



RURALIZATION

DRAFT

The report is subject to possible changes due to approval process by the European Commission.

RURALIZATION

The opening of rural areas to renew rural generations, jobs and farms

D4.2 Trend analysis: summary report and trend database



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¹ PU=Public, CO=Confidential, only for members of the consortium (including the Commission Services), CL=Classified, as referred to in Commission Decision 2001/844/EC

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Acronyms and Abbreviations

EU	European Union
FUA	Functional Urban Area
NUTS	Nomenclature of territorial units for statistics, including three hierarchical levels (NUTS 1–3)
WP	Work Package

Partner short names in the report

CE	Consulta Europa Projects and Innovation (Spain)
CNRS	Centre National de la Recherche Scientifique (France)
EcoRur	Asociația Eco Ruralis-In Sprijinul Fermierilor Ecologici Si Traditionali (Romania)
ILS	Institut für Landes- und Stadtentwicklungsforschung, Research Institute for Regional and Urban Development (Germany)
KulturLand	Kulturland eG (Germany)
Landg	De Landgenoten (Belgium)
MTA	Magyar Tudományos Akadémia Társadalomtudományi Kutatóközpont (Hungary)
NUIG	National University of Ireland, Galway
ProVertes	Pro Vértés Nonprofit Zrt. (Hungary)
SA	Shared Assets Limited (United Kingdom)
TdL	Terre de Liens (France)
Teagasc	The Agriculture and Food Development Authority (Ireland)
TUD	Delft University of Technology (The Netherlands)
UNICAL	University of Calabria (Italy)
UNIDEB	University of Debrecen (France)
UTU	University of Turku (Finland)
UWr	University of Wrocław (Poland)
XCN	Xarxa per a la Conservació de la Natura (Spain)

Acknowledgements

This report is a result of concerted action. The participants of the RURALIZATION project have made a major effort in the identification and assessment of diverse trends which could play a role in the rural regeneration in Europe. We were able to identify as much as 1,560 trends which were analysed and finally synthesised in 60 trends cards. These cards will be put in the assessment process in 20 regions around Europe to find out context specific ways to benefit from the contemporary and emerging trends.

The whole process is based on our reading of the world. It is not a complete one and may include biased perspectives. Some other teams could come up with a different set of trends.

Our perspective on the futures of the rural Europe is positive. We try to figure out ways for rural regeneration, for stepping in by new generations with novel values, ideas and practices. The new generations earn a chance. This has motivated our quest of the drivers and contents of possible rural futures. We have observed many adverse effects of the trends (especially contemporary megatrends) on the rural areas, but in the trend cards some positive ingredients of the rural futures are provided.

This summary report highlights the most important findings of the study – the trend cards – accompanied by a short introduction to the process. More detailed results can be found in the technical report.

This summary report is deliverable 4.2 by the RURALIZATION project and it includes this summary report as well as the RURALIZATION trend database. The trend database provides an easy access to the trend cards and can hopefully assist in finding the ways to benefit from the trends in many contexts. The trend database is found on the website www.ruraltrends.eu.

Vesanto, Finland, 25th January 2021

Tuomas Kuhmonen

Leader of the Work Package 4 (Foresight Analysis)

Abstract

This report is a documentation for an extensive trend identification and assessment process which was carried out by the RURAZATION team. A large diversity of trends was identified in European research reports, scientific journals, futures literature as well as in national sources to avoid the language bias. The approach of the trend analysis was exploratory, not confirmatory or normative. The list of 1,560 trend observations is neither exhaustive nor representative and fully balanced as there is no theory of the future that would guide us to pick up the 'correct' trends. Each trend has both positive and negative impacts on specific areas, sectors or actors and observing this diversity is important for understanding the emergence and evolution of alternative futures. The general perspective on the trend analysis has been rural regeneration: what kinds of force fields and developments could shape the futures of rural Europe?

Each of the trend observations was assessed by the observer – supported by the source of the trend – for its impacts on different types of rural areas (rural areas within functional urban areas, rural areas in urban proximity and remote rural areas), gender, social capital, migration, access to land, farm structures and farming prospects. Also the drivers of the trends were identified. This process provided a good understanding of the diversity of the impacts of the trends in various contexts.

In order to make the results more user-friendly, the findings were synthesised in 60 trend cards. These cards feature the contents, drivers and impacts of 10 megatrends, 20 trends and 30 weak signals which could play in the rural regeneration. Obviously, there is no single silver bullet trend that would bring about the desired outcomes for all regions. Rather, hopefully each region, economic sector, policy field, business, decision-maker or citizen could find out the way to benefit from (some of) the trends in specific contexts. This is the role in which the trends cards are meant to serve and in the next steps of the RURALIZATION project this aspect will be assessed in various interactive engagements.

1 Objective, scope and approach in the trend analysis

RURALIZATION project investigates regeneration of rural areas in Europe. Regeneration is an ongoing process and it has many avenues ahead. Trend analysis is one way to get ideas of the possible ingredients of the updated rural Europe and related future developments. Trends provide opportunities to benefit from mainstream force fields (megatrends), from some context specific developments (trends) or from symptoms of change (weak signals). Trend is not a norm neither a promise of a certain kind of future, since every societal trend is valid only for a limited period of time and every trend will end. Identification and assessment of trends that have relevance for rural regeneration is an integral part of RURALIZATION process in which the opportunities are translated into promising practices and policies. This report provides a documentation of the extensive trend analysis exercise that was carried out in 2019–2020 by the participants of the project.

1.1 Objective

Objective of the trend analysis is three-folded:

- 1) To identify an extensive set of diverse trends that have a contribution to rural futures,
- 2) To carry out a general level assessment of their impacts on rural development in specific contexts,
- 3) To put a subset of the trends under more careful scrutiny based on their potential to promote rural regeneration in several contexts.

Identification of many trends. Rural areas are more versatile than cities and subject to a large variety of political, economic, social, technological, environmental and cultural force fields. The futures of rural areas are not driven by one or two well-known trends but by a very large set of drivers that have varying breaths, strengths and scopes. The same trend may play a major role in some specific context and hardly any role in another context. In order to be able to discuss the role of various trends in rural regeneration, it is important to observe many trends residing in diverse contexts.

General level impact assessment. Every trend has many kinds of impacts. Especially broad megatrends have many impacts on, for example, demographics, local economy, employment, trade, local services, governance and the environment. The problem is that many of these impacts are context specific. Impacts of globalisation, urbanisation and climate change can be quite different in Spain and in Sweden. Necessarily, the impacts have to be discussed at a rather high level of abstraction. In this vein, the trends are partly taken out of their contexts to reach some understanding of their impacts.

Trend cards. Trend analysis serves identification of effective practices and policies to promote rural regeneration in diverse contexts. Even though a very marginal trend or weak signal could offer promising perspectives for rural regeneration in some specific context, some of the trends could offer promising perspectives in several contexts. Observing that picking out a smaller subset of trends that have impacts in several contexts is a risky business, only part of

the trends will be subjected to more detailed analysis and evaluation and finally presented as trend cards. In 2021, these trends cards are being put back into diverse contexts in 20 regional workshops to find out which of them have most potential to promote rural regeneration in each of these contexts.

In other words, **objective of the trend analysis is to identify a large set of trends potentially having an impact on rural regeneration and to evaluate these trends across diverse contexts and levels of abstraction.**

1.2 Scope

Three types of trends were identified: megatrends, trends and weak signals. These have varying breath and specificity of impact as indicated in Table 1. The generic selection criteria of for each type of the trend are also indicated in the table.

Table 1: Description of different types of trends

Trend type	Definition	Criteria for positive selection in the analysis
Megatrend	Overarching mainstream that affects most regions and activities	Is the megatrend effective in most rural areas? Does the megatrend have potential for surviving next 10–15 years?
Trend	Developments that are effective in specific regions and activities	Is the trend effective in some rural areas? Does the trend have potential to become a megatrend?
Weak signal	Symptoms of change in specific regions and activities	Is the weak signal effective in some rural areas? Does the weak signal have potential to become a trend?

Scope of the trend analysis is very broad and open. The topics of the trends to be identified and investigated has not been restricted in advance. Broad scope has made it possible to observe many kinds of trends instead of repeating the well-known most common megatrends like globalisation or urbanisation. The broader the scope, the more likely also non-obvious trends and weak signals will be included. Since societal futures are open, we will never know in advance whether some of these outliers and seemingly trifling topics will scale up to a trend and even up to a megatrend.

1.3 Approach

The process in trend analysis is described in Figure 1. Identification of trends has been done through targeted search and through national search. Each of the trends has been assessed for its qualitative impacts. The subset of trends that are included in the trend cards are studied also for their quantitative manifestations, if they existed (see technical report and the trend database for these). Finally, the results are reported. The methodology is explained more in detail in Chapter 2. **The approach is exploratory, not confirmatory or normative.**



Figure 1: The process of trend analysis

In the research process, a rich set of trends is first identified in diverse contexts (Figure 2). Second, they are taken out of their detailed contexts to find out some universals among them and among their impacts. Third, they are put back to diverse contexts to find out ways to benefit from the trends within each context and further to identify promising practices and policies to promote rural regeneration. This third step takes places later and will not be reported as part of the trend analysis.

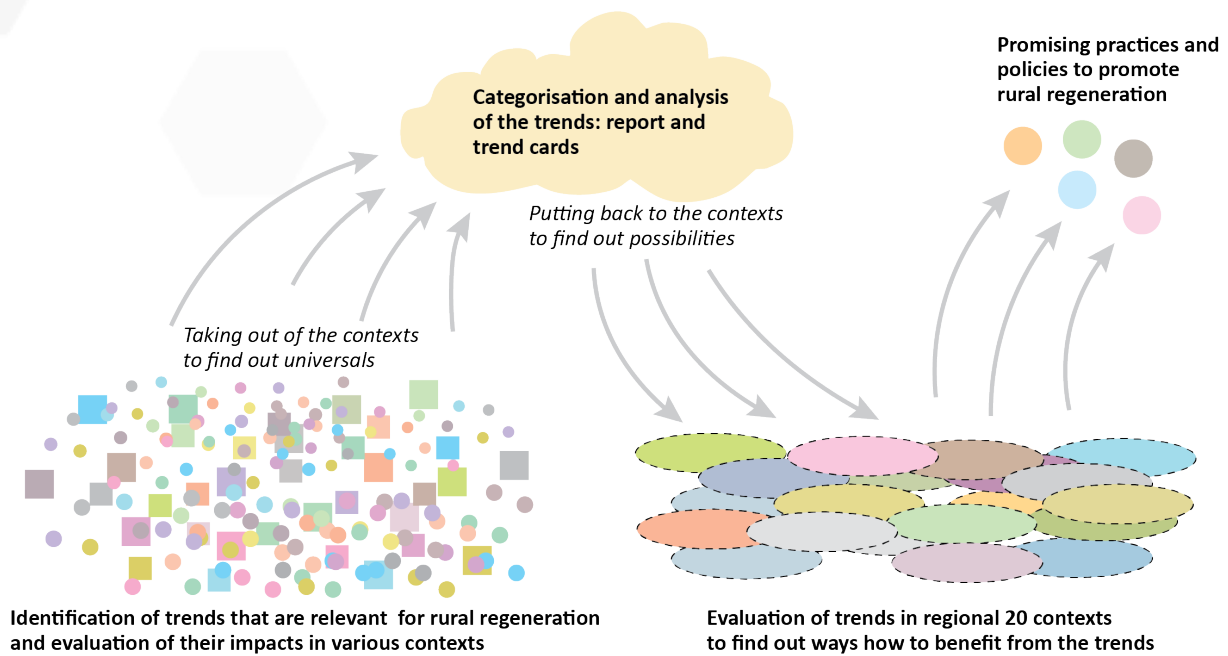


Figure 2: Trend analysis as participatory foresight analysis

2 Methodology of trend analysis

Trend analysis included several steps, and all participants were involved in the identification of the trends. The methodology of this process and main features of the trend data are described in this section.

The methodology is attuned to observe many kinds of trends in many kinds of contexts. Trend identification process is not expected to bring about any representative or balanced set of trends that could be used to delineate and define the future of the rural Europe. Such an approach would be neither possible nor feasible. Rural regeneration processes and trends hosting them are diverse and different across contexts, but they include some degree of universality especially in their drivers, contents and general level impacts.

Identification of the trends included two tracs: 1) targeted search and 2) national search.

The strand of targeted search included identification of relevant trends in 1) European projects, 2) scientific journals and 3) futures research organisations and mixed futures literature. In the strand of national search, the participants of RURALIZATION project were instructed to do search within their own country and region. This effort was carried out 1) to observe trends that are not reported in the English language headlines or articles and 2) to observe the diversity of the impacts of (common) trends or the impact of the diversity of contexts. The focus of this search was on the trends and weak signals. This organisation of search was considered necessary to ensure extensive coverage of relevant trends and to avoid language bias.

Identification of the trends resulted in 1,560 trend observations: 810 trends in the targeted search and 750 trends in the national search.

The impacts of each trend were assessed by the trend observed based on the source (e.g. report, article) or based on the field observations in the regional or local context. Each trend was assessed for its general characteristics (type, scale, domain), drivers and expected impacts. These were analysed, reported and finally synthesised in the 60 trend cards.

3 Results

This section presents some highlights of the findings of the trend analysis. A much more extensive presentation can be found in the technical report.

The 1,560 trend observations manifested 195 more general trends. The trend list (Table 2) indicates the diversity of force fields and developments which are currently taking place in the European regions or which could be possible force field and developments in the future.

Table 2: The list of trends.

Accessibility	Food demand	Population growth
Ageing farmer population	Food security	Postconsumerism
Ageing population	Food sovereignty	Postmaterialism
Agri-environmental policies	Food tourism	Practice-oriented food systems
Agritourism	Food waste	Precision farming
Agroecology	Food-related health risks	Primary sector employment
Agrosocial paradigm	Forest coverage	Productivity and competitiveness
Alternative lifestyles	Forest ecology	Professional networks
Animal welfare	Forest ownership	Protectionism
Anthropocene	Fossil economy	Public goods
Biodiversity loss	Fragmentation of land ownership	Quality of life
Bioeconomy	From farms to firms and from farmers to managers	Regional and local food
Black market	Fusion of sectoral policies	Regulation and subsidies
Business clusters and ecosystems	Gender roles	Remote work
Business ownership	Gig economy	Renewable and bioenergy
Care services	Globalisation	Resilience
Changing favourability of agricultural regions	Governance gaps and conflicts	Resource competition
Changing food trade patterns	Growth of energy demand	Rural artisans
Changing housing preferences	Growth of traffic	Rural decline
Changing role of the public sector	Heritage tourism	Rural energy communities
Cheap housing in rural fabric	Home gardening	Rural entrepreneurship
Circular economy	House and land squatting	Rural festival tourism
Climate change	Import competition	Rural hubs
Co-operatives	Individualisation	Rural labs and observatories
Collaborative problem solving	Industry 4.0	Rural lifestyle
Community-based action	Informal settlements	Rural second homes and villas
Community-oriented food systems	Infrastructure	Rural sports and adventures
Commuting	Innovations	Rural tourism
Concentration	Integration of immigrants	Rural volunteering
Counterurbanisation	Interdependency	Secularisation vs. religiousness
Creative economy	Interregional networks	Self-sufficiency
Decarbonisation	Knowledge economy	Sharing economy
Deconcentration	Labour shortage	Shifts in labour demand
Degrowth	Land consolidation	Shorter work time
Deindustrialization	Land management	Silver economy
Delivery-oriented food systems	Land markets	Slow food and slow living
Demonstrations, events and fairs	Lifelong learning	Smart solutions in rural space
Depopulation	Local paradigm	Social capital
Diet-oriented food systems	Manifestations of new technologies	Social enterprises and entrepreneurs
Digital economy	Market volatility	Social innovations
Diversification of rural economy	Meaning and experience economy	Social media
Diversification/specialisation of farms	Micro- and small units	Socio-economic models
DIY movement	Migration patterns	Speculative economy
Dominant food regime	Minorities' rights	Staycation
Dual food markets: price and quality	Mobile services	Suburbanisation
e-commerce	Multi-local living	Succession
Easy food	Natural and cultural heritage	Sustainability transition
Eco-efficiency	Natural lifestyle	Sustainable food
Economic growth	Neoliberalism	Sustainable lifestyles
Ecotourism	New entrants	Sustainable tourism
Ecovillages	New geopolitics	Techno-food
Educational farms	New mobility systems	Transparency of food system
eGovernment	New nomads	Tribal lifestyle
Empowerment	Night-time economy	Uberisation
Environmental conservation	Oligopolistic markets	Unequal development and inequality
Environmentalism	Outsourcing of environmental impacts	Urban insecurity
Exploitation of development potential	Pandemics and epidemics	Urban sprawl
Extreme weather events	Partnerships	Urbanisation
Farm fragmentation	Peri-urbanisation	Volunteer tourism
Farm population	Place branding	Welfare state
Farm size	Place identity	Wellness
Farmers facing new risks	Policy incidence and effectiveness	Wild food
Farming lifestyle	Political instability and fragmentation	Wood demand
Farming techniques and intensity changes	Pollution	Work-life fusion
Farmland prices	Pop-up culture	Young farmers

The large diversity of trends was compressed by could be compressed into 30 trend topics (Figure 3). These described the general contents of the trends. The most common trend topics were related to farms, regional development, food, policy, environment and demographics. There were many other interesting and potential topics for the future developments of rural areas (e.g. tourism, lifestyle, housing, governance, energy) which ranked lower among the trend topics. It is important to note that the frequencies of the trend observations do not indicate higher or lower potential for rural regeneration – they just paint a portrait of rural futures in this particular trend analysis.

