Hanze
University of Applied Sciences
Groningen

ENGAGED

Regions taking the lead

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Regions taking the lead

Titles in publication series:
- De onderzoekende regio
- De ondernemende regio, Westerkwartier als experiment
- De innoverende regio, Eems Delta van zorg naar gezond
- De coöpererende regio Noord-Nederland
- De regio aan zet
- Regions taking the lead

Initial publication of series:
ENGAGED, Towards a resilient region
available as e-book:
https://marinetraining.eu/sites/default/files/2021-11/
e-book_Engaged_Towards%20an%20resilient%20region.pdf

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PREFACE

We live in a time of great change that is affecting our lives and our regions. This changing world is resulting in increasingly complex challenges that demand highly innovative solutions that serve society as a whole. Knowledge institutions such as ours are obliged to play our part and contribute to seeking new solutions as part of our social responsibility.

For 225 years (anno 2023) our university, Hanze University of Applied Sciences, has been committed to serving society. This is reflected in our mission: *impact on the world: strengthening the strength of the region together with lifelong learning of individuals*. We work collectively on current issues related to our region, constantly looking at how we educate and prepare our young professionals, how we connect to the needs of society and our regional partners, and how we structure our research, innovation and professional development. In doing so, we leverage the potential of applied research and student engagement as sources of innovative capacity to address local, regional and global challenges. We do this to have a direct impact on our region and thus living up to our motto of **share your talent. move the world.**

We do not do this alone. Our regional economy, as in the rest of Europe, consists of small and medium-sized enterprises with limited innovation potential. Universities of applied sciences play an important role in bridging the innovation gap of these businesses. The Hanze University of Applied Sciences, together with the other Northern knowledge institutions, working together in the University of the North (VET/HEI/academic university), public and private partners, wants to take a step forward in strengthening the link with the economy and society of the Northern Netherlands.

In the previous publication, *ENGAGED, Towards a resilient region*, the impact of students finding innovative solutions for local and regional institutions and companies under the leadership of the Sustainable Cooperative Entrepreneurship lectorate was described in detail. The main lesson learnt is that regions need to take the lead in addressing regional challenges and that this must be a collective effort: *innovation in the region, for the region and with the region*. This book is about regions taking the lead. And about how all stakeholders must work together building on existing strengths to develop new knowledge, new approaches and new ways of thinking. This also requires a new role for governments, educational institutions, businesses and civil society organizations.

We are ENGAGED not only locally and regionally, but also in Europe and elsewhere. This is why we also work together on regional societal transitions in an alliance with nine complementary universities in *Stars EU*. This alliance has now been recognized by the European Commission as a *European University*.

This book, as well as others in this series, serves as a guide in our ambition to be part of *'Regions taking the lead'*.

Dick Pouwels
Chair of Executive Board Hanze University
Chair of STARS EU Alliance - *European University*

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INTRODUCTION

This book is one of five publications that make up a sequel to the book *ENGAGED, Towards a Resilient Region (2021).* The initial book outlined how governments, residents, businesses, social institutions, and knowledge institutes are working together to find a way to promote greater social and economic cohesion.

Since the publication of the book, a lot has happened. The approach to innovation however has remained the same: greater local and regional cooperation aimed at a greater sense of community, better chances for social and economic wellbeing, and greater openness and resilience as a region to change. There are new developments in all these areas. Not all efforts have resulted in overwhelmingly positive changes, but every failure has spurred new initiatives and better outcomes.

This book discusses the region as an ecosystem. Thinking from the perspective of a regional ecosystem means that all parties who play a role in the region must establish their borders, break existing barriers, rebuild existing systems, and build new networks for collaboration. This remains an enormous challenge.

The first chapter makes it clear that all major societal challenges are felt most deeply in one's own region, the place where one lives and works. Residents face new dilemmas related to the natural landscapes. Choices between housing, agriculture, or wildlife, for instance, are some examples of new challenges. Disparities between prosperous and lagging regions and the local implications of globalisation, digitization, and climate change are other examples.

These challenges raise new questions and new issues:
- How can regional strengths and resilience be enhanced?
- Can increased cooperation within a region lead to strengthening the prosperity and well-being of that region?
- Are collective endeavours in search of regional strengths and innovative solutions the key to bolstering prosperity and well-being?
- What is the role of local and regional governments in the above issues? Is it possible to bridge the widening gap between citizens and public authorities when it comes to trust?
- Can a regional strategic agenda that prioritises relevant social challenges result in stronger regional cohesion and engagement?

The second chapter focuses on developing a Regional Innovation Ecosystem. A few common concepts will be briefly described based on the historical roots and some theoretical insights. What is an ecosystem? A business ecosystem? An entrepreneurial ecosystem? An innovation ecosystem? A mission-driven ecosystem? Institutions and businesses can no longer act in isolation. They need to collaborate, cross traditional boundaries, and generate social benefits as well as profits. Regions taking the lead means working together. Working together as in multidisciplinary, multi-sectoral, regional and local, evidence-based in terms of outcomes and focused on innovative ways of working. OECD and the EU encourage such an approach. *RIS3* is a European "smart specialization strategy" that focuses on bottom-up agenda for regional development.

Chapter three describes the need for regional transitions. There are various initiatives in the province of Groningen that bring together different stakeholders to join forces. One such initiative created a coordinated regional approach: Regiocoöperatie Noord and Regional Innovation Framework North (RIF-N). Within this framework, area cooperatives (gebiedscoöperaties) emerged in several municipalities designed to address challenges locally. In addition, Innovation workplaces (IWPs) have been set up within municipalities where collaboration on specific innovative solutions takes place. Having had these various experiences of working together in a region, this chapter introduces a transition model that makes it clear that transition is not always just about progress. Conflicts, disappointments and regression are also part of transitions: the reality schock phase.

The fourth chapter focuses on regional collaborations and stakeholder groups. A regional transition involves all stakeholder groups and their organizations. Organizations need to adapt. They need to have a more external orientation when collaborating with others from other industries and disciplines, with other objectives, different business models and operational processes. These internal transitions are not easy as most organizations are primarily set up for "business as usual".

Finally, the final chapter presents steps for new directions that regions in transition need to initiate to ensure greater resilience in local communities.

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A new regional cohesion

1.1
DEVELOPMENT OF A COOPERATIVE AND DEMOCRATIC REGION

Just a few decades ago, the world was unimaginably vast and abstract to most people and knowledge would be acquired primarily through maps, books, newspaper reports and travel stories. Today, seen from space, the Earth is a small and fragile sphere. Virtually everywhere on earth, the world has changed completely for everyone. Cheap travel, digital media and global production and knowledge value chains have brought distant events close by. What happens elsewhere in the world affects local regions and vice versa. The village and the greater world are connected. The significance of this connection cannot be underestimated. Autonomous communities and regions do not exist. All places are affected by outside influences. They need to anticipate and respond. Unfortunately, the interconnectedness within many communities and regions has diminished. Businesses have become global, economies of scale have disrupted close and informal communications, traditional civic organizations (maatschappelijk middenveld in Dutch society) that used to protect the interests of local communities and civilians are almost non-existent. Citizens feel that they have little influence on their circumstances. Increasingly, regional players have become mere pawns in global, European, and national developments. Resilience of regions has emerged as an important theme in the current context.

This chapter's central idea is the pursuit of new regional coherence. This is only possible if we choose to break free from the idea that everyone must take care of themselves, be it government, business, social organisation, or citizen. We need to change our thinking. We need to take charge of our own region through new and permanent relationships of collaborations amongst regional players whereby everyone's voice counts. That is the challenge. We need to (re-)create a cooperative and democratic regional ecosystem.

1.2
CHALLENGES FOR THE REGION

The place, be it a neighbourhood, town, or city, where people work, reside and live their lives is also where problems arise, and opportunities emerge. Changes, in the social, technological, economic, and political spheres, impact local citizens directly. We see how the COVID epidemic, digitization of professional and social connections, and climate mitigation measures are played out.

These major changes are not easily solved by dealing with them separately, but rather, they occur as a tangle of elusive matter. A few examples of interconnected tangle of challenges.

- Digitalization resulted in people's lives being completely transformed. Nowadays, knowledge and information can come from everywhere. Digital contact is increasingly replacing physical contact. Digital networks result in digital information silos or bubbles, and it becomes difficult to discern which facts are credible. The pace of change makes professional knowledge outdated, and robots are swiftly rendering human capabilities obsolete. Regional knowledge infrastructures were historically designed to meet the needs of local and regional industries and are becoming less relevant.

- The need for an agricultural transition. Through the 'Green Deal' aimed at climate neutrality, the European Union is compelling farmers to farm differently. In the Netherlands, they are confronted with the government's nitrogen mitigation policy as well as new policy incentives that aim to redesign land use that includes resolution of national housing shortages. In addition, the farmers are confronted by conservationists in the fight for greater biodiversity.

- Challenges in lagging regions include citizens with low socioeconomic status resulting from a combination of poor economic conditions, inadequate/up-to-date knowledge, skills set, and capacities, and a weak social network. In the Netherlands, studies show that their life expectancy is six years shorter on average compared to those with a high socioeconomic status. Moreover, migration of qualified youth in search of better oppor-

tunities and declining public services and commerce are commonplace in these lagging regions.

Regions are faced with a multitude of complex challenges: housing shortages; aging populations; loss of jobs; environmental dilemmas; climate change and the need for an energy transition; migration; depopulation in rural areas resulting in low innovation capacity; urban problems such as traffic jams, air and noise pollution, and overcrowding; the gap between national policies and local realities.

The complex challenges described above are characterized by the fact that no single party or cause can be attributed to them. One frequently looks to regional and local authorities for answers, but they are unable to tackle such issues on their own. These problems always involve other players with diverse interests, capabilities and resources. For example, the housing shortage in the Netherlands is caused by inadequate development sites and a shortage of construction workers, but landowners, key investors, and housing corporations also play a role.

Another important reason for the inability of local and regional governments to address complex societal challenges is that such issues are not confined to municipal, provincial, and national boundaries. Cross-border and rural migration, the climate, pandemics, and obesity are macro level issues that act out at and involve global and European levels. To illustrate, 70% of all European legislation has a direct impact on regions and cities. Other factors that impact regional developments and prosperity include historical developments, geographic location as well as national and global geopolitical interests and dominance. Regional prosperity and opportunities are partly determined elsewhere.

A third reason why local and regional governments are unable to find the right answers to major societal regional challenges is their focus on public services such as education, culture, social services, public safety, and infrastructure for mobility and the means to achieve them, namely, procedures, guidelines, regulations, and rules. Governments are not equipped to address major societal challenges and the complexities that come with them. Governments aim to provide stability and certainty, but uncertainty and unpredictability are dominant in the current times. Also, governments prioritize politically driven policy frameworks for elected terms of office as opposed to longer term vision and historical precedence. In addition, they do not excel in transition competences and frequently outsource challenging tasks to external contractors, even as

collaborating across departments and services, and with external parties are too often laborious. As a result, knowledge, experience, networks, and problem-solving instruments in governments are limited and ineffective in addressing societal challenges.

1.3
RESILIENCE

An important aspect of dealing with regional challenges, is the ability to deal with external shocks and therefore to become resilient. This is not new. Traditionally, the focus was mostly on dealing with crisis situations caused by natural or man-made disasters such as earthquakes, tornadoes, terrorist attacks, nuclear and power plant disasters, toxic deterrents, etc. Now, there is a shift to go beyond addressing natural and man-made disasters. An example in the United States is the Environmental Protection Agency (EPA), a national agency, established more than 50 years ago to respond efficiently to disasters. What has changed is that the EPA modified their approach and produced a practical roadmap for regions to strengthen their own resilience in 2019. The focus shifts from response to disasters only to emphasis and tools for prevention and create "great places to live, work and play"[1].

Similarly, the Stockholm Resilience Centre advocates the following: "Resilience is the capacity of a system, be it an individual, a forest, a city, or an economy, to deal with change and continue to develop. It is about how humans and nature can use shocks and disturbances like a monetary crisis or climate change to spur renewal and innovative thinking."[2]

In the Netherlands, a reactive nature to crisis management and a shift in thinking is also evident in the case of gas extractions in the Northern province of Groningen. First cases of earthquakes were observed in 1986 due to gas extractions and only in 2018, when 1,400 earthquakes were registered in that year, plans were developed to reduce the amount of gas extracted and to ultimately stop mining activities. Similarly, two catastrophic incidents, one involving fireworks in Enschede in 2000 and a fire on New Year's Day at Café 'De Hemel' in Volendam in 2001, resulted in establishing 25 'regional securi-

ty areas' in 2010 in which local municipalities come together to coordinate efforts in dealing with major incidents and events and the accompanying fire and crisis management, medical support, and public safety. A recurrent issue in the Netherlands and particularly for local municipalities is the obligation to make provisions for incoming migrants and asylum seekers. The 'migrant' issue eventually led to the downfall of the last cabinet due to a lack of consensus on the many policy aspects related to this complex challenge.

Lastly, the COVID-19 epidemic and the recent flood disasters prompted Belgium, Luxemburg, and the Netherlands to step up a more coordinated disaster management collaboration.

Current focus has shifted to regional development as a legitimate scale of concern that advocates regions be adept at dealing with changing circumstances. If we take it a step further, we see that existing systems and structures are unable to cope with new developments and demand systems transitions[3]. Systems can fail badly in many different areas. Systems transitions often offer new possibilities. Examples of current challenges for regions are illustrated below.

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1   Regional Resilience Toolkit: 5 Steps to Build Large-Scale Resilience to Natural Disasters (epa.gov)
2   What is resilience? - Stockholm Resilience Centre

3   Bristow, G. & Healy, A. (2015). Crisis response, choice, and resilience: insights from complexity thinking. *Cambridge Journal of Regions, Economy, and Society*, 8 (2), 241-256.

To improve regional resilience the following are important considerations[4]:

- Attention to systems alignment. Failure to invest in education and innovation capacities, for example, can have a detrimental impact on other critical transitions. Interventions could play out differently for different stakeholders. For example, interventions aimed to conserve nature can conflict with farming interests and ambitions to provide housing for everyone in that location. It is good to realize that small changes can have huge impacts, and that large-scale and expensive plans for change frequently incite resistance. Also, when it comes to complex challenges, the most obvious solutions do not always provide the best results.
- Think in scenarios. Outlining successful scenarios but more so through describing doom scenarios, we can work out which interventions and lack of actions contributed to the respective successes and failures.
- Everyone needs to be included. Involve everyone who will be affected by and/or be benefitting from the proposed change. Citizens and investors are often overlooked in discussing interventions.
- Encourage self-organization. Bottom-up initiatives from local communities and businesses are more effective in achieving the desired changes than top-down policy.
- Support experiments, pilots and testbeds. Structural changes in society cannot be achieved by blueprints. Small scale pilots and testing for local circumstances are important steps in realizing sustained transitions.
- Be alert to local responses. It is important to monitor the impact of experiments, pilots and other interventions closely, paying attention to missteps and to correct them immediately and to give room to critical opinions.
- Focus on competences for the complexity of a changing world. This includes learning to deal with uncertainty; being sensitive to contextual changes; listening to opposing viewpoints; being able to connect with other disciplines, industries and those with other interests; being critical of assumptions and worldviews, but also, to be able to think outside dominant paradigms; being able to anticipate possible futures; willing to adapt and being flexible; being able to mobilize allies and forge alliances.

