became possible for humankind as the use of hand tools generally allows for cultivating at most one hectare per worker. In Europe, mechanisation since WWII post-war period and initially financed through the Marshall Plan (1948-1952) marked the transition towards industrial agriculture, characterised by a high degree of specialisation, high capital- and energy input, conversion of natural habitats into farmlands, as well as rationalised reliance on machinery and technology. Today, from a global point of view, the technology gap between farmers working with ancient tools such as handmade hoes, and farmers working with cutting-edge technology is vast. Luxembourg's landscape is not a monocropping one dominated by giant machinery. Still, Luxembourg's agriculture is highly mechanised, also increasingly digitalising and involving high-end technologies like drones.

Machine suppliers are specialised in leasing, selling or repairing agricultural machines. Agricultural machinery is expensive and often very specific for executing single farming operations in the farming calendar (therefore only used for limited periods throughout the year), resulting in farm machinery cooperatives where machines are shared or sold between farmers. There are also services that provide all agricultural operations using their own machinery fleet.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Agricenter Wolff-Weyland

Agri-Produits

Agrotechnic SARL

Atelier Noé SARL

Beck Agri S.C.

Carlo Hess Agrarservice

Cloos & Kraus SARL

Daco SA

De Verband

FEMAL



AGRICULTURAL KNOW-HOW & KNOWLEDGE



Description

Agriculture requires a broad spectrum of knowledge and know-how in very diverse domains, from the natural biophysical environment to crop plant and animal biology, from agronomic and technical know-how to managerial and economic skills, etc. Farmer knowledge related to the agroecosystem and the choice of crops, livestock, farming practices, farming technology etc. can be indigenous or formal or a mixture of different knowledge types. It can be acquired informally through various forms of social networks or through formal education, through participatory workshops or through the co-creation of knowledge between farmers and scientists, hence the possibilities of farming knowledge acquirement are complex and region-specific.

Besides different programs of basic vocational training in agriculture, Luxembourg farmers benefit from a large offer of agricultural extension services, both by governmental agencies as well as farmer cooperatives specialised in specific topics.

In addition, farmers may also use external know-how provided by agricultural workers. They may be hired as whole-year farm workers or seasonally for specific farming operations. Some suppliers also provide workforce together with machinery, equipment or technology, others provide information on agricultural products, others knowledge on repairing agricultural machinery.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Agrotechnic SARL

Administration des Services Techniques de l'Agriculture (ASTA)

Barenbrug

CONVIS

Daco SA

Institut fir Biologësch Landwirtschaft an Agrarkultur Luxemburg asbl (IBLA)

M.E. Maintenance & Parts SA

Service d'économie rurale (SER)

Servatius & Ehlenz SARL Luxembourg



INFRASTRUCTURE

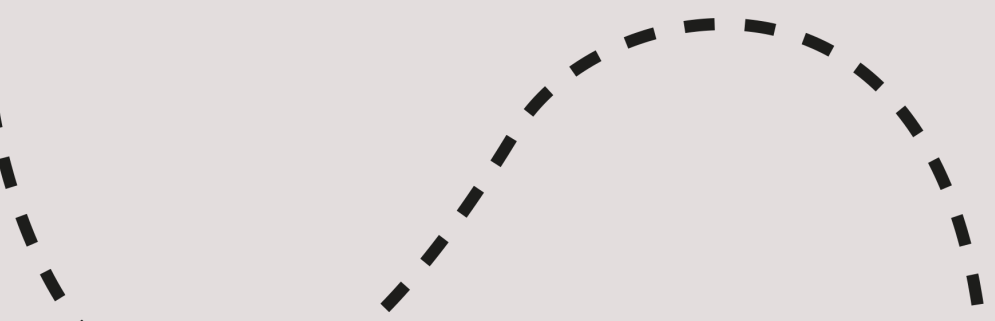
Description

Like other sectors, agriculture done infrastructure for its activities. Farming infrastructure includes farm dwellings (homes, offices, workshop rooms, etc.), animal husbandry infrastructure (animal dwellings, milking installations, mobile chicken homes, processing infrastructure linked to farms, etc.), storage facilities like manure storage or grain silos, and other farming infrastructure (greenhouse constructions, biogas plants, etc.) as well as the energy to run them. When farming activities are extended by processing activities, retail activities or leisure activities, additional infrastructure may be needed.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Kerger Constructions



AGRICULTURAL CREDIT



Description

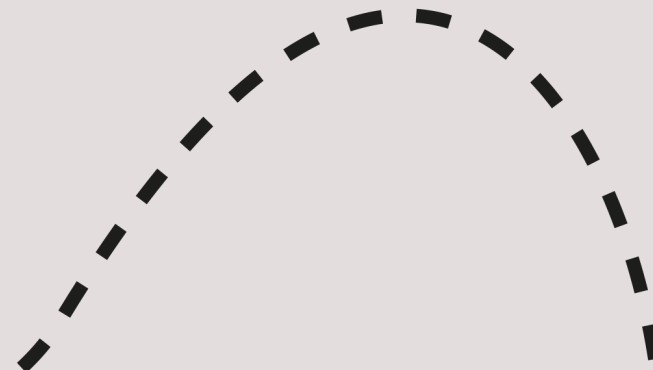
In farming across the world, access to agricultural credits is a sensitive topic. Especially in developing countries, farmers have little possibilities to be granted loans from formal financial institutions and are dependent on informal credit sources or special aid programs. However, this situation is not unique to developing regions and access to credit can prove difficult for farmers even in EU countries. Studies have shown that agricultural companies are less successful in their bank loan applications than small and medium-sized companies in other sectors, which is also a reason behind specific credit programs by EU institutions targeting farmers and young farmers. In Luxembourg there are currently no actors that deal exclusively in agricultural credits 'and insurance). Farmers thus depend on banks where publicly available information is scarce on specific agricultural offers, even though in popular knowledge, some national credit institutions are “closer” to agriculture than others. For example, Raiffeisen bank lists agricultural machinery in their leasing options. (See also '**Financing, investment & insurance**').

It should also be noted that next to credit, insurance for farmers has become an increasingly important and delicate topic in the context of augmenting weather hazards and related harvest losses due to climate change.

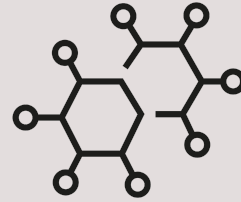
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

European Investment Bank (EIB)

Raiffeisen bank



LIVESTOCK BREEDING



Description

Livestock or animal breeding refers to all measures taken to maintain genetic diversity and improve specific genetic characteristics of livestock. In principle, animals with specific desired characteristics – which correspond to a previously formulated breeding goal – are mated with one another naturally or via artificial insemination. In order to identify suitable animals, the characteristics of individual animals are assessed and recorded (performance test) and the data is statistically evaluated (breeding value estimation).

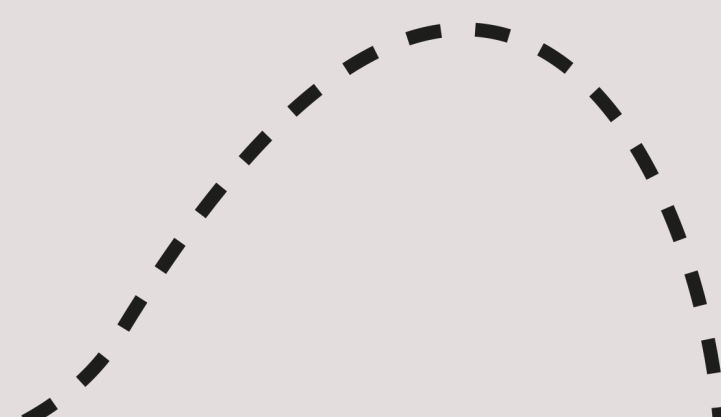
In the EU, agricultural animal breeding is carried out by breeding associations and breeding companies and is regulated by EU law for the species cattle, pigs, sheep, goats and equidae (EU Animal Breeding Regulation 2016/1012).

In Luxembourg, the breeding of milk and meat cattle is most numerous, followed by pig breeding. Due to the relatively small livestock population sizes, the Luxembourg animal breeding organisations maintain close contacts with foreign partner organisations for the purpose of breeding value estimation. Falling back on foreign breeders is common too. There is no commercial poultry breeding.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

CONVIS

Fédération des associations luxembourgeoises d'éleveurs de moutons et de chèvres





Mixed livestock
and/or cropping



Granivores
(Pigs, chickens)



Grazing livestock
(Ruminants for milk or meat)

FARMING



Managed
wild foods

Field crops



Horticulture



Permanent
crops



LUXEMBOURG'S FOOD SYSTEM

FARMING

Description

Farming refers to agricultural activities and other practices of food harvesting and cultivation. Agriculture is the art, science, and practice of cultivating the soil, growing crops, and raising livestock. It provides most of the world's food as well as being a source of fibres, raw materials, hides and fuels. Agricultural methods vary based on the biophysical context but also on cultural, infrastructural, social, and economic conditions, as well as financial and other capacities of individual farmers. Here, farming also includes the ancient practices of managing wild foods through activities such as hunting wild animals and gathering wild plants.

In the EU, a **classification system** for farms has been created allowing each farm to be qualified according to its dominant production branch. Different farm types are herein defined based on their technical structure and their standard output ("orientation technico-économique" - OTE). The **OTE system** developed from the need to capture the diversity of production structures and systems in Member States in order to make it easier to analyse the structural characteristics and economic results of farms, and to develop policies. Recently there have been efforts to include social and environmental aspects into the EU typology.

The EU classification system of farms per type of farming and economic size class is used in Luxembourg and yields the most up-to-date data concerning commercial farms (the term 'agricultural holding' is used).



ACTOR GROUPS



- ◉ Field crops
- ◉ Grazing livestock (Ruminants for milk or meat)
- ◉ Granivores (Pigs, chickens) 
- ◉ Mixed livestock and/or cropping
- ◉ Permanent crops
- ◉ Horticulture 
- ◉ Managed wild foods

OTEs in Luxembourg



OTEs IN LUXEMBOURG



Description

The **OTE classification** has three levels of types of farming. Each level refines the previous one.

- 9 general types: 5 main specialist types, 3 non-specialist types (a holding where less than 2/3 of one enterprise contributes to the total standard output of a farm), and 1 for non-classifiable holdings
- 21 principal types
- 62 particular types

The 5 specialist types are:

1. specialist field crops (general cropping)
2. specialist horticulture (vegetables and flowers)
3. specialist permanent crops (vines and fruit trees)
4. specialist grazing livestock (bovine animals for milk and for meat, sheep, goats)
5. specialist granivores (pigs, poultry and also rabbits)

The 3 non-specialist types are:

6. mixed cropping
7. mixed livestock holdings
8. mixed crop-livestock
9. non-classifiable holdings

In Luxembourg, farms of all 9 principal types exist, however, due to the small size of the country, and small number of total farms (1 881 in 2020), the more refined level of classification (i.e. the 21 principal types or the 62 particular types) may only be found once in Luxembourg. In this case, data on the refined levels are not publicly accessible due to data protection issues.

In general, every farm that can register for agricultural subsidies is considered for OTE classification yet must operate within these thresholds. To be considered in the OTE classification a farm must be a minimum size; the thresholds used in Luxembourg are: 3 hectares of utilised agricultural area, 2 hectares for field crops, 0.5 hectares for vegetables and strawberries, 0.3 hectares for orchards or 1.7 livestock units, etc. Very few farms produce below these thresholds, but those that do are therefore not represented in the OTE system. Some small farming initiatives may thus fall between the cracks of the OTE system.

The classification system uses the standard output (SO) of the farm in order to classify it as specialised or non-specialised, and therefore, smaller side activities that a farm may have, are not represented in their OTE classification. For example, if a farm is classified as specialised grazing livestock type and it also cultivates a 0.1 ha small plot of strawberries, this activity contributes too little to their SO to affect the overall OTE classification of the farm. Thus, the OTEs do not necessarily offer the whole picture of the agricultural production diversity of individual farms and the agricultural sector in Luxembourg as a whole.

As in other Northern countries, there has been a trend in Luxembourg in the development of community-supported agriculture, as well as other alternative approaches to agriculture. These approaches may fall through the grid in OTE classification if they are not an officially registered farm, are cultivating less than 0.25 hectares or if they do not wish to be assessed in the official system for agricultural subsidies to avoid the Common Agricultural Policy (CAP) system.

FARMING

FIELD CROPS

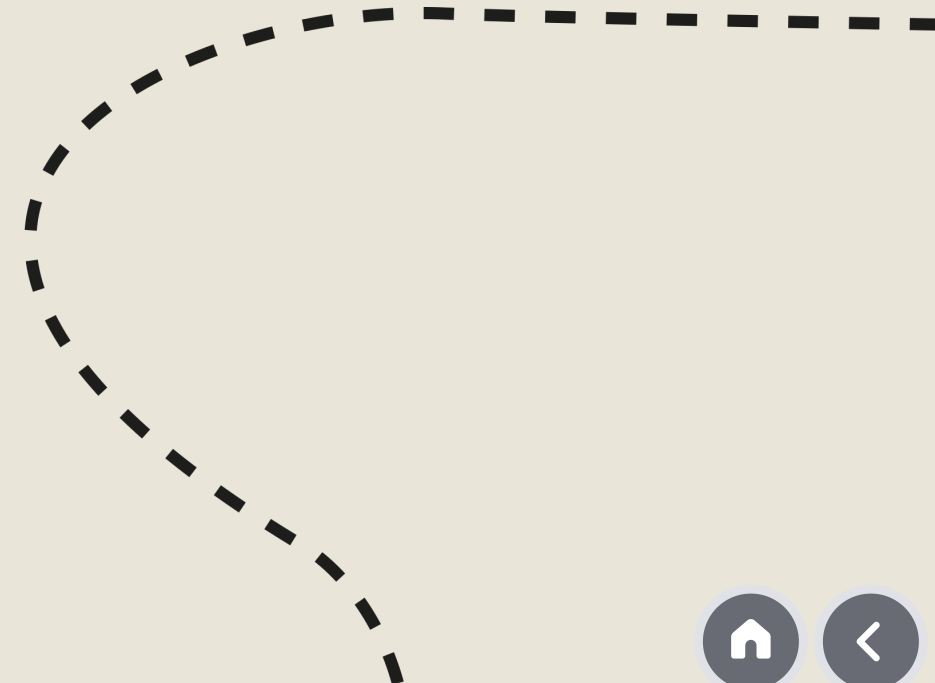
Description

Field crops ('OTE 1 Specialist field crops') refers to farms that specialise in producing field crops, meaning cereals, protein crops and oil seeds, and it includes forage plants.

These farms specialise in producing field crops, meaning cereals, protein crops and oilseeds, and they include forage plants. In Luxembourg, the main cereals produced are wheat and spelt, barley, triticale, oat, rye, and grain corn. Peas and field beans are the predominating protein crops. Rapeseed is the main oilseed crop.

Potatoes are also part of the field crops category (even though botanically-speaking, they are a vegetable, belonging to the nightshade plant family). Field crop production also includes the on-farm production of field-crop seeds.

14.62% of the commercial farms in Luxembourg specialise in field crops, and of these 275 assessed holdings, 6.90% produce organic field crops.



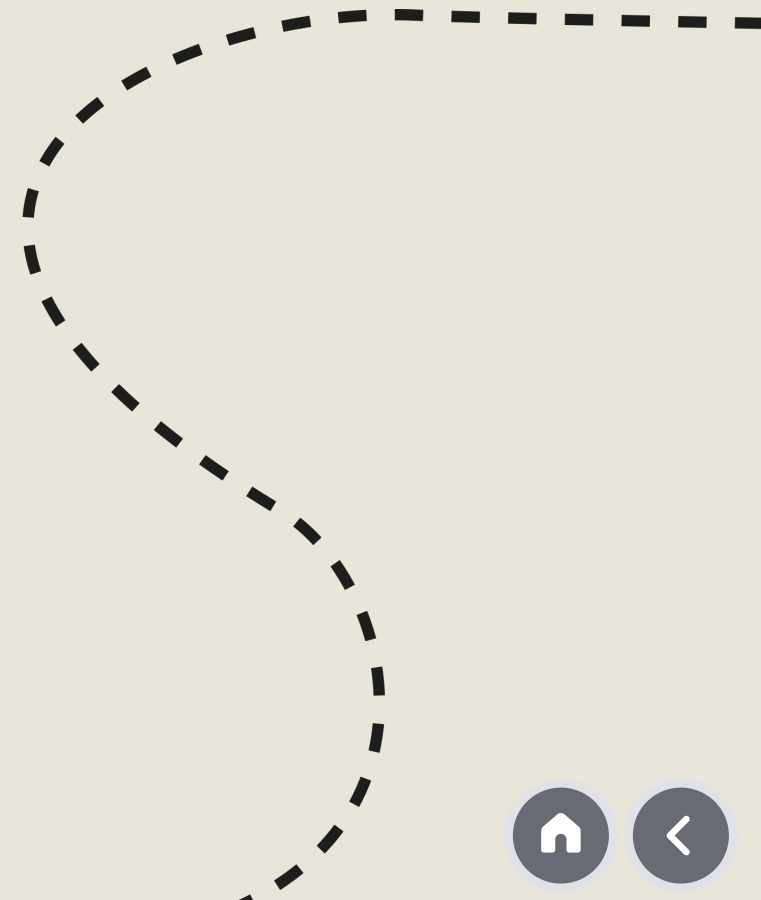
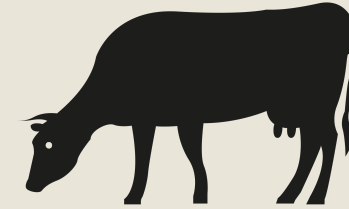
FARMING

GRAZING LIVESTOCK (RUMINANTS FOR MILK OR MEAT)

Description

Grazing livestock ('OTE 4 Specialist grazing livestock') refers to the farms that produce bovine animals, as well as sheep and goats, for milk and meat. These animals are ruminants (which means that they have a polygastric digestive system and can process raw fibre that is indigestible for monogastric organisms. Therefore, they can process grass that is indigestible for humans and transform its energy into animal products (dairy or meat) that humans can consume.

Out of 1 881 commercial agricultural holdings assessed in Luxembourg, 1 130 specialise in grazing livestock, corresponding to 60% of all commercial farms. In 2019, from a total of 1220 farms, 43.44% specialised in dairying, 29.75% in rearing and fattening, and 7.54% in dairying, rearing and fattening combined. Ruminant husbandry is thus an important cornerstone of agriculture in Luxembourg. This prevalence is related to the high share of permanent grassland of the agricultural area in Luxembourg (ca. 50 % of the agricultural land is permanent grassland and as such not arable). However, of the arable land, 75% is used to grow animal feed, part of which is also used for grazing livestock. The prevalence of dairy cattle over meat cattle in Luxembourg is related to the relative lucrativeness of milk over meat for farmers here. Of all the farms specialised in grazing livestock, 3.80% produce organic livestock. There is no data available about organic prevalence for the three refine principal levels in Luxembourg.



