

Navigating transformations in times of crises towards healthy, sustainable and just Swedish and planetary food systems



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Introduction

In a world of multiple interlinked crises, food is not just our biggest challenge, but also our biggest opportunity for sustainable change.

People need food to live, and people desire food to stay healthy, experience pleasure, and to share with others. Food can be a means to express shared culture, remember the past, as well as appreciate and learn from other people, places and traditions. Food can generate wealth, and its production can enhance social and ecological relations.

Currently, the ways that food is produced, distributed and consumed often has major negative impacts on people and the planet. Globally, food production is the largest human pressure on Earth, causing a mass extinction of species, and accounting for 25% of annual greenhouse emissions¹. Similarly, food is also a source of inequality and ill-health. Food workers often experience poor working conditions, many people cannot afford healthy food, food companies promote unhealthy food, and unhealthy eating is a major source of illness and mortality in Nordic countries².

The centrality of food to human flourishing combined with how food is currently a source of many social and environmental problems means that many of the broader sustainability challenges can be addressed by fundamental changes to the production, distribution, and consumption of food. Such changes are central to what has been referred to as food system transformations.

Food system transformations will require a series of fast and slow transitions over the next decades. The world's governments have agreed to the UN Sustainability Goals 2030³. In Sweden, the plan is to have net zero emissions by 2045⁴. However, neither the world nor Sweden are on track to achieve these goals, and with every day that passes, impacts accumulate and the challenges grow.

Sweden and other Nordic countries are well-positioned to lead the way in the planetary transformations towards sustainable, healthy, just and resilient food systems². They share many of the world's problems, while beginning to take action to address them. Current diets in the Nordics are unhealthy, carbon intensive, and harm terrestrial and aquatic ecosystems, both in the Nordics and elsewhere. About half the population in Nordic countries is overweight or obese, food waste is a major problem, and meat consumption is well above amounts recommended for health or sustainability⁵.

At the same time, Nordic countries are taking action to change food systems. The Nordic region has dietary

guidelines, strict agricultural regulations and emerging innovations to food challenges⁶. In Sweden, diverse innovations are taking place in farming, marketing, logistics and retail. Similarly, many municipalities and the national government are working to develop policies to improve the food system, for both health reasons and environmental objectives. Furthermore, there is widespread public discussion, led in particular by chefs, to create a cuisine that is good for both people and the planet. As Nordic populations diversify, the various cuisines in the region are enriched accordingly. This means Sweden has the potential to lead global food system transformations⁷.

Transformations require significant changes in multiple dimensions of society, considering everything from practices and behaviours, to policies and regulations, to values (financial and non-financial), and world-views. Transformation involves changing the relationships among people, but also profoundly changing the relationships between people and nature. History shows us that crises can create openings for transformation. But while positive societal transformations may arise from crises, the consequences of crises are often not positive. The risk is that opportunities created by the crisis are missed and that crisis response – despite good intentions and innovation – fail to address accumulated problems, and restore a slightly improved or a damaged status-quo. Navigating crises requires an understanding of the capacities that are needed, to then develop and mobilise those capacities for change.

The unequal and unplanned impacts of the Covid-19 pandemic and the war in Ukraine have highlighted many flaws and fractures in the fabric of everyday life, not least because it moves as a complex system, as opposed to respecting the way Sweden is organised within health, mobility, urbanism, security, governance and other sectors⁸. We believe that the responses to these crises by Swedish food system actors may reveal how to meaningfully address risks and opportunities facing Swedish food systems; systems not defined by its territorial boundaries but the planetary flows that it is interlinked with. While some of the responses of food actors to crises might accelerate a 'just transition' towards sustainable, healthy and resilient food systems, others may impede it. To better navigate towards these aspirations, this project sought to understand how responses to Covid-19, and later also the war in Ukraine, either enhanced or reduced the transformative capacities of Swedish food systems.



RTL

Rapid Transition Lab

This project aims to learn from the Covid-19 crisis and support the enabling of capacities for transforming Swedish food systems to promote health, equity, sustainability and resilience of people and the planet. We did this through a Rapid Transition Lab. The lab identified risks and opportunities emerging in the Swedish food systems due to the Covid-19 pandemic through a co-creative process with public, private and civil food system actors. Since the war in Ukraine started just before our first workshop, the initial focus on the pandemic expanded during the project to encompass multiple crises. The lab has developed understanding and articulated strategic options for Swedish food system actors to engage in a rapid transition, while navigating multiple crises.

The core team of the lab consisted of three organisations: Stockholm Resilience Centre, Dark Matter Labs and Vinnova. Vinnova, the Swedish government's innovation agency who funded this work, connected the learning to multiple related stakeholders in and around policy-making and practice relating to food systems in Sweden. Through Vinnova and Stockholm Resilience Centre, the Rapid Transition Lab was linked to other ongoing trans-disciplinary food system projects, such as MISTRA Food Futures and Nordic Food Policy Lab. The Rapid Transition Lab complemented these efforts by focusing on how to navigate the formative moments of crises in order to accelerate food system transformations.



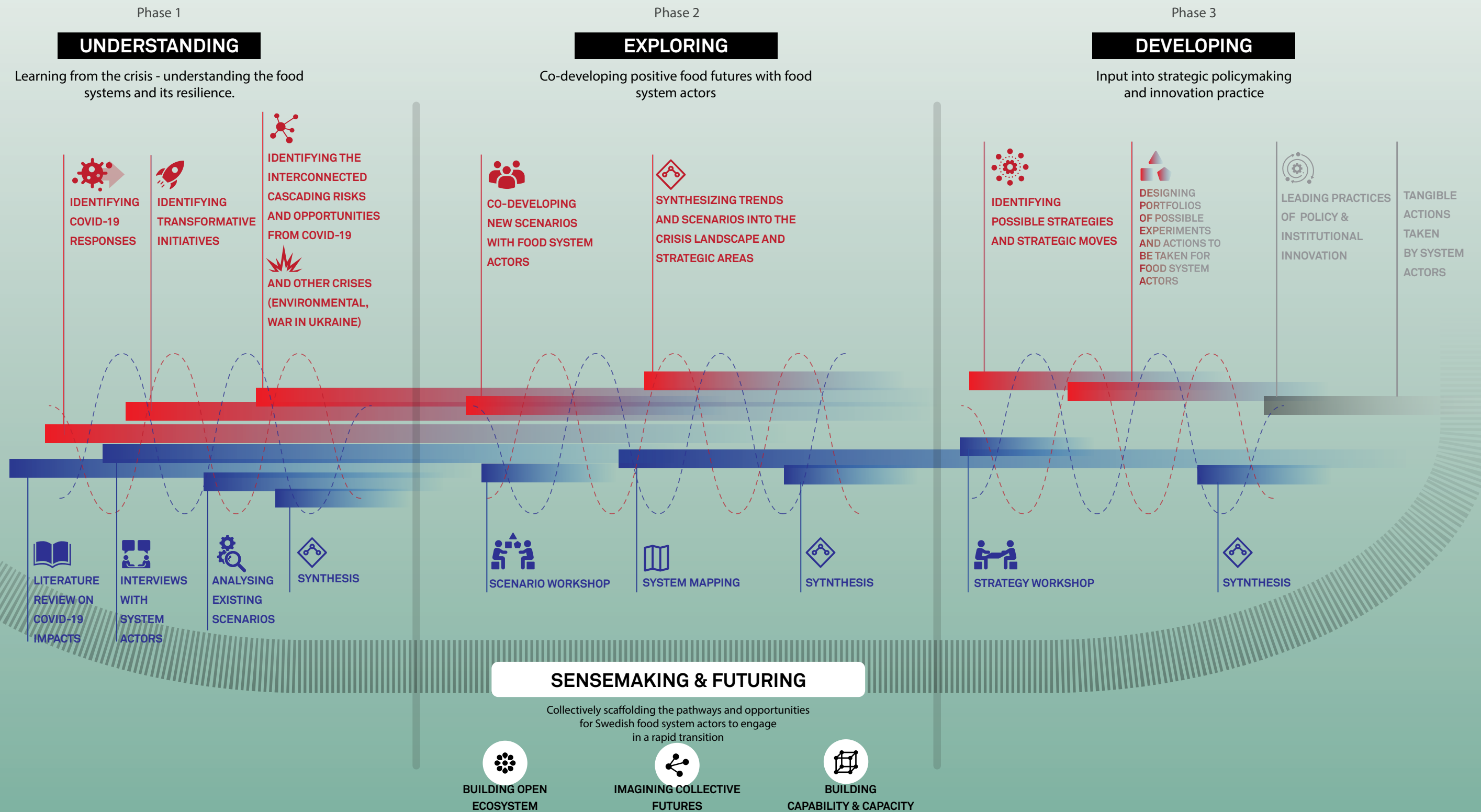


Figure 1. Project phases

Process

The Rapid Transition lab was structured around three phases: understanding, exploring and developing.

Phase 1: Understanding

In the first phase, the project built an understanding of the impacts of the Covid-19 pandemic on Swedish food systems. The focus was on exploring the interconnected risks and opportunities which emerged from the responses to the crisis. Additionally, the war in Ukraine and other ongoing crises, such as the climate crises, and shocks, such as the spikes in electricity prices, were taken into account.

Literature review

Through the scientific and non-scientific literature review on food systems and the role of crises in transformation processes, we gained an understanding of the effects on and responses to Covid-19 and later the war in Ukraine in the food systems both in the Swedish context and internationally. Based on these insights, a set of hypotheses of effects and responses were formulated. Examples include: 'Food retail expansion', 'Delivery service increase', 'Food service decline' and 'Increased interest in locally produced food'.

Interviews

To further deepen our perspectives of how Covid-19 had affected food systems actors, we reached out to a variety of actors operating within Swedish food systems. We conducted semi-structured interviews between October and December 2021 with fifteen of these actors with insights into the effects on restaurants, food tech, start ups, food crafts, supermarkets (both online and physical stores), farmers, small scale production and businesses, food waste and governance. Questions included how Covid-19 had affected their work, how they responded to the crisis, what they took with them going forward and what their vision for the future looked like. At this point the war in Ukraine had not started and were not considered in the interviews.

Through the interviews it became clear that the pandemic had affected the actors in very different ways depending on how they were affected by government restrictions and changed consumer behaviour. The crisis also went through different phases with an initial phase of crisis management and uncertainty around the virus and its consequences. Then the government stepped in with recommendations and support packages, providing some stability to businesses.