1.4 STRENGTHENING DEMOCRACY

Increasing numbers of people feel they have little control over their own circumstances and are concerned with the future. The Russian invasion of Ukraine, uncertainty around affordable energy and supplies, dependence on totalitarian regimes for raw materials and products, the climate, the environment, housing, and healthcare costs are contributing to such sentiments. Where is certainty to be found in one's existence? Will health care facilities be adequate? How certain are we of healthy living spaces in the future? Many people do not think that the governments are able to provide these basic securities. In the Netherlands, many civic organizations such as trade unions, churches, umbrella organizations, have disappeared or decreased in numbers. Such organizations provide a safety net and could be counted on. Many people are no longer organized and therefore not represented when it comes to new types of collaborations (triple helix networks of companies, governments, and knowledge institutes) in search of innovative solutions for a better future[5].

In addition, a reduced trust in governments is fuelled by incidents and events in which governments are seen as being responsible through their inability, or unwillingness to act timely. Examples of disregarding the interests of citizens abound in the Netherlands. To illustrate, the extraction of gas and the resulting earthquake problems in Groningen; the increasing emissions and pollution from Schiphol Airport and Tata Steel industry; farmers threatened by nitrogen regulations; establishing asylum seekers' centres without considerations of residents; expanding capacities of the Lelystad airport; the protests against wind turbines and solar parks; and mistakes and damages arising from the tax benefits affair.

4   Van Berkel, K. & Manickam, A. (2020). *Wicked World, Complex Challenges and Systems Innovation*, Noordhoff Business, Groningen/Utrecht. p. 63-73.

5   Marinelli E., Perianez-Forte I. (2017) Smart Specialisation at work: The entrepreneurial discovery as a continuous process, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-74377-1, doi:10.2760/514714, JRC108571.
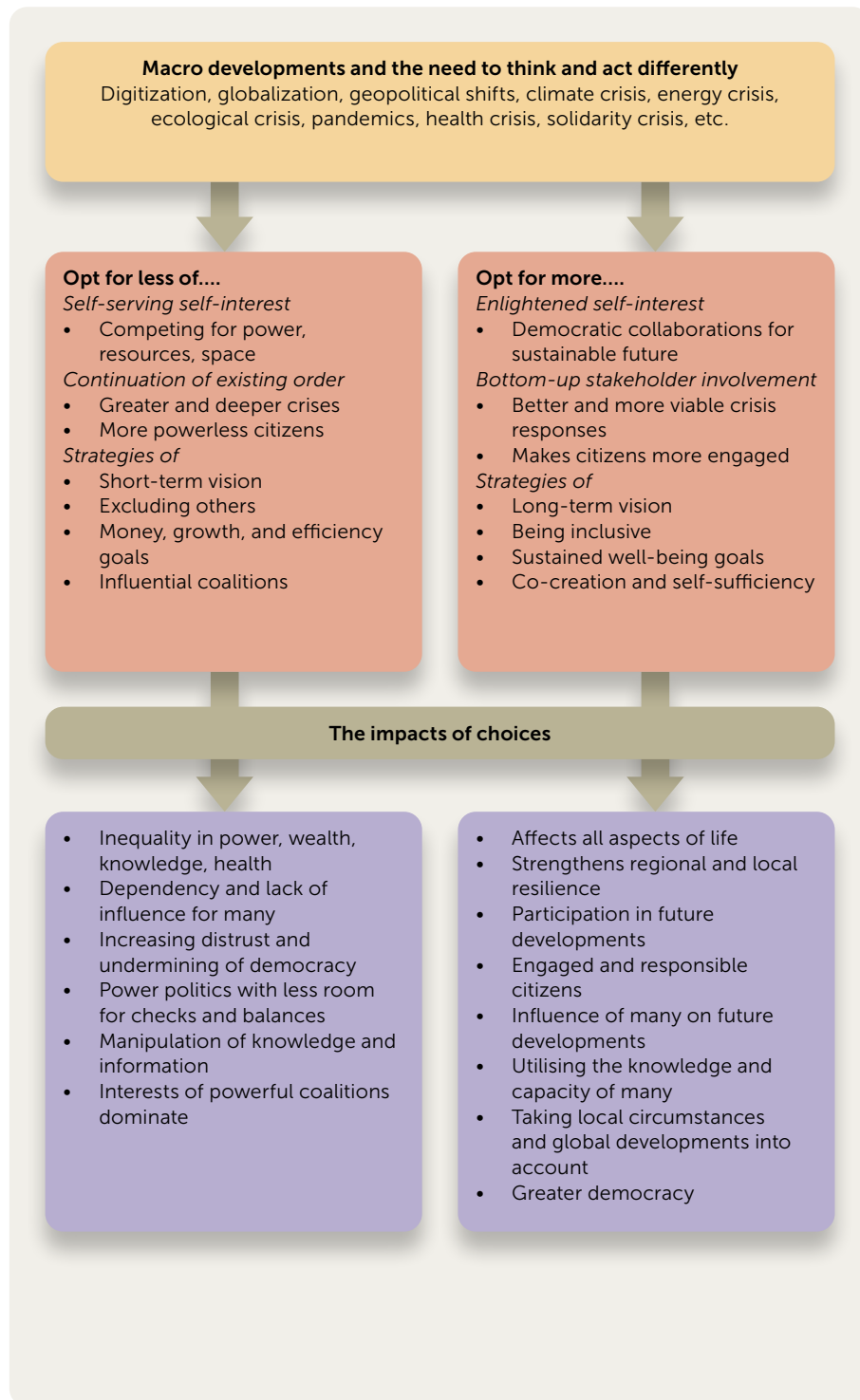
Governments are becoming increasingly aware of the growing distrust of citizens and the widening gap between governments and citizens. Ways to narrow the gap are being sought. Parliamentary inquiries, public participation consultations, referendums, the right-to-challenge concept, support for citizens' initiatives and citizens' councils are expected to help. Local and provincial governments are also doing their best to increase citizen participation. For example, the Province of Groningen created a participation guideline to stimulate citizen participation in all phases of the policy process[6].

To safeguard better democracy and increased well-being and welfare of citizens, enhanced regional resilience is key. At the same time, as discussed earlier, living conditions at the local level are impacted by macro level developments, policies and dominant forces from outside the region, and exacerbated by the limited playing field, limited opportunities and limited capabilities of local municipalities. Only when all regional stakeholders - citizens, governments, educational and knowledge institutes, businesses, and civic organizations - working together will the possibility arise that a region becomes attractive, resilient and future-proofed based on internal strengths. Close collaborations within a region are the way forward to realize collectively innovative responses to macro developments. Engaged in close collaborations with all regional stakeholders, citizens included, by local governments is key to creating favourable living and working conditions for its constituents.

The single most important point for achieving a more resilient region is the willingness of the key stakeholders to think and act differently. This means a shift from being focused on being competitive only to be willing to co-create in a network with regional partners for collective good. This means jointly exploring economic, social, technological and environmental opportunities that will benefit the organizations involved, residents and the region. In the collective collaborative processes, learning to understand each other's language, taking on collective experiments support to building of confidence amongst the groups, which in turn, lends itself to new possibilities. This requires new considerations and different choices from everyone. Self-interest, an important driver of choice, needs to change. *'Enlightened self-interest"* needs to be the dominant option.

This means going beyond current focus on more money, more growth and quick returns. Instead, attention to our common future, including planet earth and future generations, prevails. Each decision must consider ecological impacts and in consensus. This will help to strengthen democracy and narrow the gap between governments and citizens.

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6   PROTOTYPE-Provinciale-Participatieleidraad-2021_compressed.pdf (expeditieparticipatie.nl)

Macro developments and the need to think and act differently
Digitization, globalization, geopolitical shifts, climate crisis, energy crisis, ecological crisis, pandemics, health crisis, solidarity crisis, etc.

Opt for less of....
Self-serving self-interest
- Competing for power, resources, space

Continuation of existing order
- Greater and deeper crises
- More powerless citizens

Strategies of
- Short-term vision
- Excluding others
- Money, growth, and efficiency goals
- Influential coalitions

Opt for more....
Enlightened self-interest
- Democratic collaborations for sustainable future

Bottom-up stakeholder involvement
- Better and more viable crisis responses
- Makes citizens more engaged

Strategies of
- Long-term vision
- Being inclusive
- Sustained well-being goals
- Co-creation and self-sufficiency

The impacts of choices

- Inequality in power, wealth, knowledge, health
- Dependency and lack of influence for many
- Increasing distrust and undermining of democracy
- Power politics with less room for checks and balances
- Manipulation of knowledge and information
- Interests of powerful coalitions dominate

- Affects all aspects of life
- Strengthens regional and local resilience
- Participation in future developments
- Engaged and responsible citizens
- Influence of many on future developments
- Utilising the knowledge and capacity of many
- Taking local circumstances and global developments into account
- Greater democracy

Inhabitants of a region should be able to participate in new development plans from the beginning as the fourth player in the quadruple helix cooperation. Without active citizens, democracy is further eroded and the gap between government and citizens widens. With inhabitants involved, an opportunity to influence their own circumstances and their future is created. However, it must be acknowledged that working together in a regional cooperative context is a challenge.

1.5
BUILDING A COOPERATIVE REGIONAL ECOSYSTEM

The market sector is commonly seen as the driving force behind a thriving economy, which in turn, is characterized by competitive entrepreneurship and shareholders primarily focused on profit maximization. Fortunately, there are increasing numbers of companies who are inclusive, collaborate with others in the local networks to address regional societal challenges and have viable business models. New business models with social impacts are emerging in the climate, energy, environment, and health sectors. There is a growing interest in the *social economy*, also referred to as the *third sector.* As opposed to the market sector and its profit maximization shareholder culture, social entrepreneurship and organizations in the third sector prioritise social and environmental goals and profits are reinvested to enhance social impacts.

At the end of 2021, the European Commission presented an action plan[7] to boost the European social economy. The European Commission believes that an action plan for the social economy is necessary because many regulations, such as taxation, state aid, and public procurement, were designed for the market sector rather than the social economy. Furthermore, business development and further training for various organisations should be better facilitated, and it is critical that the profile and potential of the social economy be highlighted. There are 2.8 million social economy organizations in Europe, employing 13.6 million people and providing solutions to pressing challenges in our societies. They undertake activities and create goods and services that benefit the community but have a diverse range of organisational models. These include foundations, associations, social enterprises, mutual societies, and cooperatives. Another characteristic of social economy organisations is

that they are locally anchored, and that solidarity and participation form the foundation for their activities[8]. Membership is voluntary and open. The members are in charge. It is about serving both self-interest and the public interest. Government's role in social economy is changing. Governments are increasingly promoting the development of a good ecosystem for such organisations. They do this in a variety of ways, including providing a suitable legal framework, by providing subsidies for capacity development, and by taking on a coordinating role in forming collaborative networks to address complex challenges with the participation of related stakeholders. This is resulting in increasing numbers of public-private collaborations as well as partnerships across the market and social sectors.

The local, place-based, nature of these collaborations is creating opportunities from a new perspective: regional development as a starting point point for an organization in the social economy. A regional network serves as a collaboration platform to address challenges in the region and to exploit opportunities for a better future for the local community. This means a working together on social innovation to generate revenues and economic potential to help improve the region's resilience. The parties involved would also benefit from the outcomes. Local governments benefit as social issues are tackled. Businesses and social organizations can benefit by becoming part of new regional social and production chains. Knowledge institutes can redefine themselves as regional knowledge chains by working with all kinds of parties in social innovation. Inhabitants participate as citizens, employees, residents, volunteers, and work together to create safe and favourable environments that are socially and ecologically sustainable. In the Northern Netherlands, the development of a Regional Innovation Framework that included a *regional cooperative* with several local *area cooperatives* (often municipal or a larger area) that were populated by more than a hundred *innovation workplaces* (for specific themes, sectors and locations), is an example of a regionally driven collaboration network for addressing societal challenges[9].

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7   Building an economy that works for people: an action plan for the social economy (alaturidevoi.ro)

8   THE EUROPEAN PILLAR OF SOCIAL RIGHTS ACTION PLAN (net4socialimpact.eu)
9   Engaged, Foorthuis, W. Manickam, A., van Berkel, K., Lutz, S. (2021). Engaged, Towards a Resilient Region. Hanzehogeschool, Marian van Os Centre of Expertise Ondernemen

Building a well-functioning cooperative regional ecosystem provides a basis for regional players to have a genuine influence in the pursuit of broader prosperity.

BUILDING A REGIONAL AGENDA

Strength in numbers

The European Union encourages the strengthening of regional cohesion in order to increase innovation capacity focused on societal challenges. It is also a way for the EU to increase Europe's competitiveness in the world. To this end, a "Research and Innovation Strategies for Smart Specialization" (RIS3) approach has been established in which countries and regions can receive assistance and invest by smart specialization and thus, boost their competitiveness. The underlying idea of the RIS3 is that regions should focus on their individual strengths and create new regional value chains based on their specific context. Through such a place-based approach (country, region), collaboration around specific R&D, production and knowledge developments will make innovation more likely, help modernize businesses, develop new products, and possibly create new domains. The European approach is important for all European regions as they can achieve a variety of innovations based on regional strengths, and regional value creation in line with the larger national and European agendas.

Regions are unique

Every region has its own specific context and circumstances. Not all the societal challenges affect regions equally and, not all stakeholder groups are equally represented in every region. In the northern Netherlands, for example, there is an abundance of spatial landscapes with high quality, good quality of life and living environment, and well-connected networks but on the downside large corporations are limited and small and medium-sized enterprises are abundant but often with limited innovative capacities.

Similarly, all regions have their own specific capabilities (knowledge, skills). The Northern Netherlands has expertise in the areas of energy, health, chemical, sensor and water technologies, IT, and agriculture, with the individual provinces having their specific priorities[10].

Trust and the willingness to collaborate

Trust is not a given. It needs to be nurtured. This also applies to the will to collaborate. Each of the regional stakeholders have their own organizations, representatives, networks, buildings and other infrastructure, goals, expertise and capabilities, routines, cultures, and boundaries of engagement. Management of organizations are focused on achieving their KPIs and are not as alert to the benefits of greater good.

Building a common vision

Everyone has their own version of problems and challenges based on their own reality ('frame'). Building a common vision is not easy. In dealing with a societal challenge, stakeholders define and resolve problems from their own perspective but what is needed is 'collective sensemaking'. This involves trying to understand in interaction with other stakeholders what is happening around a complex challenge that one is facing.