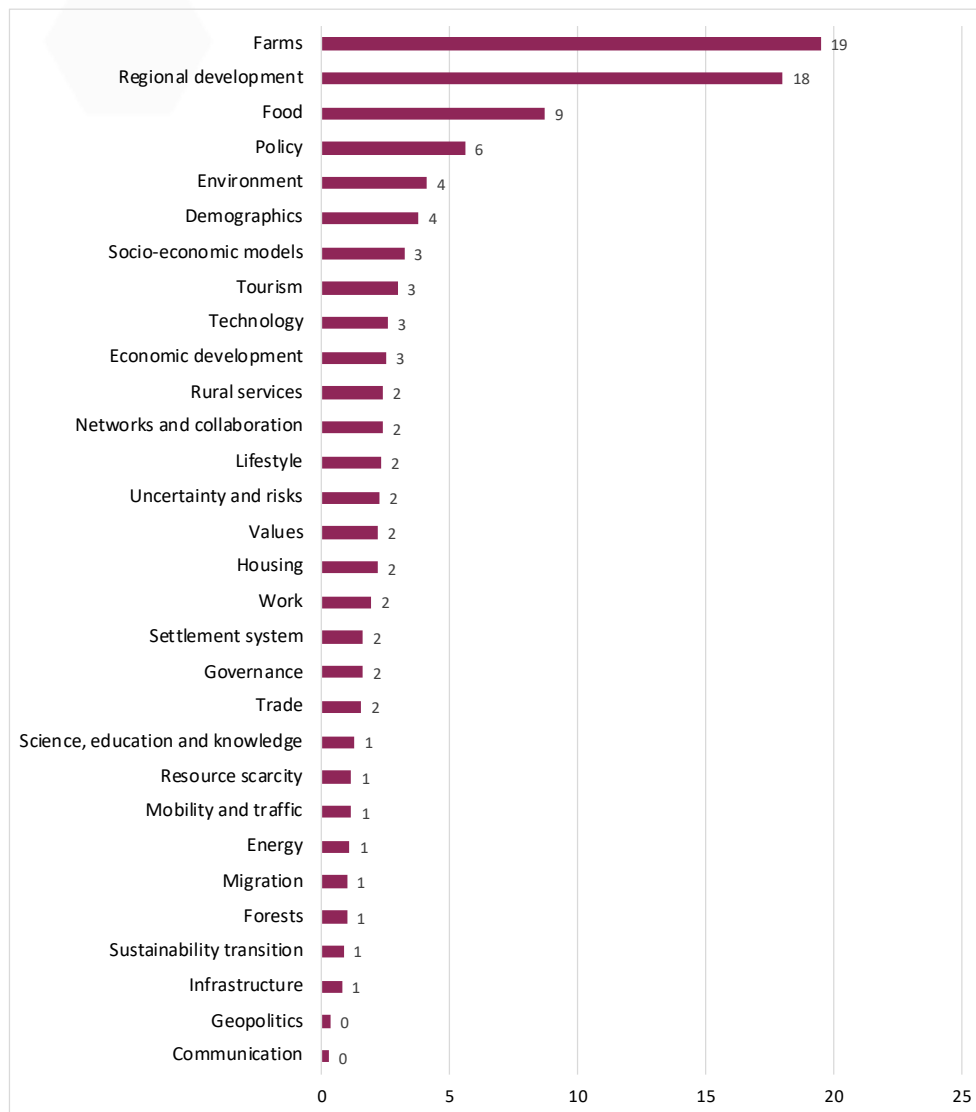


Figure 3: Trends by topic, %

The incidence of the trends differed among the economic sectors. Top trends affecting the primary sector included for example unequal development and inequality, farm size, migration patterns, diversification vs. specialisation of farms and practice-oriented food systems (e.g. organic farming). Unequal development and inequality was the most frequently identified influential trend in the case of all economic sectors. Table 3 gives an indication of

the trends to be investigated or addressed in order to come up with positive futures for primary production.

The top trends affecting manufacturing were unequal development and inequality, rural decline, migration patterns, ageing population and climate change (Table 4). Resource competition and infrastructure were the only trends on the top-20 list in manufacturing that were not on the top-20 list in the other economic sectors.

Digital economy ranks high among trends affecting private services besides the common unequal development and inequality, rural decline, migration patterns and ageing population (Table 5). Development of private services is strongly dependent on the population base and purchasing power which is indicated by the importance of several demographic trends. Rural hubs and creative economy are among top-20 trends only in private services.

What is unique in the top trends affecting public services is that policy and governance trends rank highest in this economic sector (Table 6). Community-based action and accessibility are found on the top-20 list only in the case of public services.

Table 3: Top-20 trends by affected sector: primary production, %

Trend	Primary production
Unequal development and inequality	4
Farm size	3
Migration patterns	3
Diversification/specialisation of farms	3
Practice-oriented food systems	3
Rural decline	3
Climate change	3
Sustainability transition	2
Ageing population	2
Policy incidence and effectiveness	2
Community-oriented food systems	2
Diversification of rural economy	2
Productivity and competitiveness	2
Digital economy	2
New entrants	2
Young farmers	2
Renewable and bioenergy	1
Succession	1
Farmland prices	1
Governance gaps and conflicts	1

Table 4: Top-20 trends by affected sector: manufacturing, %

Trend	Manufacturing
Unequal development and inequality	8
Rural decline	6
Migration patterns	6
Ageing population	4
Climate change	3
Diversification of rural economy	3
Exploitation of development potential	2
Manifestations of new technologies	2
Renewable and bioenergy	2
Globalisation	2
Economic growth	2
Sustainability transition	2
Resource competition	2
Urbanisation	2
Interdependency	2
Policy incidence and effectiveness	2
Governance gaps and conflicts	1
Local paradigm	1
Infrastructure	1
Concentration	1

Table 5: Top-20 trends by affected sector: private services, %

Trend	Private services
Unequal development and inequality	6
Rural decline	5
Migration patterns	5
Ageing population	3
Digital economy	3
Climate change	2
Manifestations of new technologies	2
Diversification of rural economy	2
Exploitation of development potential	2
Sustainability transition	2
Rural hubs	2
Renewable and bioenergy	1
Urbanisation	1
Community-oriented food systems	1
Economic growth	1
Policy incidence and effectiveness	1
Local paradigm	1
Creative economy	1
Globalisation	1
Interdependency	1

Table 6: Top-20 trends by affected sector: public services, %

Trend	Public services
Unequal development and inequality	8
Rural decline	6
Migration patterns	6
Ageing population	4
Climate change	3
Policy incidence and effectiveness	3
Governance gaps and conflicts	2
Manifestations of new technologies	2
Exploitation of development potential	2
Urbanisation	2
Diversification of rural economy	2
Community-based action	2
Local paradigm	1
Accessibility	1
Concentration	1
Digital economy	1
Sustainability transition	1
Renewable and bioenergy	1
Economic growth	1
Globalisation	1

Significance of the trends for the rural areas was expected to be different in the short run and in the long run. Figure 4 presents top-20 trends that are assessed as ‘highly significant’ in the short run (1–10 years) and in the long run (10–30 years). Among the top-20 trends which were assessed to downgrade in importance over time were unequal development and inequality, rural decline, migration patterns, diversification/specialisation of farms, farmland prices, diversification of rural economy and farm population. Practice-oriented food systems and primary sector employment were assessed to keep their rank. A number of top-20 trends were assessed to rank higher in significance in the future: climate change, farm size, ageing population, digital economy, young farmers and renewable and bioenergy. Succession, policy incidence and effectiveness, accessibility, ageing farmer population and concentration would drop from the top-20 list in the long run. Concomitantly, five new trends are on the top-20 list in the long run: sustainability transition, environmentalism, resource competition, productivity and competitiveness and biodiversity loss. The ranks and their changes give some indication of the evolving significance of specific trends for the rural areas in the future and also hint what might remain important also in the future and what might become less vs. more important. Still, not all trends and not all contexts were covered in the trend identification and analysis process which took place in the RURALIZATION project.

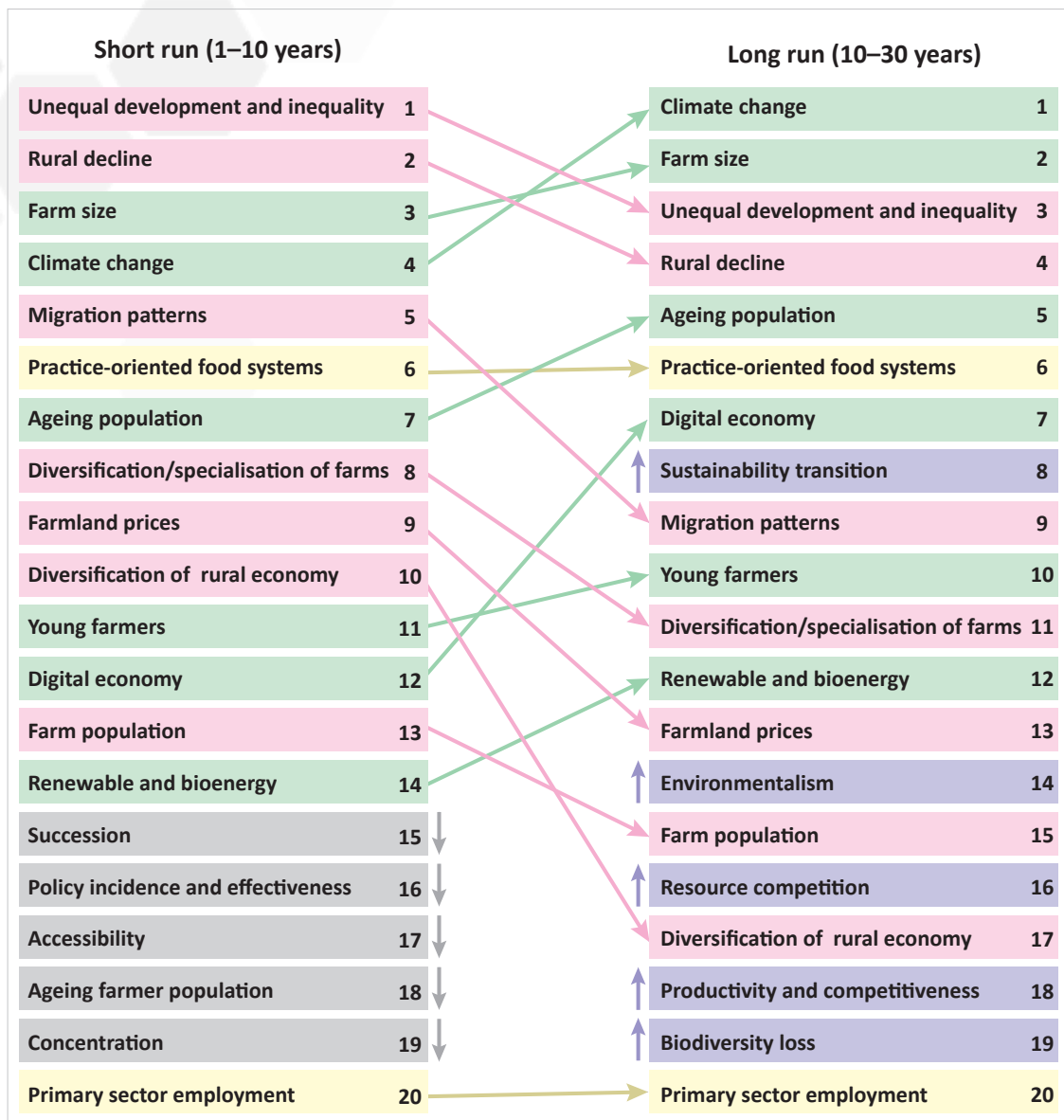


Figure 4: Most significant trends (top-20) in the short run (1–10 years) and in the long run (10–30 years) based on the frequency ranking of trends that were assessed to have ‘high significance’ for the rural areas

3.2 Drivers of the megatrends, trends and weak signals

The following section describes the drivers, which give rise to the megatrends, trends and weak signals.

The large diversity of driver observations could be abstracted into 27 general level topics. The most common driver topics were related to economy, technology, personal values, farms, environment, lifestyle and policy. Almost two third of all driver observations were covered by these seven topics (Figure 5).

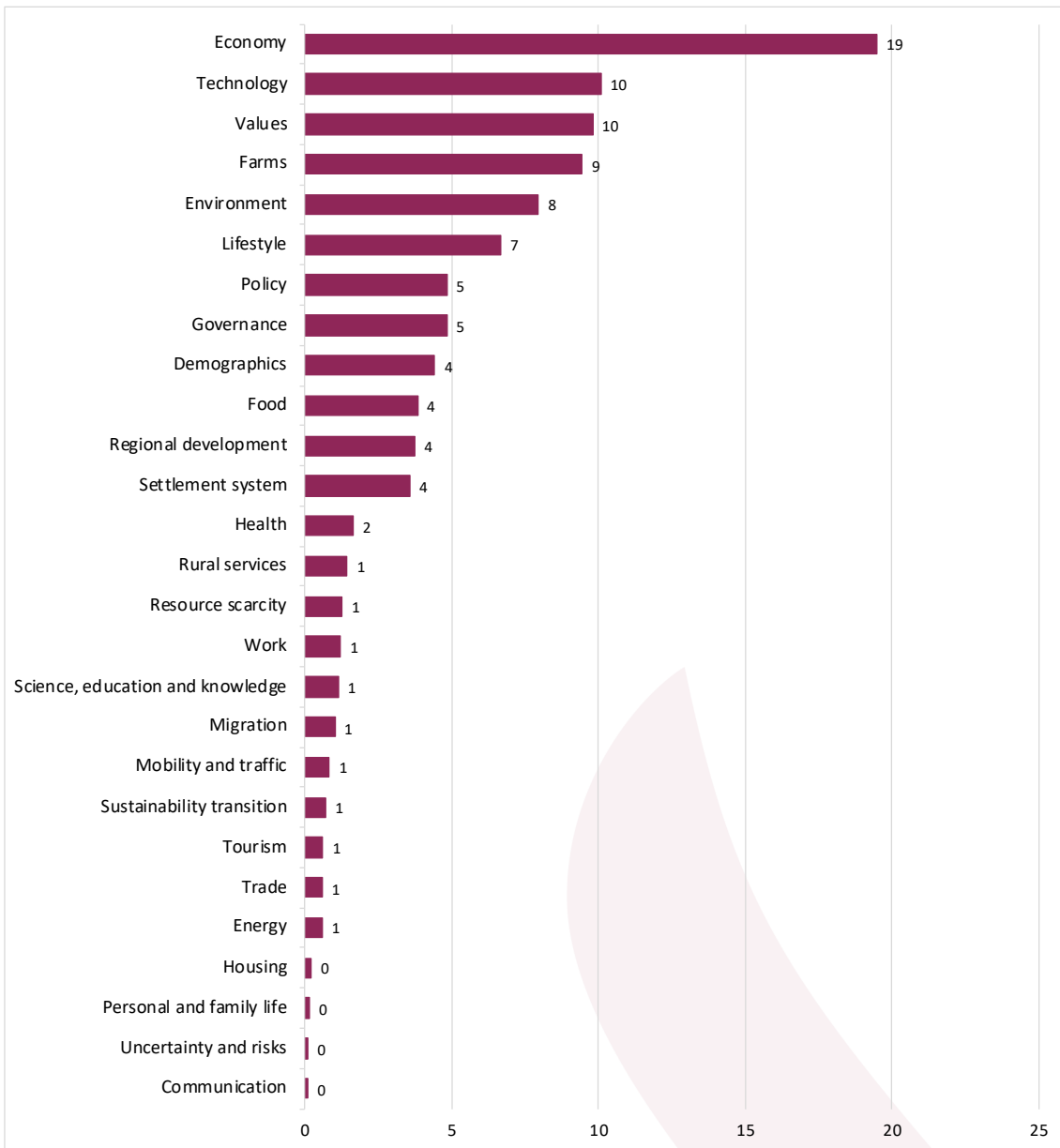


Figure 5: Drivers by topic, %

Each economic sector was related to partly specific set of drivers of the trends affecting them. Table 7 shows top-20 drivers which affect the primary production. In addition to the dominant driver of globalisation ranking highest in all economic sectors, a number of other drivers have a significant impact on primary production: ecological awareness, climate change and increasing farm size & decreasing farm numbers.