FARMING

GRANIVORES (PIGS, CHICKENS)



Description

Granivores ('OTE 5 Specialist granivores') refers to farms that produce three types of monogastric animal species (pigs, poultry, and also, more marginally, rabbits).

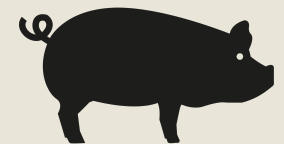
Unlike ruminants, these animals cannot digest raw fibre and can thus not process grass into protein for human consumption. In compensation, they present the advantage of being omnivores. While traditionally they would be left free to run and feed from leftovers thus closing the circle of food waste, in the larger, organised systems today, they need to be fed with protein-rich fodder that is specifically grown on part of the world's arable land, thus contributing to deforestation and converting natural habitats into farmland (see Pre-Farming Input Supply/Feed for more information).

Out of 1 881 commercial agricultural holdings assessed in Luxembourg in 2019, 35 specialise in grazing livestock (only 1.86% of commercial farms). Of these 35 holdings, 8.57% produce along organic guidelines. There is no data available about organic prevalence for the three refined principal levels in Luxembourg.

It should be noted that horses are not considered in agricultural production anymore since 2020 (uniformly throughout the EU).

Hence, even though they are monogastric animals and are – although rarely and depending on the respective culinary traditions of the country – used for human consumption, they are not considered in the OTE 5 Specialist granivores class anymore. While horsemeat is still eaten throughout Europe, and mare's milk is used for dairy products, it is considered more a delicatessen. Also, horses used for leisure activities cannot be easily slaughtered for human consumption of their meat as they are allowed to receive medication that would not be permitted if they had been reared for consumption. Nonetheless, their meat may be used to produce fodder for domestic animals.

In the context of transitioning to more sustainable agricultural methods, workhorses for traction have gained a new momentum in low-impact tillage in different low-external-input systems, as well as in sustainable forestry.



FARMING

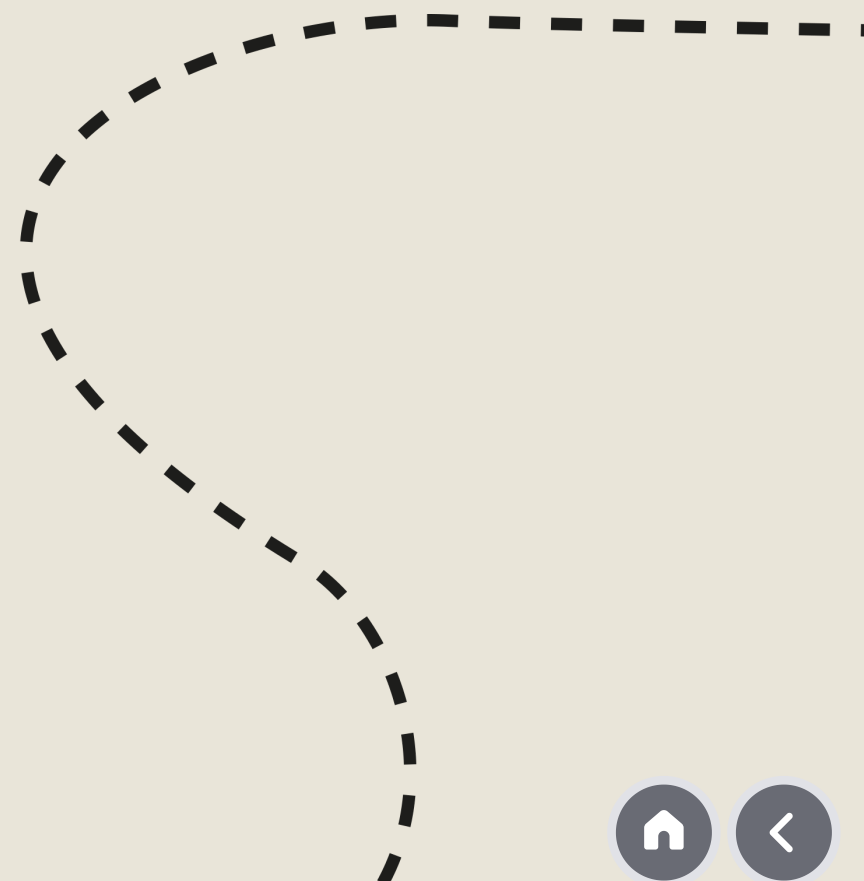
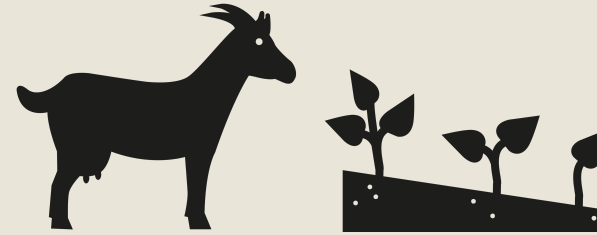
MIXED LIVESTOCK AND/OR CROPPING

Description

Mixed livestock and/or cropping refers to three distinct categories: 'OTE 6 Mixed cropping', 'OTE 7 Mixed livestock holdings' or 'OTE 8 Mixed crop-livestock'.

This means that these farms produce either a combination of crop products, a combination of livestock products, or a combination of crop and livestock products. In Luxembourg, 5.05% of commercial farms are mixed crop-livestock, 1.81% are mixed livestock and 0.58% are mixed crops.

Compared to most specialist farm types in Luxembourg, where organic holdings account for only 4 to 8% of the holdings (with the exception of horticulture), the share of organic holdings is larger in combined production: 9.09% in mixed cropping, 26.47% in mixed livestock, and 10.53% in mixed crop-livestock.



FARMING

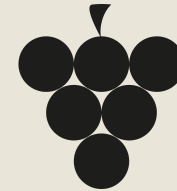
PERMANENT CROPS

Description

Permanent crops ('OTE 3 Specialist permanent crops') refers to farms specialised in perennial crops.

These are trees and shrubs whose cultivation system is characterised by the occupation of the ground during several consecutive years (usually more than five). Perennial cultures are mainly fruit trees, berry shrubs, bushes, nut trees and vineyards (also olive trees in warmer climates). In Luxembourg, 266 farms specialise in permanent crops, which is the equivalent of 14.14% of commercial farms. The area used for permanent crops is by far dominated by vineyards: In 2019, over 90% of the permanent crop specialists do quality wines. The second most common permanent crops are orchards (mostly apple orchards) and tree nurseries.

Of the 272 farms specialised in permanent crops, 7.35% produce along the organic guidelines.



FARMING

HORTICULTURE



Description

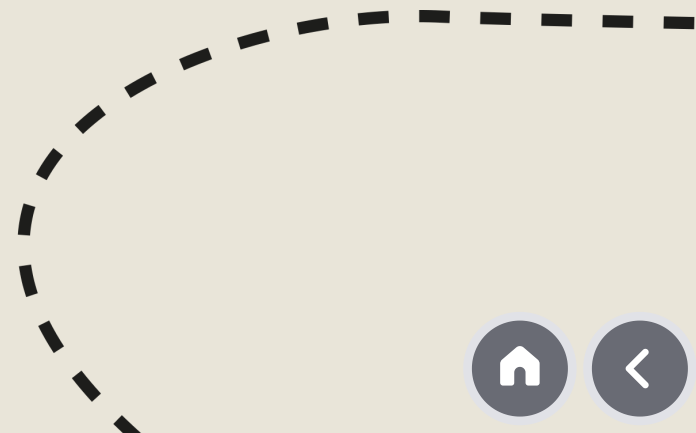
Horticulture ('OTE 2 Specialist horticulture') refers to farms that specialise in vegetables and flowers.

In 2019, only 38 commercial farms in Luxembourg specialised in horticulture, which make up 2 % of the total of commercial farms. This low occurrence of horticulture farms explains Luxembourg's low self-sufficiency in vegetable production (less than 1%). Carrots, lettuce and celery root (all typical field vegetables) have been the main vegetables cultivated during the last 15 years. Compared to the other specialist farm types in Luxembourg, where organic holdings account for only 4 to 8 % of the holdings, the share of organic holdings is larger in horticulture specialisation, 18.42 % of these farms produce along the organic guidelines.

While the above-mentioned field vegetables, typically grown on farmland, predominate in Luxembourg horticulture, the sector has experienced diversification during the past years. Especially the vegetable gardening sub-sector developed, with some larger vegetable gardeners expanding and new actors joining, often with innovative approaches. They may use biointensive, permaculture or other, more agroecology-based farming methods. Some also organise as community-supported farms or cooperative companies rather than commercial companies.

While the sector is vibrant and innovative, barriers like access to land and water, as well as uncomplicated building permits for greenhouses or grow tunnels, slow down the development of its potential.

Also, the fact that subsidies are mostly area-related is especially a problem in this sector: many horticulturalists produce on surface sizes that are smaller than the official thresholds that would make them eligible for first installation premiums, which presents an additional barrier for potential beginners (including lateral entrants to the profession). This is even more controversial because horticulturalists that use alternative methods (see above) usually gain a diverse and large variety of produce per surface-unit, thus fulfilling the criteria of sufficient economic size of their farm to be eligible for subsidies.



FARMING

MANAGED WILD FOODS



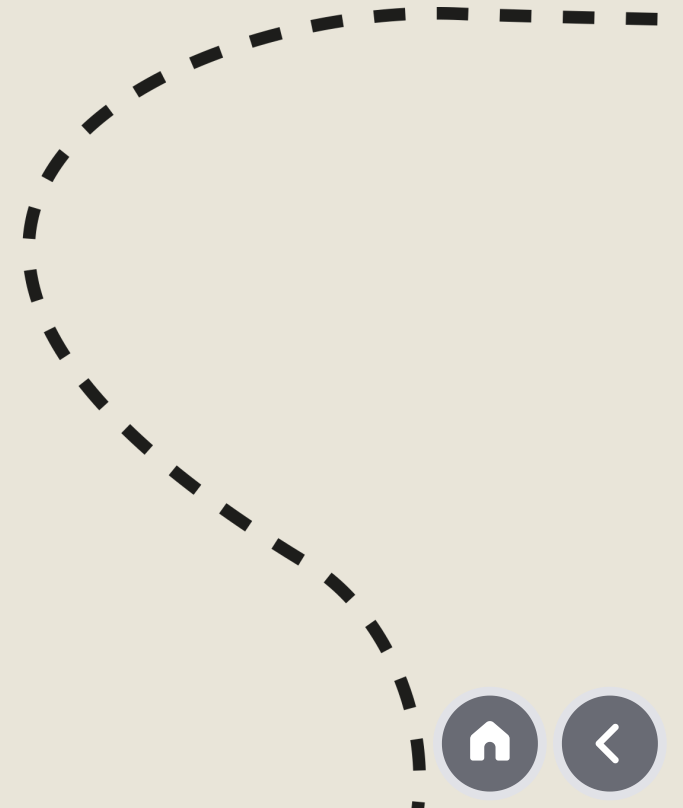
Description

Managed wild foods comprise mainly fish, honey and deer. They are produced in aquaculture, fisheries, apiculture and in organised hunting. These are not always agricultural holdings (and in this case not assessed in the official OTE classification system) but we mention them nonetheless under Farming, seeing as they deliver important products used for human consumption.

The consumption typically follows natural and cultural specificities. For example, in Luxembourg young wild boar (marcassin) are commonly eaten, whereas adult boars are not (while being a speciality in some other countries). Concerning fish, freshwater varieties that have a natural occurrence, like trout, are usually preferred in aquaculture systems. In Luxembourg, there are only two approved aquaculture enterprises. Another one with Luxembourgish ownership sits on the Belgian border in the Ourdall and delivers Luxembourgish supermarkets with smoked fish from their own production.

Apiculture is most often undertaken by individuals, but the law requires each beekeeper to report all beehives in an annual census. There are numerous beekeepers in Luxembourg, both individually operating as well as organised in cooperatives. Many offer not only direct sales to individual consumers but also deliver to the country's supermarkets.

Unlike apiculture and aquaculture that both fall under the responsibility of the Ministry of Agriculture, individual fishing and hunting activities fall under the jurisdiction of the Ministry of the Environment, Climate and Sustainable Development and are thus managed distinctly from farming activities. They provide food hunt as a leisure activity (like fishing in artificial ponds).



Machinery, equipment,
technology & ingredient
supply



PROCESSING

Secondary food
processing



Primary food
processing



PROCESSING

Description

Processing is the act of transforming raw materials (primary processing) and already processed ingredients (secondary processing) into food products with different processing degrees (ranging from making harvested raw crops edible to fabricating ultra-processed foods) with the aid of specific machinery, equipment and technology, as well as with specialised knowledge. Food processing includes the alteration of food products into another form by using preservation and packaging techniques. Some actors undertake both primary and secondary processing.



ACTOR GROUPS

- ◉ Machinery, equipment, technology & ingredient supply
- ◉ Primary food processing
- ◉ Secondary food processing



PROCESSING

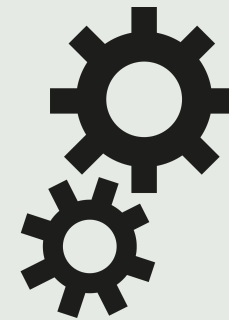
MACHINERY, EQUIPMENT, TECHNOLOGY & INGREDIENT SUPPLY

Description

Machinery, equipment, technology and ingredients are supplies necessary to begin the processing of raw agricultural materials and to transform them into final food products that can be consumed. Dedicated suppliers provide machinery, equipment, technology and ingredients to primary and secondary food processing actors.

ACTOR TYPES

- Machinery & equipment supplier
- Technology supplier
- Ingredient supplier



MACHINERY & EQUIPMENT SUPPLIER



Description

Machinery and equipment suppliers manufacture machinery for food and beverage processors (milk processing machinery, equipment to make confectionery, cocoa or chocolate, bakery ovens, dough mixers, machinery for breweries, to process meat or poultry, to prepare fruit, nuts or vegetables, etc.). The list of machinery used for food processing is lengthy. Some suppliers offer machinery and equipment for multiple kinds of processing at the same time (commercial kitchens, bakeries, butcheries, and dairies, etc.) while others focus on one type of processor (e.g. supplying only bakery equipment). Some focus on larger machinery, others on smaller equipment, whereas others are specialised in food packaging.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

A. Thilman & Fils

Caffe Valentino Centro Europa SARL

Chomette Luxembourg SA

Dallmayr Vending & Office Luxembourg

Denislux

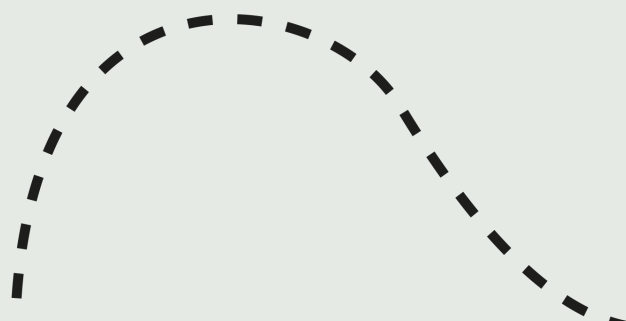
Ecobox Luxembourg

Europoint SARL

Evolupack Luxembourg

Grand Canning

Herberlux



TECHNOLOGY SUPPLIER

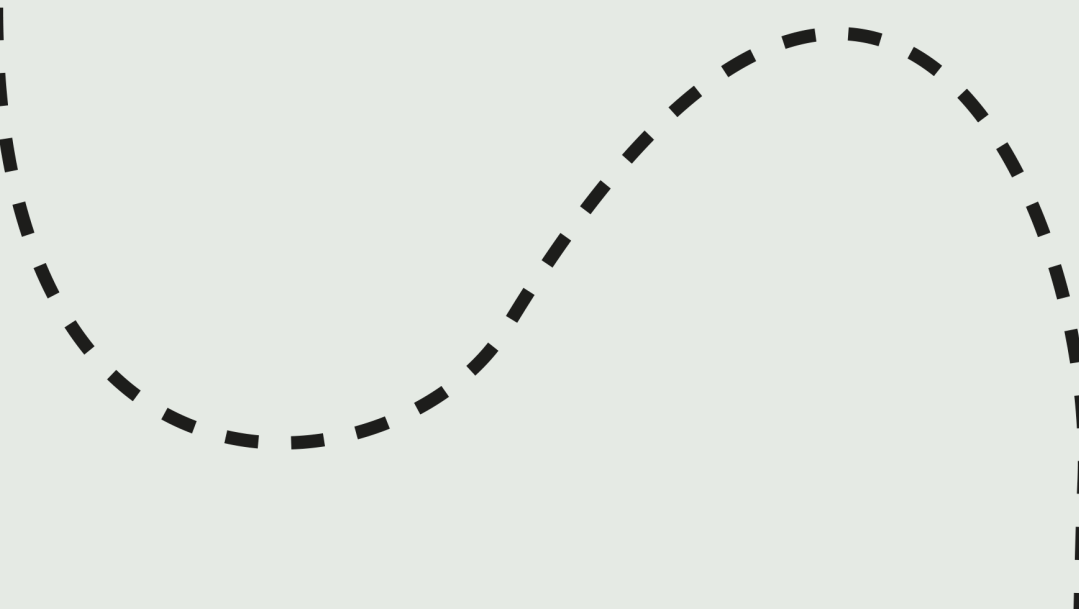
Description

Food manufacturers are presented with a growing array of new technologies with the potential to improve, or replace, customary processing machinery, in order to meet changing demands of contemporary food systems. High pressure, pulsed electric fields, radio frequency, high intensity pulsed light, ultrasound and irradiation are some of these technologies.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Etim Lux



INGREDIENT SUPPLIER

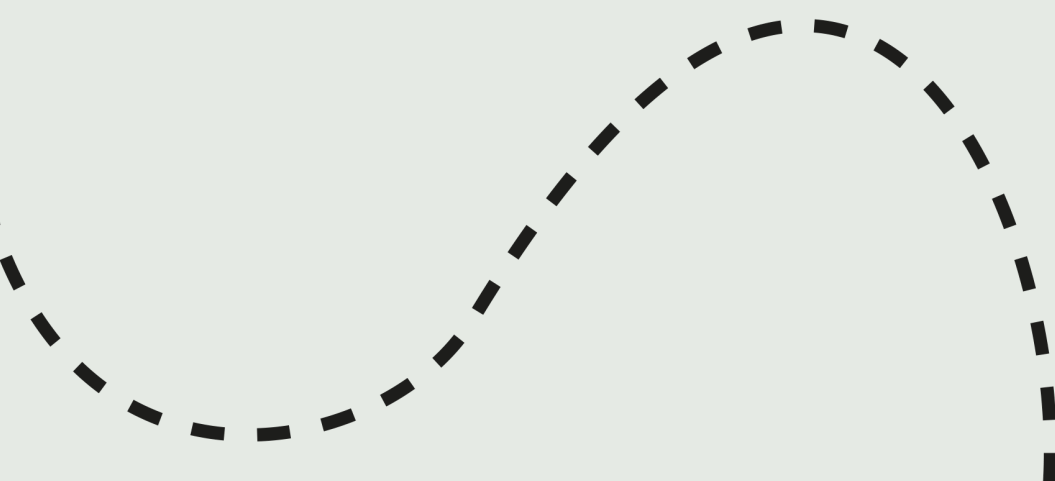
Description

ingredient suppliers produce ingredient mixtures for food processors (e.g. baking mixtures, chocolate for pastries, yeast for baking goods), as well as for example bacteria cultures for making yoghurt.