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10 Research- en Innovatiestrategie voor slimme specialisatie (RIS3) voor Noord-Nederland 2021-2027 (snn.nl)

In this way, in dialogue, based on different insights, a common picture can be developed about what is going on and a perspective can emerge for a new approach in the region (van Berkel & Manickam, 2020).

The 'entrepreneurial discovery process'[11] is the term used in European policy framework for the strategic process of stakeholders collectively exploring possibilities to strengthen their region. It is a continuous bottom-up process to establish, monitor and adjust, if necessary, evidence-based research and innovation strategies for smart specialization (RIS3).

A report by the JRC (Joint Research Centre) of the European Commission (Marinelli, Perianez-Forte, 2017) shows that not all stakeholders have been developing a regional agenda. Research institutions, the private sector and the public sector (government) are well connected and engaged in such processes, but social actors, for example, inhabitants or representatives of civil society are often missing. Special attention to citizen involvement in policymaking is essential.

Common goals and a regional strategy

It is important for collaborations (for regional challenges) that common goals of regional players coincide with the individual goals[12]. Achieving a joint mission and vision is often a tedious process, but when there are sufficient initiatives attempting to find common grounds and collective actions, this can lead to an overarching regional strategy. In the Northern Netherlands, for example, "het samenwerkingsverband Noord-Nederland (SNN), Northern Netherlands Alliance"[13], in consultation with many stakeholders, identified four major societal transitions (challenges) that are connected to the region's strengths and needs. Addressing these transitions will support the regions in the Northern Netherlands to develop both economically and socially. The four transitions are:
- From a linear to a circular economy
- From fossil to sustainable energy
- From care to (positive) health
- From analogue to digital

11 Marinelli E., Perianez-Forte I. (2017) Smart Specialisation at work: The entrepreneurial discovery as a continuous process, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-74377-1, doi:10.2760/514714, JRC108571.
12 TNO-rapport 2020 R11137 | Regionale innovatie-ecosystemen, p. 119.
13 Binnen het SNN wordt het ruimtelijke en economische beleid van Groningen, Friesland en Drenthe afgestemd.

1.7
CONCLUSION

This chapter addressed five themes, all related to the development of a cooperative and democratic region as summarized below.

- *Challenges for the region*
  The need for transitions becomes clear and hits hardest in the places where people live and work.
- *Resilience*
  How a region moves forward in the face of setbacks depends on its resilience, its ability to recover and change.
- *Strengthening of democracy*
  Regional cooperation of all stakeholders, including inhabitants, is the only way to bring about necessary innovations. Serious involvement of citizens in decisions about the future of the region is a win for democracy.
- *Building a cooperative regional ecosystem*
  Collaboration presupposes a different ecosystem, a more social and inclusive economy, different power relations, different roles, new networks and cooperative organization and practices.
- *Building a regional plan*
  Every region is unique, with its own history, geographical features, strengths and capabilities, etc. Grand societal challenges need customized solutions to fit the unique context of local places. Therefore, it is important and in the interest of all regions to develop a regional agenda as a fit for purpose development strategy.
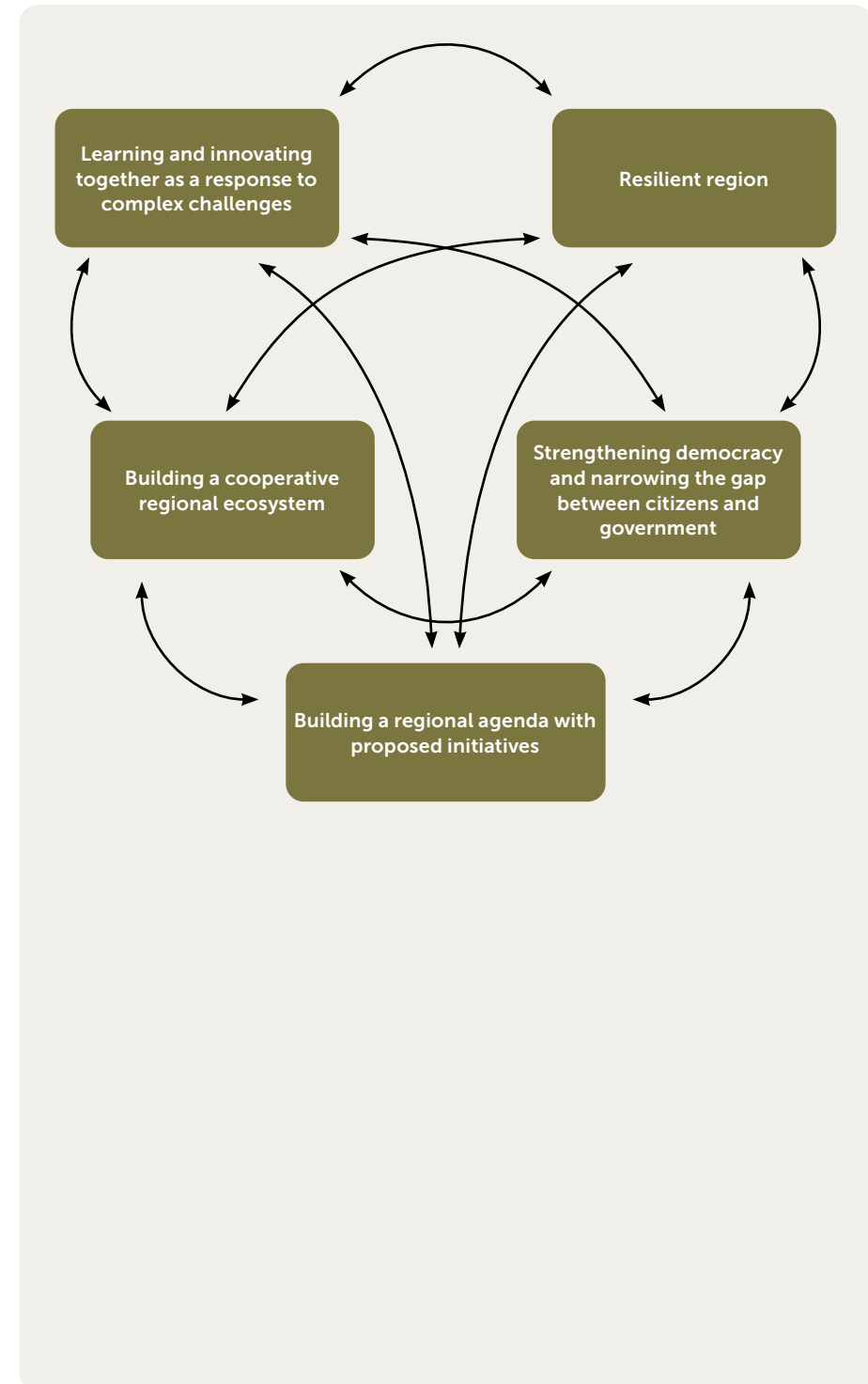
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Regional innovation ecosystems

2.1
INNOVATION
IN THE REGION

This chapter addresses the regional innovation ecosystems and the related concepts. This includes ecosystems and innovation ecosystems. In the literature, notions of ecology, innovation, and regions have gained renewed traction and connotations. A mission-driven approach to societal challenges is part of this. In European policy and in many European regions, thinking in regional innovation ecosystems is seen as a key strategy for regional resilience and growth and as a way to address the global challenges of our time. Finally, the main conclusions for building a regional innovation ecosystem are presented in a diagram and a practical illustration.

2.2
ECOSYSTEMS

The concept of ecosystem originated in biology. English botanist Arthur Tansley was the first to use the term 'ecosystem' (Willis, 1997). In biology, ecological studies mainly focus on the interaction between organisms and the relationships with their non-biological environment.

In the field of economics, the phrase "ecosystem" is used as a convenient metaphor to emphasise that enterprises do not develop, succeed, or perish on their own accord but are dependent on their environment. Start-ups and entrepreneurs need a conducive environment to become successful but also, to survive. The latter scenario was played out during the COVID pandemic that had devastating impacts on the aviation, hospitality and events industries.

The ecosystem metaphor shifts the focus from the internal organization to the context in which an organization operates. A variety of factors contribute to this shift.

- In the first place, businesses are increasingly not limited by organizational boundaries and staff. Typically, more than 25% of those who work for a company regularly come from outside the company (Altman, 2021). These externals parties are not employees but provide services through various contractual arrangements such as freelancer professionals and specialized service providers who offer expertise and services, as well as external networks and platforms, that enable the company to generate added value without fixed labour costs. Teams in companies are increasingly made up of both employees and external parties who work together on projects and assignments.
- Secondly, the emergence of global value chains (GVCs) in which goods and services are produced and traded across the globe mean that successful strategic operations are no longer the sole concern of any one individual firm only. The same applies to "global innovation networks" (GINs) that also involve collaboration on innovation with various partners around the world (OECD, 2017).

- The third factor concerns the renewed focus on the region. *Regional economic clusters* have become important as a local framework for business success (Porter, 1998): *'geographically proximate group of interconnected companies, suppliers, service providers and associated institutions in a particular field, linked by externalities of various types.'* Porter illustrated how in successful regions such as Silicon Valley and Hollywood, a collaborating culture was dominant. Europe also embraces the region as an engine for social and economic development (European Observatory for Clusters and Industrial Change, 2019). In another European Union publication, the chairman of the Committee of the Regions (Markkula, 2016) says *'Cities and regions have become the new powerhouses for progress and societal innovation: they can and must benefit greatly from open innovation ecosystems and they need to take a new orchestrator role in this field'.*

The term *business ecosystem* was introduced in the 1990s to make it clear that companies do not develop in isolation but are embedded in a network, for example, customers, banks, suppliers, and widely varied industries (Moore, 1993). Fuller (2019) describes several properties of business ecosystems: *'They are multi-entity, made up of groups of companies not belonging to a single organization. They involve networks of shifting, semipermanent relationships, linked by flows of data, services, and money. The relationships combine aspects of competition and collaboration, often involving complementarity between different products and capabilities (for instance, smartphones and apps). Finally, in ecosystems, players coevolve as they redefine their capabilities and relations to others over time'.*

The term *'entrepreneurial ecosystem'* is also addressed in various studies and Mason & Brown (2014) compiled a definition based on them that contains the different perspectives: *'an ecosystem is a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organisations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of 'blockbuster entrepreneurship', number of serial entrepreneurs, degree of sell out mentality within firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment'.*

Isenberg (2011) indicated that entrepreneurship continues to develop even in complex and novel environments. He argues that ecosystems that support entrepreneurship consist of a variety of complex and interrelated aspects that he groups into six realms: culture of fostering entrepreneurship, favourable policies and leadership, access to credit, strong pool of human capital, market demands, and a range of institutional and infrastructural support structures. According to Isenberg (2014), *'an ecosystem is a dynamic, self-regulating network of many different types of actors.'* Furthermore, Isenberg (2010) recommended the following measures to stimulate entrepreneurship:

- Stop replicating Silicon Valley.
- Shape the ecosystem based on local conditions.
- Private sector engagement from the beginning.
- Favour businesses that promise growth potential.
- Inspire others by making at least one success story visible.
- Give priority to change attitudes and perceptions and use the power of media.
- Do not pamper businesses.
- Let clusters emerge organically, avoid strict policy directives.
- Improve exiting legal, bureaucratic, and regulatory frameworks.

Thinking in ecosystems is about pushing boundaries and breaking down structures. It means a new frame to describe socioeconomic reality. The frame is no longer 'the company' but the 'ecosystem of the company'. It is not only a different view of reality, but it is a break with the existing order. Thinking in terms of ecosystems entails dealing with different values and developing new opportunities through creative imagination. Taking the perspective of planetary and ecological values means focusing on survival in the changing environment rather focusing on profits (for businesses), content citizens (for politicians) or advancing knowledge per se (for knowledge institutes). Instead, other focus areas - circular economy, mitigating global resources depletion and waste, climate change and climate adaptation, sustained future welfare - will dominate all ecosystems.

In summary, features of ecosystems are:
1. An ecosystem is an environment in which a system can thrive because matter, knowledge, information, and energy are exchanged allowing the system to sustain itself and develop.
2. It is a dynamic, self-regulating network of many different stakeholders.
3. It is an open system. The ecosystem is also subject to its external context in which external factors can be enabling or disruptive.
4. The ecosystem has a capacity to restore itself such that to a certain extent disturbances from outside can be absorbed.

2.3
INNOVATION SYSTEMS AND INNOVATIVE ECOSYSTEMS

Henry W. Chesbrough (2003) was the first to distinguished between closed and open innovation systems. In a closed innovation system, companies work to invent, develop and commercialize their innovations for themselves. To remain competitive, they invest heavily in R&D and hire the best people available. They also ensure that their intellectual property is well protected. In open innovation, businesses commercialise their own innovations as well as those of others and use other networks to bring them to customers. To achieve this, contracts are drawn up with other parties. For example, collaborations with others include joint ventures, acquisition of licences, participation in projects, etc. Several challenges to open innovation, also applicable today, are: *How do you keep the best people close to you? How do you protect your innovation operations/plans in open innovation and how do you award costs and profits in open innovation?* (Chesbrough & Appleyard, 2007).

'Open Innovation 2.0' (Curley & Salmelin, 2013) goes a step further, it is a new perspective on innovation. Here, innovation happens in networks where creative collaboration takes place and value is generated for all participating parties. The quadruple helix model frames this perspective in which government, industry, academia and social partners (users, inhabitants, customers and others) work together to create a desired future and structural changes based on trust, common vision, shared values and shared resources (Curley & Salmelin, 2013). It is not only about ideas (of change) or the development of such ideas, but also about the adoption of such ideas by users. Open Innovation 2.0 is about more than just technological innovation; it is also about social innovation. Curley & Salmelin stress that open innovation occurs in an ecosystem that crosses organisational boundaries and is built on trust, shared resources, a common vision, and shared values.

'Open Innovation 3.0' (Hafkesbrink & Evers, 2010) is a new development in which the embedding of open innovations in the broader society is addressed. To this end, attention is paid to knowledge-intensive small and medium-sized enterprises (SMEs) whereby ICT plays a key role. SMEs are limited in their resources but need to keep up with new developments in innovating the business. Here, learning is central, and it takes place in open settings with others. This is seen in the realms of digital business, robotics, cybersecurity, big data, A.I., cloud computing, blockchain technology, etc. This development is often captured under the heading "Industry 4.0.[14] Hafkesbrink and Evers refers to open innovation 3.0 as "Embedded Innovation" and offers a definition: *'the fundamental ability of a firm to synchronize organizational structures, processes and culture with open collaborative learning processes in surrounding communities, networks and stakeholder groups so as to ensure the integration of different external and internal knowledge, i.e. competences or technological capabilities, and to exploit this knowledge to commercial ends'.*

'Open innovation 4.0' is a term used to capture sustainable open innovation particularly, and this includes efficient use of resources and energy; local production for the local market; low environmental impact; and so on (Costa, J. & Matias, J. 2020).