Top-20 drivers assigned to the manufacturing sector represent 70% of all drivers assessed to have a significant impact on this economic sector (Table 8). Top-5 drivers affecting manufacturing include globalisation, market liberalisation, demographic change, industrialisation and digitalisation.

Further on, top-5 drivers affecting private services include globalisation, digitalisation, market liberalisation, urbanisation and internet (Table 9).

Finally, top-5 drivers affecting public services include globalisation, demographic change, market liberalisation, industrialisation and digitalisation (Table 10).

Table 7: Top-20 drivers by affected sector: primary production, %

Driver	Primary production
Globalisation	10
Ecological awareness	7
Climate change	5
Increasing farm size, decreasing farm numbers	4
Availability and demand for local, healthy, sustainable food products	3
Digitalisation	3
Environmental degradation, pollution and risks	3
Technological development	3
Industrialisation	3
Market liberalisation	3
Demographic change	3
Common Agricultural Policy (CAP)	2
Urbanisation	2
Diversification of lifestyles	2
Internet	2
Viability of farm business, productivity	2
Liberal lifestyle	2
Scarcity of natural resources	1
Growing inter-farm competition for markets and resources	1
Environmentalism	1

Table 8: Top-20 drivers by affected sector: manufacturing, %

Driver	Manufacturing
Globalisation	13
Market liberalisation	6
Demographic change	6
Industrialisation	6
Digitalisation	5
Climate change	5
Ecological awareness	4
Urbanisation	3
Liberal lifestyle	3
Technological development	3
Diversification of lifestyles	3
Availability and demand for local, healthy, sustainable food products	2
Internet	2
Regional inequality and disparity	2
Community co-operation and development	2
Decline or poor status of public services and infrastructures	1
Rural decline	1
Population growth	1
Environmental degradation, pollution and risks	1
Scarcity of natural resources	1

Table 9: Top-20 drivers by affected sector: private services, %

Driver	Private services
Globalisation	11
Digitalisation	5
Market liberalisation	4
Urbanisation	4
Internet	4
Demographic change	4
Technological development	4
Industrialisation	3
Climate change	3
Ecological awareness	3
Availability and demand for local, healthy, sustainable food products	3
Slow, peaceful, natural lifestyle	3
Diversification of lifestyles	2
Liberal lifestyle	2
Decline or poor status of public services and infrastructures	1
Environmentalism	1
Community co-operation and development	1
Environmental degradation, pollution and risks	1
Coronavirus pandemic, pandemics	1
Scarcity of natural resources	1

Table 10: Top-20 drivers by affected sector: public services, %

Driver	Public services
Globalisation	11
Demographic change	5
Market liberalisation	5
Industrialisation	4
Digitalisation	4
Urbanisation	4
Climate change	4
Ecological awareness	3
Diversification of lifestyles	3
Technological development	3
Liberal lifestyle	3
Environmental degradation, pollution and risks	2
Decline or poor status of public services and infrastructures	2
Community co-operation and development	2
Rural decline	1
Rural and regional policies	1
Population growth	1
Search for own lifestyle and quality of life	1
New governance modes and models	1
Lack of effective governance strategies	1

3.3 Impacts of the megatrends, trends and weak signals

The assessment of trends' impacts was performed from two perspectives: **the territorial perspective** (for three types of rural areas: urban areas within functional urban areas, rural areas in urban proximity and remote rural areas) as well as **the thematic perspective** (for six preselected themes related to rural development: gender, social capital migration, access to land, farm structures and farming perspectives). In the assessment, many trends were having

selective impacts only, i.e. they do not significantly affect all types of rural areas and all thematic aspects of rural development at once.

The trends were assessed to have many kinds of positive impacts on the rural areas. For the sake of clarity, positive impacts on rural areas have been classified into 21 broader topics such as economy, population or lifestyle (Figure 6). The group 'non-specified positive impacts' covers all the impacts that were not identified as specific impacts. Most common specific impacts of the trends are related to rural economy, markets, farms, organisation and society, food, environment and population. The profiles of impacts on three types of rural areas are quite similar. The impacts related to food are a bit more common in rural areas within functional urban areas compared to other types of rural areas and the impacts related to economy and population in remote rural areas, however.

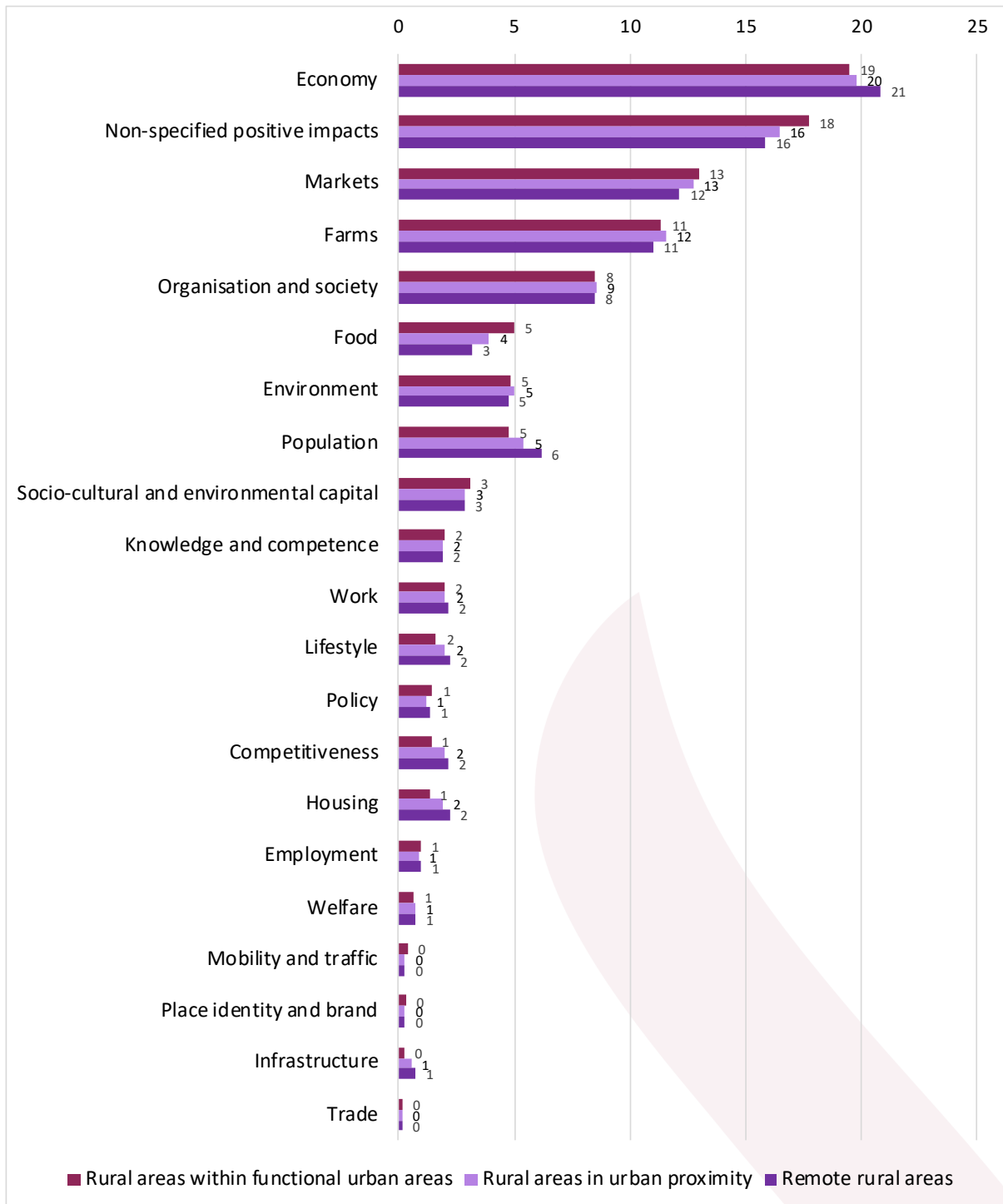


Figure 6: Positive impacts (impact topics) of the trends by type of rural area, %

When trend impacts are classified into more detailed categories of sub-topics, their frequency indicates that the three most frequent positive, specific impacts in all types of rural areas are growth of rural economies in terms of incomes and jobs, entry of new inhabitants and diversification of rural economies (Figure 7). The following three categories are increase of

environmental conservation/reduction of degradation, more equal and inclusive social fabric as well as more demand for (local) rural products and services.

An impact that is more common in rural areas within functional urban areas than in other types of rural areas is genesis of novel producer, prosumer or consumer organisations. In remote rural areas the impacts related to e.g. entry of new inhabitants, new or better services and/or better access to services, and halting of rural decline and preservation of activities have a higher share among impacts than in other types of rural areas. Profiles of the different types of rural regions appear to be quite similar indicating that they can benefit from the trends in a quite similar way.

Apart from that, the frequency of specific impacts does not mean that they are automatically having a proportional impact on the ground. Taking this reservation into account, one can however argue that, current megatrends, trends and weak signals related to European rural areas bring about positive impacts mostly in contributing to rural economic growth and diversification (also based on rising demand for 'local' products), facilitating migration into rural areas, protecting rural environment and, finally, supporting equality and inclusiveness of rural societies.

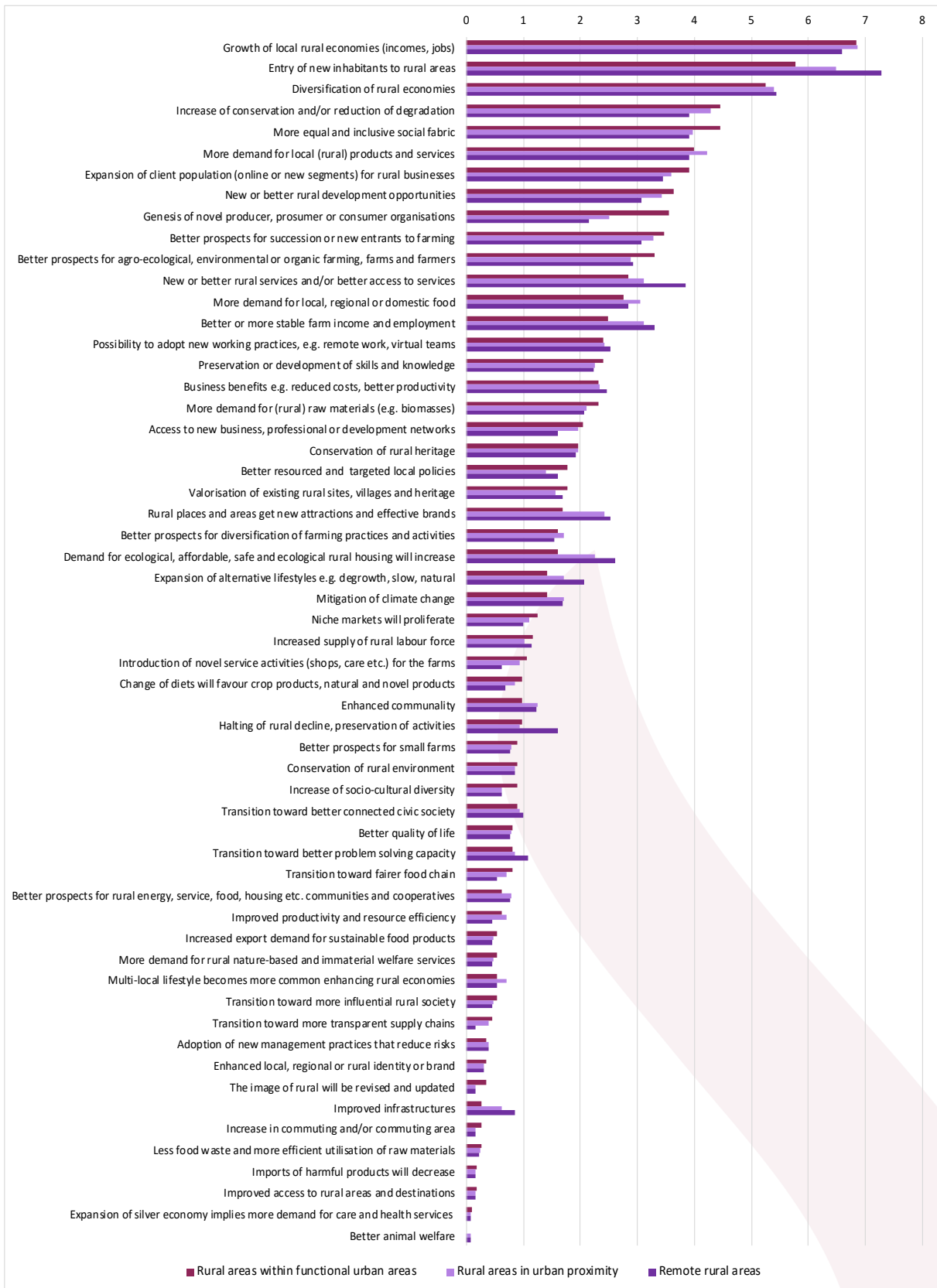


Figure 7: Positive impacts (impact categories) of the trends by type of rural area, %

The very same trends have also many negative impacts on the rural areas. The most common specific impacts (beyond the general negative impacts) are related to organisation and society, environment and farms (Figure 8). Again, the impact profiles of the three different types of rural areas are quite similar. Negative impacts related to the environment rank higher in rural areas within functional urban areas as compared to other types of rural areas, whereas negative impacts related to economy are most common in remote rural areas.

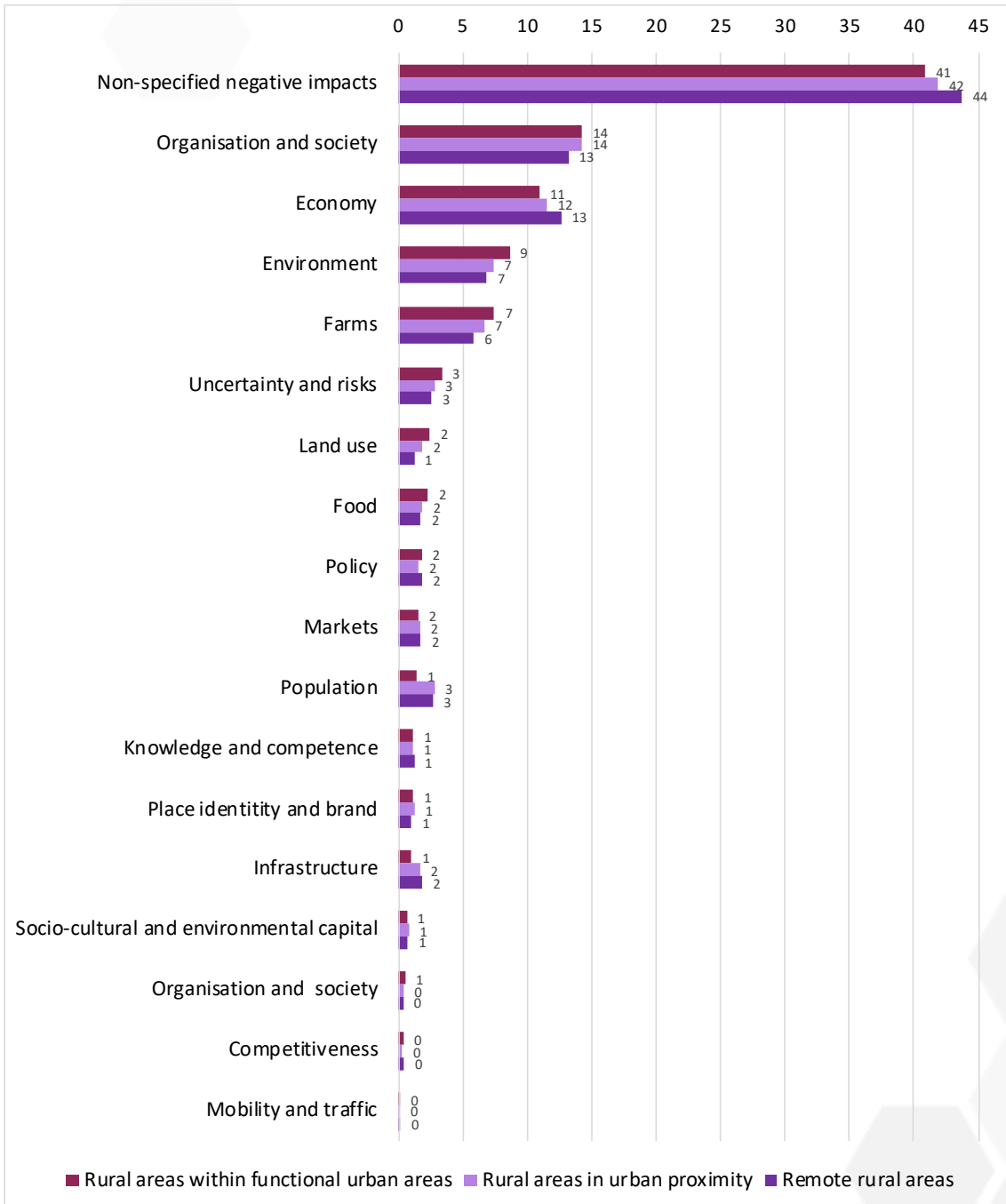


Figure 8: Negative impacts (impact topics) of the trends by type of rural area, %

When looking at the impacts in more detail (Figure 9), two categories stick out as the most frequent ones: increase of environmental degradation or risks and increased frequency of social conflicts. These are followed by the selective loss of jobs in certain sectors of rural economy, increase of production costs and decrease in profitability, increased inequality between regions or actor groups, increased pressure or tendency to cut public spending in disfavours of the rural areas and unequal division of costs and benefits between actors, sectors and regions.