EXAMPLES FROM MUXEMBOURG: SOME OF OUR ACTORS

KOMPLET Benelux



PROCESSING

PRIMARY FOOD PROCESSING

Description

Primary processing is the conversion of agricultural raw materials – including livestock – into basic food commodities, that can either be end-packaged and sold to individual consumers via retail, or wrapped and transported via wholesalers, companies or direct sales to secondary processors or gastronomy. Main primary processing examples are: milk production, milling grains, crushing oil-bearing seeds or fruits, slaughtering and cutting animals, roasting beans (coffee beans, cocoa beans, etc.), crushing and fermenting grapes, fermenting and distilling of grains, fruits, or vegetables, brewing, as well as purifying water.



ACTOR TYPES

- ◉ Grain mills
- ◉ Dairy plants
- ◉ Slaughterhouses (abattoirs)
- ◉ Roasting plants
- ◉ Oil mills
- ◉ Distilleries
- ◉ Wineries
- ◉ Breweries
- ◉ Mineral water producers



PRIMARY FOOD PROCESSING

GRAIN MILL

Description

Grain mills grind cereal grain into flour and middlings. They can use methods ranging from traditional artisanal mills to industrial facilities and perform more or less processing steps to obtain more standardised or more special products. Product quality can refer to different aspects, for example to hygienic standards and fine screening in industrial processes or to special methods like traditional artisanal ones based on stone mills. Mills in Luxembourg produce organic and conventional flour. Both conventional and organic flours come in different qualities, sometimes indicated by a type number on the packaging. Finely milled flour has a lower type number and contains less mineral content. More coarsely milled flour has a higher type number and higher mineral content.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Moulin Dieschbourg J.P. Sàrl

Moulins de Kleinbettingen



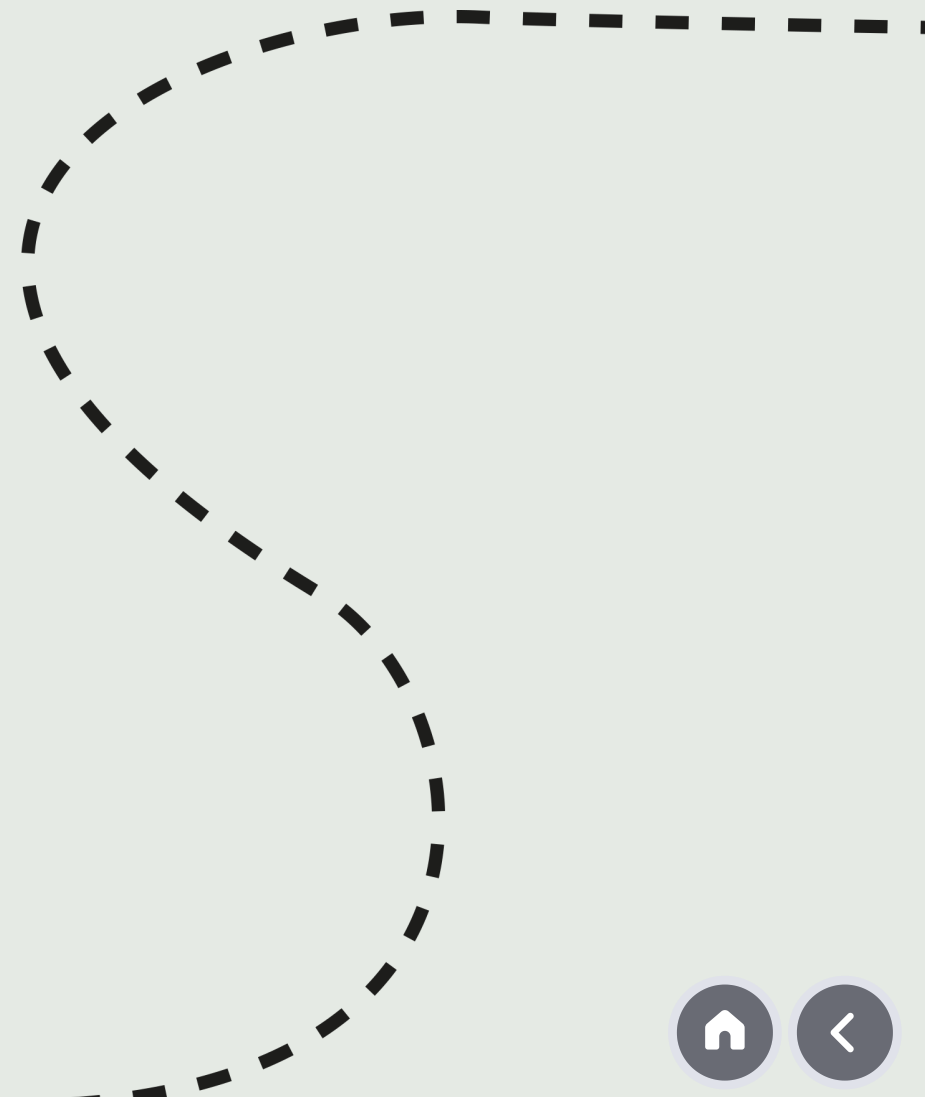
DAIRY PLANT

Description

Dairy plants harvest and process animal milk by transforming it into packaged milk. They can be situated in larger off-farm dairy factories and sometimes on-farm. Some process only organic milk whereas others process conventional milk or both conventional and organic milk.

Dairies may also participate in '**Secondary food processing**'.

*Examples from
Luxembourg*



DAIRY PLANT

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

Luxembourg has different types of dairies. The largest conventional dairy, Luxlait, evolved from the country's first dairy plant founded in 1894. It turned from a corporation into a cooperative in 1946, meaning that it only processes milk from its dairy farmer members. It has been the only industrial dairy plant in Luxembourg since the other two other remaining dairies merged with it at the end of the 1960s, after a decades-long process of structural change from small local dairies to fewer more decentralised dairies. The only other remaining Luxembourgish dairy was bought by a large multinational corporation and the entire production outsourced. With the growth of the organic trend, Luxlait has broadened the offer including organic milk, while keeping the focus on conventional milk. It processes up to 160 million litres of milk per year. Luxembourg's only fully organic dairy, BIOG-Molkerei, is structured as a limited liability company and was founded in 2015. It processes up to 3 million litres of milk per year.

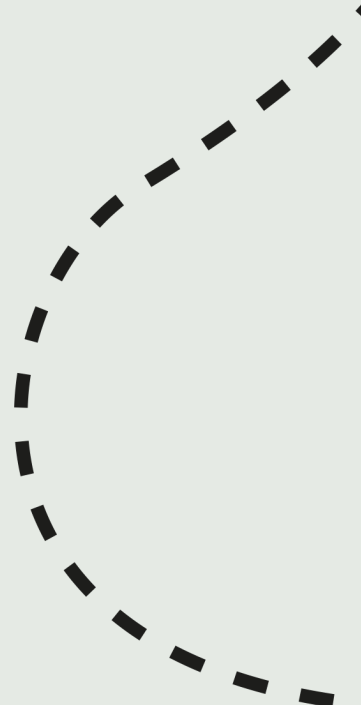
Since the restructuration process towards the disappearance of smaller national enterprises, Luxembourgish dairy farmers have also been supplying foreign dairies, notably two of the largest international milk corporations worldwide. Some dairy farmers have an on-farm dairy and bottle their own milk for immediate offer to consumers in their on-farm shop. Since 2011, Luxembourg also has a so-called fair cooperative, led by the Luxembourg dairy board, whose goal it is to pay a fixed sum to its dairy farmer members to compensate for the fluctuations of the world market price, no matter which dairy the farmer supplies.

SOME OF OUR ACTORS

BIOG dairy SARL

Luxlait

Molkerei Thiry

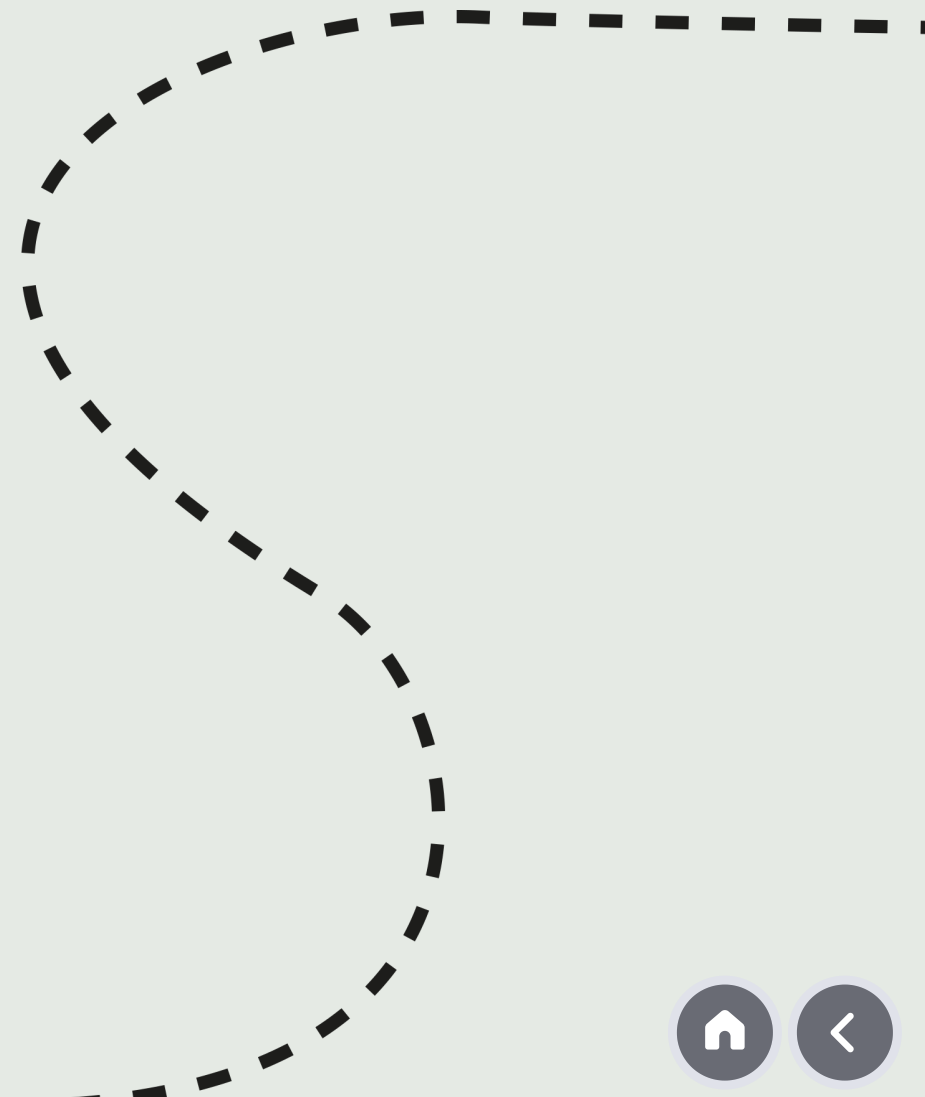


SLAUGHTERHOUSE (ABATTOIR)

Description

Slaughterhouses or abattoirs are structural facilities for the slaughter of animals. Inside the slaughterhouse, livestock is first stunned, followed by "sticking" (bled dry) then possibly skinned, gutted and cut up into carcasses. These are then usually stored in a cold room until they reach a temperature low enough for the rest of the transformation into meat (a process that can take up to 24h). The fresh meat is supplied to butchers or meat processing companies.

*Examples from
Luxembourg*



SLAUGHTERHOUSE (ABATTOIR)

EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

As there are fewer and fewer slaughterhouses in Europe and in Luxembourg, the distance not only between the farms and the abattoir tends to increase but also between the abattoir and the place of transformation – the latter requiring refrigerated trucks for transportation.

Nowadays, abattoirs tend to specialise in particular activities: they only work with certain species, types or sizes of animals. This allows them to work more efficiently and productively. In neighbouring countries, 'mobile abattoirs' also exist: an abattoir on wheels (a large truck that contains the same equipment as 'fixed' abattoirs) drives from farm to farm to slaughter livestock. Some farms can stun and stick their livestock in their own facilities and then quickly (under one hour) transport it to the abattoir for the rest of the transformation.

Slaughterhouses are under veterinary supervision and have a 'rendering plant' where waste (all body parts that are of no direct use like bones, hooves, blood, extra fat, etc.) is shredded, boiled and then turned into various by-products used within or outside food production for humans or animals. Some of these by-products are exported.

SOME OF OUR ACTORS

Abattoir Ettelbruck

Cobolux



PRIMARY FOOD PROCESSING

ROASTING PLANT

Description

Roasting plants in Luxembourg nowadays have a focus on coffee beans. Luxembourg has indeed many coffee roasting companies, some with a long tradition that date back to colonial times. Coffee beans grow in tropical and subtropical regions and are imported as raw green beans. These beans need to be roasted to obtain palatable levels of acidity, bitterness and strength. Roasted coffee beans are then ready to be ground and brewed into the coffee drink.

Coffee roasters use special sealed packaging to reduce the loss of the fresh roast flavour. Most coffee roasters offer entire beans as well as grounded beans. Today, labelled coffee beans have gained an important place in the coffee industry, with Luxembourgish roasters processing Fairtrade and organic labelled coffee beans. As the processing activity takes place in Luxembourg, the final packaged roasted (or ground) coffee can also carry the Made in Luxembourg label.

In addition, Luxembourg historically had malting plants where malt coffee was produced, a foodstuff that has become more popular again during recent years in the wake of the discussion about the local provenance of food. Also, some of the oldest coffees-like drinks in Luxembourg were made from chicory, a drink that likewise has regained popularity.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Bruno Torrèfaction Artisanale

Caffe Valentino Centro Europa SARL

Knopes artisan torrèfacteur

Lètz Coffee

Maison Josy Juckem

Maison Santos

Moulin Dieschbourg J.P. Sàrl



PRIMARY FOOD PROCESSING

OIL MILL

Description

Oil plants are cultivated plants whose seeds or fruits give oils for human and animal consumption (and other purposes). The plants either produce oilseeds or oleaginous fruits. In order to gain oil, the seeds or fruits are processed in oil mills. These are grinding mills designed to crush or bruise oil-bearing seeds. In Luxembourg, several seed plants are grown with the purpose to produce edible vegetable oils. Among the most popular oils produced in Luxembourg are linseed oil, sunflower seed, poppy-seed oil, hempseed oil, rapeseed oil.

Oil mills are also used to press oil from oil-rich fruits such as olives or oil palm fruits. These are however plants that typically do not grow in Luxembourg's climate.

A globally relevant typical oilseed plant that is less commonly used for edible oils in Europe is the soy plant. In Luxembourg, it has been part of agronomic research projects to increase local grain legume production – however with a goal of increasing protein self-sufficiency in the livestock sector rather than to produce edible oil.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Ueliggenossenschaft Éisleck an Naturpark Ourdall (BEOLA)



PRIMARY FOOD PROCESSING

DISTILLERY

Description

A distillery (in Luxembourgish “Brennerei”) is an agricultural or commercial enterprise that produces alcohol in the form of spirits and liquors.

The art of distillery has a long tradition in Luxembourg and the so-called “Drëpp” is produced in different flavours provided by local and imported fruits. Some producers also use imported tropical fruits to make spirits.

The juniper-based gin and apple cider are further products with a long production history in Luxembourg.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Difrulux Distillerie

Distillerie Adams

Distillerie Diedenacker

Distillerie Ledesch

Distillerie Lelljer Gaart

Distillerie Miny

Distillerie Muller-Lemmer

Distillerie Streng

Hierber Brennerei

Ramborn



PRIMARY FOOD PROCESSING

WINERY

Description

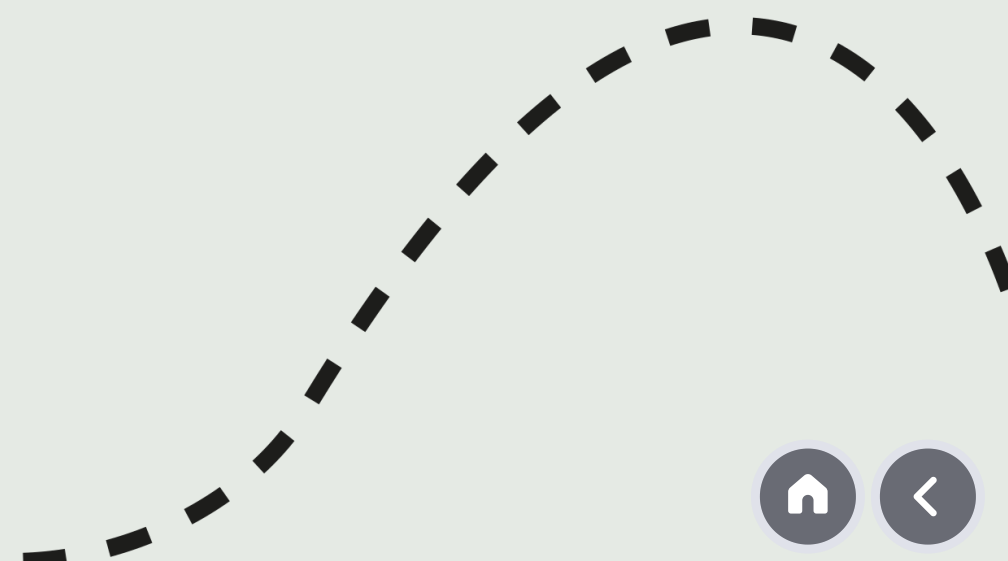
A winery is the name for the place, including the building and required winemaking equipment, where wine is made. The winemaking process involves the fermentation of pressed grapes, as well as blending, bottling and ageing of the grape must. The grapes may be from vineyards owned by the winery (See 'Farming/ Permanent crops') or may be brought in from other locations. In Luxembourg, wineries generally belong to viticulturists organised as independent companies, as wine negotiants or regrouped in a cooperative. In wine production, the notion of territory – or even terroir – defining the final product is especially prevalent. Luxembourg uses for example the "Appellation d'origine protégée", or AOP label. The "AOP - Moselle luxembourgeoise" includes a specific perimeter of vineyards from Schengen up to Wasserbillig, as well as vineyards near Rosport. Many wineries also give tours and have cellar doors or tasting rooms where customers can taste wines before making a purchase. Some wines are made from other fruits, for example apples.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Cooperatives

Independent producers

Wine merchants



PRIMARY FOOD PROCESSING

BREWERY

Description

A brewery or brewing company produces and sells beer. There is a diversity of size in breweries, depending on the kinds of beer produced as well as on the types of processes and degrees of automation. Special brewery installations allow executing the different steps in beer production from grinding of the malt to storage. Brewery in the area of today's Luxembourg territory dates back at least to the time of Gallo-Roman settlement and the first records of a monastery brewery (Münster Abbey near Clausen) date from around 1300.