Moving on to the term '*innovation ecosystem'*, this too has been regarded in various ways. Van Bree et al. (2021) defines regional innovation ecosystems as *'a set of interconnected actors, factors, facilities, infrastructure, knowledge, talent, capabilities, institutions, leadership and other preconditions within a certain regional/geographical context, in which parties active and purposeful collaboration on innovation, renewal, diversification and thus the creation of value'.* They refer to a 'minimum viable ecosystem' to indicate that a vital and resilient ecosystem requires the presence of a minimum number of different parties, with their own specialized areas of knowledge and technology, to realize a sustainable innovation network. In addition, such a network can work on a common vision to create a local or regional innovation agenda and contribute to the financial and human capital needed.

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14   Industry 4.0: fourth industrial revolution guide to Industrie 4.0 (i-scoop.eu)

Granstranda and Holgersson (2020) defined the innovation ecosystem based on a synthesis of 21 distinct definitions *'An innovation ecosystem is the evolving set of actors, activities, and artifacts, and the institutions and relations, including complementary and substitute relations, that are important for the innovative performance of an actor or a population of actors.* They pointed out that whilst many definitions emphasized cooperation and complementarity, in innovative ecosystems, comparable to natural ecosystems, competition and substitution (of actors, activities, products and technologies) are also often present.

A different study, commissioned by The Digital Transition Partnership[15], makes clear that *'Innovation ecosystems are highly complex structures. A one size fits all strategy for ecosystem development does not exist'* (Komorowski, 2019). This research distilled nine criteria to characterize innovation ecosystems. The criteria and some key observations follow.

- Well-functioning innovation ecosystems can be found in both (very) large and (very) small cities.
- The number of participants can vary greatly. From less than ten to more than 10,000, with an average of 100 - 500.
- Innovation ecosystems have many different types of participants. SMEs, larger corporations, and universities are almost always involved. Often, regional and local governments and cluster organisations are present, but also financial institutions, chambers of commerce, research organisations, accelerators, and incubators.
- The focus of an innovation ecosystem can be very broad or very specialized. Many innovation ecosystems can be found in the energy sector and most focus on technology development and integration of ICT in various sectors including healthcare, creative industries, etc.
- Innovation-ecosystems have different phases of development: start, growth, established, but sometimes, a transition is needed to be relevant.
- More than half of innovation ecosystems work at a regional level; one in four is international, and far fewer operate on a smaller scale than the region.
- Most innovation ecosystems are formed as economic clusters.

- In half the cases, they are the result of governments. Universities have often also played a role. Usually there is a person who takes responsibility.
- Goals and actions mainly focus on innovation and technology development but cooperation, promoting the ecosystem and gaining access to training and knowledge also play a role.

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15   A number of cities, countries, European organizations and the European Commission have joined forces to influence European legislation for urban areas, on key themes including digital transition, and for joint fund-raising and sharing knowledge.

MISSION-DRIVEN INNOVATION SYSTEMS

A mission-driven innovation system (MIS) is about social partners and their collective search for innovative solutions for societal challenges. Within the MIS, businesses and social organizations are often forerunners as they encounter problems and, or see new opportunities to exploit whereby they can make a profit, save costs, and, or innovate. Research and knowledge institutions often participate and gain insights from developments in practice and can deploy researchers and students for societal challenges. Governments also play a role because of policy, legislation and regulations affecting the challenges addressed. For successful and sustainable mission-driven innovation, financial robustness is required and therefore, banks, other financial institutions and companies are also often involved. At the end of the day, in mission-driven innovation systems, citizens, inhabitants, customers and clients are important stakeholders with their concerns, questions, and interests. However, often, these end-users have an initial passive role in the development of the innovation system, but eventually they come into the picture during the implementation phase of innovations.

In the Netherlands, the Ministry of Economic Affairs and Climate has adopted a "mission-driven approach as the starting point for top sectors and innovation policy'[16]. This has resulted in various knowledge and innovation agendas[17], such as the Knowledge and Innovation Agenda Social Earning Capacity (KIA MV). The main aim of the KIA MV is to accelerate the scale-up innovation to achieve greater social impact in dealing with major transitions needed for societal challenges. Meanwhile, an initial exploration of the actual practice of mission-driven innovation systems has taken place and several findings and suggestions for further research have been made[18]. Below are some highlights.

Mission-driven innovation systems
- Involve a mix of technological and social innovation
- Citizen participation is important for widespread social embedding
- Place-based thinking is important: each region is different; the knowledge and skills (ability and capacity) present are different; and place-based thinking supports creating a development agenda based on common vision and a focus on collective actions
- The different interests of participating stakeholders need to be considered when initiating collaborations in the coordinating and decision-making processes
- Entrepreneurship and new business models are needed
- Societal challenges needs to be leading
- Expect changes to the roles, responsibilities, and division of tasks of the various levels of government
- Care must be taken in setting initial trajectories, for example in technology development, due to the risk of lock-ins
- Existing systems must be phased out and new governance models created, giving attention to 'losers'.

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16   Kamerbrief over missiegedreven Topsectoren- en Innovatiebeleid | Kamerstuk | Rijksoverheid.nl
17   NWO | KIA Maatschappelijk verdienvermogen (KIC)

18   KIA MV Verkenning 2020.pdf (groz.nl)

2.5
REGIONAL DEVELOPMENT AND INNOVATION ECOSYSTEMS

The region as the scale and place where social innovation is increasingly sought after, is not a strange idea. People live, work, inhabit and recreate there. The village scale is often too small for many forms of systemic innovation, be it in transportation, food, health, or education. The national does not do justice to regional differences. Regional development is not only about economic, social and environmental development, but also about resilience and sustainability, in local places. These places come in a variety of names, but in any case, in terms of scale are larger than villages or cities and smaller than a country. Resilience and sustainability are not only about a region's ability to deal with shock, but more importantly about its ability to permanently renew and adapt when the context changes dramatically (van Berkel & Manickam, 2020). There is good reason for the renewed emphasis on the region. (Barca, 2019). Global, European and national developments impact different regions differently in terms of inequalities in wealth, entry to labour market, knowledge infrastructure, transportation, culture, etc. As a result, differences between city and countryside, between periphery and center have increased. Barca therefore advocates a "place-based approach" in which attention is paid to specific local circumstances at every policy level.

OECD and Europe also realize the importance of the region, not only for the region itself, but also for the nations, Europe, and the world.

2.6
REGIONAL POLICY: OECD AND THE EU

Various multi-level policy approaches aimed at regional development are highlighted below.

OECD and regional policy

The OECD found that certain developmental strategies in the past, for example, providing subsidies to economically underdeveloped areas and investing in large infrastructure projects, have proven to be ineffective[19]. They have led to an underutilization of the economic potential and a further weakening of social cohesion in such regions. The OECD has therefore adopted a new "place-based, multi-level, multi-sectoral, evidence-based and innovative approach". The approach focuses on:

- improving local business performance
- aligning to specific regional assets rather than top-down investments and transfers
- the emphasis on opportunities rather than disadvantage or support needs
- more consultation amongst local, regional, and national governments and other stakeholders with central government being less dominant.

OECD and 'Just Transition'.

'Just Transition' is a movement that originated in the American trade union movement in the 1990s to support workers who lost their jobs because of environmental measures. According to Smith (2017), a shift has taken place with the focus on transitions related to the climate crisis. It is about equitable transitional measures for everyone to help make the carbon-free world a reality. This

19 Regional Development Policy - OECD

applies, for example, to the coal and oil industry, to cities that need to invest in a circular and zero-emission economy, to all industry that needs to produce sustainably, to workers who need to re-train and look for new jobs, and to governments facing three concurrent challenges: climate crisis, growing inequality, and social inclusion.

Smith offers recommendations to make "Just Transition" a reality:
- Dialogue at all levels, with all parties
- Action plans, strategies and funds are needed
- Governments and employers should provide training and new placements for vulnerable workers
- Invest for the benefit of vulnerable communities, regions and sectors, invest in low-emission infrastructure that creates new jobs
- Companies should provide information not only pertaining to climate change mitigation measures but also on transition strategies and risks to jobs

In a second OECD-report the recommendations are offered (Botta, 2018):
- The need for a sector-specific approach as some sectors will be severely affected by the transition; a range of policy instruments will have to be deployed, for example, related to labour market such as retraining but also in land remediation where contaminated soil is present
- The transition cannot be left to the market
- Gender policy plays a role because the fossil industry employs mostly men whilst in renewable energy, the ratio of men to women is more balanced; also, many older people work in the fossil fuel industry: differences in earning and capacity to re-train play a role in such cases. Also, the fossil industry is concentrated in specific regions: difficulties in creating new jobs; many workers affected by transition, which means large numbers needed new skills and jobs. In some places the transition can be quite significant.

EU and Regional policy

European policies that touch on regional development and innovation:
1. *Europe 2020*[20] has been an important European strategy for the past 10 years, with the aim to create a new economy that is smarter, more sustainable, and with more inclusive growth (economic, social and regional cohesion).
2. The *'Smart Specialisation Strategy' (RIS3)*[21] is the strategy for countries and regions to achieve this (Foray D. et al, 2012). They are basically bottom-up plans for territorial economic transformation based on the specific strengths of a country or region. through their specialization, they can be competitive and potentially be the best. In doing so, all stakeholders are encouraged to participate in technical, social and practical innovation.
3. *Programmes, institutes and networks.* Europe 2020 has been translated into European, national and regional policies and elaborated in programmes underpinned by European financial instruments such as 'Horizon 2020'[22], institutions such as 'The European Institute of Innovation and Technology' (EIT)[23] and European networks such as 'European Innovation Partnerships' (EIPs)[24].
4. *Committee of the Regions*[25]. Through the European Committee of the Regions (CoR), it has been made possible for EU regions and cities to advise on new laws affecting local and regional developments, allowing for a bottom-up approach.
5. *Horizon Europe, the European Research and Innovation Program of 2021-2027.* One hundred billion euros has been set aside to improve the quality of science and technology, find solutions for healthier living, realize the digital transition and fight climate change, to make Europe more resilient.

20 https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF
21 Home - Smart Specialisation Platform (europa.eu)
22 Horizon 2020 | The EU Framework Programme for Research and Innovation (europa.eu)
23 European Institute of Innovation & Technology (EIT) (europa.eu)
24 https://research-and-innovation.ec.europa.eu/strategy/past-research-and-innovation-policy-goals/open-innovation-resources/european-innovation-partnerships-eips_en
25 https://cor.europa.eu/en/about/Pages/default.aspx

The Horizon Europe policy focuses on three pillars[26]:

- Excellent science: increasing European scientific competitiveness, more vanguard research by top researchers, making fellowships available, establishing a doctoral education network, increasing exchange opportunities, and investing in a world-class research infrastructure.
- Global Challenges and European Industrial Competitiveness: supporting research focused on societal challenges, fostering clusters and missions and objectives focused on health, culture, creativity and inclusive society, civil security for society, digital, industry and space, climate, energy and mobility, food, bioeconomy, natural resources, agriculture, and environment.
- Innovative Europe aims to make Europe a frontrunner in innovation that can be marketed: developing a European innovation landscape integrating the knowledge triangle of education, research and innovation, increasing participation in and strengthening the European Research Area, and supporting Member States in their efforts to exploit their national research and innovation potential.

6. *NextGenerationEU,* COVID-19's recovery programme and the *EU's long-term budget for 2021-2027* (1.8 billon euro)[27] to help repair the economic and social damage from the coronavirus pandemic and guide the transition to a modern and more sustainable Europe. More than half of that money goes to research and innovation, climate, digital transition, recovery, and resilience.

7. *The 2019-2024 strategic agenda has six priorities*[28]
   - A 'Green Deal', a climate-neutral Europe by 2050
   - Europe fit for the digital age
   - An economy that works for people: a favourable investment climate aimed at the growth of good jobs for young people and small businesses
   - A stronger Europe in the world
   - New impetus for a democratic Europe

8. Europa also invests in *'Just Transition'*[29] as part of *'Green deal'*[30] to help address the social and economic impacts of the transition, with a particular focus on the countries, regions, industries, businesses, workers, and citizens who will face the greatest challenges. Europe reserves at least 100 billion euros for this until 2030.

9. *Cohesion Policy.* Aimed at strengthening all regions and their populations in Europe, a "Cohesion Policy" has been established by the European Commission[31] for the period 2021-2027, with €278.1 billion set aside to make Europe smarter, greener, more connected, more social and closer to citizens.

10. *A new industrial strategy* formulated by the European Commission aimed at forming new industrial value chains, leading to new climate neutral and digitally advanced industrial ecosystems (European Commission, A European Industrial Strategy, 2020).

11. *Cluster Policy.* Europe also has policies (*cluster policies*[32]) and programmes (*INNOSUP*[33]) aimed at strengthening SMEs.

12. *'Mission-Oriented Research and Innovation'* (Mazzucato, 2018) is also a new policy instrument of the European Commission to focus knowledge and innovation to solve major societal challenges of our time, such as climate change, cancer, safe water, climate neutral and smart cities, soil health and nutrition.