In the case of negative impacts, a relatively high differentiation between impacts on different types of areas is visible. Tendency to cut public spending in disfavour of the rural, enhanced depopulation, deficiencies in services and infrastructures, increased transaction and reorganisation costs and role of regulation rather than markets in guiding production are examples of impacts that are more common in remote rural areas than in urbanised areas or in rural areas close to urban areas.

Acknowledging the already-mentioned limitations for inferring from these data, one could nonetheless sum up these negative impacts as clearly dominated by the risks of environmental and social degradation accompanied by unstable conditions and adverse effects characterizing the contemporary transition of rural economies. These instabilities are accentuated by rising levels of inequality – between both regions and actors – and by reductions in public spending in the already disfavoured areas. These negative impacts of the trends are most acute outside functional urban areas, where depopulation also adds to the difficult situation.

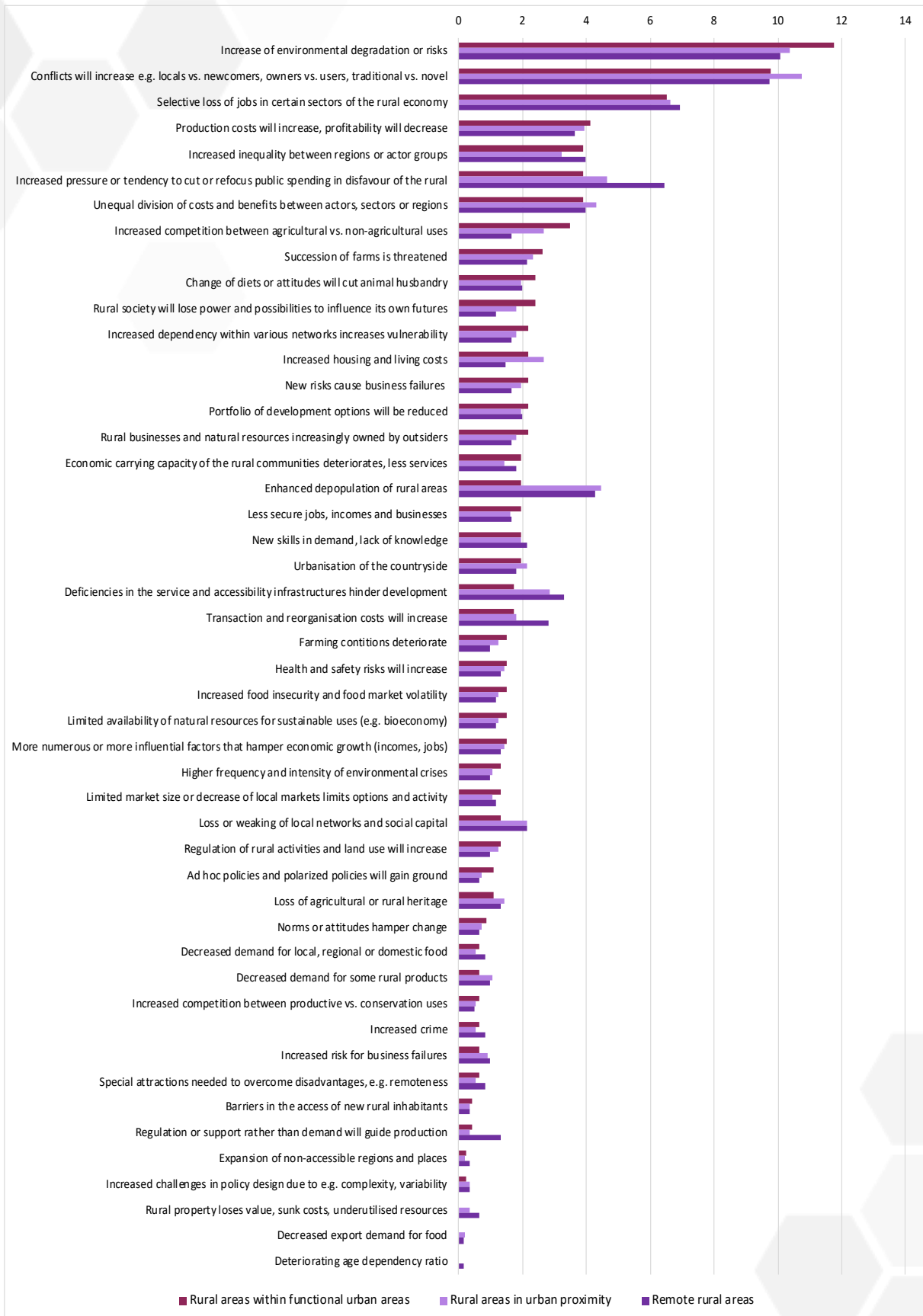


Figure 9: Negative impacts (impact categories) of the trends by type of rural area, %

Different types of trends have different types of impacts on the rural areas. In order to shed more light on this issue, Figure 10 presents the share of positive and negative impacts on different types of rural areas by trend type (megatrend, trend or weak signal). In each case, megatrends bring more of the negative impacts, the impacts of trends are more balanced and weak signals bear the most positive impacts. This happens to the largest extent in remote rural areas where, looking at one indicator, almost 80% of megatrends bring negative impacts.

There are two factors that should be considered when trying to explain this setting. First, most weak signals were gathered not with a targeted search, but rather in more freely conducted searches performed by regional or national teams participating in the project. This means that their results could have been biased toward certain types of weak signals, e.g. more positive ones. Secondly, and perhaps more importantly, many weak signals are in fact responses to the megatrends or trends observed in one's surroundings – potentially primitive countertrends. For instance, degrowth (classified as a weak signal) is a direct response to a number of megatrends or trends (such as climate change or biodiversity loss). Therefore, many weak signals will be naturally more positive, and this could partly explain the observed proportions.

Nevertheless, there are some conclusions that can be drawn here. It seems that while ameliorating the negative impacts of trends or megatrends is a necessity, policy makers should pay much more attention to weak signals if they want to bring about positive change in territorial development of European rural areas. The overall impact of current, established trends suggests that they do not have as much potential to address rural decline. Of course, many weak signals are only potentially valuable for rural areas; probably most of them will fail to deliver any significant change. However, it is crucial to keep trying to support weak signals – even if it means navigating uncharted seas – since it is within them that policy makers have to search for the best responses to the current challenges faced by rural areas. To put it metaphorically: rural problems of tomorrow will not be solved by the trends of yesterday; the question now is how to pick the right tools from a toolbox made up of all the weak signals emerging around us today.

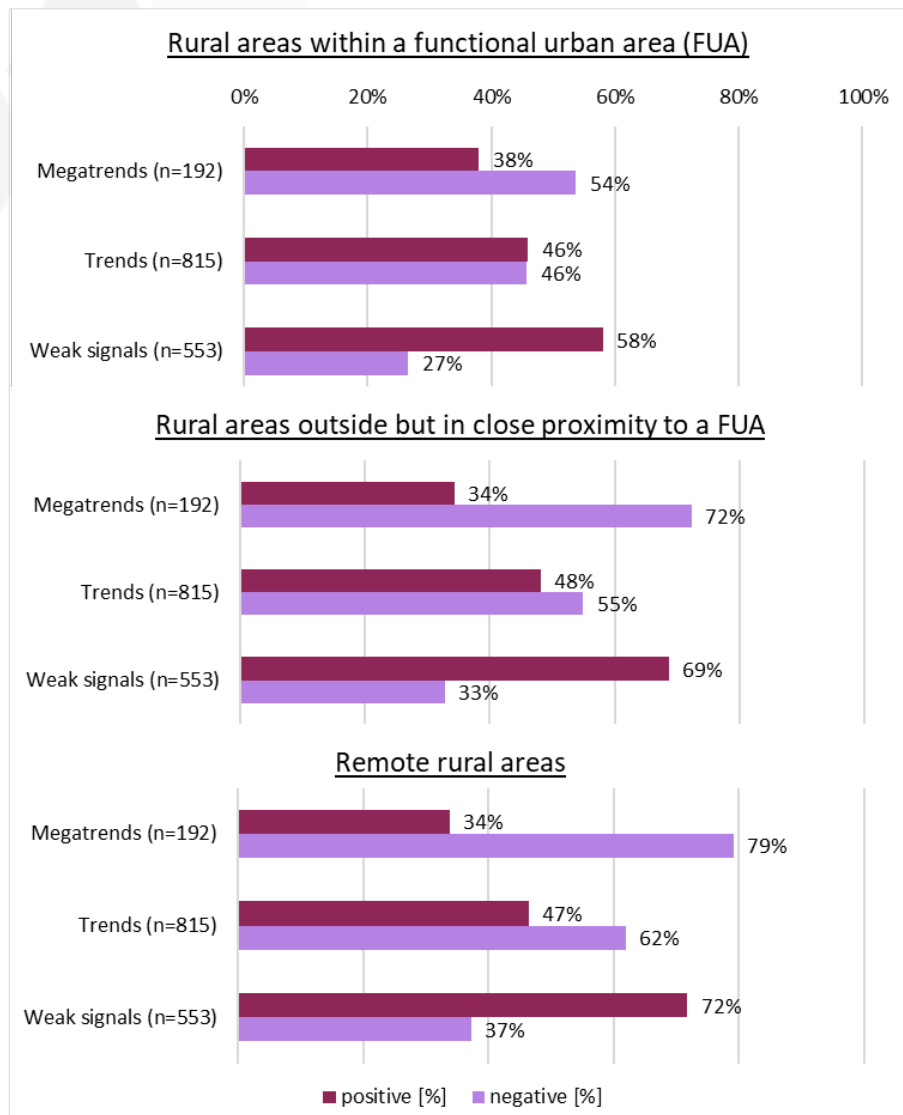


Figure 10: Trends with identified impacts on rural areas by trend type, % of all trend observations

What could be trends to consult while trying to promote positive rural development or rural regeneration in specific types of rural areas? The following analysis provides some insights to answer this question at the abstraction level of trend topics.

Figure 11 shows the share of positive (X-axis) and negative (Y-axis) impacts on rural areas located within functional urban areas for each of the 30 trend topics. The most promising trends are located in the bottom-right square of the chart, where trends with most positive and least negative impacts can be found. A somewhat reassuring conclusion might come from the fact, that for this type of rural areas, almost half of all trend topics are located within this 'preferable' group. The most promising trend topics include: networks and collaboration, food, housing, energy and lifestyle and sustainability transition. This means that it will be relatively easy for rural areas within FUAs (Functional Urban Area) to capitalize on the developments taking place in trends related to these topics. What is also worth noting is that

less than 25% of trend topics exceed the share of 50% of negative impacts; in practice, it suggests that rural areas within FUAs will have to focus on counteracting the negative impacts in relatively few aspects compared to other types of rural areas (although they might still be challenging).

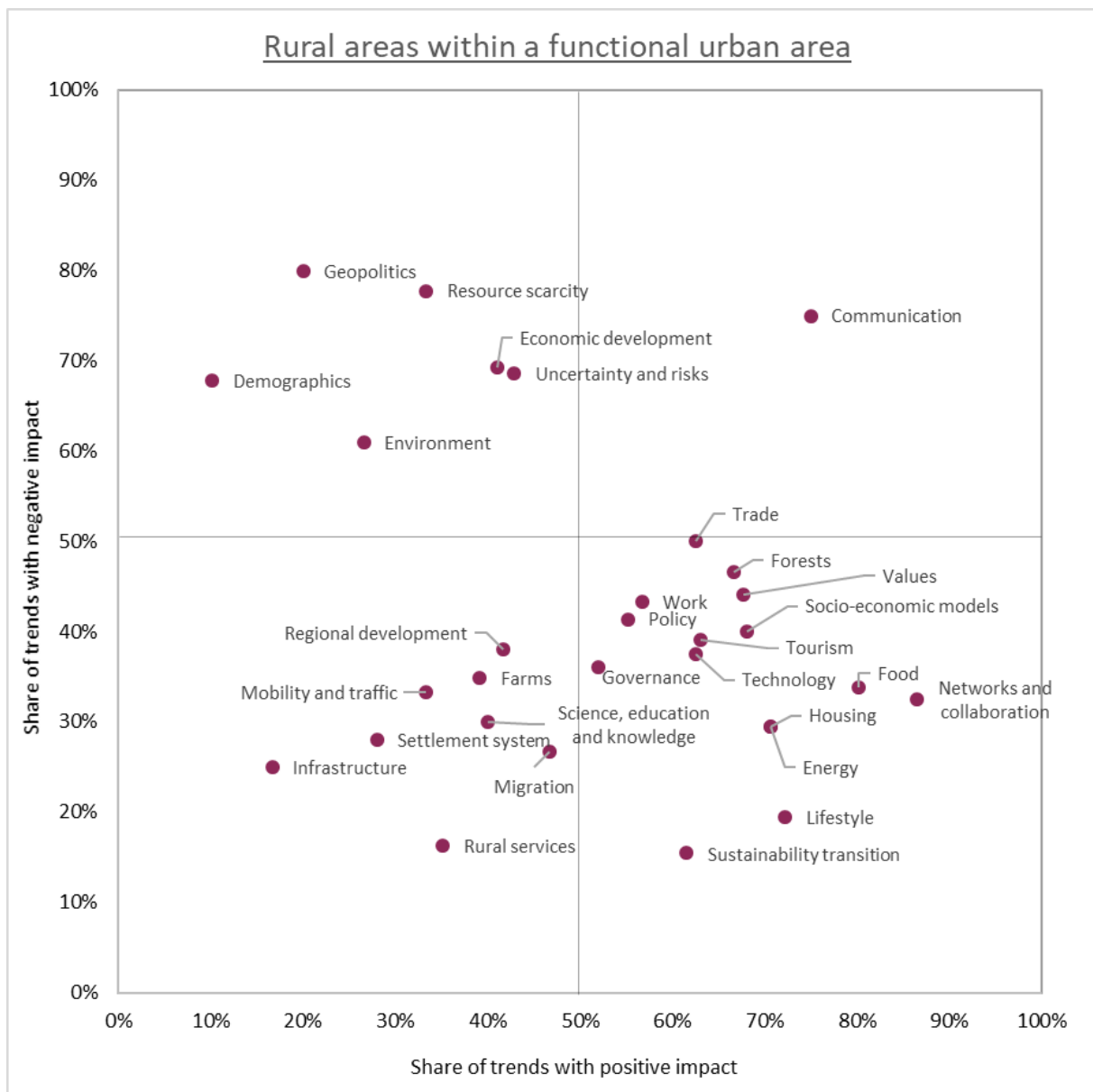


Figure 11: Shares of trends with positive and negative impacts for rural areas within FUAs, % of trend observations under each trend topic

For rural areas located outside but in close proximity to FUAs (Figure 12), the setting is slightly more multifaceted. As in the case of rural areas within FUAs, half of the trend topics are in the 'desirable' group (bottom-right square). However, more than 33% of the trend topics are now

exceeding the 50% share of negative impacts, thus indicating more extensive negative impacts. Moreover, some of those trends – particularly infrastructure, demographics and resource scarcity – are indeed very pronounced, reaching a share of about 90% negative impacts. Those are definitely problems that rural areas outside of FUAs would have to focus on to maintain adaptive capacities. At the same time, trends related to sustainability transition, lifestyle or settlement system can be harnessed relatively safely and expectedly with positive impacts. It has to be noted though, that for most promising trends, the associated risks (i.e. the share of negative impacts) are clearly higher in rural areas in the proximity to FUAs than in rural areas within FUAs. In other words, there might be more uncertainty in the attempts to benefit from those (generally positive) trends, as they can be more easily balanced out by their negative impacts.