Survey

A survey was also sent out to the networks of the umbrella organisations (organisations with several other smaller organisations connected to them) engaged in the project and 189 answers were received. The survey included questions such as what the main effects were from Covid-19 on the organisation, what the pandemic has taught the actors and what positive changes they had seen during the crisis. The survey was mainly answered by small scale private food producers and food craft businesses.

Phase 2: Exploring

Scenario Workshop

In the second phase, we used these preliminary insights to engage multiple stakeholders in a scenario making workshop in Stockholm on the 9th of March to explore how emerging opportunities for food system transformations, arising through actors' responses to Covid-19, could unfold into the future. When choosing actors for the workshop, we focused on food system actors already working with sustainability today and aimed for a mix of seed organisations, umbrella organisations and regime actors.

The workshop participants imagined how "seeds" of positive food futures could grow and be combined in new ways. Before the workshop, they were instructed to bring a "seed", which was defined as an innovation or initiative that 1) exists in the margins of the food system today, 2) has emerged during or been strengthened by the pandemic, and 3) has potential to contribute to a positive future for food systems. At the workshop, participants were divided into three groups. Each participant presented their seed to the group and each group selected three seeds to continue working with. The next step was to imagine how each seed could look like had it developed and grown, and what the future food system would look like in that case. The [canvases](#) that were created for the workshop were carefully designed to help participants think about effects across different parts of food systems and value chains. In the end, they discussed connections between the three developed seeds, combined them into a 'forest' and identified barriers and enabling factors in order to move towards it.

The method did not generate a consensus image of the future, but rather acted as a starting point for showing how diverse, existing ideas can grow and be recombined in a new way — a so-called 'Bricolage'⁹. This brought out different tensions between participants' views, such as if we should work within the existing economic paradigm or create new ones, or if the future should be high or low tech. Skillful group facilitation helped to acknowledge these tensions and continue to collaborate and work around them. The forests became the starting points for writing the narratives that we based the second workshop on.

[Download scenario workshop canvases](#) 

Synthesis

At the end of this phase, we synthesised all the material we had gathered so far from Phase 1 and 2 into a "crisis landscape" - a system mapping exploring and representing interconnected system trends, risks and opportunities. This also helped identify four strategic areas that we used as input into the next phase. These formed strategic goals identified as main areas of the food system which had been affected during the Covid-19 crisis as well as simultaneously constituted domains rich in systemic

barriers, opportunities for change, and transformational potential. The four strategic areas were:

A - Increase Sweden's food self-sufficiency – strive for less reliance on long supply chains and import.


B - Create a culture and practice of deeply regenerative farming – reach an increased attractiveness of the food producer's profession in which the main purpose was to produce healthy, nutrient rich food by at the same time protecting and regenerating the soil, plant and animal ecosystems as well as sustainably utilising waste and renewable energy.

C - Use food for preventative health – make the population's resilience towards disease, physical and mental ill-health stronger.

D - Account for the true cost of food – adjust financial systems, and pricing of food to the positive and negative externalities of the food supply chain while increasing affordability of healthy diets.

Phase 3: Developing

Strategy Workshop

In the last phase, we gathered stakeholders in a second workshop held on the 11th May 2022 to identify specific strategies for each strategic area that could help Swedish food system actors to navigate the rapidly changing landscape of multiple crises and accelerate change towards healthy, sustainable and just food futures. About half of the 14 participants were also part of the first (scenario) workshop. After having listened to pre-recorded narratives of each of the four strategic areas (listen to the narratives in Swedish [here](#) ) describing alternative future scenarios for the Swedish food system in 2032, the participants were to choose one of the working-groups created for each of the strategic areas. The groups were then introduced to visual representations of the 'crisis landscape' for each strategic area (step 1) and asked to individually identify possible strategies for transformation (step 2), come together and cluster these ideas (step 3), and then collectively identify the key strategies with greatest transformative potential (step 4). Finally, participants mapped out these in more detail. In the subsequent sense-making, we synthesised our results and developed a portfolio of strategies (see Portfolio of strategies).

[Listen to the strategic areas narratives](#) 

[Download strategy workshop canvases](#) 

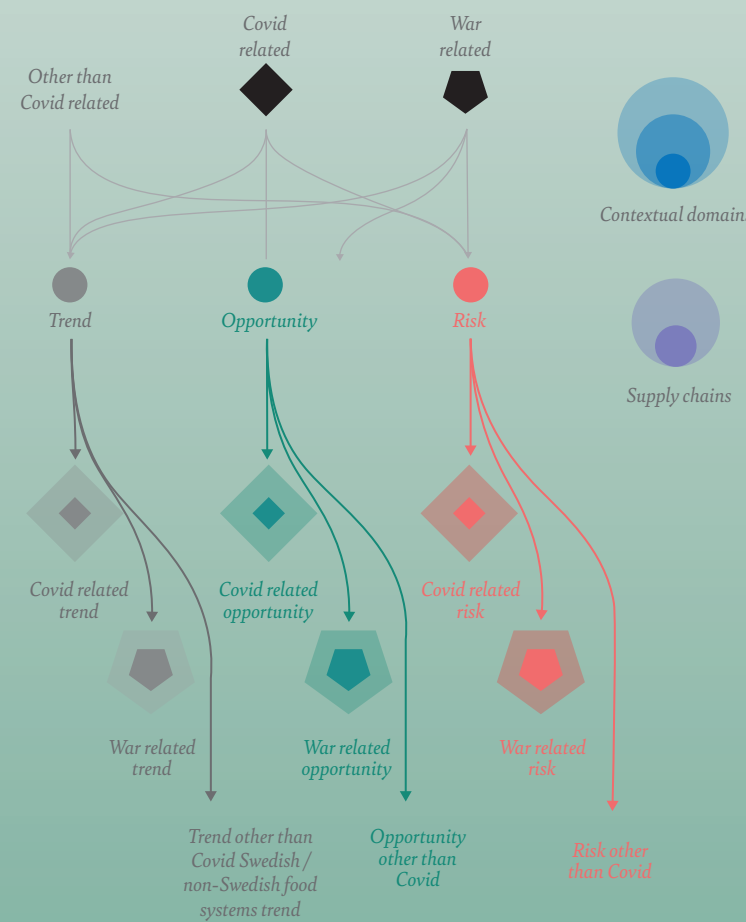
[and supporting files](#) 

Crisis landscape

Following the scenario workshop, the working team of the Rapid Transition Lab developed an array of analytical system mappings aiming at helping to navigate through the vast complexity of the identified food system trends and effects of the Covid-19 crisis. In addition to the system dynamics recognized in the Phase 1: Understanding of the project and the scenario workshop it was necessary and inevitable to supplement the crisis mappings with the effects of the war in Ukraine on the Swedish and planetary food system.

The crisis system mapping, containing all identified system dynamics represented as nodes and connections, was then further divided into strategic areas and dealt with as a tool for the participatory strategy workshop as well as further explorations. The filtering of the system map elements based on the strategic areas helped to break down the complexity and shed light on potential areas for discussion and strategic intervention.

Based on literature review, previous research (e.g. trend analysis from the Mistra Food Futures project), interviews with Swedish food system actors as well as the learnings from the scenario workshop, the crisis landscape map has been developed through a collaborative process the crisis landscape has been coded according to the following node categories:



To help navigating the vast complexity of the map all the nodes representing the food system dynamics were categorised and clustered according to two layers; value chain (production, transport, branding, consumption, waste) and contextual domains (environmental, geopolitical, institutional, economical, technological).

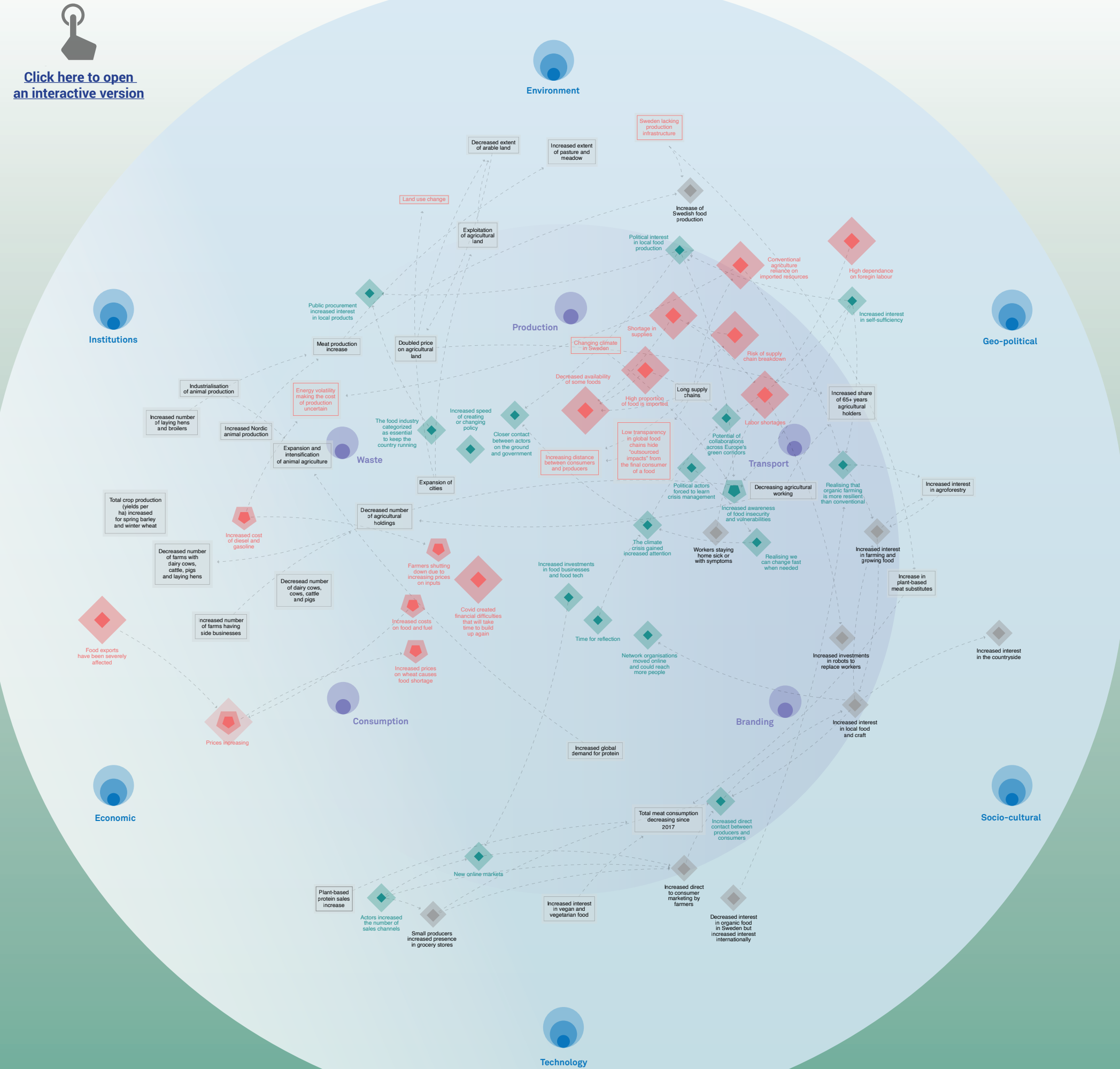


Figure 2. Crisis landscape system map

Conclusions and insights

The conclusion holds two chapters. The first chapter unfolds the different strategies that were identified in the Rapid Transition Lab and that can be used during the formative moment, created by the Covid-19 pandemic and the war in Ukraine, to achieve transformative change. The second chapter describes how the process of the Rapid Transition Lab can act as a strategy in itself in order to build the Swedish food systems' transformative capacity in the face of multiple crises.