26 https://research-and-innovation.ec.europa.eu/system/files/2022-06/ec_rtd_he-investing-to-shape-our-future_0.pdf
27 The 2021-2027 EU budget – What's new? | European Commission (europa.eu)
28 The European Commission's priorities | European Commission (europa.eu)

29 The Just Transition Mechanism (europa.eu)
30 European Green Deal (europa.eu)
31 New Cohesion Policy - Regional Policy - European Commission (europa.eu)
32 DocsRoom - European Commission (europa.eu)
33 INNOSUP Initiative | European Cluster Collaboration Platform
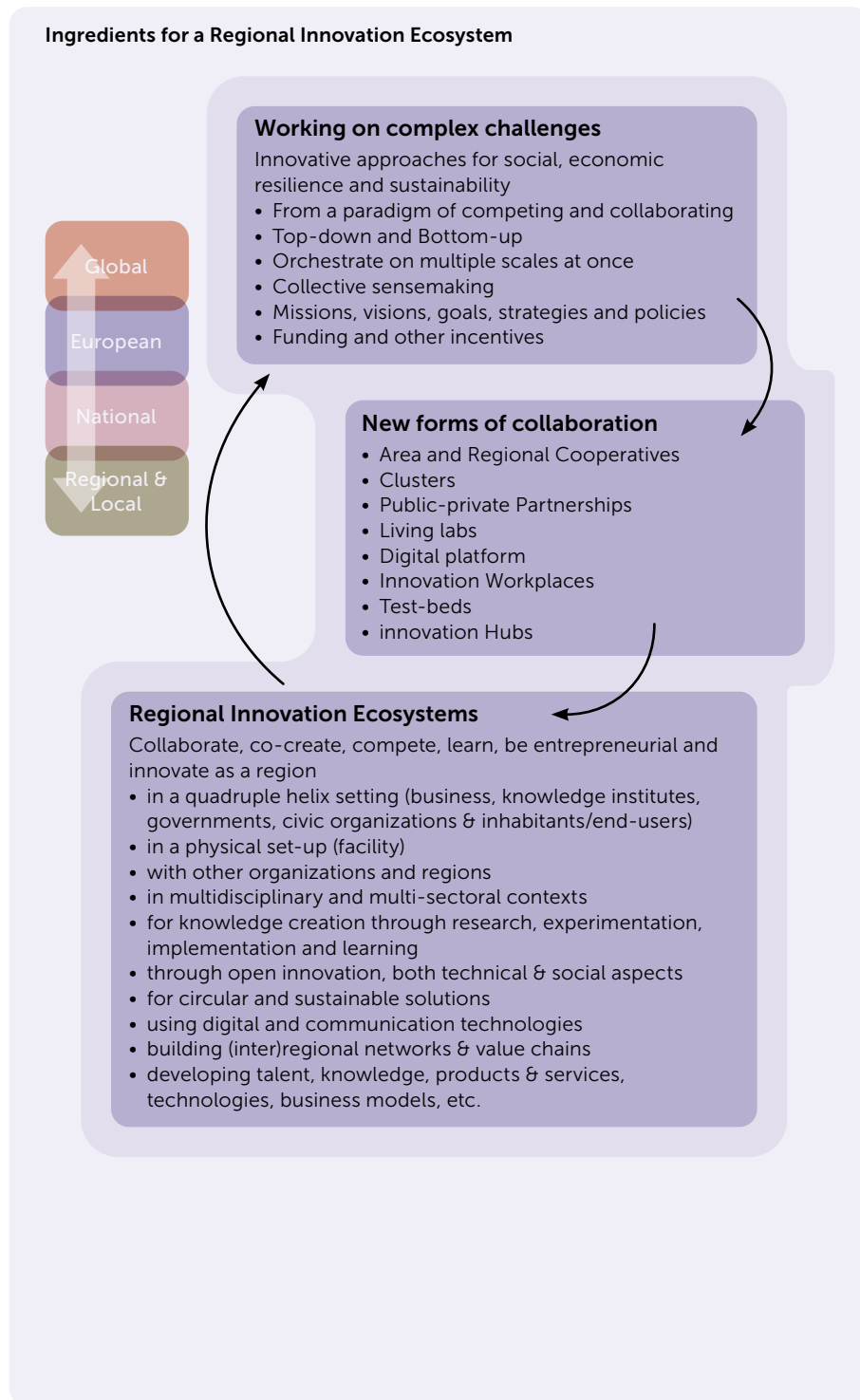
2.7
A REGIONAL INNOVATION ECOSYSTEM

The previous sections have shown how various concepts and approaches related to ecosystem, innovation and region have developed over the years. And this has led to a strong conviction that regional innovation ecosystem is a useful framework to address both specific regional issues and global challenges.

The main highlights related to the regional innovation ecosystem framework and its development:

- A growing awareness has emerged that a healthy ecosystem nurtures development and allows plants and animals flourish, but that the same can be true for businesses and institutions. Based on this realization, attention has increasingly shifted to local and regional coordination and cooperation that can be beneficial to all parties.
- Understanding that successful innovations are less likely to emerge in closed circles as opposed to open networks. This is why the concept of ecosystem has become more relevant. Also, in ecosystems the social embedding of innovation takes place and this allows for innovations to be technological, social, economic, cultural, and political.
- Regions play an important role in on-going developments in Europe and globally, and equally, global and European issues have a major impact on regional development.
- The realization that regions are an important engine for growth and change is reflected in many OECD and European reports and policies. The EU stimulates regional development with various policy and financial instruments.
- Given the interconnectedness of different geographical scales (region, country, continent, world), combined top-down and bottom-up approaches are needed to realize sustainable, innovative solutions for social, economic and ecological resilience.
- Effective strategies dealing with complex challenges and related societal transitions transcend existing (institutional and organizational) structures.

Individual organizations with their limitations of interests, resources and capacities are not able to rise to the challenge. Instead, new multidisciplinary, multisectoral and often digital networks at different scales are needed. Such networks will have elements of cooperation (common visions and goals) as well as competition (own visions, interests).

- Thinking in regional innovation ecosystems represents a major challenge for all established parties in a region. The thinking and actions of all stakeholders, governments, businesses, universities, civil society organizations, will have to change. It involves working together based on common vision while doing justice to differences in vision, interests, and positions.
- New knowledge and innovation networks are emerging at the regional level to foster innovation for societal challenges. These come in the form of clusters, public-private partnerships, living labs, (digital) platforms, test sites, etc. In the Northern Netherlands, experiments on area and regional cooperatives and innovation workplaces are taking place (Foorthuis, et al., 2020).

Ingredients for a Regional Innovation Ecosystem

Working on complex challenges
Innovative approaches for social, economic resilience and sustainability
- From a paradigm of competing and collaborating
- Top-down and Bottom-up
- Orchestrate on multiple scales at once
- Collective sensemaking
- Missions, visions, goals, strategies and policies
- Funding and other incentives

Global
European
National
Regional & Local

New forms of collaboration
- Area and Regional Cooperatives
- Clusters
- Public-private Partnerships
- Living labs
- Digital platform
- Innovation Workplaces
- Test-beds
- innovation Hubs

Regional Innovation Ecosystems
Collaborate, co-create, compete, learn, be entrepreneurial and innovate as a region
- in a quadruple helix setting (business, knowledge institutes, governments, civic organizations & inhabitants/end-users)
- in a physical set-up (facility)
- with other organizations and regions
- in multidisciplinary and multi-sectoral contexts
- for knowledge creation through research, experimentation, implementation and learning
- through open innovation, both technical & social aspects
- for circular and sustainable solutions
- using digital and communication technologies
- building (inter)regional networks & value chains
- developing talent, knowledge, products & services, technologies, business models, etc.

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3

Regions in
transition

3.1
STAGES IN DEVELOPMENT OF A REGIONAL INNOVATION ECOSYSTEM

The creation, expansion and success of a regional innovation ecosystem does not happen by itself. It is a matter of trial and error. It is an evolution from competing to collaborating; from solely operating organisations to networked organisations; from self-interest to shared interests and from hierarchy to mutual alignment. The volatile processes involved are discussed below and presented as four distinct stages[34]. In the first phase, there is a growing awareness that the existing societal structures are inadequate in addressing new social challenges such as energy transition, limited economic growth, climate change, earthquake impacts and the declining levels of services in rural areas. In this phase, notions of deeper collaborations between governments, businesses, knowledge institutions, inhabitants and civic organizations emerge. In phase two, ideas take shape. Most participants are excited about the creation of a community-based eco-system. In the third phase, it becomes clear that the expected turnaround is more tedious and various barriers hinder transitions. It is only in the fourth stage when organisations understand that a lot of effort is needed, particularly within the own organisations, that a regional innovation ecosystem will emerge, even if it takes time.

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34 Based on collaborative experiments and initiatives amongst inhabitants, businesses, knowledge institutes, civic organizations and governments to build a strong regional ecosystem in Groningen since 2013.

3.2
THE CHANGING REGIONAL LANDSCAPE

Where there are societal transitions, several parties are relevant such developments. Governments, citizens, companies, social organisations, and educational institutions all play important roles. Until recently clear boundaries in positions, goals, and domains framed the scope of regional actors: the government was there to provide public services, citizens lived, worked, and resided in the area, businesses competed in an increasingly global economy, social institutions provided services in their designated branch, and knowledge institutes engaged in education and research from their respective disciplines and professions. This scenario is changing from a growing realization that regional stakeholders can help shape their collective future and, through collaboration, build an ecosystem in which dependence on other system levels and negative external developments can be turned around.

Therefore, a summary of how in most regions the various players have their own roles and how those roles are gradually changing.

Governments

Administratively, the Netherlands is divided into the national government, provinces and municipalities. There is no fixed division of tasks and fixed division of roles between the different levels of government. In recent years, for example, the social domains of care (wmo), work (Participation Act) and youth care (Youth Act) have been decentralized to municipalities. Moreover, all administrative levels can have mandates in the same policy area. In addition, there are regional water boards that are tasked with water management issues and therefore have overlaps with various government agencies. A recent change in the Netherlands is that municipalities have become considerably larger as a result of municipal redistricting. There were 431 municipalities in 2010, and that number was reduced to 345 on January 1, 2022. Economies of scale for greater effectiveness and efficiency were the key motivation, but at

the cost of creating greater distance to local populations. Next to the greater distances to the municipality offices for most, contacts with civil servants became more impersonal due to more digital services instead of in-person counters, and staff from different areas, etc. Also, as part of efficiency, transparency and uniformity across locations, services and regulations are framed by procedures and protocols. In this process, interests of individual citizens have sometimes been seriously harmed, as in the cases of the tax and support benefits affair, and the compensation for earthquake damages in Groningen.

The traditional role of governments is to guarantee public services such as security, education, cultural and social services and infrastructure[35]. However, the role of governments, including municipalities, is changing as they must deal with new challenges for which they are not prepared. This includes complex challenges and transitions (mentioned in this book previously) as well as urgent external shocks such as the Covid pandemic, the sudden influx of Ukrainian refugees and the increasing numbers of refugees from elsewhere that need to be housed, which in turn, adds to the already existing housing shortages crisis. These complex and interconnected issues require alignment and coordination: within government organizations (no longer one department or service); but also, not only government (crossing boundaries to be intersectoral and interdisciplinary) and often, the need for public- private partnerships. In such partnerships, government continue to have a steering role with private parties having the responsibility for design, implementation and management of such joint ventures.

The formation of the European Union continues to have implications for Dutch (and other national) governments. More than half of new Dutch laws are the result of European policies[36]. Within the HORIZON programme, a major investment in research, investment and development for the EU, several new missions drive how key ambitions of the European Commission will be achieved. "EU missions are a coordinated effort by the Commission to pool the necessary resources in funding programmes, policy and regulatory and other activities. They also aim to mobilize and activate public and private actors, such as EU member states, regional and local governments, research institutes, farm-ers and land managers, entrepreneurs and investors, to create real and sustainable impact."[37]. The five missions for 2030 concern climate change mitigation, cancer prevention and cure, ocean and freshwater conservation, climate resilient and smart cities, and healthy soils.

Inhabitants

Individuals, whilst living in local communities, experience an enlarged span when it comes to their daily lives, work commutes and social contacts due to improved transportation, increased mobility, and the digital world. At the same time, economies of scale, particularly the establishment of global production, consumption, and information chains, have weakened or even disrupted local linkages and connectedness. In addition, significant differences have arisen between growing urban agglomerations and more peripheral regions. In the urban metropolis centres in the Western parts of the Netherlands, the knowledge economy, international contacts, and high-end/density of business activities make it attractive to well-educated young people. At the same time, there are specific metropolitan problems: pressure of mass tourism, traffic congestion, lack of cohesion, pollution and an overstrained housing and labour market. In the peripheral regions, such as in East Groningen, welfare and well-being have also come under pressure due to different factors: outdated industry, migration of talented youth, lack of qualified personnel, diminished social amenities and entertainment options, etc. In addition, in the Netherlands, the government has chosen to shift its strategy with regards to citizens: the welfare state has been replaced with '*the participation society*' in which citizens are expected to be self-organized and be more self-reliant[38]. The results are visible in a variety of ways: more communal vegetable gardens and fruit orchards, communal care and housing facilities, local energy collectives, communal initiatives and cooperatives seen in neighbourhood stores, schools, and libraries, etc. Such developments facilitate new alignment and cohesion. This is partly because the various parties in a region (citizens, governments, schools and businesses) come into contact through such initiatives and there comes a growing awareness that a collective effort helps to reduce common problems and maintain services.

35   Van Berkel, K. & Manickam, A. (2020). *Wicked World, Complex Challenges and Systems Innovation.* Groningen/Utrecht. Noordhoff Business.
36   Het belang van de EU voor Nederland | Tweede Kamer der Staten-Generaal

37   https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/ funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe_nl?etrans=nl#:~:text=De%20EU%2Dmissies,impact%20te%20cre%C3%ABren
38   5.3_rapport_het_wiel_opnieuw_uitvinden.pdf (rijnbrink.nl)

Businesses

In the Netherlands, small and medium-sized enterprises (SMEs) accounted for 63% of value added and 71% of employment in the business sector in 2020[39]. Businesses are increasingly forming (inter)national chains to produce efficiently and cheaply for the global market while also benefiting from a developing global knowledge infrastructure. This development has long been at the expense of local economies and communities. But things are changing. There is a greater emphasis on regional development. Lagging regions, the Covid pandemic and the war Russia initiated in Ukraine make it clear that globalization also entails risks of dependency on distant foreign countries and reduced resilience in one's own region. In the meantime, business communities and their representatives are increasingly acknowledging the business-sense of embracing the welfare and well-being of the local/regional community as an aspect of their entrepreneurship[40].

Social institutions and civic organizations

The changes in the landscape of social actors in the Netherlands, may be familiar to other regions as well. Economies of scale, as part of lean and efficiency measures, are dominant and have impacted social and civic organizations. The number of mergers and acquisitions in the Dutch healthcare and life sciences sector have been increasing for years. These changes are often driven by private equity investors and the expansion drive of international chains[41]. Nursing and care homes and at-home healthcare services also see similar expansion trends.

There are other issues facing social institutions. After the dismantling of the welfare state in the 1980s, market forces and privatization, and with it, entrepreneurship and demand-driven work processes were introduced. This occurred not only in the health sector, but also in social work/welfare, cultural and sports sectors. To add to this, the Dutch government increasingly uses public procurements instruments to ensure greater efficiency and quality in the care and welfare sectors, which are substantial sectors of the economy. One in six workers has a job in this sector. If the trend continues, it will be one

in four in 20 years and one in three in 40 years[42]. The sector is facing major staff shortages, especially nurses and other healthcare professionals. Costs are already skyrocketing due to the ageing population and increased need for care. There is a risk by 2030, there will be more than 100,000 vacancies. Long waiting lists exist, for example, in youth and psychiatric care[43]. These numbers reflect the urgent need for transition within the health and welfare sectors. The direction of change, that is, the transition, is clearly pointing to: more self-care, more informal care, a greater emphasis on prevention and healthy living, more home automation, and greater collaboration among healthcare providers and other stakeholders. Civic organisations are increasingly collaborating in networks to address urgent societal issues. A good example of this is the Groningen Care Agreement[44].

Knowledge institutes

Research institutes, scientific education, and higher and secondary vocational education are examples of knowledge institutes that feature specialised courses and departments focusing on professions, fields, and sectors. There is a growing realization that social challenges require interdisciplinary approaches and multi-sectoral collaboration. Also, cooperation is more often sought between the different levels of education. Knowledge institutions are breaking down the silos that once characterized such institutions even as they have become large institutions.