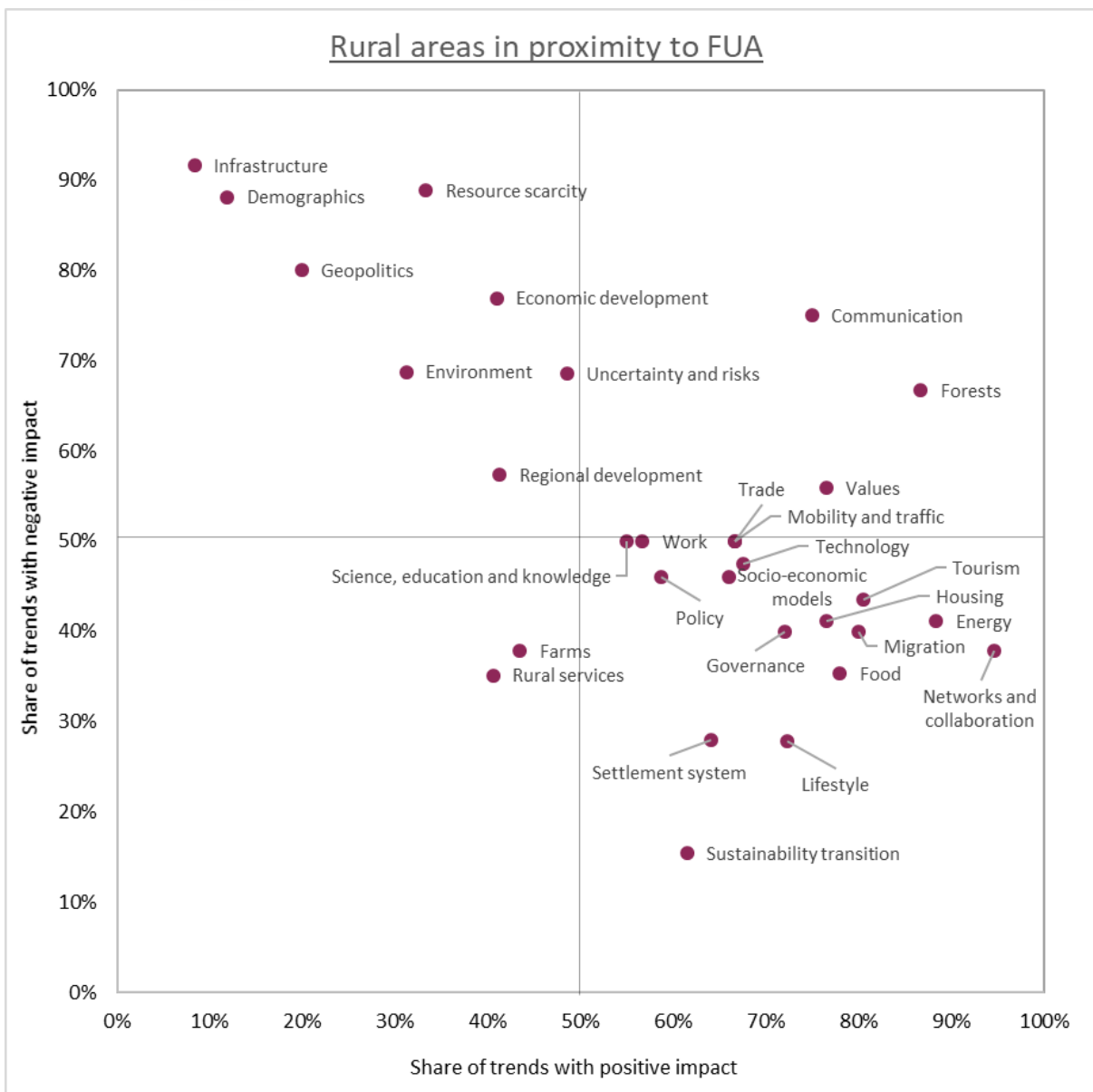


Figure 12: Shares of trends with positive and negative impacts for rural areas in proximity to FUAs, % of trend observations under each trend topic

Finally, in case of remote rural areas the general setting is rather similar, but even more accentuated (Figure 13). The share of trends topics for which more than 50% trends have positive impacts (the right side of the chart) equals 70% and this is the highest share out of the three types of rural areas considered. However, most of the trends are also more risky for the remote rural areas than for the rural areas within or close to FUAs, as positive trend topics are also associated with high shares negative impacts. In conclusion, remote rural areas have more options to harness positive trends related to these topics, but at the same time they will be exposed to more dangers due to negative impacts of those trends. The ‘safest’ positive trends are linked to lifestyle, food and governance. In turn, the least promising trend topics are infrastructure, demographics and resource scarcity (as in the former case).

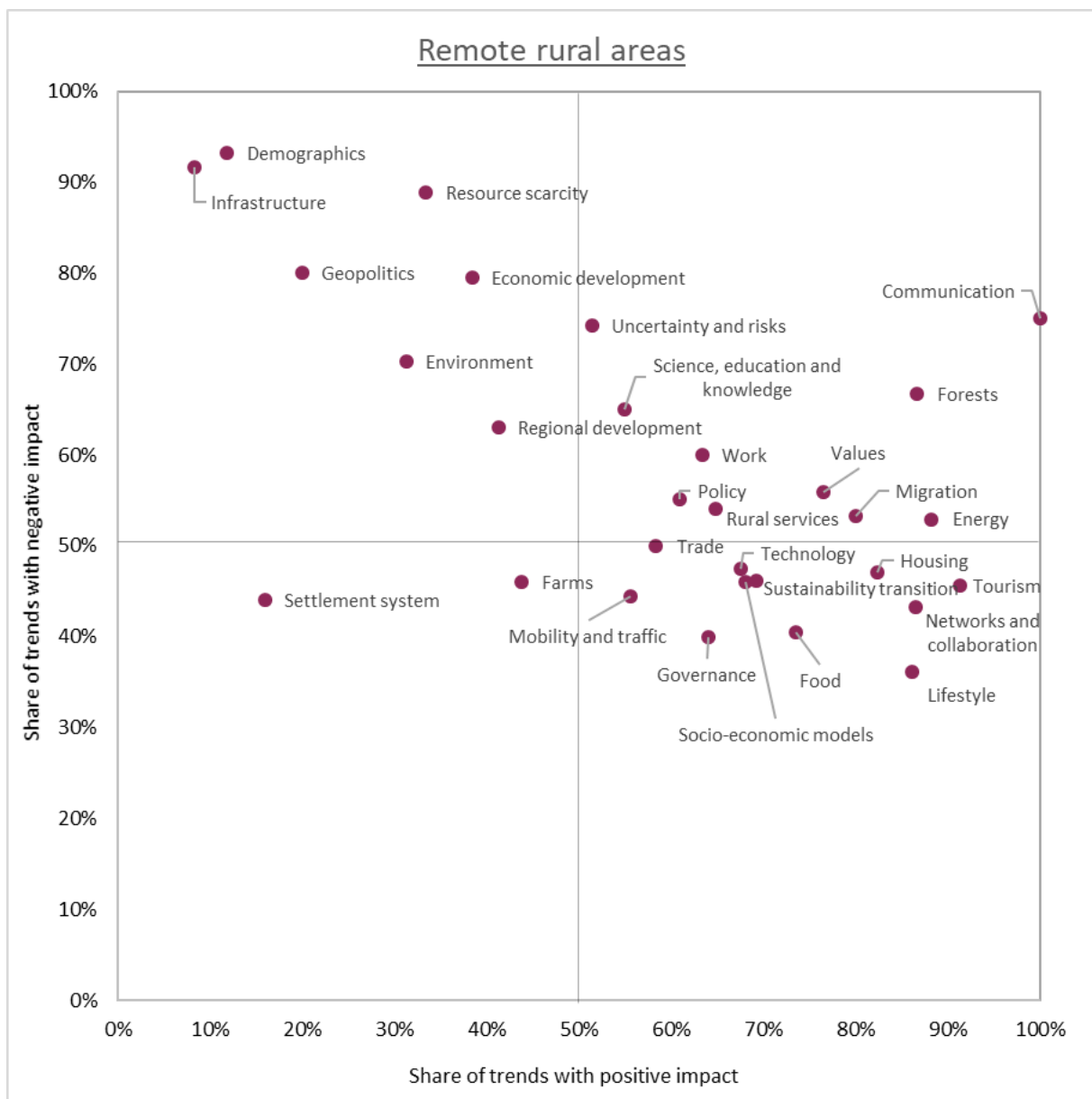


Figure 13: Shares of trends with positive and negative impacts for rural areas in proximity to FUAs, % of trend observations under each trend topic

The trends differ also regarding their impacts within the six themes: gender, social capital, migration, access to land, farm structures and farming perspectives. A summary of the thematic impacts is provided in Table 10. In the table, the top-5 trends within highest frequency of trend observation per type of impact are presented. Obviously, rural decline, migration patterns as well unequal development and inequality have extensive impacts on all topics under consideration. Trends that are on the top-5 list only in one of the thematic impacts are diversification of rural economy (gender), new entrants (migration), resource competition (access to land), community-oriented food systems (access to land) and climate change (farm structures). Compared to the previous trends, these trends have significant focused impacts and are worth of observing while discussing effective policy measures targeted to the targets of impacts of these trends.

Table 11: TOP-5 trends by the target of impact (based on the number of observations)

Target of the impacts	TOP-5 trends by each impact (number of observations)
Gender	Rural decline 18 Diversification of rural economy 15 Migration patterns 14 Unequal development and inequality 14 Young farmers 14
Social capita	Unequal development and inequality 179 Migration patterns 130 Rural decline 127 Farm size 97 Diversification/specialisation of farms 80
Migration	Migration patterns 43 Rural decline 28 Unequal development and inequality 27 New entrants 15 Renewable and bioenergy 13
Access to land	Renewable and bioenergy 15 Rural decline 14 Resource competition 13 Farm size 12 Community-oriented food systems 11
Farm structures	Climate change 29 Migration patterns 29 Practice-oriented food systems 29 Diversification/specialisation of farms 28 Farm size 26
Farming prospects	Rural decline 40 Migration patterns 30 Unequal development and inequality 30 Practice-oriented food systems 29 Diversification/specialisation of farms 27

3.5 Trend cards – promising trends to promote rural regeneration

The large number of trend observations with their drivers and assessed impacts were synthesised in 60 trend cards. Many of these trend cards synthesise several trends. For example, alternative food systems incorporate community-oriented, practice-oriented, diet-oriented and delivery-oriented food systems, agroecology, and regional and local food as well

as aspects of wild food and dual food markets (price and quality), which all feature alternatives to the dominant food regime. Likewise, sustainability transition features also renewable and bioenergy, wood demand, bioeconomy, decarbonisation, eco-efficiency and fossil economy (to be given up). In this way it was possible to observe a bit larger spectrum of effective force fields than just by picked up 60 trends among the 195 trends; actually, about half of the original trends are included in the trend cards.

All the trend cards illustrate trends that have potential to promote rural regeneration at least in some regions, sectors or actor groups. Neither all trends are promising in all regions nor a single trend is promising in all regions. As discussed earlier, many of the important megatrends have primarily adverse impacts on rural areas but they still should be observed. For these trends the perspective in the trend card is the benefits the primarily negative trends could bring about, as all trends have positive and negative impacts on rural phenomena. Further on, also trends evolve and every trend has an end; rural problems of tomorrow will not be solved by the trends of yesterday.

The purpose of the trend cards is to assist rural policy design and development work. In crafting rural development programs and plans, the trend cards might be consulted to find some promising priority topics which are considered possible, feasible and productive in each specific context. The trends presented in the cards are not normative as all of them include positive and negative aspects but rather descriptive and informative tools for the design of alternative futures. In this role they will serve also in RURALIZATION project as the task 4.3 (interaction and evaluation) introduces a series of regional workshops and seminars to discuss the ways to benefit from the trends in various regional contexts.

Next, short versions of the 60 trend cards are presented; they are first listed in Table 12. They feature 10 megatrends, 20 trends and 30 weak signals. The short versions include some basic information of each trend. Full versions of the trend cards may be found in the technical report and in the RURALIZATION trend database. The full versions include more detailed information of the characteristics of the trends, their drivers and their impacts. About half of them also include some statistical information of the quantitative developments related to the trend. It should be observed that no single statistical indicator is able to capture more than some specific aspects of the trend. The statistical manifestations of the trends still assist regions in positioning and benchmarking.

Table 12: The trend cards

No.	Trend name	Trend type
1	Ageing population	Megatrend
2	Alternative food systems	Trend
3	Benefiting from globalisation	Megatrend
4	Benefiting from urbanisation	Megatrend
5	Care services	Weak signal
6	Caring for the environment	Megatrend
7	Changing gender roles	Trend
8	Cheap rural housing and rural second homes	Weak signal
9	Circular economy	Trend
10	Climate change	Megatrend
11	Co-operatives and partnerships	Weak signal
12	Community-based action	Weak signal
13	Counteracting unequal development and rural decline	Megatrend
14	Creative economy	Weak signal
15	Degrowth	Weak signal
16	Digital economy	Trend
17	Diversification of rural economy	Trend
18	Diversification/specialisation of farms	Trend
19	DIY movement	Weak signal
20	e-commerce	Trend
21	Ecovillages	Weak signal
22	Educational farms	Weak signal
23	Food security	Trend
24	Food sovereignty	Weak signal
25	Food tourism	Trend
26	Growing food demand	Megatrend
27	Heritage tourism	Weak signal
28	Infrastructures, accessibility and connectedness of regions	Megatrend
29	Integration of immigrants	Weak signal
30	Local paradigm	Trend
31	Manifestations of new technologies	Trend
32	Meaning and experience economy	Trend
33	Micro- and small units	Weak signal
34	Migration patterns	Megatrend
35	Multi-local living	Weak signal
36	Multifunctional forests	Trend
37	Natural and cultural heritage	Weak signal
38	New governance models	Weak signal
39	Pandemics and epidemics	Weak signal
40	Place branding	Weak signal
41	Policy incidence and effectiveness	Trend
42	Pop-up culture and gig economy	Weak signal
43	Public goods	Weak signal
44	Remote work	Trend
45	Resilience	Weak signal
46	Rural artisans	Weak signal
47	Rural business succession	Trend
48	Rural energy communities	Weak signal
49	Rural hubs	Weak signal
50	Rural in the social media	Trend
51	Rural lifestyle	Weak signal
52	Rural tourism	Trend
53	Search for better quality of life	Weak signal
54	Self-sufficiency	Weak signal
55	Sharing economy	Weak signal
56	Smart solutions in rural space	Weak signal
57	Social enterprises and entrepreneurs	Weak signal
58	Sustainability transition	Megatrend
59	Technology-intensive farming	Trend
60	Transparency of the food system	Trend

1 AGEING POPULATION



Average age of the population is quite high and increasing in many rural regions, which increases the demand of targeted services

- ▣ **Type:** megatrend
- ▣ **Drivers:** demographic change – globalisation – economic growth – skills and competences, human capital
- ▣ **Impacts:** expansion of silver economy implies more demand for care and health services – structural evolution of farms will be hampered or slow down, e.g. succession, land use, resources – migration from rural to urban areas will increase

2 ALTERNATIVE FOOD SYSTEMS



Diverse community-, delivery-, diet- and practice-oriented food systems challenge the dominant food regime

- ▣ **Type:** trend
- ▣ **Drivers:** environmental awareness – availability and demand for local, healthy, sustainable food products
- ▣ **Impacts:** expansion of client population (online or new segments) for rural businesses – genesis of novel producer, prosumer or consumer organisations – prospects for non-mainstream farms will improve, e.g. local, ecological, educational, CSA, care, energy

3 BENEFITING FROM GLOBALISATION



Finding ways to benefit from open markets and specialisation while acknowledging various adverse effects and risks of interdependency

- ▣ **Type:** megatrend
- ▣ **Drivers:** globalisation – food demand and supply – network-based governance – international trade rules
- ▣ **Impacts:** increased export demand for sustainable food products – large farms become more and more dominant, e.g. productivity, exports – mixed farming prospects, positive or negative, depending on the type of farm, business, region etc.