Portfolio of interlinked strategies

Navigating crises towards sustainable, healthy, just and resilient food systems in Sweden requires a portfolio of strategies. The possible strategies presented here emerged from the co-creation process with food system actors, but were developed and elaborated by the project team. We highlighted interlinked strategies based on the logic model presented in the next section. The strategies presented here are not comprehensive and their significance is likely to change with the changing crisis landscape.

The logic behind the portfolio of strategies

The approach to develop a portfolio of interlinked strategies, rather than separate strategies, is based in 'systems thinking'¹⁰ and the notion of 'wicked problems'¹¹. Systems thinking understands the world as interconnected, which, in relation to this portfolio, means that one strategy will impact the effects of another strategy. Wicked problems, similarly, talk about how there is no 'silver bullet solution' to complex problems and that multiple strategies unfolding over time will be necessary. Consequently, this proposed portfolio should evolve as different strategies are used and start impacting the Swedish food systems.

The development of the portfolio follows three different dimensions. Combined they create a logic model that could be used as it is updated. Below the three dimensions are described.

1

The development of the portfolio, first of all, considers the uncertainty in complex systems by making the 'crises landscape' the foundation of the portfolio. Those strategies with the strongest connection to the opportunities and risks in the current landscape were chosen, alongside strategies that build the systems' capacity to navigate uncertainty.

2

The next dimension follows the definition of resilience¹² where both the capacity to accelerate transformation and create preparedness to cope, respond and adapt to crisis are included. In the descriptions of the strategies below, we address whether they foremost increase readiness, or accelerate transformation, or both. Within the set of strategies that accelerate transformation, some are intended to support the growth and spread of sustainable, healthy and just initiatives and experiments, while others aim to destabilise existing dominant practices and structures.

3

Inspired by mission based approaches¹³, the direction of the strategies could arguably be the most important. Consequently, it became the third dimension of the logic model. The direction is plural and builds on both nationally agreed goals and the goals of the strategic areas highlighted in this project. Not every strategy will fulfil all the specific goals but they are all ultimately contributing to the overarching ambition to create healthy, sustainable, just and resilient Swedish food systems.

Once an initial portfolio was established based on this three step logic model the different strategies were further ranked based on their novelty and potential to be delivered. After this step the proposed portfolio was confirmed and is presented in the next chapter.

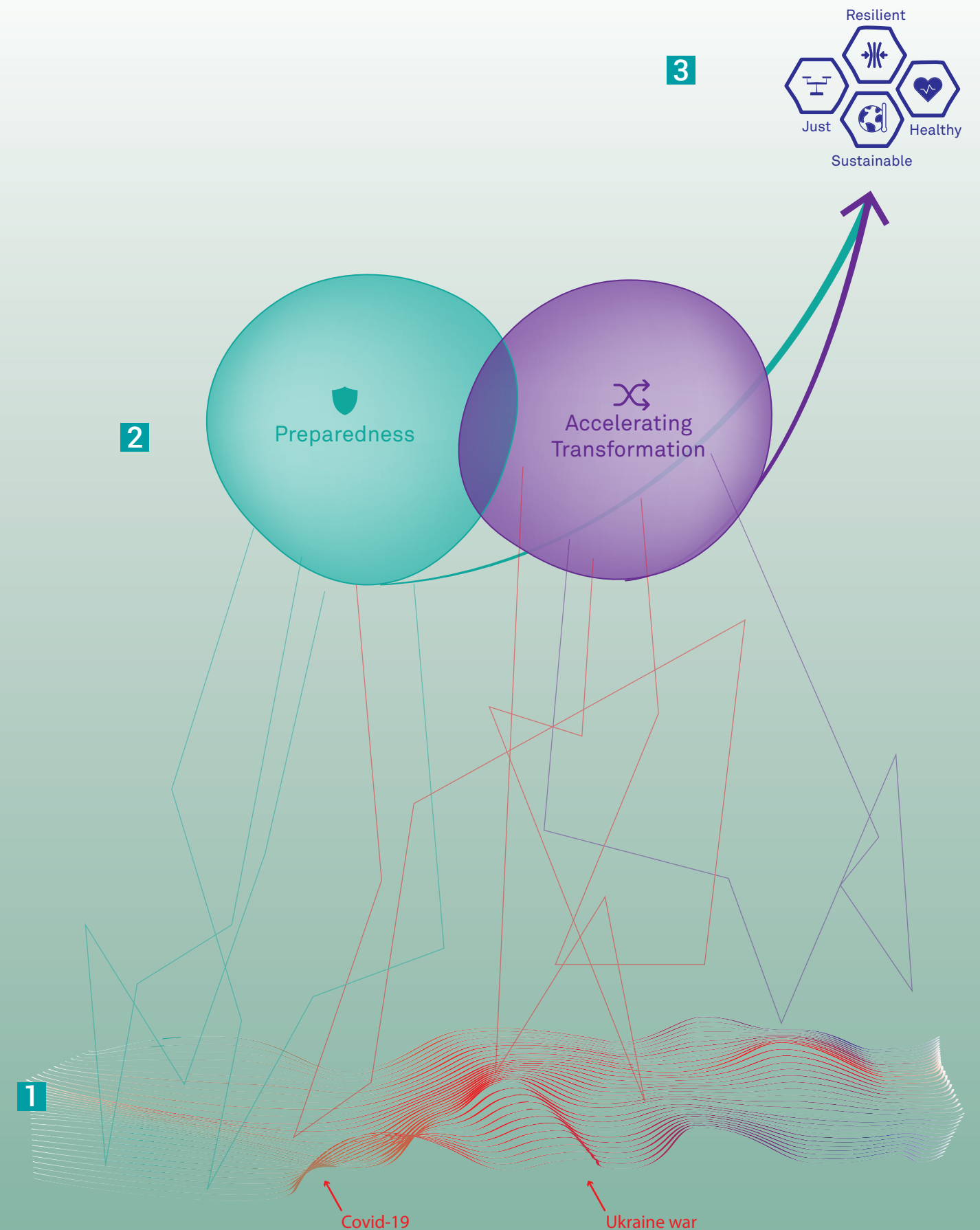




Figure 3. Strategies in the portfolio relate both to how to be ready for and navigate multiple crises, as well as the capacity to accelerate transformation in times of crises.

The portfolio design: strategic areas and the stack

-  - Preparedness / Readiness
-  - Accelerating transformation

Strategic Areas (horizontal)

The portfolio is structured based on a horizontal and vertical order.

The horizontal sorts the portfolio into four strategic areas that emerged through the project and was initially used in the strategy workshop. They are:

- A) Increase Sweden’s food self-sufficiency,
- B) Create a culture of deeply regenerative farming,
- C) Use food for preventative health
- D) Ensure affordability while accounting for the true cost of food.

While we sorted the strategies under the strategic area that was most related, many strategies connect across areas.

Stack (vertical)

The vertical sorts the portfolio into a stack including different layers describing socio-politics¹⁴. The stack used in the Rapid Transition Lab has been iterated over the course of the project based on feedback from different actors. The final design includes the following layers:

- Culture and language
- Competencies and skills
- Physical environment
- Monitoring and evaluating
- Financing
- Policy making
- Regulating
- Governing

The outcome of using this portfolio design can be found on the following pages.

Figure 4. Portfolio of straegies and strategic moves (organized according to strategies)

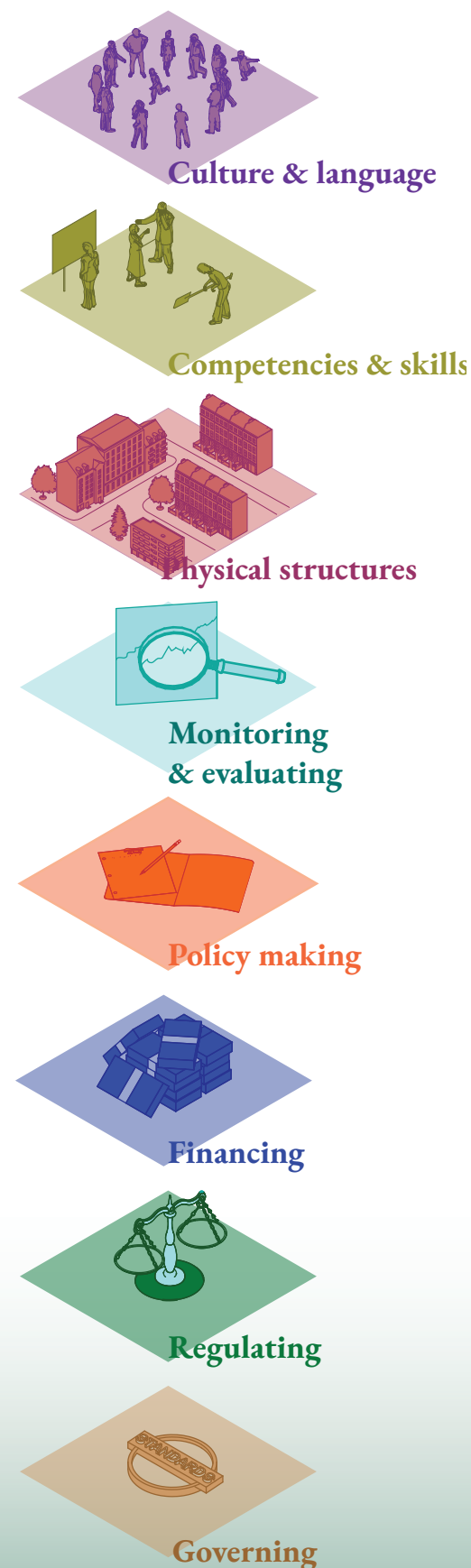


RTL

Rapid Transition Lab

Portfolio of strategies

organized according to the *stack layers*



A Increase Sweden's food self-sufficiency

A.1 Creating supply for a new Swedish cuisine

National

A.2 Enable circularity to decrease waste

National

A.3 Increase and enable local food production

Local

A.1.3 Inclusion of wild plants (such as e.g. fireweed as an alternative to tea or nutrient rich wild berries) or forgotten local species as alternatives for imported foods.

