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The Future of Food

During the 2022 United Nations Climate Change Conference (COP27) at Sharm el-Sheikh, the Nordic Council of Ministers organized a series of discussions addressing issues related to the future of agriculture. These discussions included experts from different backgrounds who shared their opinions and experiences and completed a survey on possible major future events potentially affecting agri-food systems. This document summarizes the results of the debate •

Where are we?

Food production is directly and indirectly linked to all of the climate and environmental risks we're facing globally. It produces large volumes of greenhouse gas emissions, consumes a disproportionately large share of freshwater, and is strongly linked to biodiversity loss, collapsing ecosystems, and other challenges. Food also plays an important role in many areas crucial to a sustainable and fair future, such as health, rural development, ethics, culture, and the economy. When it comes to climate and the environment, agri-food systems are chief among the factors facilitating the crises we're facing. At the same time, agri-food is one of the main sectors affected by the disruptions the climate crisis and environmental collapses cause. The environmental and climate crisis has changed the landscape of agricultural risks — threats affecting agri-food systems are becoming increasingly variable, unpredictable, and intense. By their nature, agri-food systems are commonly subject to a multitude of other agricultural risks in addition to climate and environmental threats, making it difficult to fully prepare for future shocks. The impacts of these shocks cascade down the food chain, affecting both supply and demand.



Agri-food systems face risks that create a security crisis that threatens global well-being. These issues need to be confronted head on. We also need to acknowledge that existing institutional arrangements supporting contemporary agri-food systems must be re-evaluated and rebuilt to adequately prepare these systems for the future. We need to develop a regenerative, sustainable system in which each activity is assessed for its potential to help mitigate and adapt, only becoming commercially viable if it can. However, an ambitious goal like this can only be achieved if we don't succumb to short-term thinking, a common reaction to urgent short-term threats. Current issues need to be resolved, but they shouldn't cause us to lose sight of the larger food system challenges we face.

In this new future reality, governance will play a crucial role in initiating change, developing partnerships, and maintaining momentum. None of this can happen with existing governance models and without a proper framework for change. Our aim is to offer a short list of issues to focus on when developing a framework for change and a set of instruments to use when developing new ways of governance •



Finding a new focus!

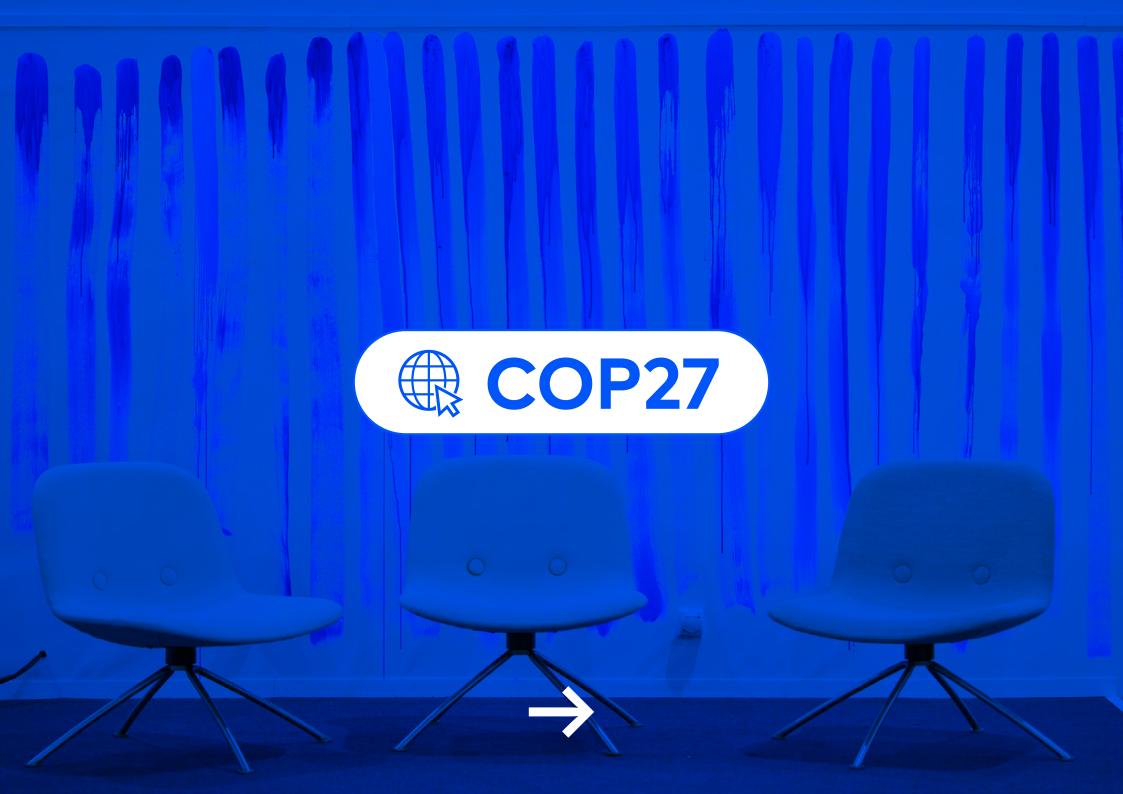
The last few years have illustrated, in many ways, how the climate crisis is likely to affect the world and agri-food systems specifically. Threats faced by local communities worldwide emphasize the **need for a new focus for building global agri-food systems**. Stakeholders will have to re-evaluate the ways they function and interact in the new reality. This means maintaining (or introducing) sustainability as a top priority on any agenda. At the same time, a focus on sustainability doesn't negate the importance of other food-related issues (health being the most obvious). These issues have to remain central to how we think about food and integrated into how we think about sustainability. What this will look like and where borders will be drawn in the system is not yet fully understood.