4 BENEFITING FROM URBANISATION



Increase of cities in terms of people and land use will make 'rural' more rare and valuable but challenge rural economy and autonomy

- ▣ **Type:** megatrend
- ▣ **Drivers:** globalisation – population growth – demographic change – economies of scale – urban sprawl
- ▣ **Impacts:** demand for ecological, affordable, safe and ecological rural housing will increase – more demand for local (rural) products and services – entry of new inhabitants to rural areas – rural places and areas get new attractions and effective brands


5 CARE SERVICES



Diversified set of activities with many rural and novel models: green care, homecare, telemedicine, mobile services

- ▣ **Type:** weak signal
- ▣ **Drivers:** scarcity of public funds – bottom-up approach, empowerment – internet – depopulation – pandemics
- ▣ **Impacts:** more equal and inclusive social fabric – growth of rural economies (incomes, jobs) – better (rural) employment opportunities for women – migration from rural to urban areas will decrease

6 CARING FOR THE ENVIRONMENT



Ideologies, policies and practices to reduce environmental degradation, to safeguard earth systems and to improve the status of the environment

- ▣ **Type:** megatrend
- ▣ **Drivers:** climate change – environmental degradation, pollution and risks – ecological awareness – urbanisation
- ▣ **Impacts:** mitigation of climate change – better resourced and targeted local policies – increase of environmental conservation and/or reduction of degradation – prospects for non-mainstream farms will improve, e.g. local, ecological, educational, CSA, care, energy

7 CHANGING GENDER ROLES



Evolving traditional and modern gender roles in private life and working life

- ▣ **Type:** trend
- ▣ **Drivers:** communality, solidarity, equality – farming traditions – attractiveness of farming, lack of successors
- ▣ **Impacts:** more equal and inclusive social fabric – enhanced communality – migration from urban to rural areas will increase – empowerment – more balanced gender structure – increase in the stock of social capital

8 CHEAP RURAL HOUSING AND RURAL SECOND HOMES



Affordable houses, second homes or holiday houses close to nature and away from crowds

- ▣ **Type:** weak signal
- ▣ **Drivers:** availability of jobs – technological development – pandemics – economic growth – urbanisation
- ▣ **Impacts:** entry of new inhabitants to rural areas – demand for ecological, affordable and safe rural housing will increase – growth of local rural economies (incomes, jobs) – migration from urban to rural areas will increase – demand for land will increase for residential purposes


9 CIRCULAR ECONOMY



Economic model based on recycling, reuse, sharing and repair of previously extracted materials

- ▣ **Type:** trend
- ▣ **Drivers:** ecological awareness – scarcity of natural resources – opportunities and entrepreneurship
- ▣ **Impacts:** increase in environmental conservation and/or reduction of degradation – diversification of rural economies – prospects for non-mainstream farms will improve, e.g. local, ecological, energy – new ideas and innovations

10 CLIMATE CHANGE



Multifaceted phenomenon with progressive impacts on food production, land use, policies and lifestyles

- ▣ **Type:** megatrend
- ▣ **Drivers:** industrialisation – fossil economy – population growth – mechanisation and industrialisation of farming
- ▣ **Impacts:** more demand for (rural) raw materials (e.g. biomasses) – demand for ecological, affordable and safe rural housing will increase – prospects for non-mainstream farms will improve, e.g. local, ecological, energy – scarcity for usable land will increase

11 CO-OPERATIVES AND PARTNERSHIPS



Organisation models to reach economies of scale and benefits of specialisation and co-operation or to facilitate mutual interests

- ▣ **Type:** weak signal
- ▣ **Drivers:** viability of farm business, productivity – internet – globalisation – problems with access to markets
- ▣ **Impacts:** halting of rural decline, preservation of activities – genesis of novel producer, prosumer or consumer organisations – new ways to or more productive interaction – positive prospects for specific types of farms, farm businesses or farming regions

12 COMMUNITY-BASED ACTION



Community-based initiatives and actions serve shared interests, capacities, identity, participation and communality in many domains

- ▣ **Type:** weak signal
- ▣ **Drivers:** bottom-up approach, empowerment – community co-operation and development – financial constraints
- ▣ **Impacts:** more equal and inclusive social fabric – genesis of novel producer, prosumer and consumer organisations – new ways to or more productive interaction – empowerment – prospects for non-mainstream farms will improve, e.g. local, ecological, energy

13 COUNTERACTING UNEQUAL DEVELOPMENT AND RURAL DECLINE



Efforts to halt the vicious circle (less population, less services, less infrastructure, less population etc.) which marginalises rural areas

- ▣ **Type:** megatrend
- ▣ **Drivers:** market liberalisation – demographic change – urbanisation – globalisation – decline of public services
- ▣ **Impacts:** more equal and inclusive social fabric – entry of new inhabitants to rural areas – growth of rural economies (incomes, jobs) – halting of rural decline, preservation of activities – improved infrastructures – new or better rural services and/or better access to services

14 CREATIVE ECONOMY



Nests of artists, creative work and creative class in the countryside

- ▣ **Type:** weak signal
- ▣ **Drivers:** internet – globalisation – slow and natural lifestyle
- ▣ **Impacts:** possibility to adopt new working practices, e.g. remote work, virtual teams – diversification of rural economies – demand for ecological, affordable and safe rural housing will increase – diversification of social capital – migration from urban to rural areas will increase

15 DEGROWTH



Antithesis to economic growth paradigm; emphasis in social and ecological well-being

- ▣ **Type:** weak signal
- ▣ **Drivers:** new modes of work e.g. flexible, freelance, project – environmental degradation, pollution and risks
- ▣ **Impacts:** expansion of alternative lifestyles, e.g. degrowth, slow, natural – more demand for rural nature-based and immaterial welfare services – more demand for local, regional or domestic food – migration from urban to rural areas will increase

16 DIGITAL ECONOMY



Economic activities facilitated by digital technologies and tools; provides productivity gains and platforms for new economic activities

- ▣ **Type:** trend
- ▣ **Drivers:** technological development – digitalisation – internet – globalisation
- ▣ **Impacts:** business benefits (reduced costs, better productivity) – new or better rural services and/or better access to services – possibility to adopt new working practices, e.g. remote work, virtual teams – better prospects for both small and large farms

17 DIVERSIFICATION OF RURAL ECONOMY



Many rural regions have diversified economies and the importance of non-agricultural activities has increased

- ▣ **Type:** trend
- ▣ **Drivers:** digitalisation – empowerment of services – evolution of specific markets
- ▣ **Impacts:** diversification of rural economies – growth of rural economies (incomes, jobs) – new or better rural services and/or better access to services – better (rural) employment opportunities for women – migration from urban to rural areas will increase

18 DIVERSIFICATION/SPECIALISATION OF FARMS



Diversification (on-farm and off-farm) and specialisation are the two main farm business and livelihood strategies

- ▣ **Type:** trend
- ▣ **Drivers:** Common Agricultural Policy (CAP) – empowerment of services – ecological awareness
- ▣ **Impacts:** diversification of rural economies – better or more stable farm income and employment – prospects for non-mainstream farms will improve, e.g. local, ecological, educational, CSA, care, energy – demand for land will increase for 'other' purposes, e.g. energy

19 DIY MOVEMENT



Do-It-Yourself is a polymorphic phenomenon featuring home crafting, repair, on-demand development, self-production, bricolage and community-supported innovations

- ▣ **Type:** weak signal
- ▣ **Drivers:** technological development – bottom-up approach, empowerment – diversification of lifestyles
- ▣ **Impacts:** preservation or development of skills and knowledge – valorisation of existing rural sites, villages and heritage – better prospects for agro-ecological, environmental or organic farming, farms and farmers

20 e-COMMERCE



Online markets remove the need for a physical presence and allow reach of distant customers

- ▣ **Type:** trend
- ▣ **Drivers:** availability and demand for local, healthy, sustainable food products – internet – digitalisation
- ▣ **Impacts:** expansion of client population (online or new segments) for rural businesses – positive prospects for specific types of farms, farm businesses or farming regions – new ways to or more productive interaction – migration from urban to rural areas will increase



21 ECOVILLAGES



Settlement communities aiming at integration of all four dimensions of sustainable development: economic, social, environmental and cultural

- ▣ **Type:** weak signal
- ▣ **Drivers:** ecological awareness – slow, peaceful, natural lifestyle – social discontent, lack of social inclusion
- ▣ **Impacts:** new or better rural development opportunities – migration from urban to rural areas will increase – new organised opportunities for access to land – prospects for non-mainstream farms will improve, e.g. local, ecological, educational, CSA, care, energy



22 EDUCATIONAL FARMS



Co-operation between farms and schools contributes to demonstrative and participatory education about food, environment, technology etc.

- ▣ **Type:** weak signal
- ▣ **Drivers:** availability and demand for local, healthy, sustainable food products – attractiveness of farming
- ▣ **Impacts:** introduction of novel services activities (shops, care etc.) for the farms – entry of new inhabitants to rural areas – prospects for non-mainstream farms will improve, e.g. local, ecological, educational, CSA, care, energy



23 FOOD SECURITY



Availability of food for all at all times is constantly challenged by the weather, diseases, crises, markets, policies and inequality

- ▣ **Type:** trend
- ▣ **Drivers:** coronavirus pandemic, pandemics – new governance modes and models – climate change – crises
- ▣ **Impacts:** genesis of novel producer, prosumer and consumer organisations – better or more stable farm income and employment – adoption of new management practices that reduce risks – more demand for local, regional or domestic food



24 FOOD SOVEREIGNTY



Antithesis to corporate food regime; emphasis in culturally embedded food systems governed by producers and consumers

- ▣ **Type:** weak signal
- ▣ **Drivers:** environmentalism – communality, solidarity, equality – bottom-up approach, empowerment
- ▣ **Impacts:** diversification of rural economies – better prospects for agro-ecological, environmental or organic farming, farms and farmers – more demand for local, regional or domestic food – new organised opportunities for access to land



25 FOOD TOURISM



Touristic activities organised around food: routes, tours, festivals, visits, cookery experiences, local specialties etc.

- 📌 **Type:** trend
- 📌 **Drivers:** availability and demand for local, healthy, sustainable food products – slow, natural lifestyle
- 📌 **Impacts:** diversification of rural economies – rural places and areas get new attractions and effective brands – growth of rural economies (incomes, jobs) – conservation of rural heritage – migration from urban to rural areas will increase



26 GROWING FOOD DEMAND



Global food demand increases and is expected to increase further along with population growth

- 📌 **Type:** megatrend
- 📌 **Drivers:** food demand and supply – Common Agricultural Policy (CAP) – globalisation – population growth
- 📌 **Impacts:** increased export demand for sustainable food products – better or more stable farm income and employment – demand for land will increase for farming and home gardening purposes – large farms become more and more dominant, e.g. productivity, exports



27 HERITAGE TOURISM



Historical attractions based on nature, industries, buildings, milieus, culture, food etc.

- 📌 **Type:** weak signal
- 📌 **Drivers:** low-cost travel – preservation of heritage – community co-operation and development
- 📌 **Impacts:** growth of local rural economies (incomes, jobs) – valorisation of existing rural sites, villages and heritage – conservation of rural heritage – migration from urban to rural areas will increase – positive prospects for specific types of farms, businesses or farming regions



28 INFRASTRUCTURES, ACCESSIBILITY AND CONNECTEDNESS OF REGIONS



Availability and quality of roads, railways, water, electricity, telecommunications etc. necessary for settlements and economic activities

- 📌 **Type:** megatrend
- 📌 **Drivers:** decline or poor status of public services and infrastructures – rural and regional policies
- 📌 **Impacts:** new or better rural services and/or better access to services – improved infrastructures – improved access to rural areas and destinations – multi-local lifestyle becomes more common enhancing rural economies

29 INTEGRATION OF IMMIGRANTS



Integration of immigrant to local labour market and civic society promotes inclusive social fabric and the possibility to make a societal contribution

- ▣ **Type:** weak signal
- ▣ **Drivers:** migration patterns – community, solidarity, equality – conflicts and governance failures
- ▣ **Impacts:** more equal and inclusive social fabric – diversification of rural economies – increase in the socio-cultural diversity – entry of new inhabitants to rural areas – migration from urban to rural areas will increase

30 LOCAL PARADIGM



Territorial, holistic and integrative approach to promote decentralisation and local autonomy, governance, media, business, specialities etc.

- ▣ **Type:** trend
- ▣ **Drivers:** globalisation – availability of local, healthy, sustainable food products – social discontent
- ▣ **Impacts:** new or better rural development opportunities – new or better rural services and/or better access to services – more demand for local (rural) products and services – enhanced communality – new ways to or more productive interaction

31 MANIFESTATIONS OF NEW TECHNOLOGIES



Artificial intelligence, automation, robotics, blockchain, big data, virtual and augmented reality, internet of things etc. and their applications

- ▣ **Type:** trend
- ▣ **Drivers:** technological development – digitalisation – globalisation – internet
- ▣ **Impacts:** growth of local rural economies (incomes, jobs) – improved infrastructures – business benefits e.g. reduced costs, better productivity – new or better rural services and/or access to services – migration from urban to rural areas will increase

32 MEANING AND EXPERIENCE ECONOMY



Markets of stories, meanings, experiences, roles, identities and uniqueness may supersede traditional livelihood and business conceptions

- ▣ **Type:** trend
- ▣ **Drivers:** urbanisation – individualism – viability of farm business, productivity – diversification of lifestyles
- ▣ **Impacts:** expansion of alternative lifestyles, e.g. degrowth, slow, natural – introduction of novel service activities (shops, care etc.) for the farms – more demand for local (rural) products and services – expansion of client population (online or new segments) for rural businesses



33 MICRO- AND SMALL UNITS



Small farms, businesses, neighbourhoods and civic organisations offer various benefits: affordability, familiarity, flexibility, autonomy, participation

- ▣ **Type:** weak signal
- ▣ **Drivers:** globalisation – evolution of specific markets – technological development – ecological awareness
- ▣ **Impacts:** better prospects for small farms – enhanced communality – entry of new inhabitants to rural areas – migration from urban to rural areas will increase – increase in the stock of social capital



34 MIGRATION PATTERNS



National and international migration flows modify both the point of departure and the point of arrival

- ▣ **Type:** megatrend
- ▣ **Drivers:** liberal lifestyle – globalisation – search for own lifestyle and quality of life – climate change – urbanisation
- ▣ **Impacts:** migration from urban to rural areas will increase – migration from rural to urban areas will increase – decrease/increase in the stock of social capital – diversification of social capital – mixed impact on farming prospects depending on the type of the farm, business, region etc.



35 MULTI-LOCAL LIVING



Seasonal or periodic living in urban and rural residences

- ▣ **Type:** weak signal
- ▣ **Drivers:** slow, peaceful, natural lifestyle – financial constraints – digitalisation – urbanisation – globalisation
- ▣ **Impacts:** more demand for local (rural) products and services – diversification of rural economies – migration from urban to rural areas will increase – diversification of social capital – demand for ecological, affordable and safe rural housing will increase



36 MULTIFUNCTIONAL FORESTS



Use of forests for economic, social, environmental and cultural purposes: timber, fuel, food, health, recreation, conservation, carbon sink, hiking, education

- ▣ **Type:** trend
- ▣ **Drivers:** globalisation – non-rural policies (fiscal, foreign, global, general etc.) – environmental degradation
- ▣ **Impacts:** increase in the environmental conservation and/or reduction in the degradation – growth of local rural economies (incomes, jobs) – mitigation of climate change – demand for land will increase for 'other' purposes, e.g. energy, plants, recreation, conservation

37 NATURAL AND CULTURAL HERITAGE



Natural and cultural heritage carry on valuable environments, fabrics and artefacts from the past which contribute to identity and attractiveness of places

- ▣ **Type:** weak signal
- ▣ **Drivers:** preservation of heritage – farming traditions – individualism – ecological awareness
- ▣ **Impacts:** conservation of rural heritage – enhanced local, regional or rural identity or brand – valorisation of existing rural sites, villages and heritage – maintenance or reproduction of social capital

38 NEW GOVERNANCE MODELS



The challenge of finding an appropriate governance model for contradictory topics related to regions, use of land and natural resources, advocacy etc.