A.1.4 Fostering of more collaboration of multiple actors from the supply and demand side of the food system.

A.2.4 Implement support systems, grants, development projects, and political incentives could be implemented (e.g. quota obligation for circular fertiliser (eg that 20% of fertiliser must come from a sustainable source).

A.1.2 Plant breeding for the climate of the future and genotyping to develop drought-resistant crops: create capacity and ensure that suitable crops are available (incl. set-aside)

A.2.3 Decrease food waste: cook according to bearing in the restaurant avoid/counteract food waste, end of food waste from buffés, make use of the food you already have

A.2.1 Joint picture and problem analysis. Politics, authorities, organization and companies.

A.1.1 Inclusion of, investment in and development of new plant varieties for human food such as legumes as replacement for meat; investment in insect based foods as well as reduction of soy in animal feed;

A.3.2 To connect consumers and producers through 'Direct to Consumer' (D2C) sales through e.g. new platforms or subscriptions, or by modular procurement of public food and creating adaptable contracts that enable several smaller producers to merge into larger procurements.

A.3.3 Enable small-scale actors to expand and become middle-scale e.g. by the help from the big food companies to integrate the smaller players.

A.2.2 Food waste 2.0: Use food waste. Develop conditions for a new market around food waste.

A.3.1 Make it more attractive and possible to become and be a farmer by increasing profitability and decreasing the price of agricultural land

B Create culture and practice of deeply regenerative farming

B.1 Phasing out fossil fuel and chemical fertilisers from agriculture and shifting to local and renewable agricultural inputs

National

B.2 Establishing and expanding a national collaboration platform for regenerative farming

Local to National

B.3 Establishing regional hubs supporting transition to regenerative production

Regional

B.3.4 Develop a learning forum between young and old generations / partnerships between new aspiring and established farmers could be formed

B.3.2 Competence building, co-production of knowledge with researchers, spread knowledge from research to primary producers

B.3.3 Develop resource pools - 10 farmers share one tractor, aim: grow more on less attractive land (fallow) in order to produce food for many

B.3.1 Establishing local farming incubators helping new farmers to start up with commercial vegetable gardening (e.g. REKO-ring, Stadsbruk, or Under Tallarnas farming incubator pilot project).

B.1.1 Make food security and preparedness, part of the national defence strategy.

B.2.1 Spread and support practices that increase carbon sequestration in agriculture in Sweden. Promote a national platform where farmers, researchers, investors and food industry actors collaborate ('Svensk kolinlagring') (i.e. 'Swedish carbon sequestration')

B.1.2 Redirect energy subsidies from unsustainable food production systems towards use of low-tilling practices and organic fertilisers.

B.1.4 Greater access for farmers to capital for transitioning to regenerative farming practices. e.g. by increased investments by the food industry, and access to loans for transitioning to energy positive agriculture (e.g. carbon-free loans)

B.2.3 Paying regenerative farmers for their efforts to improve and mitigate climate change (e.g. carbon sequestration and increasing biodiversity),

B.1.3 Prohibit chemical fertiliser and chemicals in agriculture altogether, only giving exemptions for specific reasons.

C Use food for preventative health

C.1 Linking increased local food demand and production to health outcomes

National

C.2 Macro economic analysis of different diets

National

C.3 Enabling informed demand for healthy food (marketing, educating, incentivising)

National

C.3.2 Communicate dietary advice through campaigns

C.3.3 Communicate dietary advice by inspiring through famous role models or music

C.1.2 Creating a new standardised labelling system that makes it easier for consumers to navigate.

C.1.1 Adapt Swedish origin labels to promote healthy food

C.2.1 Conduct macro economic / health analysis by aggregating and combining existing research and analysis

C.2.2 Identify what gaps that exist for a full analysis to be carried out

C.3.1 Include dietary education in all schools' curriculum

C.2.3 Enable funding to carry out the remaining research necessary

C.3.4 Creating incentives to change behaviour such as incentives for store owners to shift the layout of their stores (e.g. remove candy from the cashiers) or incentives for consumers to buy nutritional dense food.

D Ensure affordability while accounting for the true cost of food

D.1 Develop a new pricing system

National

D.2 Using public and district kitchens to increase access to healthy and sustainable food

Regional

D.3 Increase consumer knowledge and let go of the perception/norm that food should be cheap.

National

D.2.1 Establish a network of local kitchens - places for cooking together, exchanging knowledge, and growing food; by using existing infrastructure e.g. of school kitchens/canteens.

D.2.2 Left over food from school lunch handed out as lunch boxes e.g. picked up by parents to eat for dinner.

D.3.3 Make education about the food and its impacts part of educational curriculum at all schools.

D.3.2 Supermarket become more like pharmacies with equally competent staff that can answer questions around impact and nutrition of food.

D.1.2 Accounting system which determines what is sustainable and healthy and what is not, by counting the total impact of different foods based on contribution to climate change, biodiversity loss, health etc.

D.1.3 Develop an open database across the food chain incl. impact on biodiversity, climate, health, social impact etc. allowing for high transparency in the new pricing model

D.1.4 Changes to tax rules to influence consumption of healthy, regenerative or organically produced food (see 'green taxation')

D.1.1 Replace the current pricing system with a new system where the unhealthy and unsustainable options are surcharged (see: Creating Shared Value)

D.3.1 Standardise communication to make it easier for consumers to navigate amongst labels and certifications.

D.2.3 Offer free healthy scheduled statutory breakfast for all kids.

Figure 5. Portfolio of strategies and strategic moves (organized according to stack layers)

A Increase Sweden's food self-sufficiency

A.1 Creating supply for a new Swedish cuisine



Readiness and accelerating strategy on a national scale.

WHY?

An increased interest in self-sufficiency was experienced during the Covid-19 pandemic, and the war in Ukraine made our dependence on imported food even more visible. This strategy focuses on increasing Sweden's self-sufficiency by at the same time supporting dietary recommendations on inclusion of more healthy and sustainable alternatives.

HOW?

Examples of strategic actions include (A.1.1.) investment in and development of new plant varieties for human food such as legumes as replacement for meat and investment in insect based foods. (A.1.2) Plant-breeding and genotyping needs to take into consideration development of drought-resistant crops to ensure resilience and continuous self-sufficiency in face of crisis and increasing climate volatilities. Furthermore, (A.1.3.) inclusion of wild plants or forgotten local species can contribute to increased supply of alternatives for imported foods as well as the development of plant varieties that are not edible for humans today (such as ley). (A.1.4.) To enable new innovations to enter the market, investments in research within this area must be prioritised.

WHO?

Creating the new Swedish cuisine requires a collaboration of multiple actors from the supply and demand side of the food system. The Swedish Food Agency (dietary recommendations) should be involved as well as the Ministry of agriculture. Food businesses and supermarkets can develop and market new products. Other actors that need to be involved are farmers, investors, entrepreneurs, nutritionists and researchers.

A.2 Enable circularity to decrease waste



Accelerating transformation strategy on a national scale.

WHY?

With current discussions around self-sufficiency and increased prices on food and inputs due to ongoing crisis, and if we are to be able to feed nine billion people in the future, building circularity and making use of all the waste we produce is an important part.

HOW?

There are already small-scale farms and regenerative agriculture farms that are circular ecosystems today and existing initiatives that engage with food waste, but to really tackle this big problem of food waste we would need a joint picture and problem analysis (A.2.1) by politicians, authorities, organisations and companies etc. Examples of actions could be (A.2.2) to develop conditions for a new market around food waste and how to use it. In restaurants, decreasing food waste could mean cooking according to the bearing in the restaurant, making use of the food you already have and counteracting food waste from buffés (A.2.3). To steer towards circularity, (A.2.4) support systems, grants, development projects, and political incentives could be implemented. Government instruments could be to introduce a quota obligation for circular fertiliser (eg that 20% of fertiliser must come from a sustainable source).

WHO?

Decision-makers at national, regional and local levels, especially ministries and municipalities (with responsibility for waste management). Existing industry that wants to switch to sustainable practices, and new players who want to invest in them. Food companies and restaurants can create new markets and products that make use of food waste. Agricultural advisors, farmers' associations and county administrative boards can increase competence and support investments in nutrient circulation at farm level.

A.3 Increase and enable local food production



Readiness strategy on a local scale.

WHY?

A stronger local food production would make us more resilient in a potential future food crisis and less reliant on imports and transportation for supply of food. During the Covid-19 crisis we experienced an increased interest in locally produced food amongst consumers, supermarkets, politicians and public procurement that can be seen as an opportunity for this strategy.

HOW?

Examples of strategic actions to take to enable local food production are (A.3.1) to make it more attractive and possible to become and be a farmer by increasing profitability and decreasing the price of agricultural land. (A.3.2) To connect consumers and producers through Direct to consumer (D2C) sales through e.g. new platforms or subscriptions, or by modulating the procurement of public food and creating adaptable contracts that enable several smaller producers to merge into larger procurements. (A.3.3) And to enable small-scale actors to expand and become middle-scale e.g. by the help from the big food companies to integrate the smaller players.

WHO?

To increase and enable local food production, the Swedish agricultural agency should work together with farmers' associations, county administrative boards, municipalities and organisations/networks that support local producers to generate the right conditions for farmers. Food businesses, wholesalers, supermarkets and alternative sales channels need to influence the demand for local and Swedish products. In the long-term, decision-makers, NGOs and lobbyists can influence EU policy-making.