Today, the major brands produced in Luxembourg are Bofferding and Battin, owned by the Brasserie Nationale brewery; Diekirch and Mousel, brewed by the Brasserie de Luxembourg (owned by the largest brewery worldwide, Anheuser-Busch InBev, since 2002), and Simon and Ourdaller, brewed by Brasserie Simon. These breweries produce mainly lager beers, i.e. light beers with a more or less pronounced bitter note.

Most supermarkets sell these beers, and they are served in gastronomy nation-wide.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Béierhaascht

Brasserie Battin

Brasserie de Luxembourg

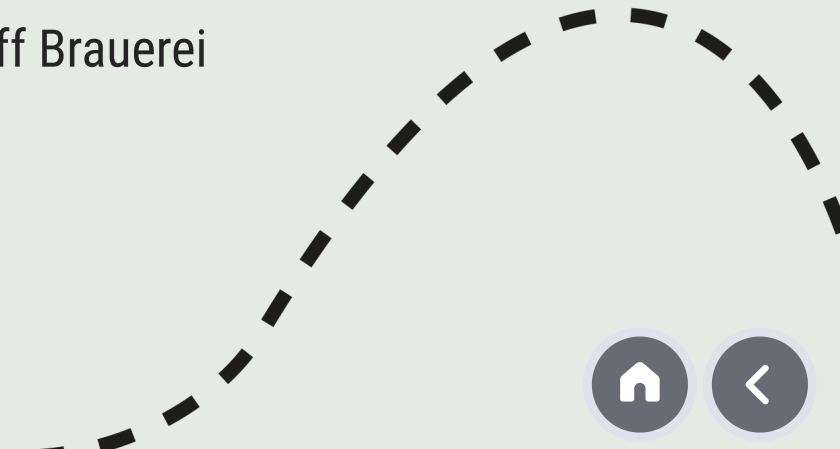
Brasserie Nationale

Brasserie Simon

Den Heischer SARL

Clausel

Stuff Brauerei



PRIMARY FOOD PROCESSING

MINERAL WATER PRODUCER

Description

Mineral water producers bottle water from different sources (e.g. well water, distilled water, mineral water, spring water) in plastic or glass water bottles. Bottled water may be carbonated or not.

In the European Union, a directive (Directive 2009/54/EC[48]) deals with the marketing and exploitation of natural mineral waters. The two main types of bottled water recognised are mineral water and spring water.

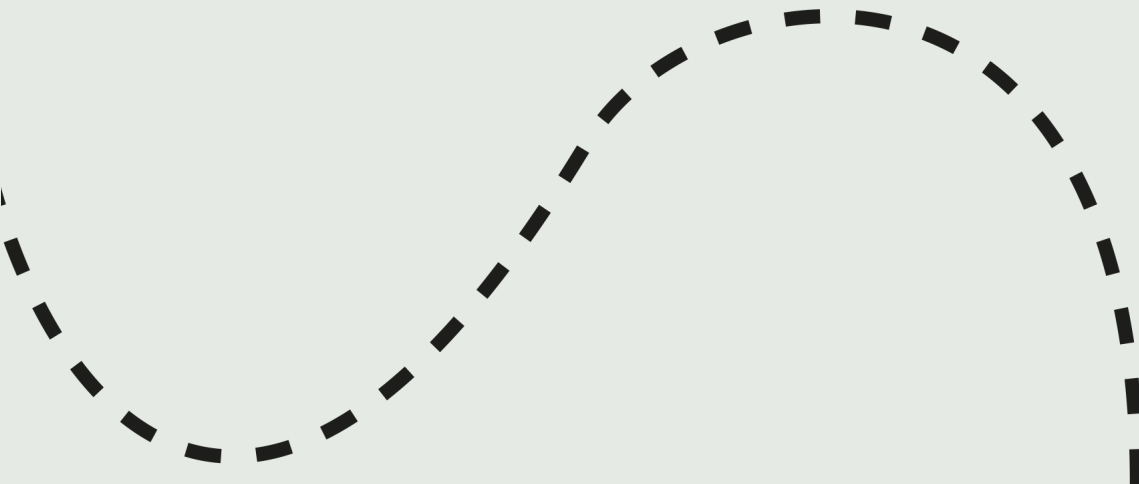
The oldest mineral water producer in Luxembourg in existence started business in 1959.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Brasserie Nationale

Sources Rosport SA

SA des Eaux Minérales de Beckerich



PROCESSING

SECONDARY FOOD PROCESSING

Description

Secondary processing is the conversion of one or more ingredients that are ready to use, often already primarily processed, to create edible products. This involves combining foods in a particular way, for example by cooking or baking (to make patisseries or confectionary products), by producing dairy products from previously processed or raw milk, by manufacturing meat products, by producing juices, by making products from fruits and vegetables, fabricating sauces etc.

Secondary food processors are defined by the fact that they produce larger quantities of specific foodstuffs. The production can however take different forms, from artisanal to industrial, wherein the latter uses more standardised and mechanised machinery and equipment.

ACTOR TYPES

- ◉ Bakeries & patisseries
- ◉ Dairies
- ◉ Butchers
- ◉ Fruit products manufacturers
- ◉ Vegetable products manufacturers
- ◉ Pasta manufacturers
- ◉ Confectionary manufacturers
- ◉ Sauce & condiment manufacturers



SECONDARY FOOD PROCESSING

BAKERIES & PATISSERIES

Description

Bakeries and patisseries manufacture fresh bakery products like bread, rolls, pastry, cakes, pies, tarts, waffles etc. as well as preserved pastry goods like biscuits and other dry bakery products. Luxembourg has several national bakery chains, a multitude of stand-alone local bakeries, as well as franchises of international bakery chains. Some larger bakeries deliver supermarkets and service stations. At the other hand, some supermarkets have their own bakeries. Some national bakeries have a purely organic offer. Others include a product palette from specifically labelled flour, for example "Spelz vum Séi" or "Lëtzebuerger Wees, Miel a Brout". There are also some bakeries that have a stronger focus on pastries and sweets than on bread, these may be called 'pâtisseries'. Some national bakery chains also have shops in the Greater Region.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Auchan Boulanger

Bäcker Jos

Boulangerie Jos et Jean-Marie

Boulangerie Pâtisserie Drebenstedt

Boulangerie-Patisserie Mosella

Cactus Mäi Bäcker

Cake Atelier Emi's Sugar Art Cake Design

Chocolate House by Nathalie Bonn

Fischer S.A.

Pâtisserie Hoffmann



SECONDARY FOOD PROCESSING

DAIRIES



Description

Dairies produce a variety of products from milk of different animals. In Luxembourg, this sector is relatively diverse with several small on-farm dairies that produce cheese and other specialities like yoghurt, butter, ice cream etc. directly from the livestock owned by the farm. Some of these produce foodstuffs from organic milk. In addition to these smaller-scale or family business-type dairies, there are several larger, off-farm producers of dairy products, with either conventional, mixed conventional-organic, or organic offers.

It is also possible to classify dairies according to their product palette (focus on dairy products from specific livestock types, focus on cheese, etc.)

Dairies may also have dairy plants and participate in '**Primary food processing**'.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Berdorfer – Fromagerie Schmalen-Brouwer

Bio-Baltes

BIOG Molkerei SARL

BIOG Käserei Kass-Haff

BIOG Käserei Schanck-Haff

Ekabe SA (Groupe Lactalis)

Fromagerie de Luxembourg

Luxlait

Molkerei Thiry

Schéiferei An Dottesch



SECONDARY FOOD PROCESSING

BUTCHERS



Description

Butchers produce meat products for individual households or professionals in gastronomy. Most butcheries use contract slaughtering. Some large slaughterhouses may run their own butcheries for individual customers.

Primary butchery usually consists of selecting separating primal cuts from the carcasses, trimming these cuts and preparing them for secondary butchery or sale. Secondary butchery involves boning, trimming and adding value to primal cuts, like producing charcuteries or specific meat products that need to be cooked by consumers, or also ready-to-consume dishes (such as spaghetti sauce). In Luxembourg, the meat product offer is often labelled with a variety of quality labels. Purely organic butchers are rare though.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Abattoir Ettelbruck SA

Artisal & Kern Sàrl

Boucherie-Traiteur Niessen

Cobolux SA

Kirsch le boucher

Maison Steffen

Metzlerei Vum Séi

Naturata Bio-Boucherie

Renmans



SECONDARY FOOD PROCESSING

FRUIT PRODUCT MANUFACTURERS

Description

Luxembourg's landscape includes vast orchards and the production of "Viz" is a tradition. Some manufactories have their own orchards, while others acquire fruit from individual orchard owners. Fruit-based processing is largely focused on juice and cider production (for other alcoholic beverages see 'Distilleries' and 'Wineries'). Luxembourg has a variety of juice and cider manufacturers. Some companies also produce other fruit-based products such as jams or dried fruits, some of which are associated with a social benefit goal. As in other domains, there are smaller manufacturers that exclusively use fruits from organic production.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

ATP Haff Ditgesbaach

Berdorfer Äppelkescht

Confiserie Op der Atert (Autisme Luxembourg)

Eppelpress

Le chat bioté

Manoir Kasselslay

Ramborn

Sources Rosport SA

Vizerei Wampach



SECONDARY FOOD PROCESSING

VEGETABLE PRODUCT MANUFACTURERS

Description

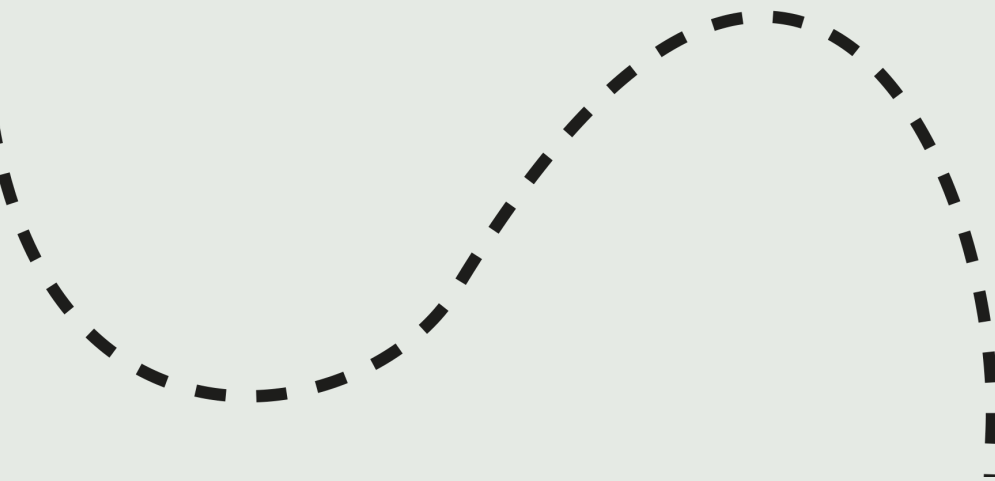
Two different types of vegetable processors can be identified in Luxembourg; the ones that specialise in processing mainly imported vegetables (even only one kind, like tomatoes for tomato sauce and pastes) and the ones that use a variety of mainly local vegetables to produce fermented products (like sauerkraut or gherkins).

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

ATP Haff DITGESBAACH

Maxim Les Deux Faisans (Maxim

Pasta SARL)



SECONDARY FOOD PROCESSING

PASTA MANUFACTURERS

Description

Luxembourg has several pasta producers that produce pasta from different types of grain wheat. Some have a long tradition of 100 years of pasta production and have gained an important production capacity over the years (up to 100 tons per month), whereas others engage in niche markets with sustainable or animal-friendly aspects.

Pasta is usually made from imported durum wheat because durum has better characteristics for producing pasta than common wheat (better suited for baked goods). Even though durum wheat is grown in Luxembourg, the larger quantity needed for local pasta production is imported.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Bio Maxim (Maxim Pasta SARL)

Dudel-Magie SARL

Le Moulin (Moulins de Kleinbettingen)



SECONDARY FOOD PROCESSING

CONFECTIONARY MANUFACTURERS

Description

Luxembourg is home to a variety of confectionaries, like chocolate-based confectionary, biscuits, sweets, nut and chocolate butters, both organic and conventional. Some confectionary manufacturers have an additional social goal in the sense that they employ people with disabilities.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Chocoloate House by Nathalie Bonn

Chocolats du cœur

Confiserie Op der Atert (Autisme Luxembourg)

Génaveh

HappyPeoplePlanet

Nux

Seabiscuit



SECONDARY FOOD PROCESSING

SAUCE & CONDIMENT MANUFACTURERS

Description

In Luxembourg, there are manufacturers of organic and conventional mustards, as well as of conventional sauces of different kinds (ketchup, mayonaise, andalouse etc.). Luxembourgish condiments are locally popular, and these are often used over imported alternatives (e.g. at Christmas markets, Schueberfouer etc.).

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Maxim Pasta SARL

Moutarderie de Luxembourg

Ourdaller S.C.





WHOLESALE

Description

Wholesale is the commercial brokerage of goods from producers to retailers as well as to processors and gastronomy. Wholesalers perform several functions in food marketing systems, such as physically assemble, sort and grade goods in large lots, break bulk, repack and redistribute in smaller lots; they store, refrigerate, deliver and install goods; and also engage in sales promotion for their customers and in label design. Wholesalers generally supply retailers from their own warehouses, but sometimes merely take on mediating functions. In short, food wholesalers buy (imported or national) foodstuff in large quantities and sell in smaller quantities to commercial customers. They can be divided into those who trade all foods combined and those who are specialised in the trade of a select food palette.

ACTOR GROUPS

- ◉ Specialist wholesalers
- ◉ General wholesalers



WHOLESALE

GENERAL WHOLESALE

Description

General food wholesalers buy and sell all food products from the existing food product range. As such, their offer covers almost the entire spectrum of food product categories on the market. Notwithstanding, some general wholesalers may focus on non-perishable food, and don't include fresh and perishable foods as these need a different technical and logistical equipment. Among the general wholesalers in Luxembourg, only one has a purely organic food product focus.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Biogros SARL

Eurofood SARL

Fixmer SARL

La Provençale

LuxSucre

Mondialfood SA

PAUL LINK SARL – LinkGel

Terra Vital

Trendy Foods Luxembourg SA



WHOLESALE

SPECIALIST WHOLESALE

Description

Specialist food wholesalers buy and sell food products from a specific food category, thus specialising in the trade of a selected and limited food palette. They may for example specialise in fruits and vegetables, in beverages, in fish or meat, or in unprocessed raw crops.

Within their select food palette, some specialised food retailers may have an additional focus, for example, they may only trade the organic foods from that palette or only the perishable foods from that palette.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Bio-Export SARL

Boissons Schockmel

Boto International SARL

Coca-Cola European Partners Luxembourg SARL

Comor SA

Fruits et Légumes du Jardin

Gedrenksbuttek Weber

Grosbusch SA

Honey SARL



Specialist
retailers



RETAIL

General
retailers



RETAIL



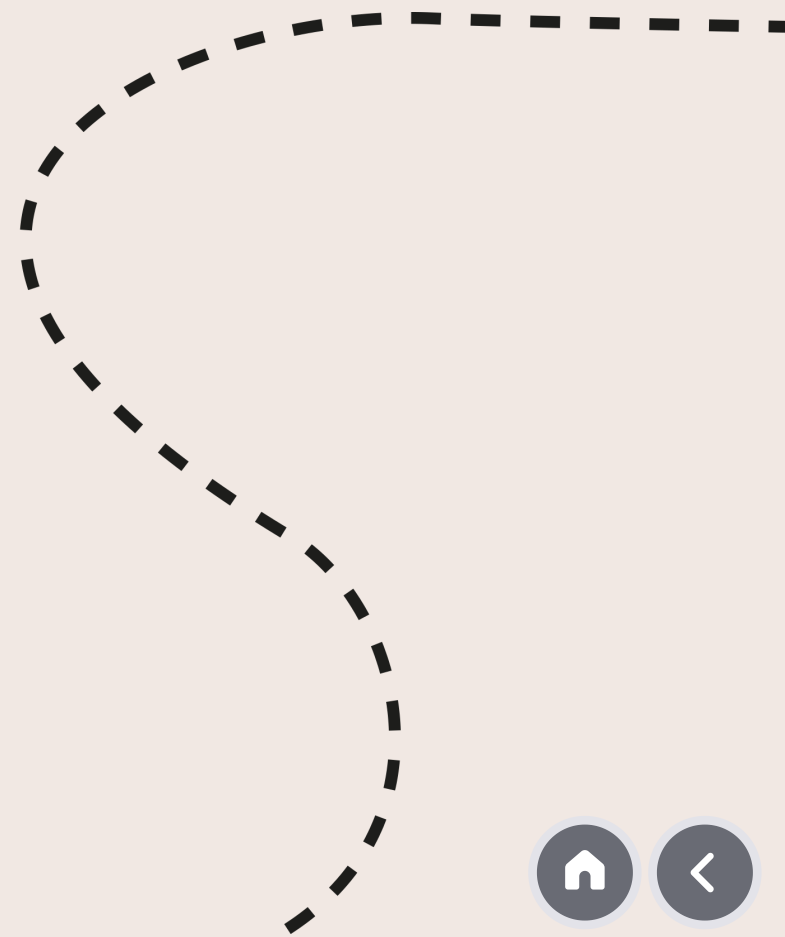
Description

Retail consists in selling foodstuff in physical stores or online shops directly to final consumers without providing a special place or setting for immediate consumption. Retail trade is a form of trade in which goods are purchased and resold to end-users, generally in small quantities and in the state in which they were purchased by the retailer (or following minor transformations). Retail includes different forms of companies (specialist shops, supermarkets, department stores, shopping malls, non-stationary trade (hawking), itinerant trade, etc.).