The Province of Groningen in the Netherlands has an extensive student population of more than 100,000 strong: the University of Groningen, 34,000 students, Hanze University Groningen, 30,300 students and vocational education institutions, 28,000 students. These various institutions collectively have a large innovation capacity. Education, research, innovation and entrepreneurship programmes are increasingly taking place in practical contexts in various forms, and therefore strengthening the region's innovation capacity and building regional and international knowledge chains. One example of connecting learning to practice is, the 'guild apprenticeship' in which craftsmanship is taught by guilders or experts in the field. Another example is the presence of more than a hundred innovation workplaces across the province

39 Jaarbericht Staat van het mkb 2021 - Ondernemers in beweging

40 Middellangetermijnvisie VNO-NCW en MKB-Nederland. 2021. *Ondernemen voor brede welvaart. Agenda NL 2030 Naar nieuw Rijnlands samenspel*. Agenda_2030_integraal.pdf (vno-ncw.nl)

41 Recordjaar voor M&A in de zorg en life sciences (en private equity) (consultancy.nl)

42 Nederlander betaalt straks 16.000 euro aan zorgkosten - Zorgwijzer

43 Onderzoeksartikel: 'Kansen voor anders werken' - AZW info

44 https://www.gza.nl/

of Groningen in which 'engaged learning' and 'research-based consultancy' takes place through the active participation of students with their teachers with local businesses, organizations and communities.
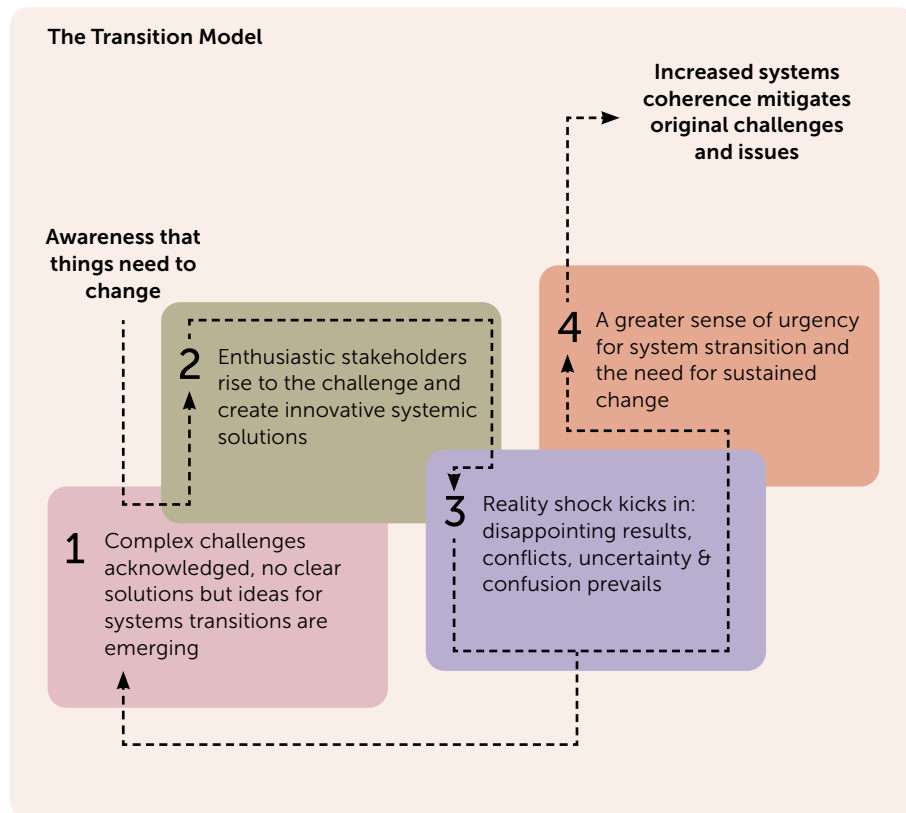
3.3
PHASES IN REGIONAL DEVELOPMENT

In the face of changing contexts, key regional stakeholders share a growing awareness and understanding of the direction of change needed. A collective shift amongst these stakeholders include the following:

- There is a realization that several challenges can only be solved through collaboration and not through individual departments, services, organizations, sectors or disciplines. Challenges such as climate change, exploitation of global resources, growing urban problems, impoverished rural amenities, exponential health costs and needs, growing migration trends, etc.
- The realization that local cohesiveness is undermined in business interactions due to economies of scale, globalization and digitization; the value of individuals is lost in business processes and business considerations.
- The discovery that circumstances, locations and regions are unique, and that each region has leverage points to regain regional resilience and enable broader prosperity for inclusive welfare and well-being, including improved health and living quality for all. And this, through sustainable ecological, technological and economic developments.

The collective shifts in the region experienced by key stakeholders are not necessarily linear. Transition processes are a question of trial and error as illustrated below.

The Transition Model

Increased systems coherence mitigates original challenges and issues

Awareness that things need to change

2 Enthusiastic stakeholders rise to the challenge and create innovative systemic solutions

4 A greater sense of urgency for system stransision and the need for sustained change

3 Reality shock kicks in: disappointing results, conflicts, uncertainty & confusion prevails

1 Complex challenges acknowledged, no clear solutions but ideas for systems transitions are emerging

Developments in the regional playing field have been described above. Elaborations of the various stages of change are provided below.

Phase 1 Regional challenges acknowledged and initial ideas emerging

Many global, European, and national problems are also regional concerns. The COVID pandemic, the aging population, the need for greening, the digital revolution, migration surges and the energy transition are impacting the places where people live and work.

Key regional actors begin to understand that such challenges pose a risk to the prosperity and well-being of the region and its inhabitants. Everyone realizes that something must be done and that no single player, including the regional government, is able to offer solutions on their own given the distinct roles and positions that they have. The need for change is felt in an ever-widening circle in this phase and the direction of change needed becomes more obvious. Specifically, the need for collective action increases with the realization that individual stakeholders do not have all competences and abilities needed to address prevailing challenges. However, the degree of complexity in such collaborations is yet to be discovered. Also, not everyone shares the sense of urgency to change equally. Some want change more quickly and are keen to seek new ways of working whilst others are stuck in their routines and schedules.

Parties eager to collaborate (municipality, businesses, institutions, knowledge institutes, citizens) come together and ideas are shared. These meetings create a new network and fresh ideas for doing things differently. Often, citizens take the lead. For example, the first energy cooperative in the Netherlands, the Frisian Noordenwind, was founded in 1986 and the first wind turbines were purchased. In the meantime, many energy cooperatives (wind farms, solar energy, hydro and thermal power generation) have been formed with participation of citizens, governments and businesses and supported by smart investment and financing opportunities[45]. Another example from Northern Netherlands of supporting the energy transition is EnTranCe[46]. EnTranCe is a Centre of Expertise at the Hanze University of Applied Sciences in Groningen, which had its beginnings in the skybox at the local Football Club Groningen. During an event held at the stadium, participants from education, energy companies and governments discovered a shared desire to collaborate to realize a transition to a sustainable energy future. EnTranCe is now a physical living lab and test site where multidisciplinary collaboration is taking place for sustainable innovations.

45 Https://www.hieropgewekt.nl/kennisdossiers/al-30-jaar-pionieren-in-energiecooperaties
46 Https://www.en-tran-ce.org/over-entrance/

In this first phase, the attractiveness of forming a new regional innovation ecosystem is central. There is motivation and a potential for collective action. Therefore, in this phase, physical locations to meet and funding resources are sought to initiate tangible projects. Collective aims are translated into missions and communicated more widely, inciting enthusiasm in more people. At EnTranCe, "People in Power" is the mission statement that has generated wider interests.

Phase 2 First steps towards systems transition by enthusiastic stakeholders

The initial ideas in the first phase are worked out by groups of enthusiastic players who understand the need for change. This includes generating funds, in part by participating parties or through start-up grants. Systemic innovations are designed by such groups and result in new cooperative organizations or network structures to work collectively. For example, in the Groningen region, a Regional Innovation Framework North Netherlands, also referred to as a "Regional Cooperative" was set up that would set up several local "Area Co-operatives" and "Innovation Workplaces". These place-based cooperatives and workplaces facilitate innovation collaborations with local stakeholders on local and regional challenges. They do this by also leveraging the innovation capacity of students and researchers from the regional knowledge institutes. There are more than a hundred of such locations where local parties, with the help of students, find innovative solutions to practical issues[47]. Visibility of the place-based innovative approach and of initial successes has meant that interest from others is increasing. This creates interests and expectations from other stakeholders fuelled by their own needs. The enthusiasm for the concept and approach of this place-based regional collaborations extends beyond the Groningen region. National and European attention and replications are emerging.

In this phase, different experiences and outcomes emerge: some stakeholders put in a lot of work to achieve success; strong relationships and linkages develop around specific projects between some of the stakeholders and their participating employees; and some initiatives take off and see accelerated developments and those participating are completely swamped by the work. Other initiatives can be more difficult to get started and can bring about impatience amongst many stakeholders waiting to move ahead.

47   https://destreekkrant.nu/regiocooperatie-noord-officieel-opgericht/

Phase 3 A reality shock and stagnation

In this phase, what becomes apparent is that the rapid successes are often "low-hanging fruits", which were already planned, or are quick fixes that contribute little to the innovation of the regional ecosystem. These initiatives receive a great deal of attention and applause, but they risk increasing the operational workload of employees and diverting the attention away from the original objectives of tackling major societal challenges together. Also, the long-term survival of the initiative remains uncertain since structural financing, returns on investment and new revenue models benefiting all participating stakeholders are not yet in place. The differences amongst stakeholders are amplified: they have different cultures, expectations, interests, plans and urgencies. For example, businesses want to move fast but government procedures may be a hinderance. Knowledge institutions want students to participate in seeking innovative solutions but are constrained by curricula schedules. The challenge to be addressed does not have the same degree of importance to all stakeholders. The shared agenda and actual collaborations are therefore limited.

For most stakeholders, the commitment and linkage to their own organization (sector, discipline, objective) is much stronger than to the new regional and local partnership. There is a growing realization that the participating stakeholders and their organizations need to first carry out an internal transition, and that for the most part, this transition has barely begun. Each organization has its own visions, goals, timelines and a misalignment with other collaborating parties is common. Each organization has workers, routines, funding streams, business processes, structures and procedures that are difficult to change. A growing concern about the availability of labour and structural resources to achieve system innovations and the expected outcomes are experienced. A relapse to the old paradigm and business as usual is a real threat.

Phase 4 Shared sense of the urgency and direction for sustained change

Despite all the disappointments, key stakeholders in the region realize clearly that system transitions are needed. Global developments reinforce this: Covid-19, the war in Ukraine, migration flows, accelerated digitalization, technological developments, etc. all pose lcoal challenges. The lack of self-reliance and dependence on global chains is painfully felt. As is the risk of falling behind due to a lack of infrastructure, labour and competences. There is a growing awareness of the importance of controlling one's own future. Current systems are unable to deal with changes and failing more frequently. We see local impacts of extreme weather conditions whereby some areas are becoming too dry or too wet. Providing refuge to asylum seekers is becoming challenge. Young people cannot plan their future due to housing shortages. Healthcare is bogged down by its costs and a lack of personnel. The energy transition cannot eliminate fossil fuels yet. Biodiversity is declining alarmingly.

These developments and the growing awareness result in a stream of local initiatives that are (re)shaping local places. Citizens, governments, businesses, and civic organisations are constantly joining forces. Bottom-up initiatives are on the rise, and many self-organized. We see for example, a renewed involvement of insurance companies and banks in regional communities in the Netherlands. Also, governments are increasingly entering into private-public partnerships in regional development in the Netherlands. Such partnerships engage citizen cooperatives and residents' and civic organizations next to financial and land development organizations as issues such as health, social cohesion, quality and sustainability of spatial planning play a role[48].

Local and regional networks are increasingly becoming the basis for creating new social structures. Ideas surface, collective initiatives like the innovation workplaces in Groningen Province emerge in which stakeholders work on new interventions or solutions. These initiatives and networks are open and less defined as to who may or may not participate. Experts, stakeholders and interested parties also participate. Innovation agendas, projects and experiments are developed, and the ensuing results attract new interests and participants.

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48 https://www.rooilijn.nl/artikelen/naar-privaat-publieke-samenwerking-in-gebiedsontwikkeling/

In this phase, the need for collaboration in regions, local communities, sectors and organizations is widely accepted. Organisations increasingly aware that working from the 'outside in' and cooperating with others based on their own interests leads to better results. Regional and local cooperation can increase resilience and sustainability for all parties involved. The regional and local agenda is collectively created by participating stakeholders. Attention is paid to building mutual trust. Any stakeholder can be an initiator of new developments.

3.4
COMPLEX CHALLENGES IN PRACTICE: STADLAND GRONINGEN-ASSEN REGION IN THE NORTHERN NETHERLANDS

In the areas surrounding the cities of Groningen and Assen, faced with various societal challenges, multiple individual initiatives were emerging to address the challenges, sometimes locally and at other times across the region. To have a better grip of the situation and to promote better innovation capacities, three types of collaborative networks at different territorial levels were created. They are described below. These network organizations had overlapping objectives with local agendas based on the local context. The local innovation agendas feed into and influenced the agendas at the other levels and vice versa.

Local businesses and civic organizations participate by freeing up time for their staff to work on relevant challenges. Work processes and agreements are in place to ensure that commitments and quality standards are maintained. Also, these workplaces and cooperatives are managed locally with good outreach to the local stakeholders. These coordinators are linked to each other and the Regional Cooperative to ensure that common issues are shared and learning across the various locations can take place whilst more complex challenges are flagged up to deal with at the regional level if needed. Communal wind turbines, shared spaces between a nature conservation agency and farmers to create new revenue and social benefits are some examples of local ventures.

Regional cooperative:

This is the collaboration at the regional level. The Regiocoöperatie Noord, Regional Innovation Framework Noord (RIF-N) was an alliance formed to tackle regional challenges. In this alliance, local and regional governments, knowledge institutions, regional employers' organization (VNO-NCW Noord), regional entrepreneurs' organization (MKB Noord), the regional branch of an insurance company (Univé Noord-Nederland) and a bank (Rabobank), both with cooperative roots, and the various Gebiedscoöperaties in the region (area

cooperatives) formed the RIF-N. The alliance is a legal entity established to be a driver and orchestrator of the innovation ecosystem of the region. The regional cooperative provides a sustainable framework with its support services to the collaborating networks and stakeholders at the lower territorial levels (area cooperatives and innovation workplaces) with their marketing, communications, administration, ICT, HR and funding needs. The RIF-N strengthens developments in the regional innovation ecosystem through its ability to connect, stimulate and accelerate.