- ▣ **Type:** weak signal
- ▣ **Drivers:** urbanisation – urban sprawl – protectionistic policies and actions – socio-cultural evolution
- ▣ **Impacts:** better prospects for succession or new entrants to farming – better resourced and targeted local policies – transition toward better problem solving capacity – increase of environmental conservation and/or reduction of degradation

39 PANDEMICS AND EPIDEMICS



More frequent or more dangerous epidemic diseases would affect whole societies and could increase preference for safe rural living environments

- ▣ **Type:** weak signal
- ▣ **Drivers:** coronavirus pandemic, pandemics – scarcity of natural resources – environmental degradation
- ▣ **Impacts:** entry of new inhabitants to rural areas – demand for ecological, affordable and safe rural housing will increase – more demand for local, regional or domestic food – more demand for local (rural) products and services

40 PLACE BRANDING



Development, management and communication of images, affections and brands related to specific places

- ▣ **Type:** weak signal
- ▣ **Drivers:** problems with access to markets – localism, local paradigm – internet – market liberalisation
- ▣ **Impacts:** rural places and areas get new attractions and effective brands – new or better rural development opportunities – entry of new inhabitants to rural areas – expansion of client population (online or new segments) for rural businesses

41 POLICY INCIDENCE AND EFFECTIVENESS



The challenge of effective policy design and delivery in service of several objectives while also facing large diversity of contexts

- ▣ **Type:** trend
- ▣ **Drivers:** Common Agricultural Policy (CAP) – lack of effective governance strategies – rural and regional policies
- ▣ **Impacts:** increase of environmental conservation and/or reduction of degradation – conservation of rural environment – halting of rural decline, preservation of activities – better resourced and targeted local policies – conflicts related to land use and access will increase

42 POP-UP CULTURE AND GIG ECONOMY



Pop-up restaurants, shops, cinemas, art projects, camps, charity events etc. and short-term work engagements or stays

- ▣ **Type:** weak signal
- ▣ **Drivers:** evolving values and attitudes – globalisation – digitalisation – new modes of work e.g. flexible, freelance
- ▣ **Impacts:** growth of local rural economies (incomes, jobs) – possibility to adopt new working practices, e.g. remote work, virtual teams – problems in the exploitation of existing social capital, e.g. conflicts – positive prospects for specific types of farms, farm businesses or regions


43 PUBLIC GOODS



Non-excludable and non-rivalrous goods open to all: national security, air, landscape, public media, many ecosystem services

- ▣ **Type:** weak signal
- ▣ **Drivers:** environmental degradation, pollution and risks – ecological awareness – urbanisation
- ▣ **Impacts:** rural places and areas get new attractions and effective brands – diversification of rural economies – increase of environmental conservation and/or reduction of degradation – prospects for non-mainstream farms will improve, e.g. local, ecological, CSA, energy

44 REMOTE WORK



Working from outside of a traditional office environment e.g. from home or in rural hubs, which saves commuting time and the environment

- ▣ **Type:** trend
- ▣ **Drivers:** internet – increased leisure time, work-leisure balance – skills and competences – human capital
- ▣ **Impacts:** possibility to adopt new working practices, e.g. remote work, virtual teams – growth of local rural economies (incomes, jobs) – increase of environmental conservation and/or reduction of degradation – migration from urban to rural areas will increase



45 RESILIENCE



Capability of various systems (e.g. food, energy) to meet their purpose in all situations asks for maintenance of diversity and adaptive capacities

- ▣ **Type:** weak signal
- ▣ **Drivers:** ecological awareness – new governance modes and models – environmental degradation – crises
- ▣ **Impacts:** mitigation of climate change – adoption of new farm management practices that reduce risks – better prospects for agro-ecological, environmental or organic farming, farms and farmers – less food waste and more efficient utilisation of raw materials



46 RURAL ARTISANS



Artisanal and craft production of food, beverages and traditional products maintain small businesses and vitality of the rural areas, skills and cultures

- ▣ **Type:** weak signal
- ▣ **Drivers:** viability of farm business, productivity – globalisation – localism, local paradigm – internet
- ▣ **Impacts:** growth of local rural economies (incomes, jobs) – valorisation of existing rural sites, villages and heritage – rural places and areas get new attractions and effective brands – expansion of client population (online or new segments) for rural businesses



47 RURAL BUSINESS SUCCESSION



Large share of farmers and rural entrepreneurs will retire soon providing opportunities for young people to take over their businesses

- ▣ **Type:** trend
- ▣ **Drivers:** economic problems, e.g. low incomes, low profitability, price variations – attractiveness of farming
- ▣ **Impacts:** better prospects for succession or new entrants to farming – better prospects for both small and large farms, e.g. demand, new outputs, technology – diversification of social capital



48 RURAL ENERGY COMMUNITIES



Community owned wind farms, solar energy systems and bioenergy plants contribute to multidimensional sustainable development

- ▣ **Type:** weak signal
- ▣ **Drivers:** climate change – ecological awareness – limited energy resources and sources – localism, local paradigm
- ▣ **Impacts:** growth of local rural economies (incomes, jobs) – diversification of rural economies – more demand for (rural) raw materials (e.g. biomasses) – better prospects for rural energy, service, food, housing etc. communities and cooperatives

49 RURAL HUBS



Multi-purpose spaces offering coworking and meeting facilities, broadband access, workstations, activity arenas and possibly some business services

- ▣ **Type:** weak signal
- ▣ **Drivers:** decline or poor status of private services – internet – depopulation – community-operation
- ▣ **Impacts:** possibility to adopt new working practices, e.g. remote work, virtual teams – improved infrastructures – diversification of rural economies – new or more extensive networks – new ways to or more productive interaction

50 RURAL IN THE SOCIAL MEDIA



Presence, visibility and profiling of the rural activities, actors, places and communities in the social media platforms

- ▣ **Type:** trend
- ▣ **Drivers:** digitalisation – internet – diversification of lifestyles
- ▣ **Impacts:** expansion of client population (online or new segments) for rural businesses – rural places and areas get new attractions and effective brands – entry of new inhabitants to rural areas – increase in the stock of social capital


51 RURAL LIFESTYLE



Rural idyll, space, nature, peace, animals, housing, safety, traditions and communities contribute to social welfare and attract new residents

- ▣ **Type:** weak signal
- ▣ **Drivers:** slow, peaceful, natural lifestyle – nature capital (landscape, biodiversity etc.) – health concerns
- ▣ **Impacts:** rural places and areas get new attractions and effective brands – diversification of rural economies – increase in socio-cultural diversity – growth of local rural economies (incomes, jobs) – migration from urban to rural areas will increase

52 RURAL TOURISM



Touristic activities, resorts, routes and attractions in the rural environment: farm holidays, festivals, hiking, fishing, hunting, horseback adventures etc.

- ▣ **Type:** trend
- ▣ **Drivers:** slow, peaceful, natural lifestyle – new types of travelling – internet
- ▣ **Impacts:** more demand for local (rural) products and services – rural places and areas get new attractions and effective brands – growth of local rural economies (incomes, jobs) – new ways to or more productive interaction



53 SEARCH FOR BETTER QUALITY OF LIFE



Stress, crime, pollution, loneliness and other discomforts drive people to search for alternative pathways to better life

- ▣ **Type:** weak signal
- ▣ **Drivers:** population growth – diversification of lifestyles – top-down, centralised governance – stress
- ▣ **Impacts:** halting of rural decline, preservation of activities – demand for ecological, affordable and safe rural housing will increase – expansion of alternative lifestyles, e.g. degrowth, slow, natural – increase in the stock of social capital



54 SELF-SUFFICIENCY



Better self-sufficiency at various levels (individual, household, farm, region, nation, Europe) in food, energy, competences etc. increases costs but reduces risks

- ▣ **Type:** weak signal
- ▣ **Drivers:** insecurity-motivated governance – socio-cultural evolution – conflicts and governance failures
- ▣ **Impacts:** better prospects for diversification of farming practices – entry of new inhabitants to rural areas – more demand for local, regional or domestic food – diversification of social capital – more diversified farm structures arising from risks, policies, partnerships etc.



55 SHARING ECONOMY

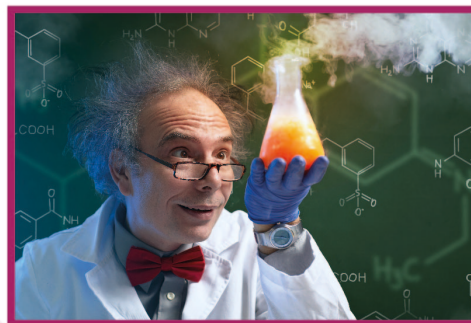


Modern non-profit or commercial sharing economy is based on internet platforms and allows limited and low-cost access to many resources: rooms, vehicles, tools

- ▣ **Type:** weak signal
- ▣ **Drivers:** internet – digitalisation – ethical concerns and priorities – community co-operation and development
- ▣ **Impacts:** business benefits, e.g. reduced costs, better productivity – more equal and inclusive social fabric – new organised opportunities for access to land – new or more extensive networks – mitigation of climate change – generally positive impacts for farming prospects



56 SMART SOLUTIONS IN RURAL SPACE



Maintaining capacity for continuous innovation is essential in rural areas to bring up 'smart' villages, power grids, schools, machines, land use practices etc.

- ▣ **Type:** weak signal
- ▣ **Drivers:** internet – socio-cultural evolution – digitalisation – globalisation – technological development
- ▣ **Impacts:** preservation or development of skills and knowledge – access to new business, professional or development networks – better quality of life – better prospects for rural energy, service, food, housing etc. communities and cooperatives

57 SOCIAL ENTERPRISES AND ENTREPRENEURS



Rural areas provide fabrics for many kinds of social enterprises to improve health, rehabilitation and social inclusiveness

- ▣ **Type:** weak signal
- ▣ **Drivers:** agri-environmental and environmental policies – opportunities and entrepreneurship – unemployment
- ▣ **Impacts:** new or better rural development opportunities – new or better rural services and/or access to services – introduction of novel service activities (shops, care etc.) for the farms – more equal and inclusive social fabric

58 SUSTAINABILITY TRANSITION



Transformation towards more sustainable production and consumption especially in food, energy, construction and mobility systems; giving up fossil economy

- ▣ **Type:** megatrend
- ▣ **Drivers:** environmental degradation, pollution and risks – climate change – environmentalism
- ▣ **Impacts:** more demand for (rural) raw materials (e.g. biomasses) – mitigation of climate change – growth of local rural economies (incomes, jobs) – prospects for non-mainstream farms will improve, e.g. local, ecological, educational, CSA, care, energy


59 TECHNOLOGY-INTENSIVE FARMING



Technology provides productivity and environmental benefits but some applications (e.g. genetic modification, lab-grown food) raise ethical, cultural or economic doubts

- ▣ **Type:** trend
- ▣ **Drivers:** technological development – digitalisation – diversification of farms and farming practices – globalisation
- ▣ **Impacts:** better or more stable farm income and employment – more demand for local, regional or domestic food – mitigation of climate change – less food waste and more efficient utilisation of raw materials – niche markets will proliferate

60 TRANSPARENCY OF THE FOOD SYSTEM



Transparency of the food system in terms of origins, production methods, compliance (laws, standards) and distribution of value added in the food chain

- ▣ **Type:** trend
- ▣ **Drivers:** food safety – ecological awareness – increase of consumption – neoliberalism – ethical concerns
- ▣ **Impacts:** transition toward fairer food system – better prospects for succession or new entrants to farming – better or more stable farm income and employment – positive prospects for specific types of farms, farm businesses or farming regions

4 Concluding remarks

The purpose of the trend analysis discussed in this summary report has been to introduce a rich set of trends which could shape rural futures in Europe. The list of trends is neither exhaustive nor representative and fully balanced as there is no theory of the future that would guide us to pick up the 'correct' trends. The future is open and there are always several alternative futures for any specific region, activity or actor. **The approach is exploratory, not confirmatory or normative.** Through identification, analysis and assessment of these alternative futures it becomes possible to make choices in the present as we become aware of what might wait or come up in the future. The analysis and the introduction of the trend cards serves these many choices, and for this reason we have not presented any silver bullet trend that would regenerate rural Europe (such a trend does not luckily even exist). Without continuous futures work we might be blind for (some) alternatives and, in the worst case, consider future as prolonged past. It is obvious that this will not be the case for many developments, for many reasons.

Figure 14 illustrates some global socio-economic and earth system trends which are relevant for most regions and most economic activities. One might think about the potential state of the world if the development paths for the next few decades would be similar to the past few decades. In what kind of a world would we live in by then? There are many reasons for some of the trends to become halted or reversed. Another interesting question arises: if some of the trends would be reversed, in what kind of a world would we live in that case? In both cases, **the future could be very different from the past and from now.**

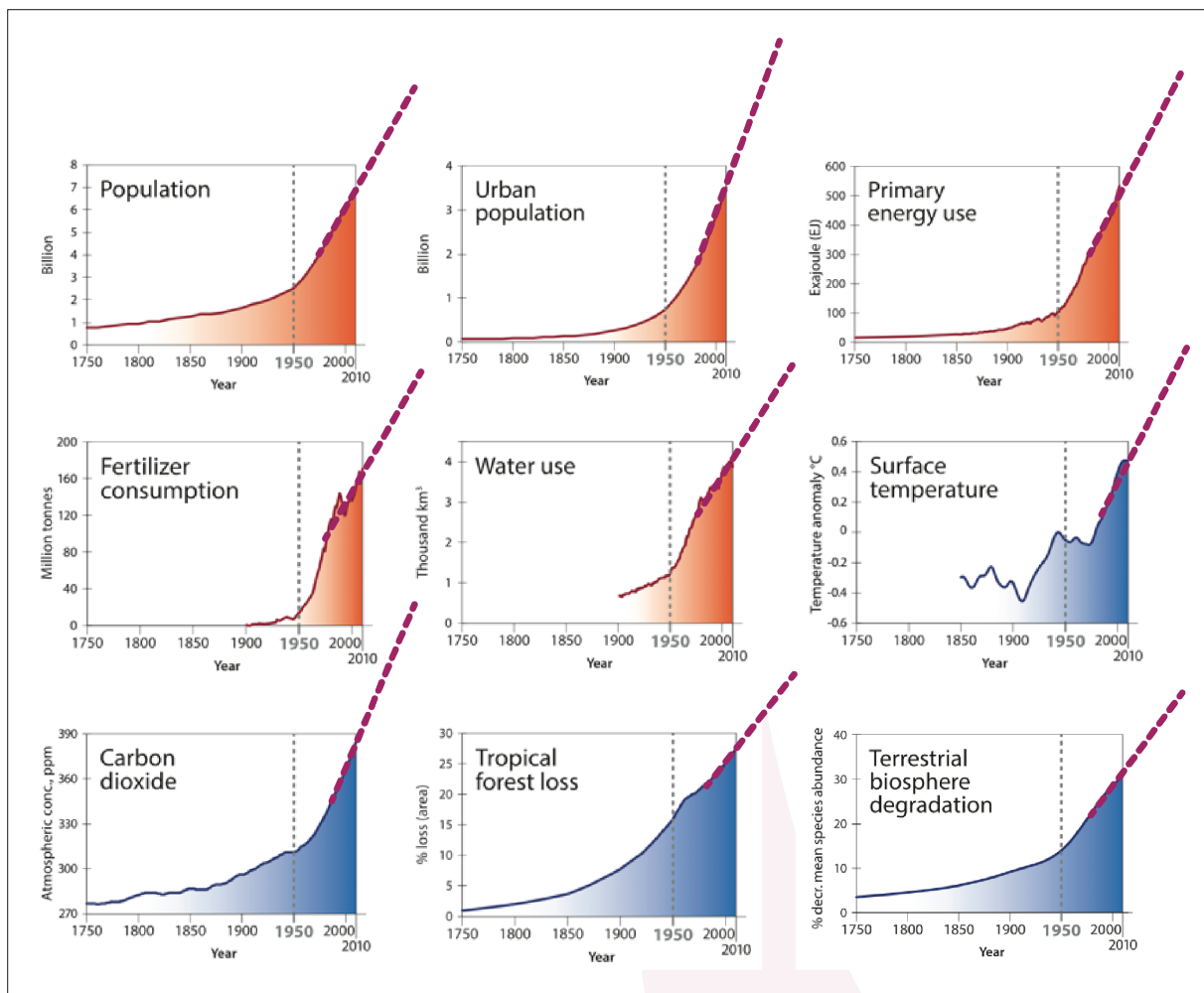


Figure 14: Some global socio-economic and earth system trends with extrapolation of recent developments paths. Source: adapted from Steffen et al. 2015

The operating environment of the European countryside has been characterised by a ‘well-functioning world’ for decades. In this kind of an environment, it is possible to specialise and pursue for economies of scale. These developments unavoidably imply increase of interdependencies among countries, regions, economic sectors and actors. In a well-functioning world, the benefits of interdependency may outweigh the (hidden) vulnerabilities. Trend analysis serves this type of a setting by introducing many trends which maintain, reproduce or only slightly modify the contemporary world model; these could be studied for the possibilities to adopt new practices, policies, business models, customers or partners. Which of the trends could still continue, which could grow in importance and which could die out – and how to benefit from them presuming the world would not change radically?

But it is well possible that in the future we will live in a ‘poorly-functioning world’. In this case the benefits of interdependencies could turn out to be vulnerabilities. Diversification might outweigh specialisation and economies of scope could outweigh economies of scale. Depending on the essence of the ‘poor’ (e.g. environmental, civic, health, economic or political crisis), completely different trends could prevail and several contemporary weak signals could

upgrade to megatrends. Generally, current megatrends tell stories of the past and present and could go on for quite some time in the future, but the new futures reside in weak signals and trends. Then one could ask which of the developments actually hint to a major societal transformation and whether we are approaching the fog of a societal bifurcation point illustrated in Figure 15? Which of the trends could dominate after such a change of the world model?