ACTOR GROUPS

- ◉ Specialist retailers
- ◉ General retailers



RETAIL

GENERAL RETAILERS

Description

General retailers sell a wide variety of food, across food product categories, and do not limit their offer to specific foods. This does not mean that general retailers are necessarily larger companies than specialist retailers are.

General retailers offer a wide range of products and come in a variety of forms: from tiny vending machines and small corner shops to large supermarket chains.



ACTOR TYPES WITHIN THE GROUP

- ◉ Internationally-based supermarket chains in various sizes (hypermarché, supermarché, marché, station-service etc.)
- ◉ Nationally-based supermarket chains in various sizes (supermarché, marché, station-service etc.)
- ◉ Grocery shops/épiceries
- ◉ Solidarity groceries (Food banks)
- ◉ Food sharing
- ◉ Vending machines
- ◉ Online-only shops



GENERAL RETAILERS

INTERNATIONALLY-BASED SUPERMARKET CHAINS IN VARIOUS SIZES



Description

Supermarkets are self-service shops offering a wide variety of food and beverages from a range of brands. Depending on their concept, they offer daily necessities as well as leisure and entertainment related goods with as much range and variety as their food and beverages. This coexistence of 'food' and 'non-food' product ranges is common in the French and Belgian supermarket and hypermarket chains present in Luxembourg. The food product offer is extensive in the sense that consumers can choose a same product from many different brands. The German general retailers present in Luxembourg are typically discounters. Discounters have a limited palette of products with very basic interior store fitting and less services like staff giving advice on products. Supermarkets have a larger and wider selection than grocery stores.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Aldi

Auchan

Carrefour

Colruyt

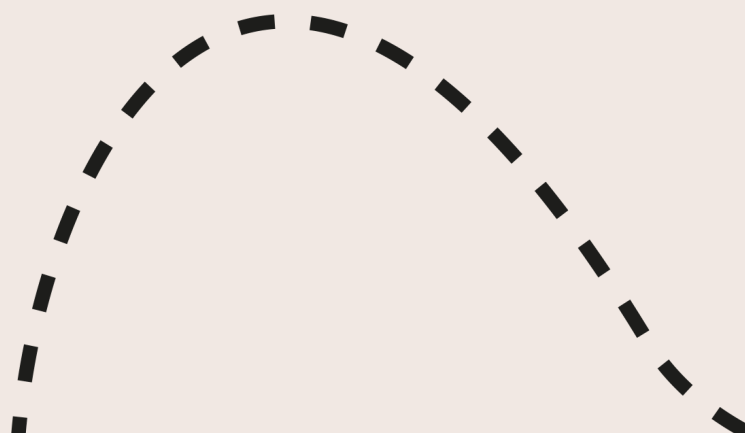
Cora

Delhaize

Grand Frais

Lidl

Smatch/Match



GENERAL RETAILERS

NATIONALLY-BASED SUPERMARKETS



Description

National supermarkets tend to have a stronger focus on service (e.g. product advice to customers) compared to larger international chains. Their offers vary, and some national supermarkets may sell only organic produce.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Alavita

Alima

Cactus

La Grande Épicerie Massen

Naturata

Nature Elements

Pall Center



GENERAL RETAILERS

GROCERY SHOPS / EPICERIES

Description

Groceries are smaller shops compared to supermarkets and more often have only a single outlet, with either a focus on reaching a high consumer rate by their location in a town or a focus on local consumers by their embeddedness in the social tissue of smaller municipalities. They aim to have a relatively complete yet compact offer in order to offer consumers an alternative to driving to supermarkets for daily or occasional needs.

There are several types of grocery shops that, while not specialising in a specific food type (as specialist food retailers do), have a special approach. They might offer “alternative” foci and contribute to sustainable goals in different ways: some may be purely organic, others may deliver niche concepts like avoiding packaging, hiring socially disadvantaged people, inclusively offering reduced prices to people in need by a simple coding in the customer card (as opposed to food banks where only people in need can shop), prioritising products from fair trade or from local producers, while still others become social gathering points with events around sustainable living or with small restaurant offers. Some combine several of these sustainable goals. From an economic point of view, some function in the form of a cooperative.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Altercoop

Biobuttek Wilhelm

Co-labor Épicerie

De Biobuttek

Eis Epicerie

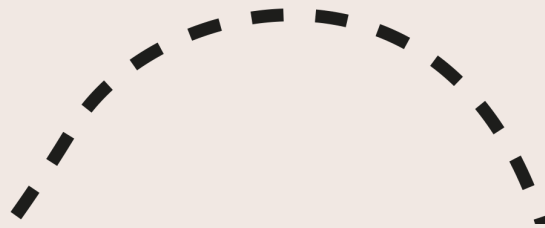
Épicerie Kuerf am Duerf

L' Épicerie

Maison de la Transition (Mesa)

Mullebutz

Weltbuttek



GENERAL RETAILERS

SOLIDARITY GROCERIES / FOOD BANKS



Description

These are so-called “épicerie sociales” which means grocery shops that sell food products (and sometimes other essential products) to people in need for very low prices or for free. The shops are delivered with leftovers by retailers or wholesalers, and they often have financial support from NGOs and governmental agencies. Sometimes they also offer inclusion and didactic activities such as cooking workshops or various events.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

AMA Luxembourg

Caritas Épicerie Sociales

Cent Buttek

Croix-Rouge Buttek

La Banque Alimentaire
Luxembourg



GENERAL RETAILERS

FOOD SHARING

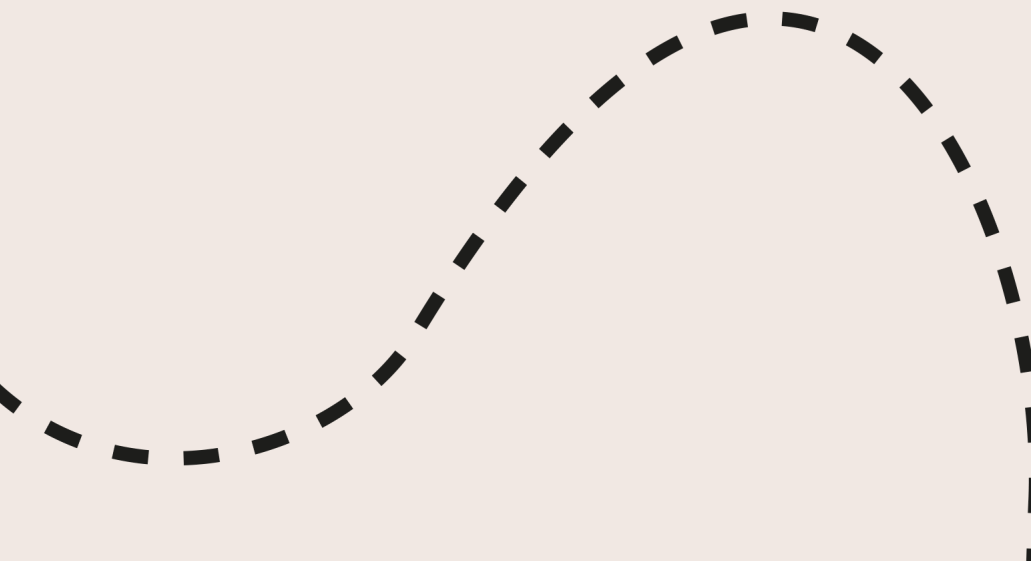
Description

A foodsharing space is a public place to share food from private to private or from business to private via an association to individuals or households. It sometimes consists of a fridge and a shelf where individuals put surplus food and can freely take products others have left. Sometimes, foodsharing is organised by associations who pick up food from retailers and organise the distribution of the surplus to private households, for example in a local food sharing point like a municipality building or a garage. Their service might include conservation activities of the recuperated foods.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Foodsharing Luxembourg



GENERAL RETAILERS

VENDING MACHINES

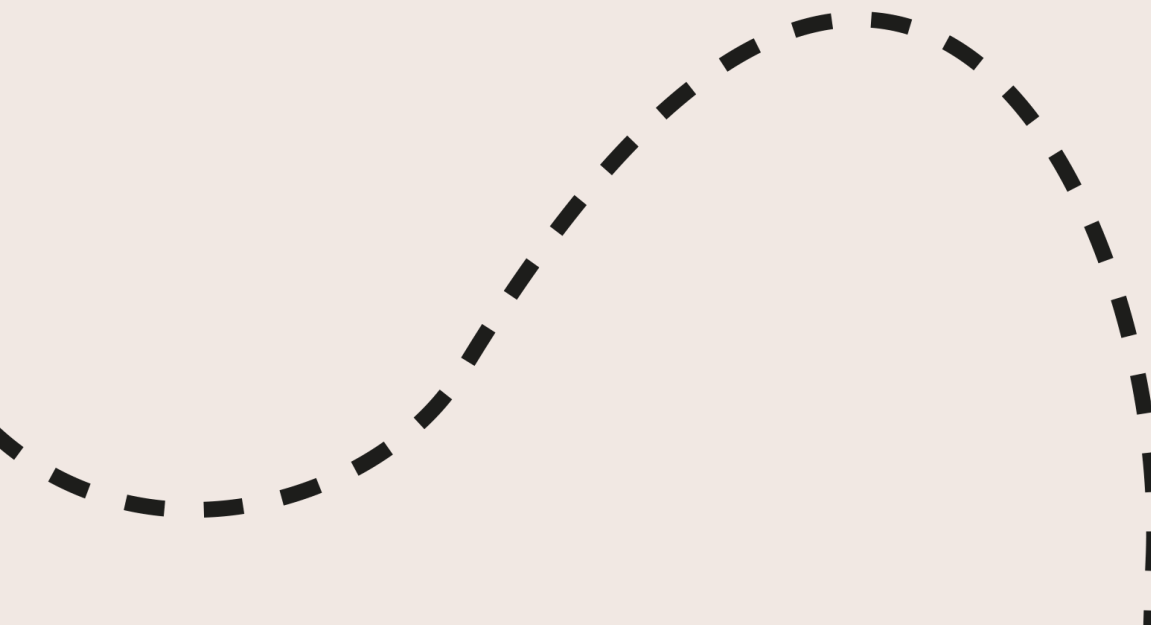


Description

Vending machines are stand-alone stations that sell food or drinks. A person inserts money, makes a selection and the food is made available through a slot. They may be placed in public spaces like railway stations, in public institutions and in private companies. Operators specialised in vending machines are contracted by the owner of the premises and charged to refill the machine with the agreed-upon products as well as maintaining it.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

There is a large and ever-changing array of vending machines that will not be listed individually here.



GENERAL RETAILERS

ONLINE-ONLY SHOPS

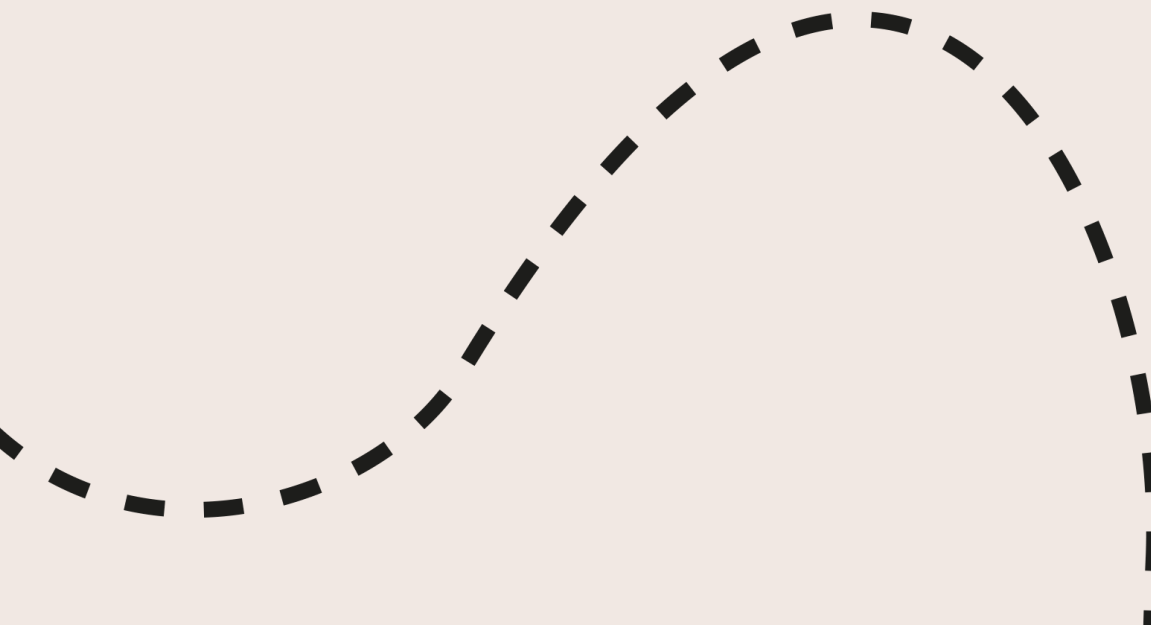
Description

While most general as well as specialist retailers nowadays have an online offer in addition to their in-store offer (sometimes with a drive-in service, a home delivery service, or a self-pick-up option), some general retailers have a purely online offer with no physical store offer in parallel.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Luxcaddy



SPECIALIST RETAILERS



Description

Specialist retailers specialise in selling specific food products instead of offering a wide variety across food product categories, as is the case for general retailers.

Most specialist retailers with physical stores in Luxembourg are national companies with some exceptions, especially in the case of franchise companies. The most useful way to categorise specialist retailers is by their speciality: meat products, baked goods, cheeses, special foods, coffee, beverages, wines, fruits and vegetables, food baskets etc.

Some specialist retailers occasionally sell their food on markets or other public places via market stalls or shops on wheels.

ACTOR TYPES WITHIN THE GROUP

- ◉ Butcher shops
- ◉ Bakery shops
- ◉ Cheese shops
- ◉ Greengrocers
- ◉ Special food shops
- ◉ Coffee shops
- ◉ Beverage shops
- ◉ Food produce box schemes
- ◉ Shops on wheels

SPECIALIST RETAILERS

BUTCHER SHOPS



Description

Butcher shops sell meat products to private customers and, sometimes, also to professional ones. Some of them also diversify as caterers for companies, event organisers, associations etc. Butcher shops may have an in-shop butchery where fresh cuts of meat are prepared for sale or for processing into charcuterie or other meat-based food products.

Other butcher shops are sale points only, meaning that the meat and meat products sold are delivered from a centralised butchery. Butcher shops usually offer a wide variety of animal types, meat cuts and quality of cuts.

Some butcher shops are specialised in organic meat.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Abattoir Ettelbruck Profi-Shop

Boucherie-Salaisons Meyer

Boucherie-Traiteur Niessen Shop

Cobolux Shop

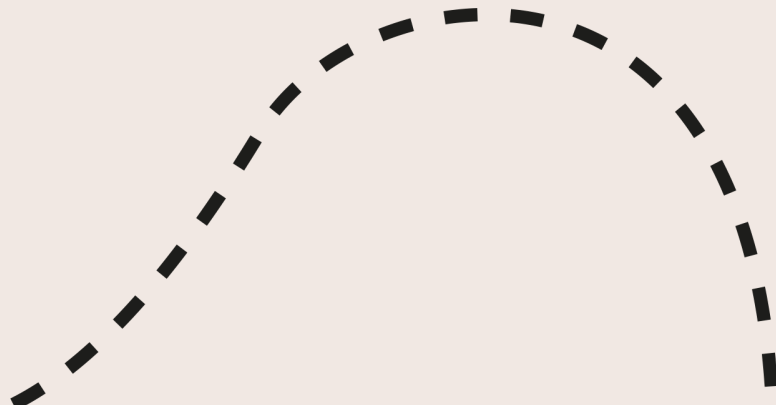
Emo

Kirsch le boucher

Maison Steffen

Metzlerie Quintus

Renmans



SPECIALIST RETAILERS

BAKERY SHOPS



Description

Bakery shops sell baked goods and pastries to private customers and, sometimes, also to professional ones. Some of them also diversify as caterers for companies, event organisers, associations, etc. They may offer a space where people can sit and enjoy coffee and cake.