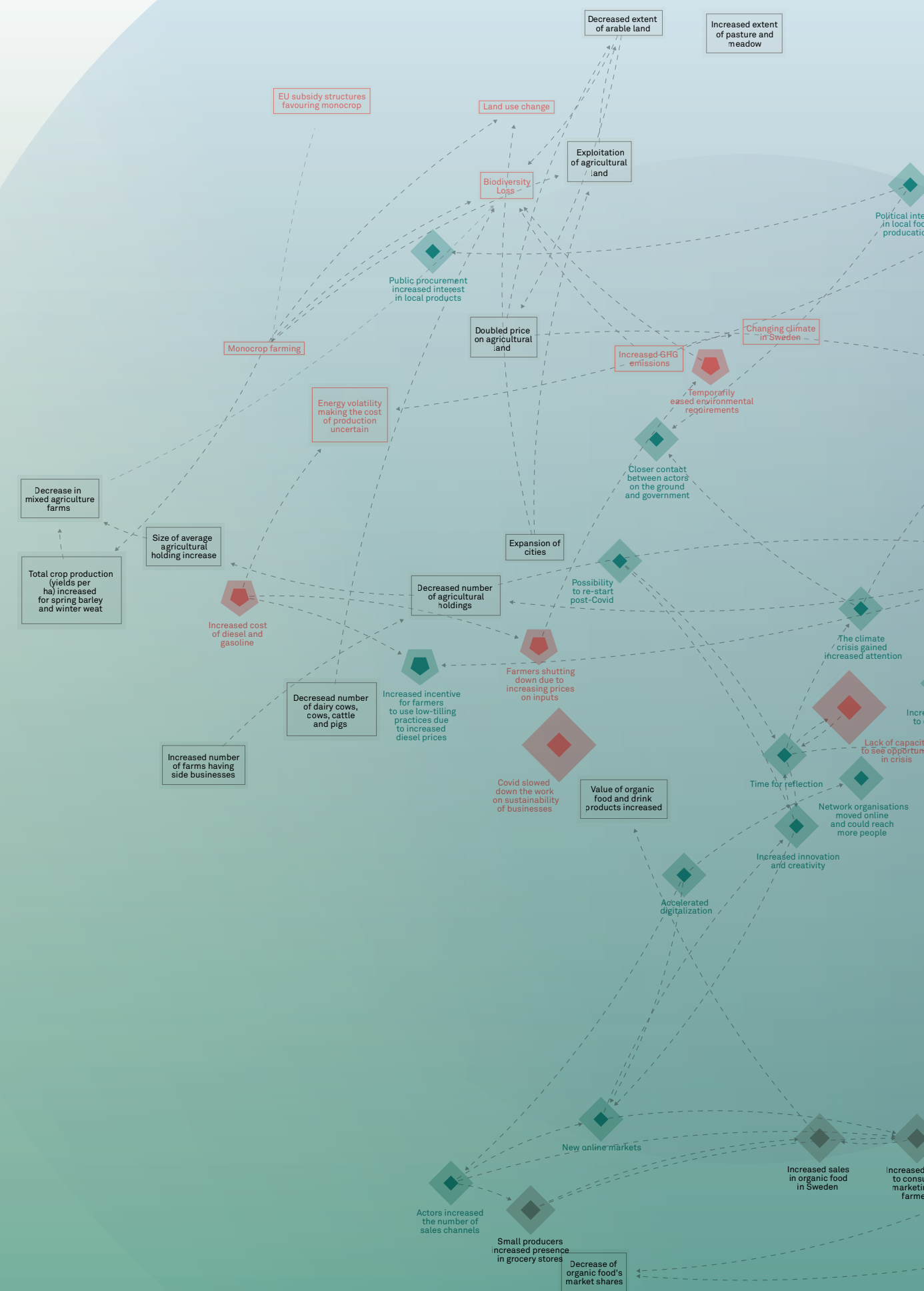


Figure 6. Crisis landscape snippet for strategic area A

B Create culture and practice of deeply regenerative farming

B.1 **Phasing out fossil fuel and chemical fertilisers from agriculture and shifting to local and renewable agricultural inputs**



Readiness and accelerating transformation strategy on a national scale.

WHY?

The ongoing price increase on fuel and fertiliser supports this strategy as it decreases the reliance on external inputs to agriculture. It would be further strengthened by connecting food system resilience to the heightened political agenda on national security and civil defence.

HOW?

This strategy builds on existing movements of organic, conservation and regenerative farming practices and accelerates their spread, while simultaneously destabilising the dominant practices. A first step would be **(B.1.1.)** to make food security and preparedness part of the national defence strategy. That political momentum would support shifting the current tax relief for diesel costs for farmers into helping farmers transition to renewable fuels and technology. **(B.1.2.)** Unsustainable production systems should no longer be supported with energy subsidies, which instead would be redirected into new subsidies for the use of low-tilling practices and organic fertilisers. **(B.1.3.)** A more bold move would be to prohibit chemical fertiliser and chemicals in agriculture altogether, only giving exemptions for specific reasons. The strategy would be supported by **(B.1.4.)** greater access for farmers to capital for transitioning to regenerative farming practices.

WHO?

The first steps would be driven by the national government, for example as part of the national food strategy and in collaboration with different national agencies, such as the Swedish Board of Agriculture and the Swedish Civil Contingencies Agency. There might be a bigger momentum to influence

policy at the EU level at the moment, connecting to the European Green Deal and the Farm to Fork strategy. National and international movements of regenerative, organic or conservation farming would lobby for this shift. Food industry, investors and banks would facilitate by making financial capital more accessible.

B.2 Establishing and expanding a national collaboration platform for regenerative farming



Local to National

Accelerating transformation strategy on a local to national scale.

WHY?

In the current crisis landscape, this strategy is supported by increased prices on fossil fuels and chemical fertilisers, which could lower the threshold for transitioning to low-tilling, organic or regenerative farming practices.

HOW?

The strategy originated from the existing initiative ‘Svensk kolinlagring’ (i.e. ‘Swedish carbon sequestration’) and their work (B.2.1.) to spread and support practices that increase carbon sequestration in agriculture in Sweden. They provide a platform where farmers, researchers and food industry actors collaborate. This, (B.2.2) or another, collaboration platform that supports niche experiments and small-scale practices to scale up and out, could be expanded and include more farmers, investors (such as Swedish pension funds) and other actors. The scheme ‘Svensk kolinlagring’ is testing, where farmers are paid by food businesses for their efforts to increase carbon sequestration (B.2.3), could be expanded to include measures to mitigate climate change as well as increase biodiversity. Research and innovation regarding regenerative practices also has to be strengthened.

WHO?

The platform would gather all the major initiatives and actors in Sweden (public, private and civil society) that are interested in scaling out regenerative practices and have close networks with related international initiatives. In the initial phase of establishing and expanding the platform, it would need to be, at least partly, driven or funded by national government agencies and arenas, such as Vinnova, the Swedish Agricultural Board or Sweden Food Arena. Once it has become more established, the coordinating function could be funded by food companies and consumers buying regenerative products.

B.3 Establishing regional hubs supporting transition to regenerative production



Regional

Accelerating transformation strategy
on a regional scale.

WHY?

The increased interest in local and regional food production experienced during the Covid-19 crisis, could benefit by the establishing of regional hubs, supporting existing niche experiments and small-scale regenerative practices to expand regionally. Regional hubs could complement a national hub and would make use of regional diversity.

HOW?

There are (B.3.1.) existing initiatives to build on such as regional food strategies, REKO-rings and farming incubators. Actors in Södertälje municipality and around the organic cluster in Järna are currently discussing establishing a so-called Eco-region (<https://www.ecoregion.info>) in Södermanland county outside of Stockholm. A regional platform could complement the national platform and for example (B.3.2) offer competence building and co-production of knowledge with researchers, (B.3.3) knowledge and resource pools for farmers to share ma-

chinery and other infrastructure. The average age of farmers is increasing in Sweden, as well as in most of Europe. At the same time, there is a growing movement of younger new farmers, sometimes without a farming background and family, who are pushing for sustainable practices, but lack access to land and capital. To facilitate a generational shift, **(B.3.4)** partnerships between new aspiring and established farmers could be formed.

WHO?

Regional hubs would gather diverse food system actors interested in promoting regenerative farming in their area, such as research organisations, municipalities, county administrative boards, regions, established and new farmers, farmers associations, tourism and local food associations, restaurants and chefs, rural development organisations (such as Leader). Funding to establish and coordinate such hubs could be sought from, e.g. EU rural development funds, or work with the national or regional food strategy. Perhaps crowd-funding or a membership fee could help cover some of the coordination costs.