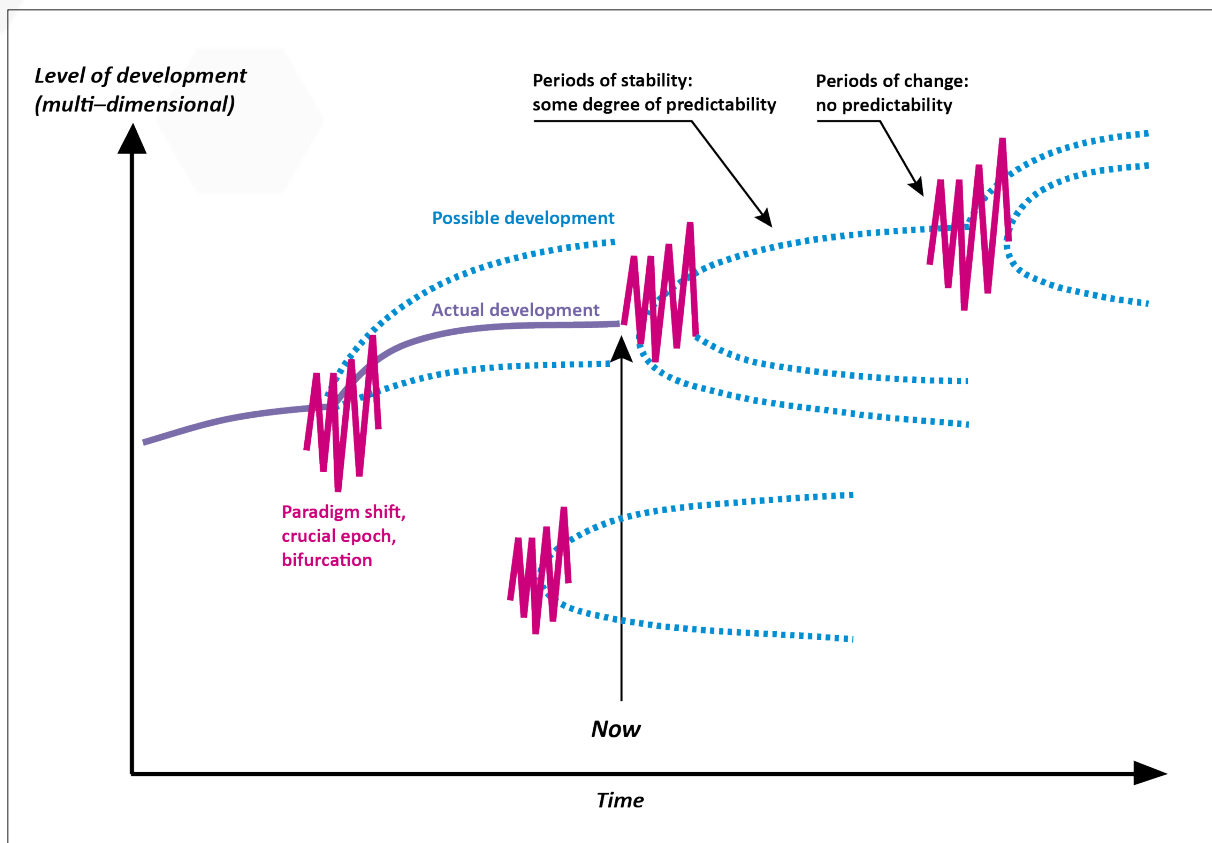


Figure 15: Evolutionary development featuring stability and change. Source: adapted from Mannermaa 1991 and Laszlo 1985

Many of the contemporary megatrends have an adverse impact on many rural areas. Megatrends are cornerstones of the contemporary food, energy, trade, consumption and policy regimes by maintaining or reproducing them. Many of the current weak signals could play a significant role in the world beyond the next bifurcation point of the European societies or specific societal systems (Figure 16). Although it is difficult to predict how many or which of the positive weak signals will turn into trends and megatrends in the future, public policies should play an important role in the processes of assessing them, strengthening their importance and spreading them in the practice of socio-economic life. The contemporary megatrends could also be put under scrutiny to assess their role in a different kind of works model: what could happen to them and should they be accepted, promoted or resisted.

In a world model which is based on different logics and evaluation standards (e.g. sustainability advantage instead of production cost advantage) the competitive position of

the rural regions could be very different from now. It is also relevant in this context to ask to what extent public policies are currently targeted at such an objective. The 60 trends cards provide food for thought in the anticipation of possible paradigm shift, crucial epoch or bifurcation and ingredients of the world model after such a change; Figure 17 provides a simple guide for this adventure.

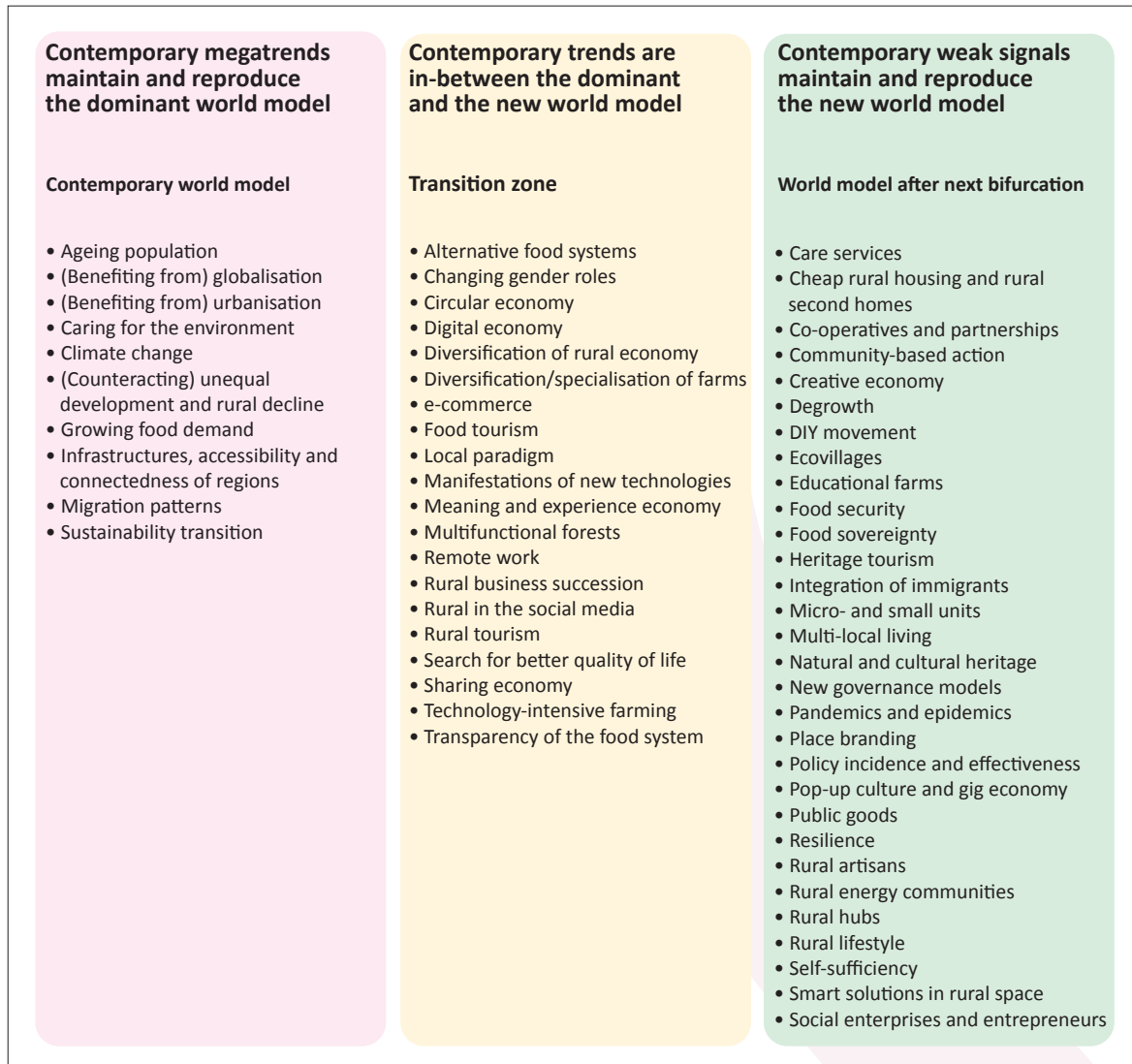


Figure 16: Some ingredients of the contemporary and possibly becoming world models

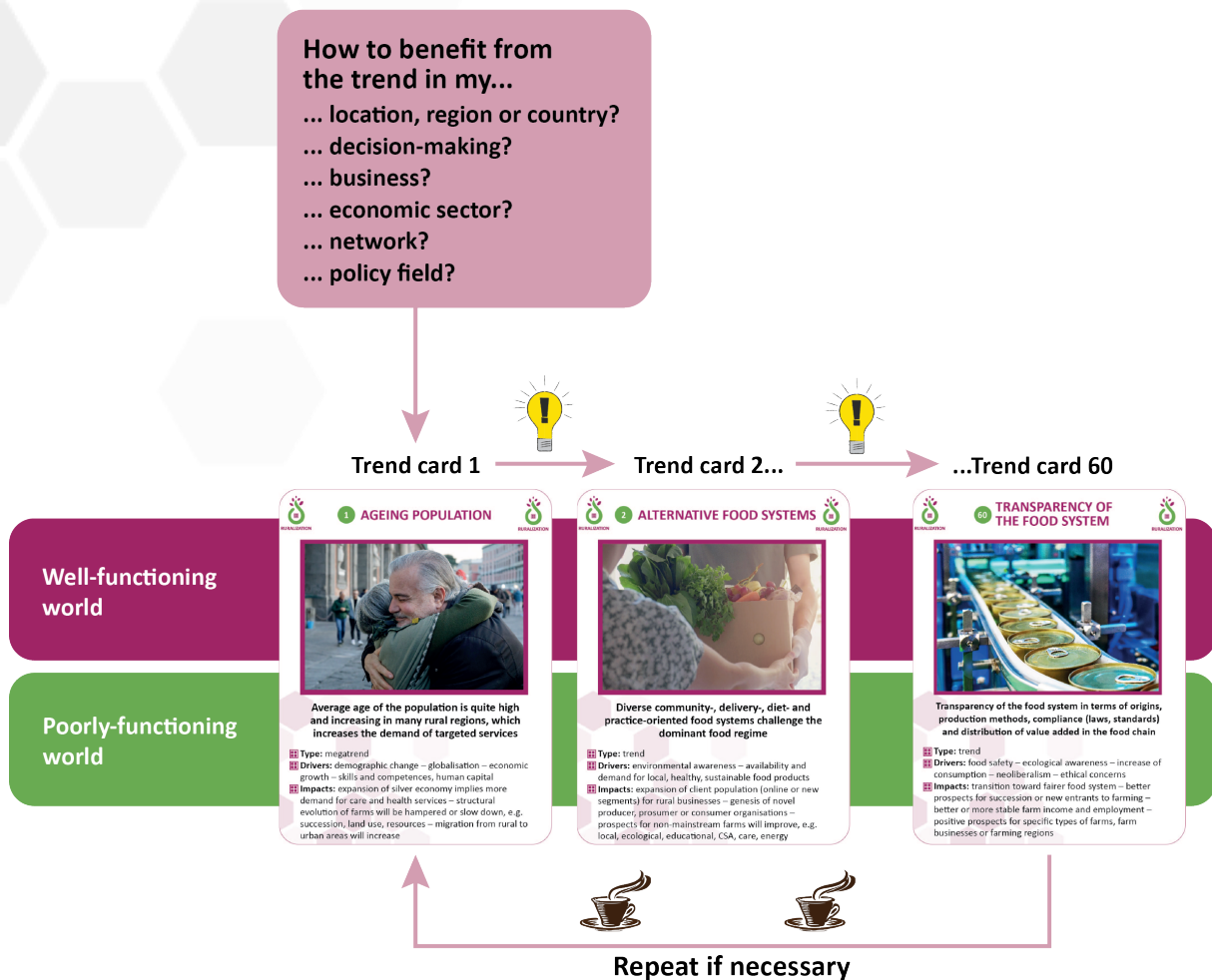


Figure 17: Trend cards – a user's guide

The trend report can be accessed from many perspectives with a specific topic, sector, trend, impact, driver or type of area in mind or with an interest of capturing the big picture of possible futures. We want to close the report with a short reflection of the trend report by Dr. Kati Volgmann who has been a member of the trend team in the RURALIZATION project. Hopefully the report will contribute to many secondary thoughts!

Secondary thoughts

A personal reading of the trend report by Kati Volgmann, ILS

The current situation of the Covid 19 pandemic is accelerating megatrends and triggering negative consequences also for rural areas. At the same time, national and regional political influence (e.g., lockdown, closing borders) on society and the economy is becoming increasingly important as a result. Regional, local conditions are more important, which benefits rural areas.

The Corona crisis is changing the way we live together, our culture and our working environment in many ways. Large metropolitan areas have been particularly vulnerable to the spread of the pandemic; these are more vulnerable and nervous than rural areas. Closed restaurants, gyms, cinemas and clubs – life in the metropolises was suddenly empty. The Corona crisis is therefore also the driver of a new urban exodus (wealthy New Yorkers or Parisians moved to second homes outside the city) – especially since more and more regions were already relying on local supply before the crisis.

In the crisis, rural areas can gain in importance. In the future, the winners could be those regions, small towns and villages, that take an offensive approach to change and shape it optimistically. Quality of life, education and civic engagement are important location factors in rural regions.

Technological progress, with digitalisation and automation, can accelerate the gap between the booming cities and regions and the shrinking and isolated regions, but it can also reduce it. The need to catch up in the digitalisation sector is a key factor in this. Many rural regions lack a fast internet connection. Home office and teaching at home were difficult for many in the countryside during the Corona period.

Another factor will be whether people will continue to work at their place of work in the future, making residential locations away from the large and medium-sized cities increasingly interesting. Real estates in rural areas are increasingly in demand. In the post-crisis period, the urban-rural view will probably change somewhat.

Of course, agriculture also faces challenges during the pandemic. The closure of restaurants as buyers, shortage in the availability of harvest workers as well as high standards on transportation and processing logistics for perishable food became visible as risks.

The significance of trends gives some indication of the future developments: what might remain important also in the future and what might become less vs. more important. The assessment can help to determine the impact of future trends.

Climate change, renewable and bioenergy and ageing population are crucial megatrends, which are very important for the rural areas and agriculture in the future. We notice extreme weather events such as rising temperatures, increased periods of drought and increasing

precipitation in winter. Regional specific adaptation strategies need to be developed for a sustainable development in agriculture. Renewable and bioenergy represents an opportunity for many farmers, especially for small farms. The additional source of income is important for securing their livelihood. However, it also entails some risks, e.g., that agricultural land will be converted. Demographic change, especially the ageing society in rural areas, has an enormous impact on rural areas, because young people, especially well-educated people, are moving away. This in turn has a major impact on agriculture. There is a lack of young people in agriculture who are also potential successors. Here it is important to find political framework conditions and local strategies that keep people in their home regions or attract new young people.

Specific regional trends – farm size, diversification/specialisation of farms, farmland prices, farm population, young farmers, diversification of rural economy, practice-oriented food systems and digital economy – have crucial impact on the agricultural development. The increase on the average size of the farms has been driven by technologies, economies of scale and policies in many European regions. This in turn has an impact on farmland prices, on the difficulty of access to land for young farmers and on the decrease of the farm population. Strategies for rural areas to attract young people can be a focus in the diversification of the rural economy. This means that the digital economy must be developed more intensively in agriculture, but also in other sectors. Considering how fast technology is changing, it may well be that in 10–15 years farmers will spend more time in the office programming and monitoring fully automated machines than out in the fresh air. However, in the future, only large-scale farms will be able to afford such fully automated machines and robots. Their employees will be technicians and computer experts rather than traditional farmers. The scarcer the food and the larger the profit margins become the more investors will enter the agricultural sector.

Another trend is the alternative practice-oriented food systems – food systems in which the farming and processing practice is the key issue: organic farming, ecological food, food forests, permaculture, regenerative agriculture. A new field could be vertical farming, for example. Here, animal and plant production are to be brought into the direct neighbourhood of consumers: it will then be done in multi-storey buildings where animals are bred or vegetables, lettuce and mushrooms are produced all year round. At the same time, the circular economy will contribute to environmental protection. Corona has shown that regional supply chains are important and how much we depend on foreign countries and how fragile the global system is in times of crisis.

In addition, there are five new trends on the top-20 list of significant trends in the long run. The five trends – sustainability transition, environmentalism, resource competition, productivity and competitiveness and biodiversity loss – show clearly how important it is to take care of nature and soil in future. The challenges for agriculture in particular also offer opportunities. Only sustainable, environmentally conscious and resource-conserving agriculture can be sustainable for the future. Sustainable management in line with people and the environment, resources and climate are the prerequisites for sustainable global and European agriculture.

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