Some bakeries sell baked goods and pastries from organic ingredients while others do not include an organic offer at all, and still others include a small palette of organic products.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Arbre à Pain

Au Pain de Mary

Bakhaus

Fischer

Kaempff-Kohler

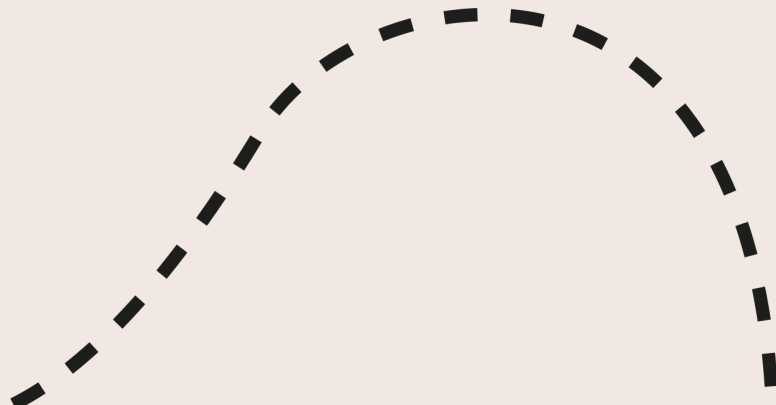
Namur

Naturata

Oberweis

Pains & Tradition

Paul Luxembourg



SPECIALIST RETAILERS

CHEESE SHOPS



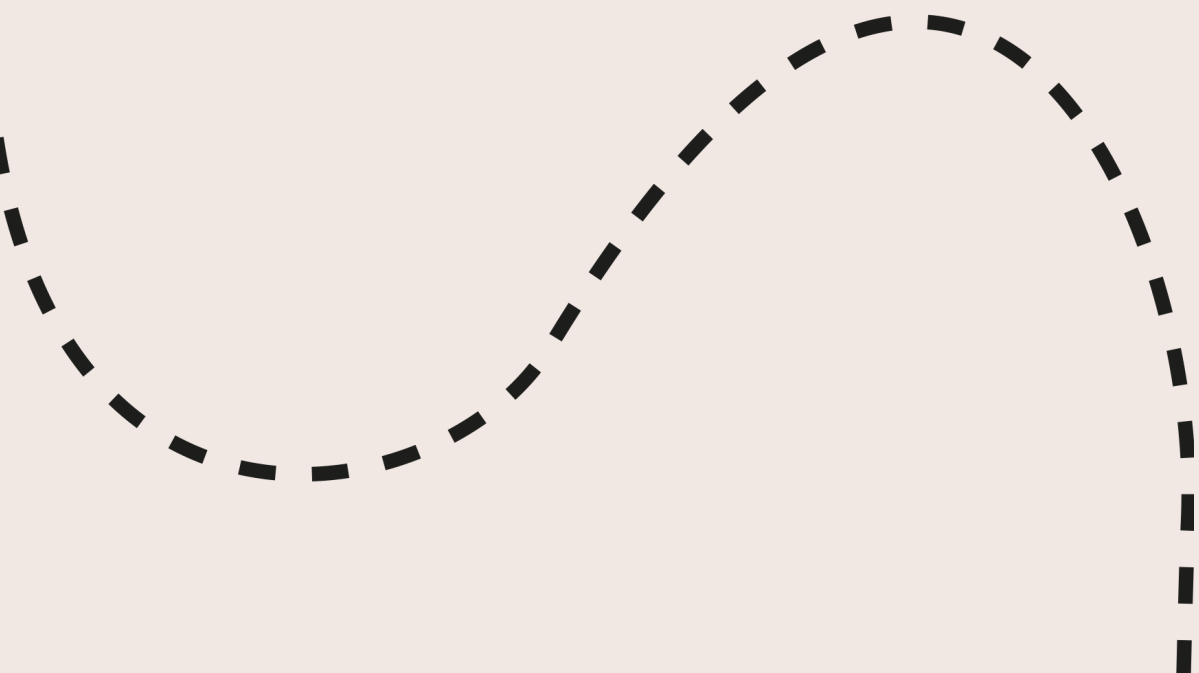
Description

Cheese shops are specialised in cheeses, offering individual customers a large variety of cheeses from different parts of the world.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Fromagerie Romuald

Kaempff-Kohler La Fromagerie



SPECIALIST RETAILERS

GREENGROCERS

Description

A greengrocer is shop that sells primarily fruit and vegetables without extending their offer to other foodstuffs.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Niki Kirsch



SPECIALIST RETAILERS

SPECIAL FOOD SHOP



Description

Special food shops focus on a specific type of food, for example on exotic foods, fish products, mushrooms and truffles or on chocolates or sweets. Some offer a most exquisite range of a specific food while others offer the broadest possible range of a specific product.

Also included are shops that sell food from a specific and delimited region abroad or from one specific country from afar.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Chocolate house by Nathalie Bonn

Délices de la nature

Génaveh

Gourmet Trade SA

Kraken

Poissonnerie Arctic

S.K. Cash&Carry



SPECIALIST RETAILERS

COFFEE SHOPS



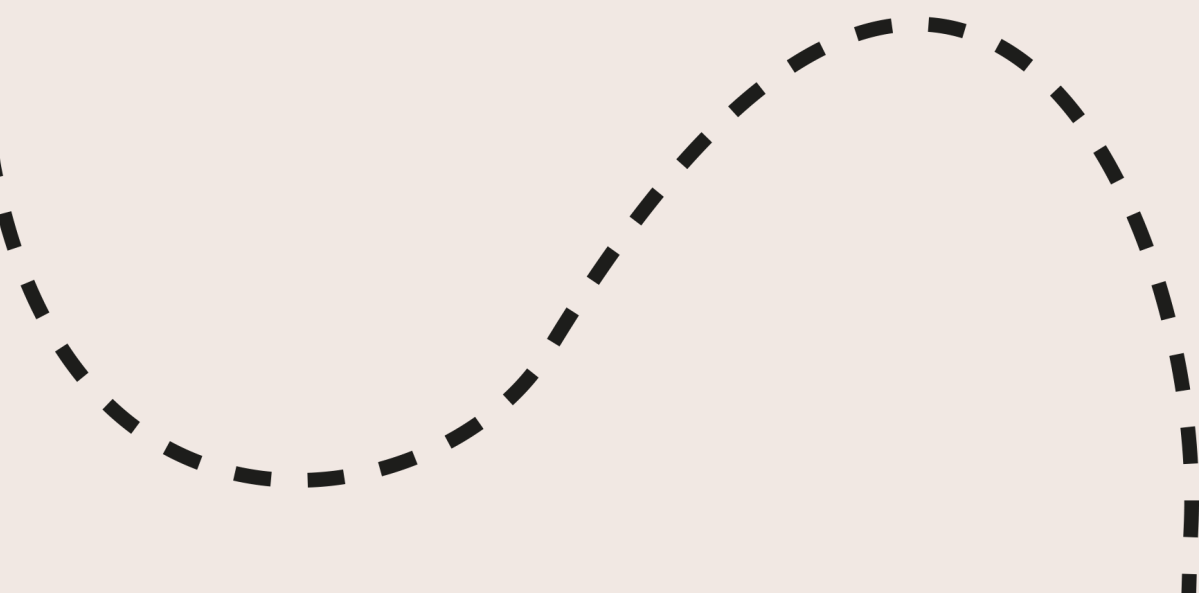
Description

Coffee shops sell packed or loose coffee to individual customers and may grind the coffee they import themselves in their roasting ateliers attached to the shop. Some do not roast themselves and are thus shops where individuals can buy packed coffee, often alongside a small offer of matching goods, like tea or chocolates. Some also offer a possibility to sit and drink coffee on the premises.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Knopes artisan torréfacteur

Lëtz Coffee



SPECIALIST RETAILERS

BEVERAGE SHOPS



Description

Beverage shops sell beverages to individual customers in physical stores and, more rarely, via online shops. A subcategory of beverage shops are "vinothèques", that specialise in wines.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Boissons Heintz

Boissons Schockmel

Freelance Vins Fins

Gedrenksbuttek

In Vino Veritas SARL

Munhowen Drinx

Rossi

Vincente et fils



SPECIALIST RETAILERS

FOOD PRODUCE BOX SCHEMES

Description

Box scheme providers buy food products from wholesalers or from producers directly to assemble them in themed boxes for consumers. Mostly, these are ready-to-cook boxes where consumers receive precisely weighed ingredients to cook meals based on recipes that are provided with the ingredients. Others acquire fruit or vegetables from wholesale and compose baskets to sell these to individual households. Not included are box schemes from producers themselves as these are considered producers not retailers.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Grosbusch fruit@home

HelloFresh

Le chat biotté



SPECIALIST RETAILERS

SHOPS ON WHEELS



Description

Some specialist retailers have no permanent, fix shop but only sell via shop on wheels. Some of these shop on wheels are located in the Greater Region and supply part of the territory of Luxembourg during their customised tour.

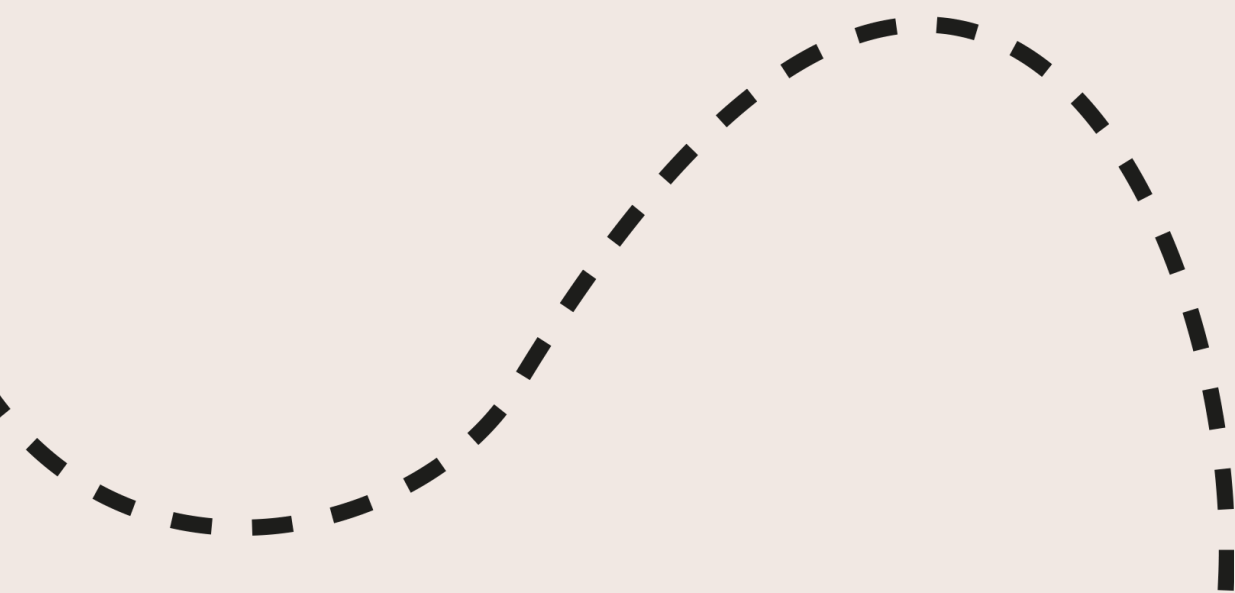
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Biobus/Martinshof

Bio-Keimling

Eifeler Frischdienst

Gudde Goût





Eateries

GASTRONOMY

Food
services



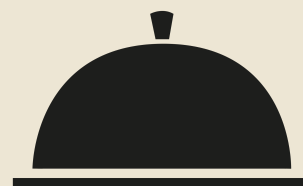
GASTRONOMY

Description

Gastronomy actors cook or otherwise prepare primary and processed food products with the goal of creating a dish for immediate consumption in a dedicated place for food consumption, for take-away for self-pick-up or delivery, or for catering.

ACTOR GROUPS

- Eateries
- Food services



GASTRONOMY

EATERIES

Description

Eateries are privately run places that consumers visit with the purpose of buying ready-made food and drinks, and either consume them on the spot or to go.



ACTOR TYPES

- Restaurants, cafés and brasseries, bars
- Vending-machines for freshly prepared food
- Cultural centres (with own restaurant, café, bar or similar)
- Food trucks

EATERIES

RESTAURANTS, CAFES, BRASSERIES & BARS

Description

Restaurants offer food chosen from a menu that can be eaten on the premises or sometimes as takeaway.

Included are hotels that have their own kitchens and offer meals in hotel restaurants. Some restaurants, especially fast-food restaurants, may offer the experience of dining in as well as a takeaway service (or drive-through).

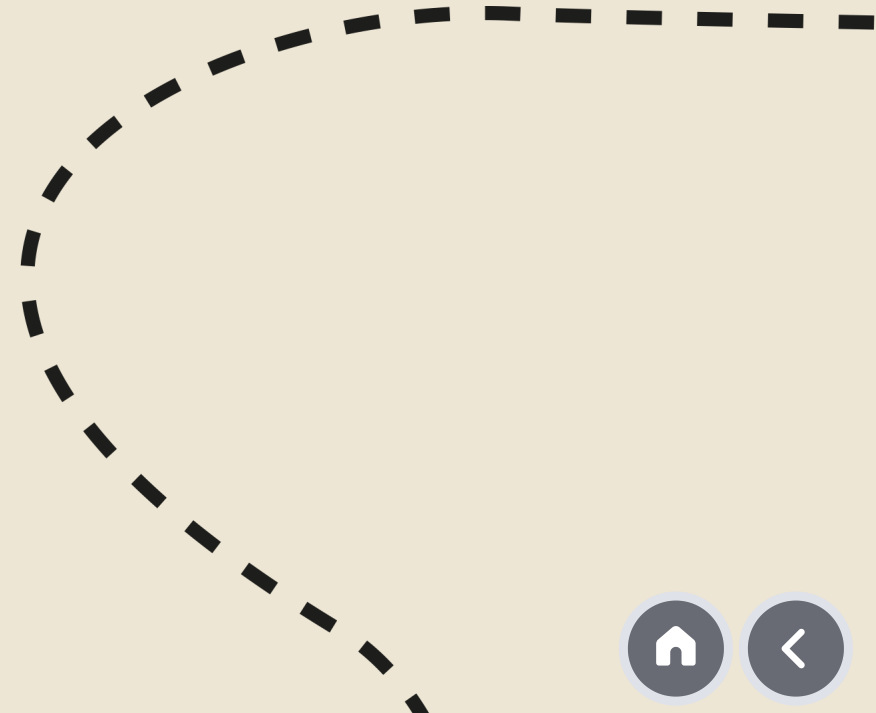
Cafés and brasseries sell drinks and often smaller meals, or food from a menu like restaurants. Included are bakeries that offer a café service.

Bars sell drinks and sometimes finger food and snacks.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

There is a large and ever-changing array of restaurants, cafés and brasseries, and bars that will not be listed individually here.



EATERIES

VENDING MACHINES FOR FRESHLY PREPARED FOOD

Description

A more recent development is the use of vending machines by restaurants to sell meals from their menu prepared in their kitchen. Others offer simple meals (for example pizzas or baguette), that are prepared by the machine itself at the push of a button. For this to function, a staff member of the owner/manager of the machine is tasked to fill it up with the necessary primary ingredients and, possibly, prepared ingredients, such as chopped vegetables.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

There is a growing and ever-changing array of vending machines for freshly prepared food that will not be listed individually here.



EATERIES

CULTURAL CENTRES (WITH OWN RESTAURANT, CAFÉ, BAR OR SIMILAR)

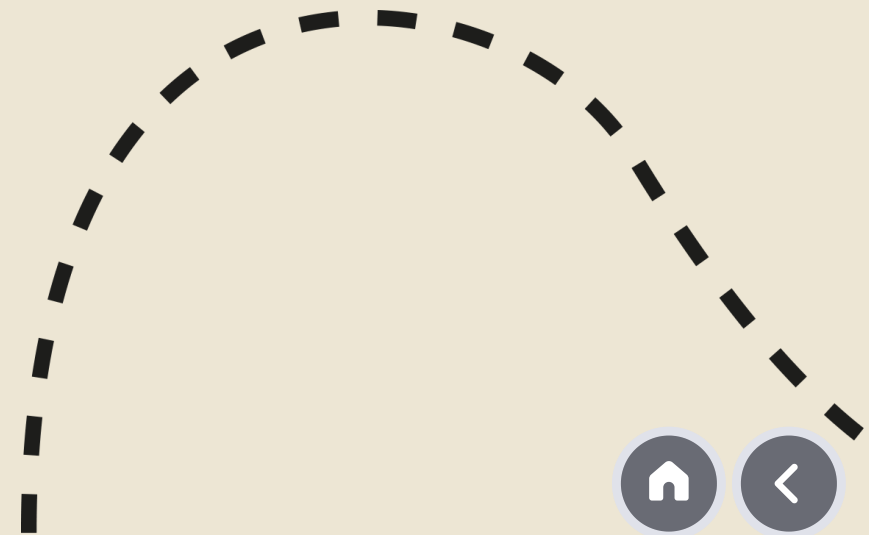
Description

Cultural centres often benefit from their own restaurants, cafés or bars. Sometimes, these are run only for specific events in the cultural centres, for example, bars open only during plays, shows, sport events, exhibitions etc., and sometimes they are run like classical restaurants or cafés with regular opening hours independent from events organised within the centre. The centres themselves are run by different actors: municipalities, sports clubs, theatres, museums, galleries etc.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

There is a large array of cultural centres that will not be listed individually here.



EATERIES

FOOD TRUCKS

Description

Food trucks are publicly accessible vehicles that sell freshly cooked food, or snacks, in various locations and often move around an area to reach their customers at various locations and times. This is different from shops on wheels (see 'Retail').

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

There is a large and ever-changing array of food trucks that will not be listed individually here.



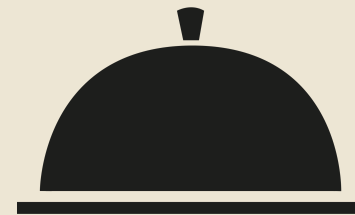
FOOD SERVICES

Description

Food services are either publicly or privately run organisations, institutions and companies that prepare meals in large quantities for a designated audience. Depending on the type of food service, the prepared food is served in canteens, at events, to private homes, at welfare institutions, etc.

ACTOR TYPES

- ◉ Canteen catering
- ◉ Event catering
- ◉ Social restaurants

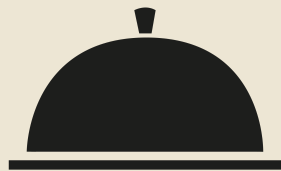


FOOD SERVICES

CANTEEN CATERING

Description

Canteen catering services are offered in public and private facilities, such as corporate workplaces, educational facilities, residential homes, hospitals and prisons etc. The offer style is usually buffet service, and the provision may be in-house freshly cooked or produced elsewhere in a central kitchen.