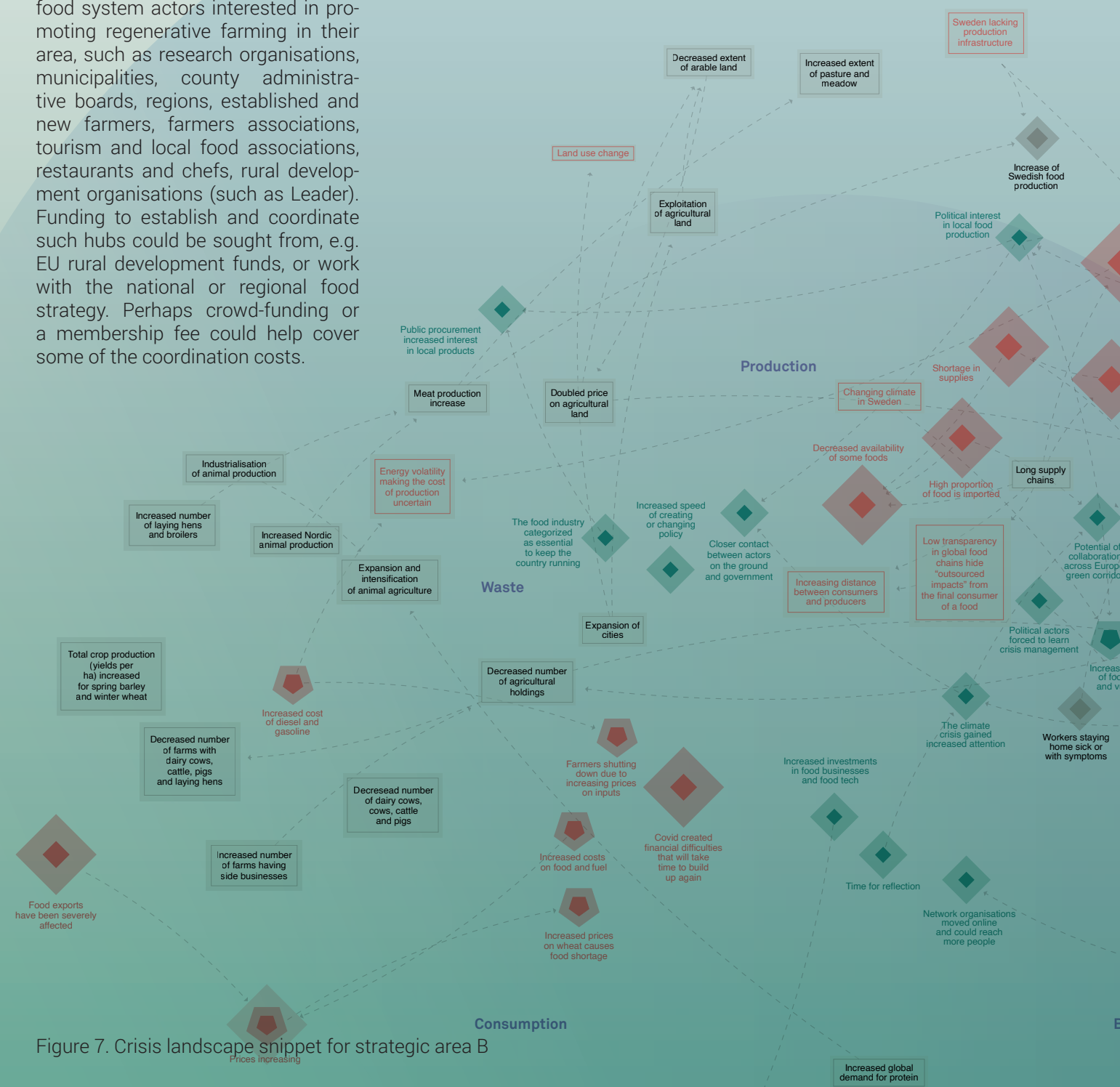


Figure 7. Crisis landscape snippet for strategic area B

C Use food for preventative health

c.1 Linking increased local food demand and production to health outcomes



Accelerating transformation strategy on a national scale

WHY?

The pandemic created an increased demand for locally produced food and Swedish origin labels became more attractive than organic labels amongst consumers. Sweden already has high requirements for how food is produced and what products are allowed to contain, however, the pandemic still highlighted the need to encourage more healthy diets in Sweden. Therefore, the local trend could be an opportunity to increase the requirements for positive health outcomes of food produced in Sweden.

HOW?

Organisations distributing Sweden origin labels have greater agility to change their requirements compared to national and European regulations. Therefore, **(C.1.1)** the organisations could drive the agenda, to make Swedish food even more healthy, on a seed level. Over time this could encourage change on the regulatory level. **(C.1.2)** Sweden origin labels could also be combined with other labellings that indicate how healthy the food is and how sustainably and just it has been produced, possibly creating a new standardised labelling system that makes it easier for consumers to navigate.

WHO?

The organisations that distribute Swedish origin labels would need to set the new requirements together with other existing Swedish labelling institutes. However, ideally they will work with local producers and nutritionists to ensure the quality of the requirements and their applicability for the industry.

c.2 Macro economic analysis of different diets



Readiness strategy on a national scale

WHY?

Covid-19 highlighted the health care costs associated with unhealthy lifestyles. For example, the risk of becoming severely ill due to Covid-19 increases for obese people. Obesity is a systemic problem and can not be blamed on the individual. Therefore, it is crucial to have strong arguments that equip policy makers to prioritise changes to everything from the marketing of food to the design of financial incentives in the systems. Identifying the societal costs of different diets could help the prioritisation.

HOW?

The macro economic analysis could be done by aggregating and combining existing research and analysis (C.2.1). The next step would be to identifying what gaps that exist for a full analysis to be carried out (C.2.2). Lastly, (C.2.3) engaged researchers and applicable funding would be needed to carry out the remaining research necessary. The analysis needs to happen long before a crisis to argue for a change that can create a more health resilient population during a crisis.

WHO?

Research institutes alongside public interest research funders. This research cannot be funded by a food producer, for example.

c.3 Enabling informed demand for healthy food



Readiness strategy on a regional and national scale

WHY?

The pandemic showed the importance of having a strong immune system at a societal scale. The change towards a more healthy supply is moving slowly. This is due to for example the inherited incentives in the Swedish and planetary food systems and the investments required to transition towards more healthy food production. Therefore, changing the demand side could be an opportunity to put pressure on the supply side.

HOW?

By combining the increased requirements for Swedish origin labels and the policy change encouraged by the macroeconomic analysis in strategy 2, the hypothesis is to accelerate the transformation towards more healthy diets in Sweden and thereby increase the population's resilience during times of crises. To enable a more informed demand multiple strategic actions will be necessary. For example **(C.3.1)** to include dietary education in all school's curriculum, **(C.3.2)** communicating advice through campaigns and **(C.3.3)** inspiring through famous role models or music. Also by **(C.3.4)** creating incentives to change behaviour such as incentives for store owners to shift the layout of their stores (e.g. remove candy from the cashiers) or incentives for consumers to buy nutritional dense food.

WHO?

Everyone consuming food has a role to play in this strategy. However, consumer interest organisations, physical and online food stores and influential individuals can support through campaigns, action and communication.

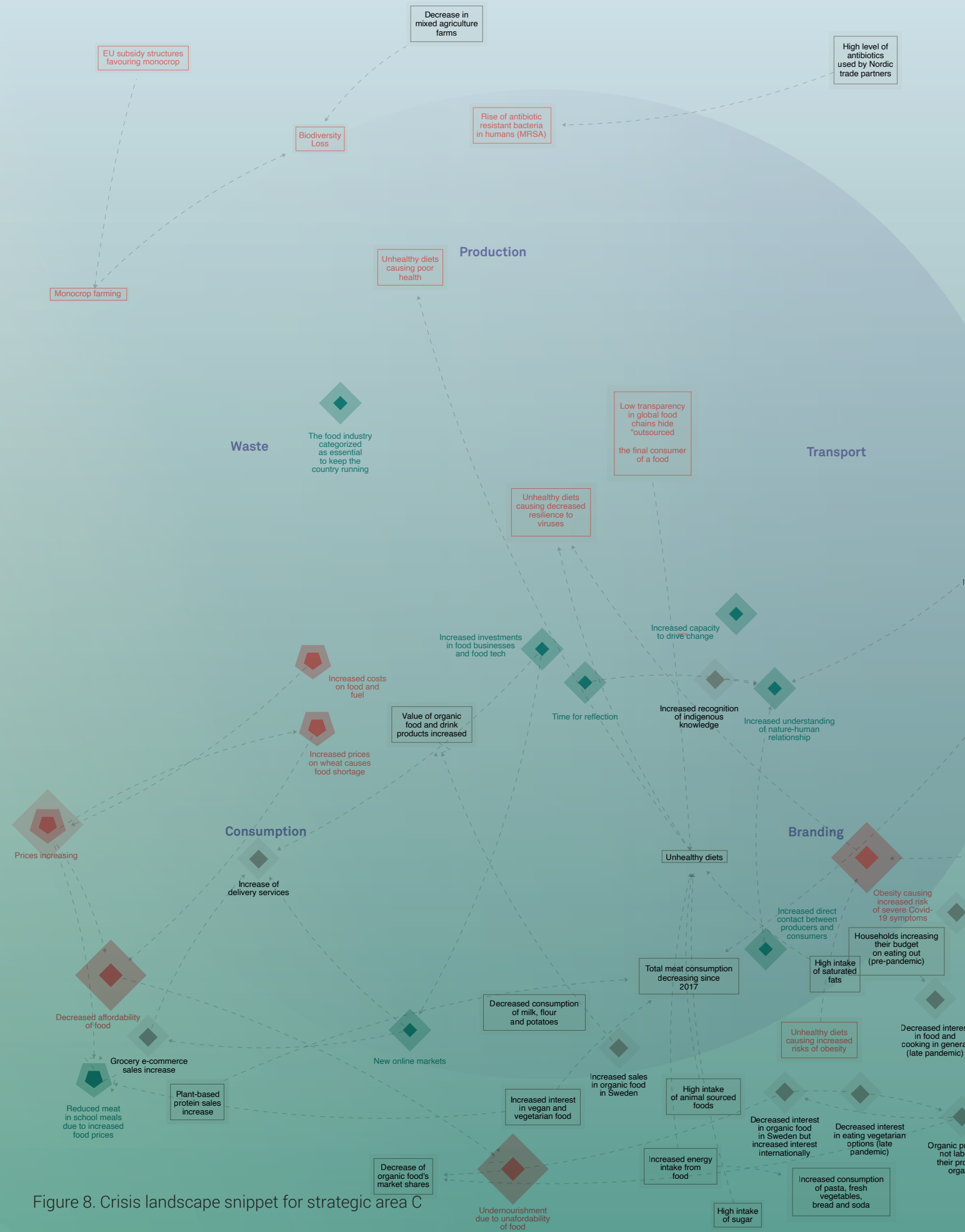


Figure 8. Crisis landscape snippet for strategic area C

D Ensure affordability while accounting for the true cost of food

d.1 Develop a new pricing system



Accelerating transformation strategy on a national scale

WHY?

Since the outbreak of the Covid-19 pandemic in 2019, prices on food have continued to rise due to increasing prices on raw material and inputs that have also been accelerated by the war in Ukraine. As a result the affordability of food has decreased among the population, especially affecting the lower socioeconomic groups. Our current pricing system is not taking into account how different food affects our environment, health, climate, wellbeing etc. and is not promoting healthy and sustainable food for all.

HOW?

This strategy sprung from the seed Creating Shared Value (CSV) (a business model for creating economic value while simultaneously addressing societal needs and challenges). By (D.1.1.) replacing the current pricing system with a new system where the unhealthy and unsustainable options are surcharged. To develop a new pricing system we would need (D.1.2.) an Accounting system that supports our goals and that can determine what is sustainable or not by counting the total impact of different foods based on contribution to climate change, biodiversity loss, health etc. To develop the accounting system, (D.1.3) an open database would be needed for all food and its activities throughout the food chain. (D.1.4) Changes could also be made to tax rules to influence consumption of sustainable and healthy food and meanwhile support consumption of regenerative or organically produced food (so called “green taxation”).