Area cooperative:

This is a cooperative enterprise in which entrepreneurs, knowledge institutions, governments and inhabitants collaborate to strengthen their own organizational value/position and the local community in which they operate and reside. Each area is unique with its own local history, needs, strengths and opportunities and therefore has its own (innovation) agenda. Stakeholders collaborate to address these innovation needs.

Innovation workplace

This is a physical meeting place and a learning community populated by students, teachers, researchers, local businesses, civic organizations and citizen groups, etc. close to the communities or at knowledge institutions. Here, they collaborate and co-create innovative solutions to pressing communal issues. This process involves learning by doing and developing new types of knowledge.

Map of the Stadland Groningen-Assen Region and the emerging innovation ecosystem
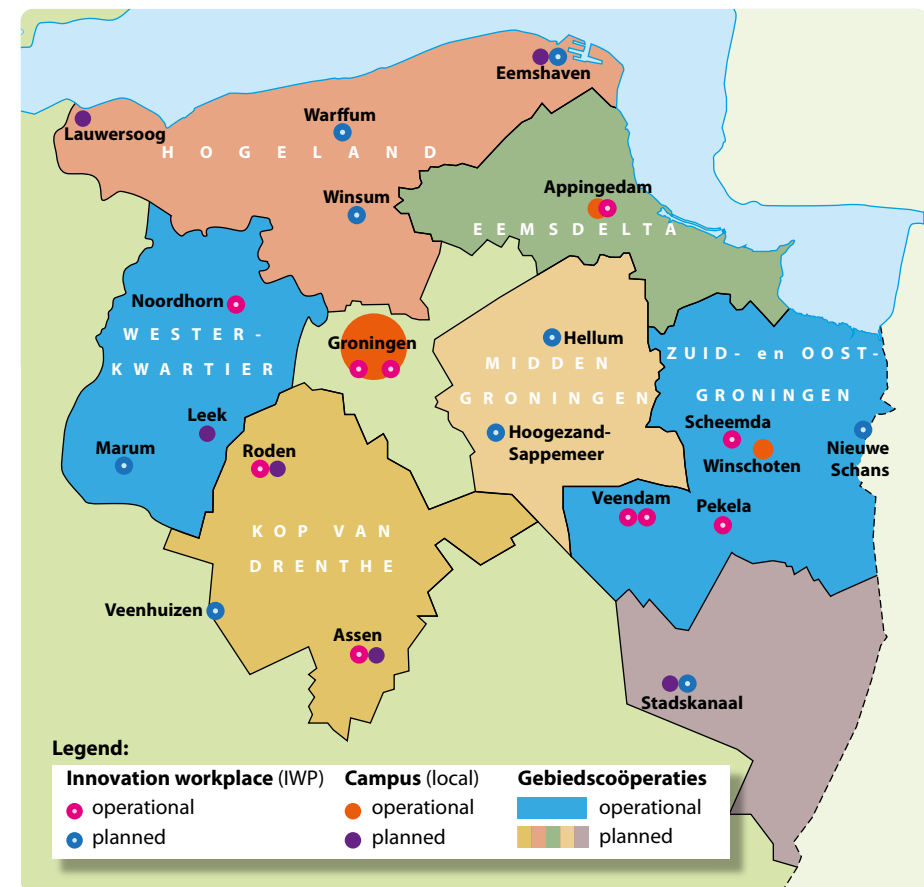
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Organizations
in transition

4.1
ORGANIZATIONS MUST ADAPT TO CHANGING LANDSCAPES

The competency trap

Many organisations, be it government, business, or knowledge institution, fail to adapt when the circumstances change dramatically. This phenomenon is called the competency trap[49] (Levitt & March, 1988). Successful organisations have difficulties dealing with change (Barnett & Pontikes, 2008)[50]. This is not surprizing as we keep to our set ways of doing, especially if they bring success. This provides a sense of stability. Also, why embark on an unknown future with new ways of thinking and doing when there is no guarantee of success? What must the different regional stakeholders and their organizations do in the face of changing landscapes? This chapter delves into the changes needed amongst the different stakeholder groups and their organizations and the accompanying sense of urgency.
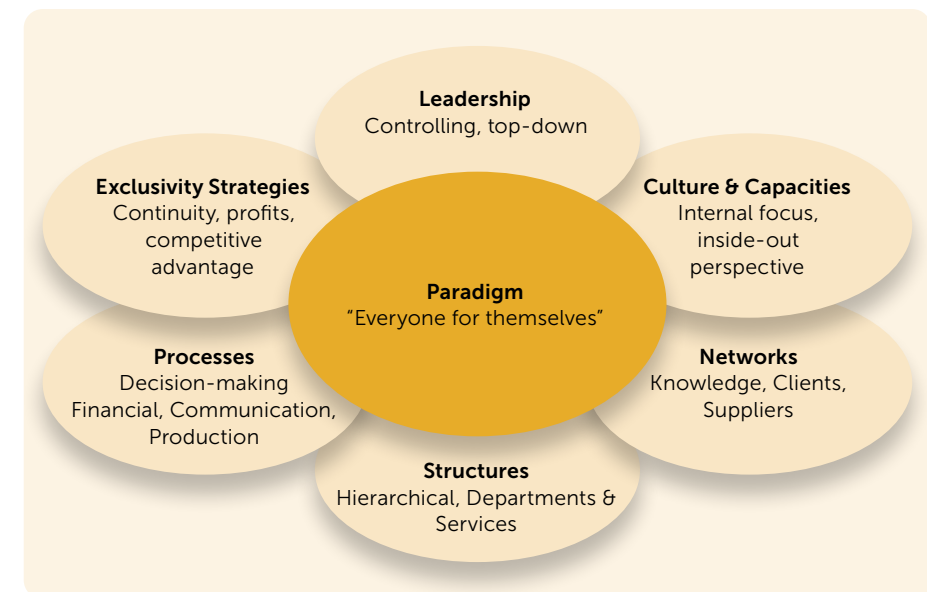
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49 Levitt, B. & J.G. (1988). Organizational learning. *Annual Review of Sociology* 14: 319–340.
50 Barnett, W.P. & E.G. Pontikes. (2008). The Red Queen, success bias, and organizational inertia. *Management Science* 54: 1237–1251.

4.2
SYSTEMIC COHERENCE

Earlier chapters have extensively shown how all organizations are confronted by societal challenges, and that systemic transitions are needed. The awareness that transitions are necessary is present. However, we see that businesses and institutions still practice "*business as usual*". This is not only due to simple short-sightedness, but even as short-term profits over longer-term sustainability decision-making is present. A lack of systems coherence is often a key issue. Changing one thing alone will not help. There needs to be alignment within organizations at all levels: strategic goals, management priorities, procedures, equipment, information flows, expertise, financial flows, customers, legal and HR issues. This applies to businesses as much as it does for educational institutions and government organizations. Illustration below captures conventional business systems:

Leadership
Controlling, top-down

Culture & Capacities
Internal focus, inside-out perspective

Exclusivity Strategies
Continuity, profits, competitive advantage

Paradigm
"Everyone for themselves"

Networks
Knowledge, Clients, Suppliers

Processes
Decision-making
Financial, Communication, Production

Structures
Hierarchical, Departments & Services

4.3
TRANSITIONS

Conservative forces (gatekeepers) are a major obstacle to be reckoned with when making changes in current systems as they will do everything in their power to maintain the system. Yet there is hope. Change in any ingredient of an existing organizational system (see illustration of business system in previous section) is an opportunity for systems change.
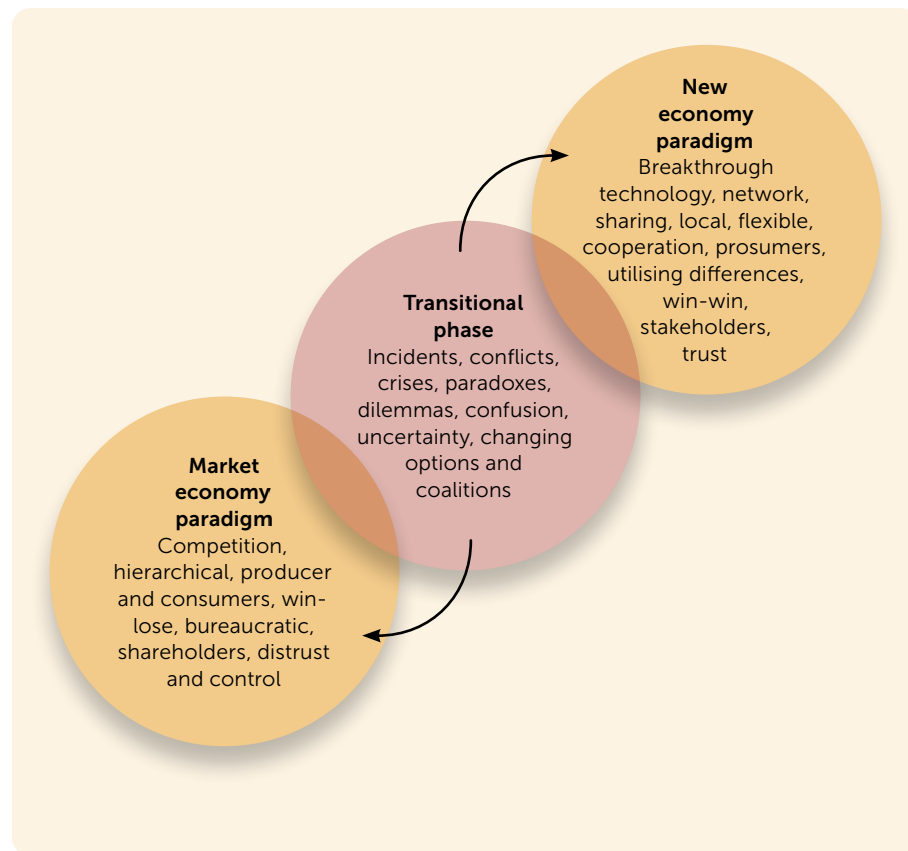
Transitions are always accompanied by discomfort, turmoil, competing interests, confrontations and coalition building according to van Berkel & Manickam[51]:

Transitions do not mean that all existing structures disappear completely. Prevailing societal structures claim their rights to exist for shorter or longer periods of time. In addition, things that have proven their value previously will become part of the new order. For example, the drive for standardization will continue where it makes sense, as will protocols and linear approaches for solving manageable problems. In many circumstances, new ways of thinking and acting will enrich existing systems. Many organizations are currently in a transitional phase. Existing systems are important for day-to-day continuity, whereas new systems are created to focus on the long-term, the tackling new types of problems, and ensuring success in the future.

New economy paradigm
Breakthrough technology, network, sharing, local, flexible, cooperation, prosumers, utilising differences, win-win, stakeholders, trust

Transitional phase
Incidents, conflicts, crises, paradoxes, dilemmas, confusion, uncertainty, changing options and coalitions

Market economy paradigm
Competition, hierarchical, producer and consumers, win-lose, bureaucratic, shareholders, distrust and control

51   Van Berkel, K. & Manickam, A. (2020). *Wicked World, Complex Challenges and Systems Innovation*, Noordhoff Business, Groningen/Utrecht.

4.4
ORGANIZATIONS COMBINING TWO SYSTEMS

A ccording to van Berkel & Manickam (2020), a parallel system (**system 2**) will emerge next to the current organizational system (**system 1**). This new system will help organizations deal with uncertainty, complexity and unpredictability that accompanies the societal changes that will continue to plague all organizations. System 2 is a more flexible system that needs to be implemented in all types of organizations.

Governments

Governments must be reliable, predictable and treat citizens equally. To this end, an entire system of has been set up consisting of departments and services, procedures and rules in rigid hierarchical structures. This means that governments cannot adopt a laissez-faire attitude to the growing number of social issues facing society. The traditional civil service organization has no answer to this changing landscape. Departments, hierarchical positions, roles and functions are focused on specific problems and forms of service delivery. The societal issues mentioned are of a different nature. These can only be tackled effectively through cooperation between departments and services and stakeholders outside the government.

For governments, this shift will help create a more fit -for-purpose organization. Highlights of a two-system organization are given below:

Government organizations in transition

System 1	System 2
Hierarchical & administrative	Flexible & improvising
Diligence & accuracy	Quick response in crises
Focus on stability & predictability	Dealing with insecurities
Standardized procedures	Creative solutions
Equal treatment	Room for customized treatment
Control & monitoring	Room for experimenting & trial and error
Focus on services	Focus on stakeholders
Internal frame of references: financial, quality, staff	Frame of reference: new developments, changing contexts/landscapes

Source: Wicked World (2020)

Similarly, other types of organizations need to navigate between present and future landscapes. Here too features of system 2 will emerge whilst preserving features of system 1 to serve current and future roles.

Knowledge institutions

According to Friedman (2018), if knowledge institutions maintain their current structures with diverse fragmented and narrow-scoped departments and disciplines, they risk extinction[52]. He advocates merging and creating multidisciplinary programmes and faculties to avoid "administrative bloat", "improve organizational agility" and reduce "silo mentality". If followed through, graduates will have broader, multi-disciplinary perspectives and can better contribute to needs of on-going developments.

Knowledge institutions, particularly vocational education institutions preparing graduates for the labour market, must also undergo a transition to include system 2 features and structures. Due to their different role and responsibilities, differences are to be expected in their transition compared to that of governments, but the general direction of change is similar.

Knowledge institutions in transition

System 1	System 2
Stewards of Knowledge	Engaged university
Hierarchical & discipline-based	Interdisciplinary & intersectoral networks
Focus: knowledge creation/professions	Focus: societal development
Detailed & fixed curriculum	Flexible programmes
Uniform profile of graduates	Unique graduate profiles
Class-based lessons: theory & practice	Practical engagement & focus on applied research, knowledge creation & innovative solutions
Priority: specialized competences	Priority: transversal skills & use of data & technology
Assessment criteria focused on mastery	Assessment focused on effectiveness of interventions

Businesses

Businesses are facing similar developments in their domain. Whilst system 1 still prevails, increasingly, businesses are recognizing the need to integrate system 2 into their practice. Those who fail to integrate System 2 to do so risk losing competitive advantage over time. Given the current state of technological advances and globalization, it is becoming increasingly difficult for companies to know who their main competitors are according to Friedman & Lewis[53]. They cite Uber, video streaming, and Amazon as examples of unexpected newcomers that have turned entire industries on their heads
The shift from a focus on internal organization and its effectiveness for profit maximization to one of collective development of fertile ecosystems that will secure the future for all will be a big challenge for businesses.