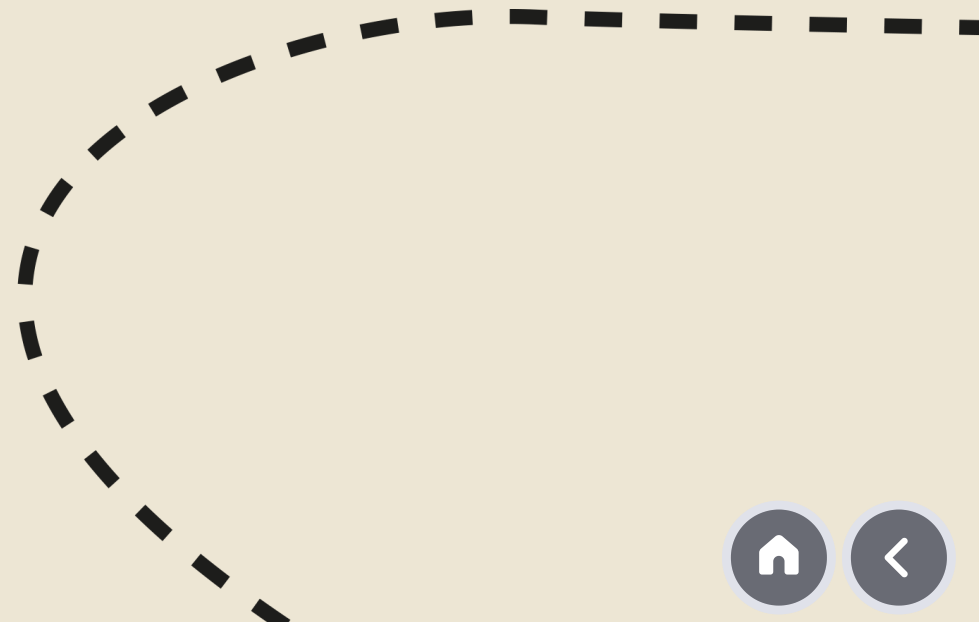
EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Elisabeth

Restopolis

Servior

Sodexo Luxembourg

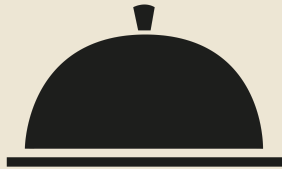


FOOD SERVICES

EVENT CATERING

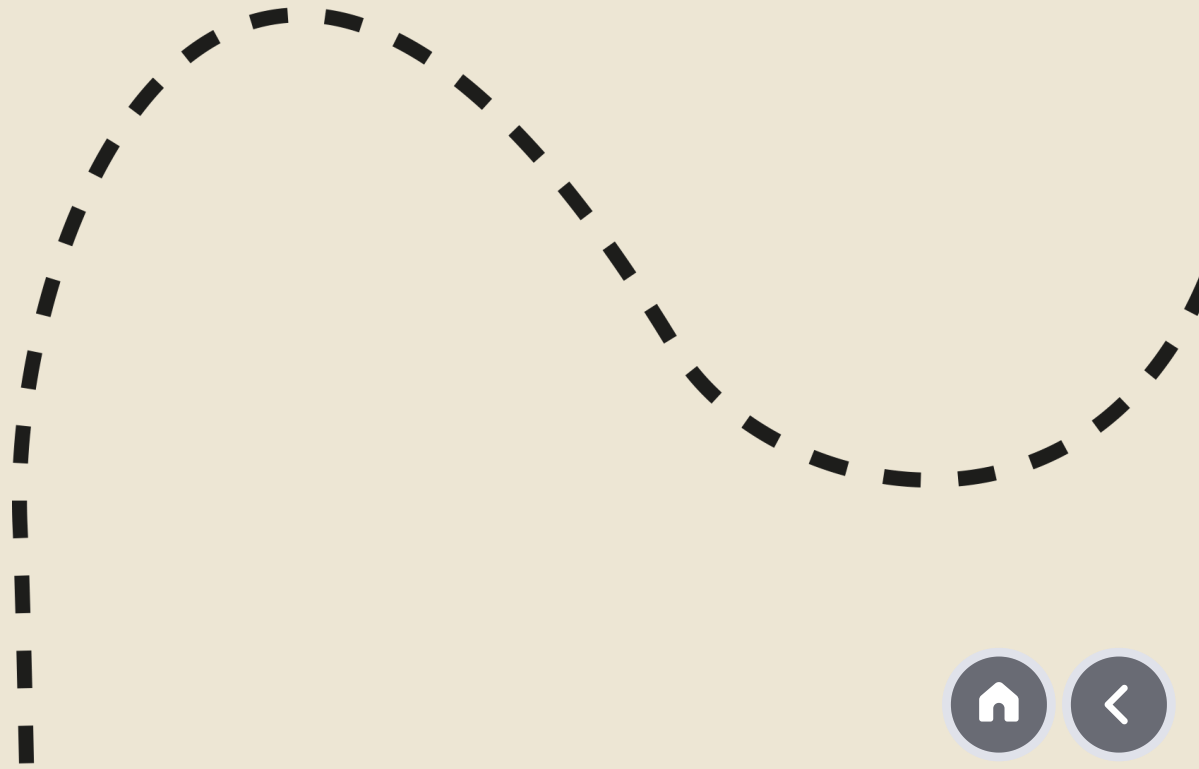
Description

Event caterers prepare food for planned events of different nature (private, political, business, etc.) with a usually relatively large audience. Generally, event caterers do not offer in-house event rooms but deliver to the place chosen by the event organiser. The event may be more or less festive, and the type of food and the presentation is variable (finger food, buffet, table service, etc.). Some event caterers predominantly serve festivals, fairs, etc., where they are part of the events themselves by cooking on the event grounds, mostly in snack cars or snack stalls.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

There is a large and ever-changing array of companies that do event-catering that will not be listed individually here.



FOOD SERVICES

SOCIAL RESTAURANTS

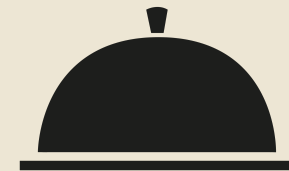
Description

Social restaurants provide a place for people in need of a prepared meal. More recently social dining is recognised for bringing people together to enjoy a freshly cooked meal at a lower cost than that of a restaurant, with additional benefits of offering cooking learning opportunities, increase social bonding and feelings of wellbeing, and employing zero-waste targets through take-away services etc.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Stëmm vun der Strooss

Croix-Rouge „Wanteraktioun“ (WAK)





Breastfeeding

INDIVIDUAL CITIZENS



Cooking & eating



Growing &
foraging
food



Food
shopping



INDIVIDUAL CITIZENS WITHIN THE FOOD SUPPLY CIRCUIT

Description

We are all citizens, who act individually and collectively, and participate in society. Individual citizens play diverse and multiple roles in the food system, both directly 'with' food and indirectly 'around' food, and they interact with other food actors.

Direct influence means the concrete dealings we as citizens have 'with' food and nourishment itself, whereas indirect influence on the food system happens through a range of everyday actions and experiences 'around' food. Individual citizens are therefore the only group represented with distinct actions in both parts of the food system. As actors within the food supply circuit, on a daily basis, individuals make decisions concerning what they buy, grow, consume and dispose that directly influence and are influenced by the inner food circuit.

For citizens' indirect dealings 'around' food, as actors of the broader food system, see '**Individual citizens at the as broader food system level**'.



ACTOR GROUPS

- ◉ Breastfeeding
- ◉ Food shopping
- ◉ Growing & foraging food
- ◉ Cooking & eating

BREASTFEEDING

Description

Breastfeeding, or nursing, is a process that provides ideal nutrition for infants. It can be given directly from the breast or may be expressed and fed to an infant. Mother's milk is most adapted for an infant's physical, emotional and cognitive development, it reduces incidence and severity of infectious diseases, while nursing also helps protect the mother's health.

Globally there are different approaches and expectations concerning breastfeeding and while there are medical public health recommendations, political guidelines and social support structures, the decision may be affected by reasons that are medical, religious, cultural, and deeply personal. Some barriers to breastfeeding are the lack of adapted counselling and education, as well as an unsupportive environment both at home and in the workplace (see '**Primary and secondary health care and wellbeing**' about the educational and advocacy role played by professional lactation consultants, midwives, doulas etc.).

The World Health Organisation recommends breastfeeding for infants until 4-6 months of age, and in combination with varied food until 2 years and beyond. There are many perspectives to the discussion of infant feeding, which are reviewed and discussed in scientific research disciplines, as well as by health, social and advocacy groups worldwide.



See more



BREASTFEEDING

BREASTFEEDING CONTINUED

Description

Infant formula, and other feeding inventions, were developed as an alternative for infants that were not breastfed. This science-based industrial development has increasingly been able to imitate the composition of breast milk, yet it remains a standardised approximation, due to the adaption of breast milk to the baby's or infant's nutritional and health needs during a feeding session and their age. Infant formula was a major development compared to original replacement methods, in particular wet nurses (women nursing other women's infants in their stead), dry nursing (infants fed directly from lactating animals), or precociously introduced pap or gruel, often leading to infant morbidity and mortality. Widely promoted as progress, it led to the creation of a worldwide market for replacement infant formula. The invention of formula, as well as other pressures, practices and beliefs (personal or societal), reduced breastfeeding rates since the Industrial Revolution from the 1800s, in relation to the choices available to women regarding breastfeeding.

Yet the use of formula presupposes access to specific materials and clean water and is affected by economic limitations, thus fostering inequalities. Its emancipation discourse has also been challenged as some are arguing that breastfeeding time is not economically free-of-charge, or lost work time, but rather constitutes a service for the common good of public health and

should thus be treated as such. It has been recognised that encouraging mothers to stay in, or return to, the workplace is not primarily a breastfeeding issue (if amendments to accommodate this need are set up), but rather an issue of access for all parents to affordable and high-quality childcare. In recent years, the promotion of breastfeeding has been regaining momentum worldwide. In many countries, policies to encourage breastfeeding, such as flexible work time and breaks throughout the day allowing mothers to pump, have increasingly been implemented (see '**Governmental departments & national agencies**'). Given its irreplaceable benefits, the feeding of mother's milk has been extended where possible to premature new-borns, and the civic act of donating breast milk under very strict hygiene conditions is expanding in many countries (see section '**Primary and secondary health care and wellbeing**').

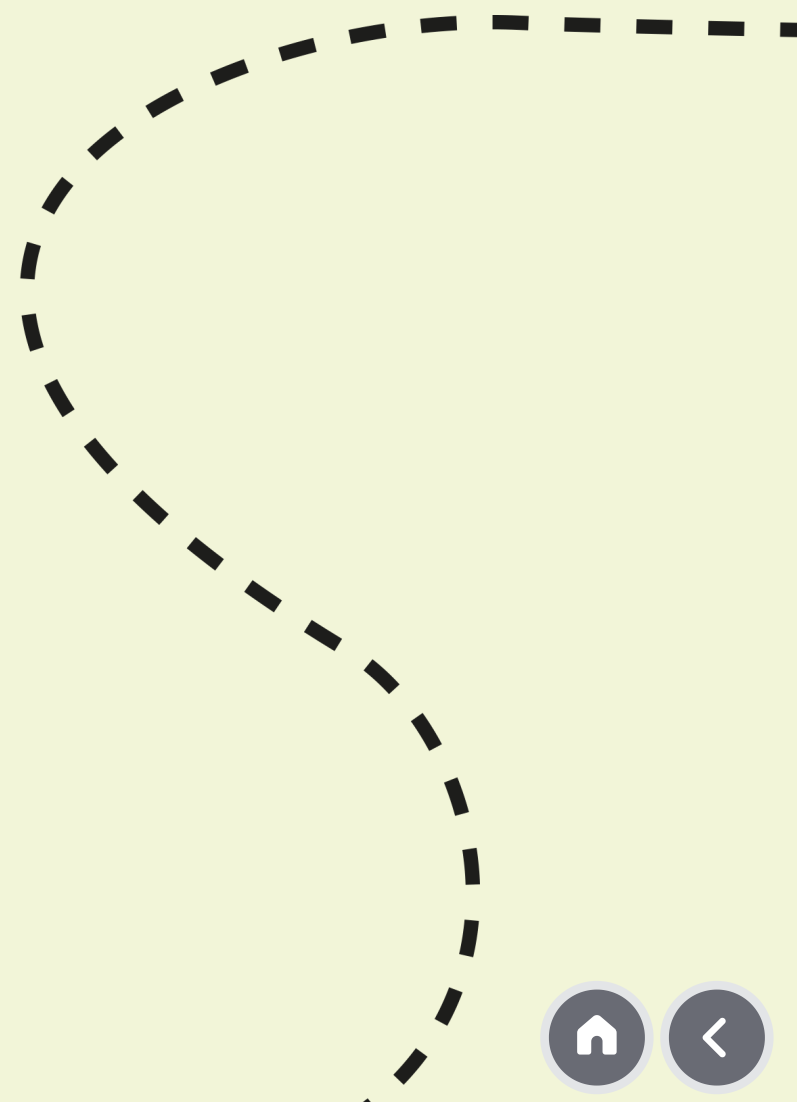
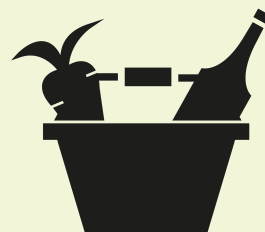


FOOD SHOPPING

Description

Individual citizens make decisions concerning food shopping on a frequent basis. These decisions are often defined by personal preference, but are also shaped by accessibility, availability of diverse and/or specialised food markets, financial constraints, social milieu and cultural belonging, mobility, family size, as well as marketing and advertising, etc.

Food shopping gives individual citizens the most direct way of influencing offer and demand via their food product choices. Where they shop and what they shop can have effects on the food industry, when for example some products are boycotted for their social or environmental externalities and others favoured for the benefits in these domains. Individual citizens may for example support farmers in the transitions towards alternative ways of agriculture by choosing their products as well as bearing part of the financial costs or pressuring political actors to subsidise products from such initiatives. (For more information see **'Retail'**).



INDIVIDUAL CITIZENS WITHIN THE FOOD SUPPLY CIRCUIT

GROWING & FORAGING FOOD

Description

Individual citizens may choose to grow or forage edibles for their own consumption. In Luxembourg there are community gardens in some municipalities, which allow people to grow food on a small scale – either on individualised plots or on common plots. The art of gardening at home has regained popularity in recent years and depending on the space at their disposal, individuals may be able to do this in their own gardens, on balconies, indoors, in window boxes, wall structures, in grow bags etc. Like horticulture, private gardening is shaped by access to land, seeds, potting soil etc.

Foraging is the practice of gathering wild food in nature. This is usually done in very small quantities and seasonally. Most common foraged foods in Luxembourg are wild berries and mushrooms, as well as edible herbs and flowers. In recent years, there have also been initiatives like the “Gielt Band” campaign. Municipalities, private individuals, associations and businesses may attach a yellow ribbon to indicate fruit trees which they own and from which fruit can be gathered by individual citizens. The goal is to reduce food waste and raise awareness about the multitude of possibilities to forage seasonal fruits throughout Luxembourg.

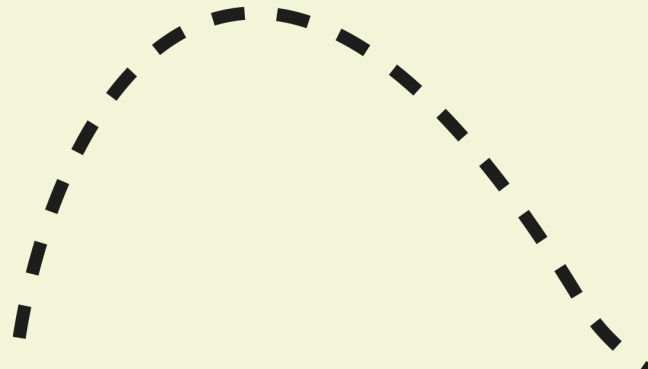


COOKING & EATING

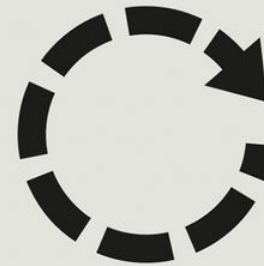
Description

The clearest way individuals interact with food is through cooking and eating. By choosing what, when, where, and how to cook and eat we participate directly in the use and consumption of the actual food products in the system. Cooking and eating food allows individuals to enact fundamental social and cultural bonds of belonging, familiarity, normality, status (and deviations from those). Cooking tends to be less sociable than eating, even though for generations cooking habits and styles have been transmitted to younger generations in (family) kitchens, and nowadays increasingly during various formats of cooking classes. The major societal norm around eating has institutionalised it as a social situation, during which individuals come together as members of a group around daily shared meals. Shared meals can have community-building or society-building effects by uniting people through common ideas and shared interests. This can happen at home, but also at events, festivals, at school or in the workplace, where people live and transmit values, enact cultural social bonds & distinction, socialise children as well as demonstrate, communicate and enact civil society commitment (see corresponding sections). Cooking and eating are the actions which most clearly unite citizens' double role of directly dealing 'with' food and indirectly interacting 'around' food.

Cooking & eating has become a lifestyle choice in many parts of wealthy societies, a way to express the ability to make choices linked to identity and self-image, and to communicate food literacy to others. Cooking & eating habits are still shaped by our natural drive to make plenty with rich foods in order to make it through times of scarcity – a habit that has been tapped into by the food industry. Our more recent for expressing ourselves through cooking abilities has also led to a recent exponential multiplication of cooking books, cooking blogs and food lifestyle blogs (see 'Use of social media').



Waste recycling



WASTE MANAGEMENT



Final waste disposal

WASTE

Description

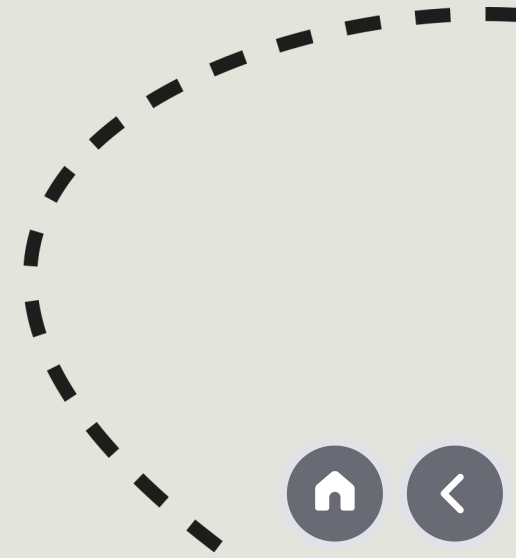
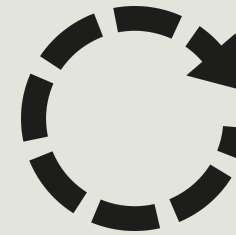
Waste is material, which was used for a specific purpose and is no longer wanted, even though it may still have value or serve a purpose. In food systems, different types of waste occur, such as general waste, hazardous and special waste, electronic waste, packaging waste etc. Much waste in food systems can be re-used, recycled or re-introduced in the system, such as green waste, general recycling, energy from waste by-products.

Food waste can also be avoided in the first place, by measures that reduce losses after harvest (for example by improving storage facilities and multiplying conservation techniques), as well as by cutting down the amount of food that is thrown away at consumer level. Numerous initiatives have risen in the past years around this debate, especially concerning the topic of saving food for human consumption that is not perished but still thrown away by retail and gastronomy due to their sell by date or appearance.