WHO?

All actors throughout the food chain must contribute with open data(e.g. producers, processors, delivery, transport, packaging etc.). Actors like the

Swedish Food Agency, the Board of Agriculture, the Environmental Protection Agency, etc. can also help coordinate this. Government needs to form new laws for how to price products so it becomes mandatory for all. System developers that can develop the accounting system and how to integrate the database. Businesses and organisations must be involved and educated in usage. Vinnova could contribute by funding new innovations in the area.

D.2 Using public and district kitchens to increase access to healthy and sustainable food



Readiness and accelerating transformation strategy on a regional scale.

WHY?

As food prices are rising (as a result of first the Covid-19 pandemic and then the war in Ukraine and increased prices on energy, oil and inputs), the affordability of food decreases among the population. Low-price brands are increasing in sales and consumers are choosing these prior to the more expensive and often healthier and sustainable options. New ways of making healthy and sustainable food available for everyone are needed.

HOW?

This strategy came out of the seed District Kitchens (Stadsdels kök) which is another project financed by Vinnova and implemented by Reformaten. **(D.2.1)** Local kitchens (could be already existing school kitchens) become a place for exchanging knowledge, growing food and cooking healthy and sustainable food together. As another example, **(D.2.2)** lunch boxes of leftover food from the school lunch could be picked up by parents. The kitchens could also **(D.2.3.)** offer free healthy scheduled statutory breakfast for all kids, as many do not eat breakfast before school which affects their achievements. This is also

a way of levelling out socio-economic conditions so that all children have the same opportunity for healthy habits.

WHO?

School politicians must engage in establishing statutory breakfasts and principals should implement the concept at their respective schools. Teachers also need to be involved. The Swedish Food Agency, the Swedish National Agency for Education and the Public Health Agency should all be involved as well as local stores and producers that could contribute with healthy and organic produce.

D.3 Increase consumer knowledge and let go of the perception/norm that food should be cheap.



*Accelerating transformation strategy
on a national scale.*

WHY?

During the Covid-19 crisis, people showed a will to change behaviour since they had insight and knowledge about what would happen if they did not. It showed that we can change fast when needed and that the capacity to drive change is there.

HOW?

To be able to drive the transformation needed when it comes to food choices, consumers need increased knowledge about food and its impact on the planet and on health. This also requires us letting go of the perception that food should be cheap as this norm does not benefit Swedish farmers and production. **(D.3.1.)** Communication around the impact of food could for example be standardised to make it easier for consumers to navigate amongst all labels and certifications, something that can be hard today. Consumers should not have to know everything to be able to make the right food choices. An example would be to create a labelling system similar to what is used for cigarettes today, meaning highlighting products or ingredients that are un-

healthy or unsustainable. **(D.3.2)** Supermarkets could also become more like Pharmacies with equally competent staff that can answer questions around impact and nutrition of food. **(D.3.3)** And to make sure that the consumers of tomorrow get all the knowledge they need, education about the impact of food should be part of the educational program at all schools.

WHO?

Government must establish laws regarding a standardised communication around food labelling and certifications. Food businesses must engage in labelling their products and supermarkets in how to display them in stores. To make education about the impact of food mandatory at school, school politicians need to engage in adding this to the school curriculum. Principals and teachers also need to be involved and educated.

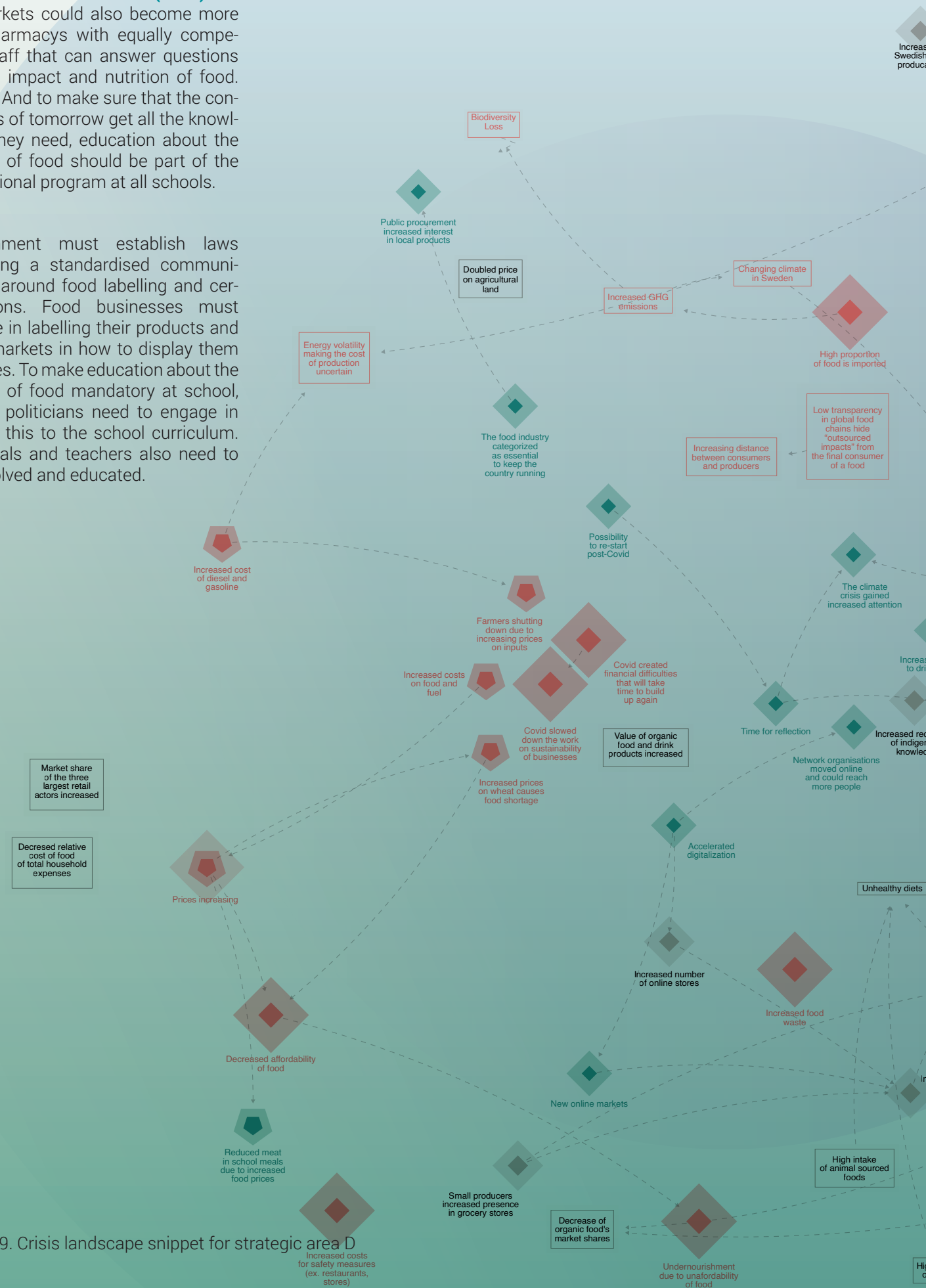


Figure 9. Crisis landscape snippet for strategic area D

Connections across strategic areas

A Increase Sweden's food self-sufficiency

How area A connects to the other strategic areas:

This area connects foremost to Area B. If we want to increase Sweden's self-sufficiency and make us less reliant on inputs, engaging in sustainable farming practices such as regenerative farming will help to phase out the unsustainable inputs that we use today. To increase Swedish food production and also meet Swedish environmental goals, transition to sustainable farming practices are needed. Area A also connects to Area C because the increased demand for local and Swedish production could be an opportunity to promote healthier and more sustainable options

B Create culture and practice of deeply regenerative farming

How area B connects to the other strategic areas:

Area B is closely linked to Area A. Shifting to local and renewable inputs will enable circularity, and the increased support for Swedish and local food producers will help them make the transition needed in farming practices. Sustainable production will ensure long-term self-sufficiency in the face of, for example, the climate crisis. While Area B creates the supply of sustainable and healthy food products that supports health (Area C) and enables the new Swedish cuisine (Area A), Area C and D will increase the demand for sustainable food production.

C Use food for preventative health

How area C connects to the other strategic areas:

Area C is highly linked with all the strategic areas however primarily area D. The discussion about the pricing of food was a large part of the debate in this area as well. It was more deeply investigated in the blog published by the Rapid Transition Lab "More than calories: a deep transformation of the Swedish food systems".

Similarly the discussion in group B about the need for a food minister and new governance models in general was another key topic in area C. The strategy here was to use the shifting demand and the macroeconomic analysis as arguments for changing the governance alongside policy and regulation.

Area C could also leverage the goals in area A and B by including environmental sustainability requirements for Swedish origin labels and in the way that the demand is shifting.

D Ensure affordability while accounting for the true cost of food

How area D connects to the other strategic areas:

Creating a system that accounts for the true and just pricing of food is also highly relevant in connection to Area A and B. If we want to increase Sweden's self-sufficiency and also create a culture of generative farming, the profession of being a farmer needs to become more attractive. One of the biggest challenges facing farmers today is profitability and by pricing food according to its true value, farmers could get the right price for their products and. And by offering the highest price to those who offer the most sustainable food, the shift to more sustainable farming practices would be rewarded.

This area also connects strongly to Area D, since pricing food according to parameters like its effect on health could help shift the demand towards healthier food choices.

Rapid Transition Lab as a strategy

Building transformative capacity in the face of multiple interlinked crises

The previous section presented a portfolio of strategies to increase readiness to crises and accelerate transformation of Swedish food systems. An important question is how robust are these strategies? Some will still be relevant whatever happens, but several are connected to the specific context and timing of this project and their relevance will change. More important than specific strategies is perhaps to have a general readiness for transformation when crisis comes – so-called 'transformative capacity'¹⁵. Four aspects of transformative capacity are:

1) To know what type of strategies to use in what stage of a transformation process. Research of historical cases shows that transformations occur in different phases: a preparation phase where new experiments are developed and small-scale initiatives build momentum and new visions; a navigation phase where the actual transition is navigated; and a consolidation phase where the new regime is integrated into norms, policies, and institutions, becoming the new normal. Crises can set off a navigation phase, enabling a transition. In that case, actors need to be able to shift from strategies used in the preparation phase (e.g. experimenting in niches) to strategies in the navigation phase that help experiments to amplify their impact and accelerate change.