Business organizations in transition

System 1	System 2
Hierarchical & pyramidal organization	Network organization
Competitive: closed & independent	Collaborative networks: shared, open and interdependent
Focus on profits, growth & speed	Integral (or broader) focus: economic, technological, ecological & sustainable
Focus on shareholders/ profit-driven: win-lose	Collaboration with stakeholders: win/win
Rational/linear strategic & operational planning	Self-organization based on scenarios, goals, rules & boundaries
Striving for uniformity & standardization	Looking for variety that matches changing contexts
Roles, tasks, authorization and accountability	Alignment, coherence & coordination
internal systems	Frame of reference: new developments, changing contexts/landscapes
Control of processes, procedures & workers	Trust, complementarity & results

52 Friedman, H. H. (2018). How the Creation of Too Many Academic Departments Stifles Creativity, encourages a Silo Mentality, and Increases Administrative Bloat. Available: http://dx.doi.org/10.2139/ssrn.3095370

53 Friedman, H. & Lewis, B.J. (2021). The Importance of Organizational Resilience in the Digital Age. *Academia Letters*, Article 1643. DOI: 10.20935/AL1643

Civic organizations and civil society

Civil society and civic organisations are also faced with the need for transitions. We delve into the changes facing healthcare systems as an example of such transitions.

Health-care systems are rarely implemented by a single organisation. There are care systems working based on *"cure and care"* principles and operate mainly from **system 1** features. However, attention is increasingly shifting to *"prevention and healthy lifestyles"* in which organizations are embracing **system 2** approaches. It is expected that both systems will co-exist and interactions between these systems will result in greater emphasis on health and health-promoting systems, partly, fuelled by pragmatic reasons of rising healthcare expenses and a shortage of healthcare workers.

The transition of health systems and health care organizations is captioned below.

Health systems and health care organizations

System 1	System 2
Traditional, segmented health sector: Teaching & general hospitals Regional centres: smaller hospitals, nursing & care homes, Home care support	New health landscape: broad spectrum of businesses, health institutions & communities for every stage of life
Focus: specialties for cure, health care & rehabilitation	Focus: prevention across the board: safe and healthy working and living conditions
Traditional players: Physicians, nurses, caregivers, managers, insurers, patients, pharmaceutical & technology incumbents	Broader coalitions & new stakeholders: Governments, education, health & welfare sectors, neighbourhood groups, sports & well-being sectors, food sector/supermarkets, etc.
Priority: Cure, recovery & maximizing capacities & resources	Priority: Public health & healthy ageing
Protocol approach, medicines, and complex technology	Multiplicity and variation in approach; focus on self-care
Diagnostic measures focused on illness	Diagnostic measures focused on health, active lives & vitality

4.5
THE NEED FOR TRANSITION

Almost all organizations feel the need for transition. Often, transitions are framed as urgent societal challenges in different areas. Discussions are about energy transition, climate transition, food transition, agricultural transition, etc. However, the need for organizational transitions to safeguard such transitions is still in its early stages. *System* 2 has barely been implemented in many organizations even as there are rudimentary initiatives everywhere: projects and programmes involving collaborations across organizational boundaries. Interdisciplinary approaches, public-private partnerships, cooperation between SMEs and knowledge institutions, cooperation across value chains be it in production chains or in health. These are on the rise but fraught with challenges. Language and cultural differences amongst collaborating parties turn out to be different. Different parties have different interests in these collaborations, and often with different mandates making collaborations difficult. The urgency to do things differently is not equally experienced nor acted upon with costs and benefits of collaborating being one of the points of consideration.

# A NEW SYSTEMS COHERENCE

Concluding remarks building on earlier discussions for a new systems coherence.

- A *new paradigm*
  Embracing a new paradigm is critical for all organizations to remain successful in the future. It is important to shift the focus to the regional ecosystem as a starting point instead of the own organization. This includes exploring questions like: Which partners and networks make us stronger? What local and regional challenges offer new opportunities for us?

- *Inclusivity rather than exclusivity*
  Shared interest rather than self-interest needs to be prevailing. This is also valid for internal and external relations: it is no longer organization or department versus the rest, but collective efforts. Focus on economic benefits only is not adequate, it needs to include social and ecological well-being.

- *Attention to other processes.*
  Collective sense-making and decision-making with open communication rather than closed and secretive strategies, transactions and technologies.

- *Leadership*
  Leadership is becoming less about individuals in charge but increasingly about taking the lead in joint and collective programme and efforts. This involves exercising influence from one's own position, interests and expertise. Important to develop trust in shared leadership.

- *Culture and competences*
  Learning to see things from the outside in. Global and regional developments show us where challenges and opportunities lie. Recognising and accepting that everything is connected to everything else allows you to look further and uncover more options and opportunities. Confronting your own truth with that of other stakeholders broadens your view.

- *Networks* instead of hierarchy
  This involves local collaborations in the community connected to digital and global chains. Mutual alignment is required. The challenge frames and therefore determines the nature of the networks needed. Regional and global knowledge networks are critical.

- Other *organizational and legal forms*
  Collective action can be more effective and efficient through new organizational arrangements, such as regional cooperatives that aim to tackle regional challenges and opportunities for better futures collectively.

A representation of a new systems coherence:
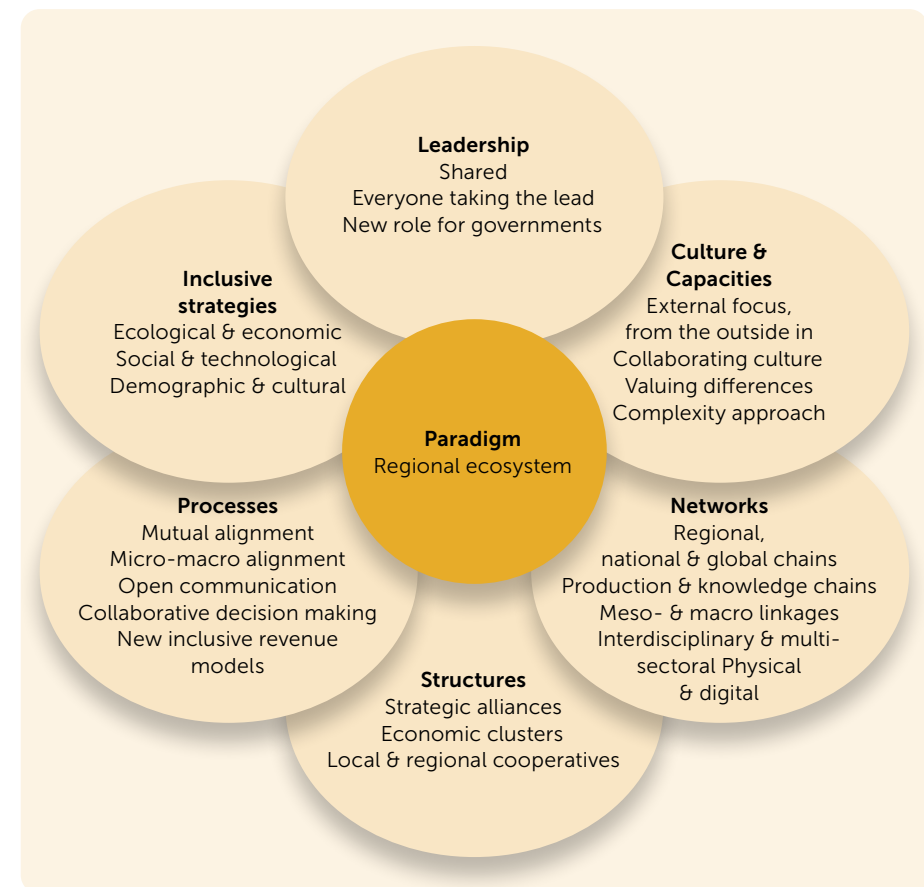
5

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Moving forward: regions taking the lead

5.1
NEW DIRECTIONS

To ensure that local communities become more resilient, new initiatives are required.

Prioritize regions and local communities

The significance of regional cooperation and cohesion for local inhabitants in terms of their lives, residence and livelihood cannot be emphasized enough. Globalisation, individualization, and neoliberal ideology have destroyed communities and fostered a "everyone for themselves" mentality. This applies equally to businesses, institutions and individuals. A shared past and common future do not seem to exist anymore. The discussions in this book have pointed out that new societal challenges can no longer be resolved through top-down measures, mono-disciplinary and single sector approaches. European, national and regional governments are faced with the limitations of current practice of governing through legal and regulatory frameworks. The specific identity, history and future of each region, city or village can only be secured through bottom-up approaches based on mutual communal cooperation.

Local governments need to take responsibility

Municipalities and provinces exist not only to implement and monitor national legislation. Nor are they only responsible for spatial planning, maintaining infrastructure, upholding local ordinances and public order, citizen registrations and services, etc.

The key priority of local governments must be the resilience and future well-being of their regions. This means strengthening the capacity of the region to bear adversities, adapt and renew in the face of disruptive and pervasive challenges. They need to provide for sustainable economic, social, and cultural milieus for the well-being and future of their inhabitants as well.

Create new alliances

Regional and local governments are best placed to stimulate necessary collaborations for working on urgent challenges, they have a 'license to operate'. They can create room for others to step into the public administration domain where this is needed. They can initiate *public-private partnerships* and leverage public procurements to this end. Permits, grants and other regulatory and policy tools can include obligatory cooperation with relevant parties. Creating physical and structural spaces for collaborations can help affirm the importance of such initiatives. Initiatives like the Dutch *regional and area cooperatives and innovation workplaces* are examples of innovation at work.

Co-create a regional or local agenda

Developing an innovation agenda to address challenges facing a region or local community is important. Such an agenda cannot be set by public administration or government agencies as a top-down strategy, but it needs to be shared, developed in collaboration with residents, businesses, institutions and knowledge institutions.

Revamp organizations

Governments are faced with the reality that they need to revisit their roles, responsibilities and how they are organized to safeguard the future of their constituents and local communities. This includes creating administrative flexibility to become an *"entrepreneurial government"* when required. Creating *System 2* as described in the preceding chapter will allow civil servants to seek creative and innovative solutions in networks with other regional stakeholders. This requires designated resources (time, money and personnel) and mandates. This should include more autonomy in their work when collaborating with regional stakeholders in dealing with complex challenges. Within public administrations, efforts to renew and adapt are underway, but still limited, and are in the early stages.

Deeper renewal processes, *organizational transitions*, are not only for governments but applies to all stakeholders. *Knowledge institutions* need to become more *'engaged'* to remain relevant to societal progress. They need to align their mode of operations to contribute to place-based innovation and developments. *Businesses* need to step up to their responsibilities for societal and environmental well-being and reframe what 'business' entails. The *health* sector, as with other *civic and social organizations*, need to connect within and outside their own domains and in new ways, to meet urgent challenges to ensure

well-being and healthy lives for the inhabitants and the local communities. All stakeholders need to be attentive to realizing *System 2* in their organizations. Inhabitants relied on electoral power to bring attention to concerns of their well-being and future. They are limited in exerting influence in important decision-making processes. This is why the *'right to challenge'* is so important as are citizen initiatives. Bottom-up initiatives often arise when systems fail. *Citizen initiatives and citizen councils* should be nurtured and structurally included when realizing placed-based developmental solutions like the regional cooperatives, area cooperatives and innovation worksplaces.

Align all aspects of the organization

In addressing societal transitions, all parties need to take their internal organisational transitions seriously. Deploying a few individuals to work on innovation in regional networks will not suffice. Strategic policies and goals need to be reviewed. Will maximizing market share drive the business or a sustainable future for everyone? Are we going to work together in networks and cooperative forms or are we afraid of losing autonomy? Do we keep our traditional hierarchical roles or change how we "lead" or do we dare embrace "collective leadership"? Do we ensure that our internal business processes align with regional innovation processes, or do we go our own way? In a changing landscape, do we protect our own interests, or are we open to new collaborations and develop new competences?

Design relevant regional and knowledge ecosystems

Regions need to build region-specific innovation ecosystems. This must be based on their capacities, strengths and accomplishments, but also their specific history, bottlenecks and challenges. These various aspects offer both new opportunities and shape their innovation and knowledge needs. Creating ecosystems to this end is an important task for local governments and stakeholders alike. This means that knowledge of the region needs to be consolidated and developed. Knowledge and innovation are taking place not only in knowledge institutions but also, increasingly in regional (digital) platforms. These are in turn linked to global knowledge and innovation networks. 'Engaged' universities, colleges and vocational education institutions are increasingly becoming focal points in regional and global knowledge and innovation chains. In the Groningen, the regional knowledge ecosystems are focused on topics such as agriculture, chemistry, logistics, smart grids, energy, and rural challenges.

Embrace new competences

The 'competency trap' was addressed as an important challenge for organizations as they struggle to adapt to rapidly changing landscapes. This affects all stakeholders: governments, businesses, knowledge institutions, and civic and social organizations. Relying on existing competences to disrupt routines and ways of doing needed for societal transitions will result in failure. Whilst all stakeholders need to develop new competences, it is essential for public administration, who need to orchestrate regional transitions. In the European project Public:Start[54], competences needed to address complex challenges in public service were identified:

- Being alert to deviations, current and future developments, and threats to internal and external matters
- Being proactive in building internal and external networks across disciplines and domains
- Able to respond to changing circumstances with innovative solutions and adopting new competences
- Able to mobilize allies for change
- Able to develop viable, inclusive, sustainable, and equitable solutions to complex issues
- Able to co-create transdisciplinary solutions with others, and learning continuously
- Able to map possible, probable and desirable futures, individually or collectively, and to understand potential impacts of different scenarios
- Able to devise and initiate strategic interventions together with internal and external stakeholders
- Able to critically question norms, practices and opinions based on one's own values, observations, and actions, and taking a position in the discourse on sustainability.
- Able to develop a vision based on possible futures, including a strategy to achieve long-term-resilience

The urgency to change is felt by many. Thinking about transition is slowly taking off. The recommendations in this book are already visible in many places. Experimental collaboration is taking place in different places in search of answers for new complex challenges. There is agreement amongst many on the direction of change needed, but the reality of the badly needed societal transition, from competing to working together, has only just begun.

54   public-start.eu

The research group from the professorship Sustainable Cooperative Entrepreneurship (SCE) led by Professor Willem Foorthuis and Anu Manickam, is pleased to present a series of publications reflecting the work and lessons of eight years of engagement and experiments in the local and regional communities and business landscapes. Each year anywhere between 600 to 1000 students within the SCE offered innovative solutions and insights to help individual organizations and businesses as well as commonly faced local challenges. This practice of 'engagement' led to dialogues, new linkages, awareness of deeper issues and systemic failures, and opportunities for renewed and sustainable growth. The focus on collective action, close to communities, co-creative and innovative combinations of knowledge, resources and networks, and supporting inclusive and democratic practices were all important ingredients of this approach.

In this series of six publications, five Dutch and one English, highlights and in-depth studies have been presented on cooperative and collective practice for sustained local communities and regions and the transitions taking shape in these places. The knowledge accrued in regional engagement, experiments and knowledge development has pointed to the need for regions to take the lead in which all regional players need to embrace new roles, perspectives, organizational changes and collective effort and learning.

The Public:START, an Erasmus+ project, reinforced the need for more insights and focus on strengthening local and regional actors in the face of complex challenges. The public sector has an important part to play in *Regions taking the lead*.

In collaboration with