ACTOR GROUPS

- ◉ Waste re-entering the circuit
- ◉ Final waste deposit



WASTE

FINAL WASTE DEPOSIT

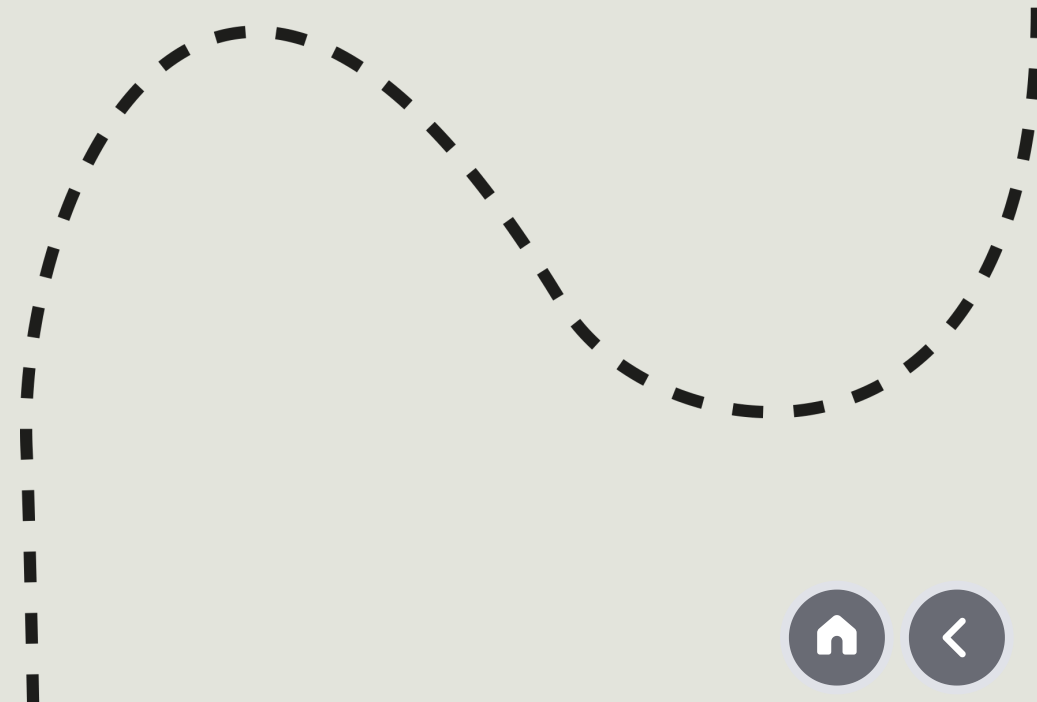
Description

Waste that does not re-enter in the food supply circuit and has to be 'eliminated' at a final waste disposal site, waste incineration plant, etc.



ACTOR TYPES

- General waste
- Hazardous & special waste



FINAL WASTE DEPOSIT

GENERAL WASTE

Description

General waste is the waste each of us produces daily and that is not recycled or re-used. It has to be collected from all food system actors. Most general waste could be recycled or re-used if more efforts of separation would be made by waste producing actors and incentives for easy separation created by political leaders.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Service Hygiène Ville de Luxembourg

Lamesch-Prezero

Polygone



FINAL WASTE DEPOSIT

HAZARDOUS & SPECIAL WASTE

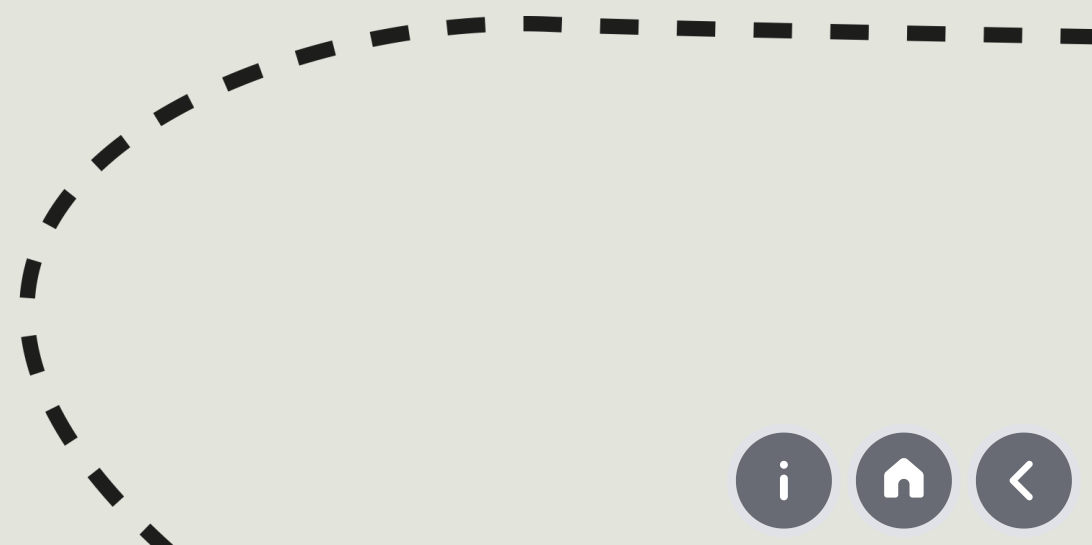
Description

Some waste is dangerous because of its toxic or health threatening properties. It cannot always be recycled or otherwise reused and has to be stored or destroyed in safe end deposits. In agricultural production, hazardous waste may be produced by pesticide packaging for example.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

AgriRecover

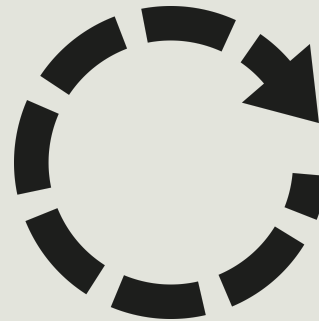


WASTE

WASTE RE-ENTERING THE CIRCUIT

Description

Waste that is processed with the goal of re-usage and re-entering the food supply-circuit.



ACTOR TYPES

- ◉ Green waste
- ◉ General recycling
- ◉ Packaging waste
- ◉ Special recycling
- ◉ Energy from waste by-products

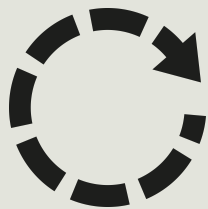


WASTE RE-ENTERING THE CIRCUIT

GREEN WASTE

Description

Green waste consists of any organic materials. It is biodegradable, which means that it gradually decomposes through natural processes with the help of bacteria that feed on the materials. Biodegradation can turn green waste into fertilisers. Green waste generally includes categories of food waste, garden waste, and other types of organic waste. The potential of green waste for the production of compost, fertiliser or energy (see 'Energy from waste by-products') is high but still insufficiently exploited.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

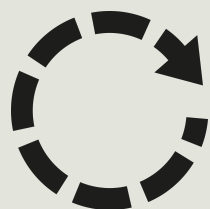
Minett-Kompost



GENERAL RECYCLING

Description

General recycling actors run large recycling centres where all kinds of previously separated waste can be recycled in the various sections. In Luxembourg, recycling centres are most often run by syndicates uniting the municipalities of a given area.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

SIDEC

SIDOR

SIGRE



WASTE RE-ENTERING THE CIRCUIT

PACKAGING WASTE

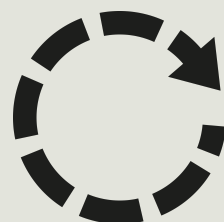
Description

All food system actors produce huge amounts of packaging waste, not least because products are always wrapped up for transport (See 'Logistics'). Food packaging waste may fall into each one of the waste and recycling categories and be recycled according to their material composition (generally mainly paper/cardboard, plastic containers and wrapping as well as glass and metal cans).

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

AgriRecover

Valorlux asbl

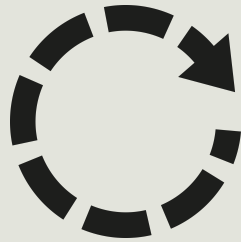


WASTE RE-ENTERING THE CIRCUIT

SPECIAL RECYCLING

Description

Special recycling actors concentrate on the recycling of a specific type of waste rather than offering a full range of different recycling sections. In Luxembourg, examples are the recycling of agricultural input packaging, sludge treatment, as well as electronic waste and battery recycling.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

AgriRecover

Ecobatterien asbl

Ecotrel asbl

Lamesch-Prezero

SuperDreckskescht

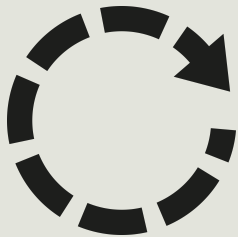


WASTE RE-ENTERING THE CIRCUIT

ENERGY FROM WASTE BY-PRODUCTS

Description

Energy from waste by-products is produced by bioenergy project developers, and bioenergy plant projects. This waste-to-energy type is especially relevant in the food system as agricultural by-products and food leftovers can be used to produce energy.



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

L.E.E. SARL

Kiowatt

Naturgas Kielen S.A.



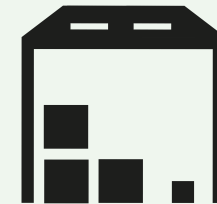
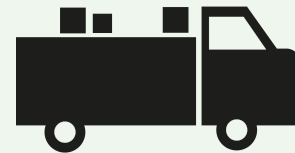
LOGISTICS

Description

Logistics within the food supply circuit connect the different actors by providing transport, packaging and storage. Logistics occur at different points within the food circuit and include packaging and storage (represented as warehouses) and transport (represented as lorries transporting various foodstuffs). Import & export are carried out by many actors, and here it is seen as a practice of logistics, rather than a specific actor group. Import & export often involve a combination of transport, packaging and storage. Logistical actions link the different actors and stages of the food circuit (the linkages are represented as dotted lines).

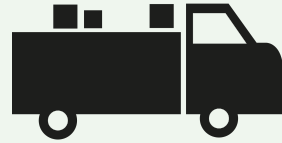
ACTOR TYPES

- Transport
- Packaging
- Storage
- Import & Export



LOGISTICS

TRANSPORT



Description

Transport concerns every single product that is brought into the food supply circuit and is used within it, even in the most indirect way. Transportation of food, from the harvested crop to the prepared meal, happens between different actor groups within the food circuit. It can happen on road, rail, water and air. Due to international interconnectivity, it can be very complex to follow the transport of ingredients and products, as well as which transport companies transport which products. Within the food supply circuit, actors working by rail and road can transport agricultural inputs, raw produce (liquid and solid), livestock, primary-processed agricultural produce, (processed) foodstuff, ready meals and beverages. In air and water transport, it is difficult to establish such differentiation per product type. In addition, wholesalers often carry out the action of transporting (as well as storing and packaging), while not being primarily transport actors.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Agrofeed SARL

Arthur Welter SARL

Beweco S.A.

Boissons Schockmel

Cargolux

Constant Bonivers Luxembourg S.A.

Dachser Food Logistics

Dreier SARL

Fertilux SA

Galliker Food, Frigo & Fresh Logistics



LOGISTICS

PACKAGING



Description

Packaging concerns every single product in the food supply circuit, from wrapping manufacturing equipment to containers for livestock medication. More directly concerned are all materials that come into contact with food - from the harvested crop to the prepared meal.

Packaging options range from bulk, practical and robust, in the early stages of agricultural commodity production, to individualised and carefully designed retail packaging (e.g. glass recipients, cans, cartons, diverse plastic recipients and wrappings, wooden baskets).

Stringent food safety criteria, elaborated at EU level, define permitted packaging materials and forms, to avoid potentially harmful constituents of packaging being transferred to food and negatively impacting human health. Therefore, all packaging material needs to be traceable through all stages of manufacture, processing and distribution.

A related aspect of packaging is labelling, advertising and presentation. While regulations impose that packaging must show certain information (nutritional values, composition, country of origin, expiration date, etc.), the food industry also uses packaging for marketing purposes, and brand and company identity creation.

See more



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Packaging is often done by wholesalers and by transporters, as well as by designers and food marketing experts.



PACKAGING

PACKAGING CONTINUED



Description

Reduction and elimination of food packaging has been a recent topic of debate in response to the sustainability and anti-plastic momentum. Most of this has focused on retail packaging rather than on transport packaging (e.g. pallets, plastic wrap). Some retail initiatives have found their way into political measures, for example, ECOBOX, a deposit-return scheme purposes for transporting meals, funded by the Ministry of the Environment, Climate and Sustainable Development. Actual environmental benefits of some of these new packaging are unclear and prone to greenwashing. Production of bioplastics for example is energy-consuming (and sometimes land-consuming) and its recycling cannot always be done in existing recycling streams designed for fossil-fuel plastics. Other approaches, like edible packaging, require sophisticated knowledge and technology. Organic fruits and vegetables are often wrapped to avoid contamination (e.g. pesticide residues) from non-organic foods.



LOGISTICS

STORAGE



Description

Storage concerns every single product that is used in the food supply circuit, even in the most indirect way. More precisely for food, whereby food is understood as ranging from the harvested crop to the prepared meal, storage facilities are very diverse and depend on the stage in the food circuit and on the actor that is using them.

At the stage of Farming, storage facilities include for example granaries that exist in many different forms throughout the world, with potentials to reduce post-harvest losses.

At the stage of Processing, slaughterhouses use cooling facilities for interim storage of carcasses, while dairy plants need cooled milk tanks. Wholesalers entertain huge warehouses with complex logistical systems. Restaurants use cool rooms and dry rooms to store the right amount of produce to offer fresh meals. As diversified the food is that we consume, as diversified are storage options.

Storage can also mean that the shelf life and general capacity of preservation in food products is lengthened, but most often, this is a result of both packaging and storage.

See more



EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Storage is often performed by the different food system actors themselves, especially by wholesalers and by transporters.

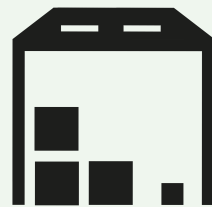


STORAGE

STORAGE CONTINUED

Description

Related to the globalisation of the food system are more specialised practices as for example in the case of bananas, that are harvested while unripe (green) and reaped in special rooms at the final wholesaler in the destination country, after having been shipped in a cool environment. These “banana rooms” are sealed rooms with a temperature of 17 degrees Celsius. Ethylene is used as a ripening agent; it is pumped into the room and the bananas are doused in it. Then the ethylene is ventilated out of the room and the bananas are left to ripen for de few days, before being transported to retail.



LOGISTICS

IMPORT & EXPORT

Description

Local or regional food systems are embedded into the global food system, via complex food supply chains, resulting in economic and political interdependencies. All the products, materials and services that food systems depend upon are affected by global interconnectedness and take part in import and export fluxes, and lead to dependencies of local actors from foreign ones and vice versa. For example, outsourcing of pesticide production industries leads to dependency of local farmers from global events that are beyond their control.

Import dependency also concerns all other stages of the food circuit, to supply technology, machinery, etc.

Especially in pre-farming input supply, imports may conceal more controversial and not clearly visible dependencies, like in the case of soy for soymeal-based fodder and the surface that is needed for the cultivation of the soy plantations abroad, often in fragile tropical environments, or in the case of synthetic nitrogen fertiliser that is made primarily from natural gas. Its production is thus not only fossil-fuel dependent for its primary ingredient, but needs additional energy to be produced and is dependent on the geopolitical relations with producing countries.

*Examples from
Luxembourg*



IMPORT & EXPORT

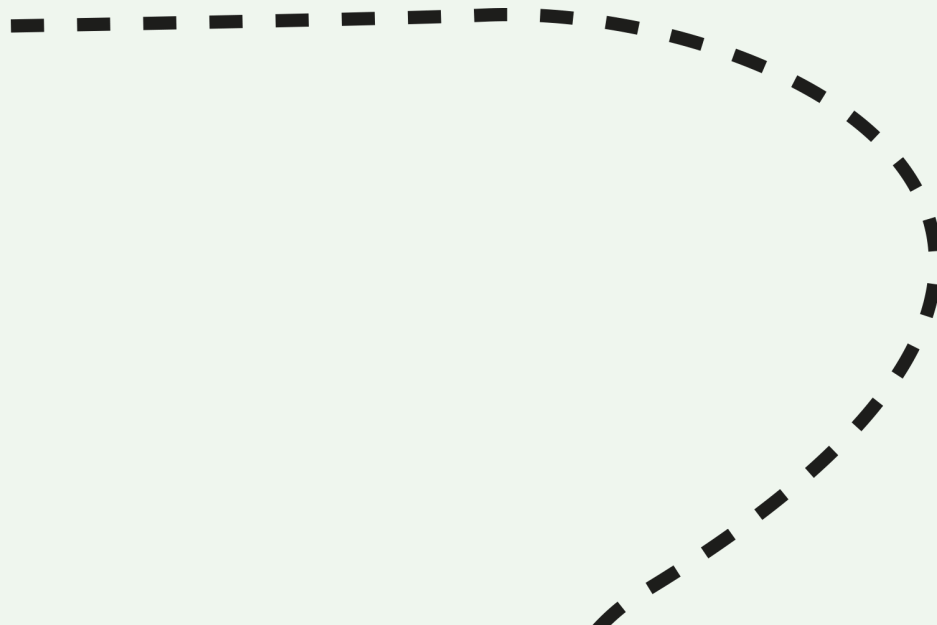
EXAMPLES FROM LUXEMBOURG: ACTIVITIES AND OUTPUT

Description

Concerning primary food products more precisely, Luxembourg is dependent on imported goods, especially for vegetables (in 2017 the self-sufficiency ration was about 0.3% for vegetables) and for fruits (for the types that can be grown locally, locally grown fresh apple for example made up 5.3% of the total local demand). Other primary food products have higher self-sufficiency rates, especially dairy products (116.6% in 2017) and meat (65.8% in 2017) and are therefore exported.

EXAMPLES FROM LUXEMBOURG: SOME OF OUR ACTORS

Import & Export activities are performed by the different food system actors themselves, and especially by wholesalers and transporters in their function as middlemen.



INDIVIDUAL AND PUBLIC MOBILITY FOR ACCESS TO FOOD

Description

From a logistical point of view, transport concerns every product that in the food supply circuit and happens at all stages of the circuit whether by road, rail, water, or air (see 'Logistics'). This thus includes all transportation activities that are needed in order to produce and transform food, and to make it available to individual consumers.

Once food products are ready for purchase, the question of practical access for individual consumers arises, because it requires citizens' mobility, especially in contexts with almost no subsistence agriculture (where people grow the majority of their own food themselves). Individual transportation (by car, bicycle, electric scooter, on foot etc.) and public transportation (by bus, train, tramway, public bicycles etc.) affect access to food and specific kinds of food. In addition, for individuals with reduced mobility, access to food may function in reverse, with food being brought to them (see also Retail and Gastronomy). In Luxembourg, using the car for daily grocery shopping is common, and the country has the highest motorisation rate of all EU member states with 691 cars per 1000 inhabitants (2019 statistics), and has, by contrast, underdeveloped active mobility habits and alternative options to cars (such as cargo bikes to transport small family members, pets, goods such as grocery shopping etc.).

Luxembourg is the first country worldwide to have made all public transport on its territory free since 2020, to encourage the use of public transport, to reduce traffic, noise and air pollution, as well as to improve commuting options. Public bicycle schemes have also been introduced in many municipalities. However, the centralised location of Luxembourg City, surrounded by smaller towns and villages, means that citizens may need to travel some distance to access the type of food they are looking for. The specific needs for food access, mobility and transportation of individual households need to be considered when building local food supply circuits.