2) To identify and involve the right actors and connect them with each other. These actors include innovative initiatives operating outside of the mainstream, while contributing new ideas and practices, as well as actors that are part of the mainstream, dominating regime, and creating new alliances between them.

3) To be aware that opportunities for change can vary at different levels of governance. When things get stuck in one place, change can still be possible at another level. If there are more barriers to change at the national level, at a certain moment in time, actors need to be flexible and instead find ways to influence levels that are more open for change, such as the EU or municipal level.

4) To navigate change and crisis and deal with multiple crises simultaneously. Often, crisis is not included in discussions of system transition, even though research shows that it can greatly influence the ability of actors to affect change. This is why crises is the focus of the Rapid Transition Lab project.

Macro

1 Socio technical and environmental landscape

The landscape constitutes the social and environmental background of the regime. It provides “railings” for social interaction and developments within regimes, defined as dominant and (semi-) coherent rule sets [...]

Meso

2 Socio-technical regime

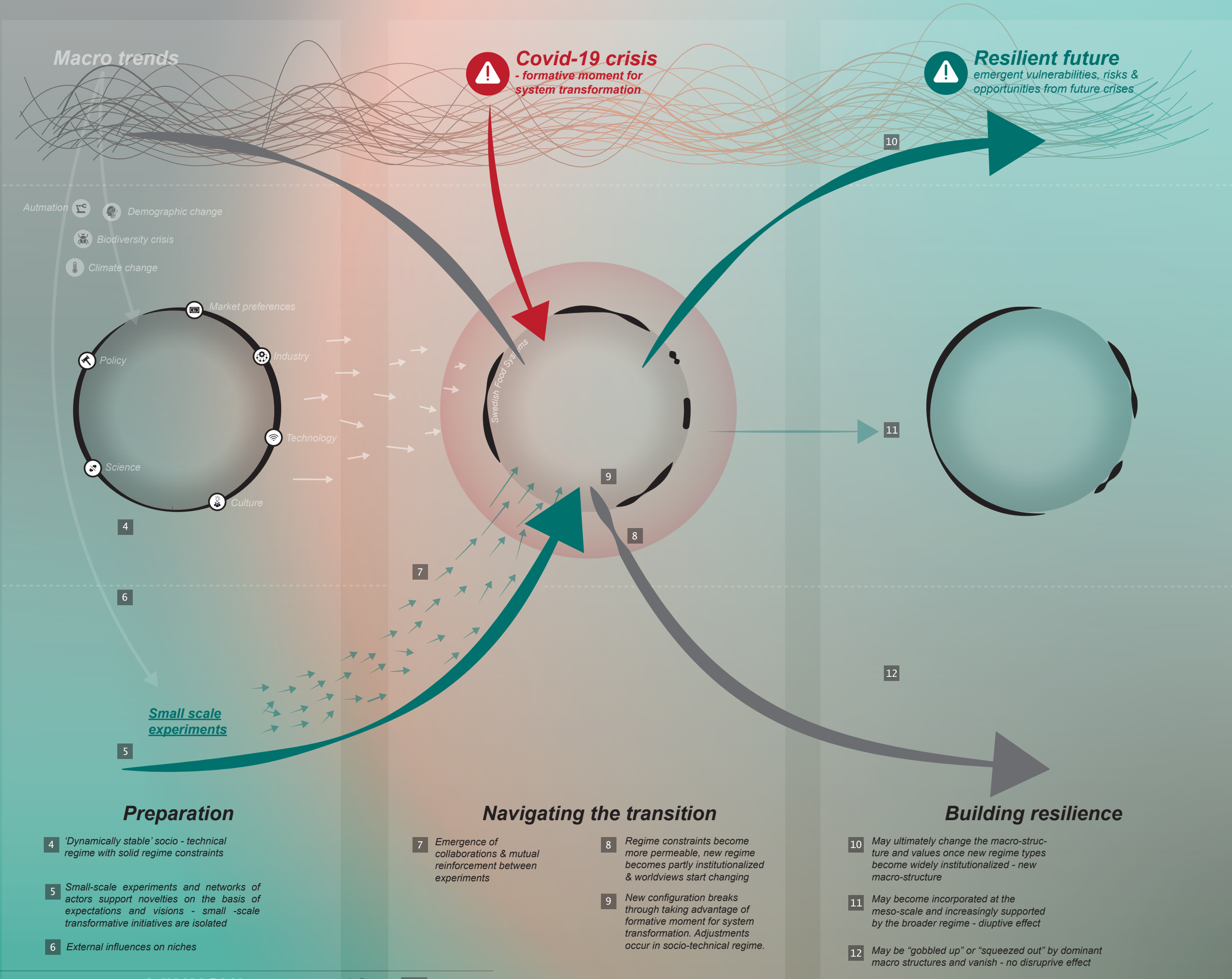
describes the most dominant actors, structures and practices; it dominates the functioning of the societal systems and defends the status quo” [...]

Micro

3 Niche innovations

Niches develop when actors begin to question a current regime and find ways and room for innovation and experimenting with alternative regime configurations. When operating in niches actors are often not bound by regime constraints - a situation enabling them to mobilize different resources and come up with novel ideas.

Figure 10. (adapted from Pereira, L. M., et al. 2018. Seeds of the future in the present: exploring pathways for navigating towards “good” Anthropocenes. Pages 261–350 in T. Elmqvist, et al., eds. Urban planet: knowledge towards sustainable cities. Cambridge University Press, UK)



The Rapid Transition Lab's potential to build transformative capacity

A lab methodology, like in this project, can be used for different types of systems and crises and can, in itself, be considered a strategy for building transformative capacity. There were a number of key aspects in the design and outcome of the Rapid Transition Lab that brought forward this conclusion. These are outlined below followed by broader insights from the process.

1) A systems approach

There is no silver bullet solution to complex systems change and the Covid-19 pandemic and the war in Ukraine made more actors aware of this. The lab had a clear systems perspective, using systems mapping and portfolio approaches looking at the relationships between different crises and disturbances. This meant that the proposed strategies considered 1) interlinked crises, 2) what parts of the systems they could impact directly and indirectly, 3) which strategies could complement each other in order to drive complex change, and 4) considered actors' role in the food system when selecting who to invite.

2) Diversity of participating actors

The lab brought together different actor groups, including seed and regime actors and policy makers. The Covid-19 pandemic and the war in Ukraine further highlighted the importance of working across whole supply chains, alongside policy makers and investors, to increase resilience. This helped increase the awareness of different actors' challenges and perspectives, before they proposed strategies.

3) The actors' agency

The agency of different actors is crucial for complex change¹⁶. The actors involved in the lab participated based on their own interest, as they were not compensated for their time. This may have contributed to the high engagement of the participants. At the same time, we experienced that the conversations went beyond actors' normal remit. This could have been impacted by the fact that none of the actors had committed to further action beyond the lab; they were free to dream. Yet, these aspects were not only positive and recommendations for how to address the more negative aspects can be found in the additional material to this report.

If other actors like to set up similar labs, all material of the project is open source and available upon request, including lessons learned and recommendations for adaptations. It is crucial to adapt the methodology to the specific context, while maintaining the integrity of the above outlined aspects.

Broder insights for navigating crises

- Only during 2022, the Swedish food systems faced the complications with Covid-19, the war in Ukraine and drought. The process of the Rapid Transition Lab both surfaced new and highlighted previously known insights, crucial when navigating a time of multiple interlinked crises.
- To create sustainable, healthy, just and resilient Swedish food systems, its actors need to build the preparedness and capacity to navigate turbulence and uncertainty. Building networks of actors can be beneficial to enable this capacity and public actors can play a strategic role scaffolding and sustaining platforms for such networks.
- Turbulence can be a formative moment for change and some actors that participated in this project used the crises to enact positive changes. For example, local producers that increased their sales and businesses that had time and opportunity to reflect and renew themselves. It is key now to support these positive changes to consolidate. This support could include new investments, extended permits, new policies and overtime new laws. Furthermore, it is important to understand what type of government support can enable such creative capacity in the face of change.

- The Swedish food systems are highly interlinked with both the planetary food systems and other systems in society. Therefore, any Swedish food strategy needs to pay attention to broader changes in for example cultural behaviours, natural ecosystems, and trade. This requires actors to not only build transformative capacity, but further the capacity to see the relationships between systems.

Sweden is an innovative country, but innovations seldom lead to radical change. Most innovations adapt into the current system or do not spread. Therefore it is important to simultaneously phase out norms, practices and structures that maintain the old system, while building structures that support the new. Otherwise there is no room for innovations to take off.



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People involved in the project:

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Aleksander Novak, Linnéa Rönquist, Juhee Hahm, Indy Johar and Chloe Tager from Dark Matter Labs.

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Who we are

Stockholm Resilience Centre
Sustainability Science for Biosphere Stewardship



[Stockholm Resilience Centre](#) (SRC) is an international research centre on resilience and sustainability science. The centre is a joint initiative between Stockholm University and the Beijer Institute of Ecological Economics at The Royal Swedish Academy Sciences. Since its launch in 2007, SRC has developed into a world-leading science centre for addressing the complex challenges facing humanity. This project will build upon ongoing work on food, scenarios and transformations within the SRC, which include MISTRA Food Futures, NorthWestern Paths, as well as the Seeds of the Good Anthropocene project.



[Dark Matter Labs](#) (DML) is a lab working to transition society in response to climate breakdown and the technological revolution. Collaborating with stakeholders from various contexts DML aims to discover, design and develop the new institutional 'dark matter' that enables movement towards more democratic, distributed and long-term futures. Through the Rapid Transition Lab, DML's ambition is to move towards a participatory portfolio of experiments that investigate the dark matter in the Swedish food systems; systems which are not defined by their territorial boundaries but interlinked in planetary systems.



[Vinnova](#) is Sweden's innovation agency. The purpose of the agency is to help build, refine and coordinate Sweden's innovation capacity, contributing to sustainable growth. The vision is that Sweden is an innovative force in a sustainable world. The work is governed by the Swedish government, and is based on the global sustainable development goals of the 2030 Agenda adopted by the United Nations. The agency identifies areas where its efforts can make a difference and creates opportunities and incentives for organisations to work together to meet important societal challenges. It is an expert authority with 200 employees, and provides funding as well as strategic and system design expertise to the Rapid Transition Lab project.



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