Generating a transition in systems so important at the societal level, so broad, and hugely significant at the cultural level might seem daunting. However, it can also be seen as an opportunity to develop new connections, find unexpected solutions, and work with a broad pool of practices. The complexity, size, diversity, and dynamism of these systems offer us a wide variety of examples and evidence in our search for new solutions.

The new horizon The climate crisis is here, causing devastating heatwaves, landslides, and storms across the globe. Currently, its most severe effects are in vulnerable regions, but in the future, its effects will be clear worldwide. Most joint global efforts to deal with the crisis focus on mitigation and are as yet ill-equipped to manage its consequences. This focus is no doubt important and should continue. However, with local communities affected, it's clearly no longer enough. We need to adjust our thinking and actions to our current reality. This means rethinking our approach to adaptation, how it's funded, what future adaptation needs will be, and how we monitor and learn from current challenges. We need to learn quickly to better prepare for future manifestations of the crisis. Bottom-up data collection is necessary to clearly understand the scope of the effects and to support future decisions with data. Digital tools will be vitally important for assessing losses and damages.



Secondly, policies must focus on measures that support both mitigation and adaptation. Up until this point, we've addressed these issues separately, but the scope of the challenge we face requires an efficient use of resources. Finally, proper planning is essential — countries need a structured perspective on the future challenges of climate change, they need to act accordingly, and they need to find the funding to deal with these challenges. This means reassessing their existing agri-food systems, looking for vulnerabilities as well as ways to generate the shift to environmentally friendly practices (if this hasn't yet been done). The same is true for stakeholders in the finance sector, who will have to increase their investment in adaptation.



Regenerative future So far, we've primarily focused on the potential sustainability transition and sustainable solutions in agriculture. But, moving beyond mitigation to adaptation implies moving beyond the maintenance of existing ecosystems. At this point, that would be far too little too late. We must turn away from extractive thinking and focus on regenerative practices. Regenerative agriculture encourages stakeholders to find solutions to common challenges facing agri-food systems, enabling otherwise collapsing ecosystems to regenerate. These approaches also advocate a shift in thinking away from human-nature dualism and away from a focus on what can and what cannot be controlled.

Inherent to regenerative agriculture is a focus on whole ecosystems and finding nature-based solutions. Regenerative agriculture and nature-based solutions automatically acknowledge the diversity of local contexts, which is essential for any move forward. In general, they don't provide a comprehensive method that details exact steps to take. Instead, they offer a set of principles that allows space for testing and experimenting.

Solidarity at all levels The climate crisis will affect everyone. Current and future disruptions, as well as the current and future social, economic, and ecological pressures created, will, to some extent, be local, but the nature of the crisis, the social systems affected (in this case, agri-food), and its challenges are global. This makes solidarity both a possibility and a necessity. Unequal adaptation to the crisis would lead to additional future risks. On the one hand, this implies overcoming macropolitical climate-related disagreements to create cross-national initiatives, jointly developing and financing new adaptation measures. A global effort is needed to overcome existing challenges. This will require exchanging information and best practices. More importantly, we'll need global commitments and cross-national financial instruments that support mitigation and adaptation. And, we'll have to do this without sacrificing crucial elements of the existing agri-food system (for example, free trade). Still, while governments are fundamental to mitigation and adaptation efforts, business is also crucial. For companies, solidarity means assuming their share of the responsibility in helping agri-food systems change rapidly. Solidarity also means understanding the needs, fears, and expectations of communities and groups that might need to change. No solutions should be developed without clearly understanding these needs (without consulting them first). And other groups need to be actively included, for example, young people, whose stake in a viable future is arguably high. Having young people at the centre of the transition will automatically ensure the shift's longevity, whereas alienating them from the process would result in failure to change and possibly another gap in society.

Solidarity should also extend outside of the climate crisis framework. We've seen global food insecurity caused by recent crises, and addressing these challenges and helping affected communities is the responsibility of those who have the resources to do so.

Sustainable diets Agri-food systems generate around one third of global emissions, which makes it tempting to focus on their environmental performance. However, no serious rethinking is possible without reassessing the health, social, and economic roles these systems play. The key role of the complex global agri-food systems we've built is to feed people and improve their well-being. It therefore follows that any plan for change will struggle if it fails to initiate a shift in diet. And, while food is linked to climate and environmental crises, it is also directly linked to a public health crisis, as the world is simultaneously facing malnutrition and obesity.

Sustainable agri-food systems cannot be built at the expense of the world's food and nutritional security (FNS). Any transition should aim to increase the global population's FNS and ensure that daily food choices made by communities worldwide support both their health and global attempts to make food systems more sustainable. An integrated approach to diet and sustainable food production will reveal new challenges — conflicts and synergies that might hamper or facilitate the sustainability transition.

Up to this point, those striving towards a transition have been unlikely to consider what people actually eat, their diet. They've viewed this consideration as an additional burden. However, Nordic and Baltic countries have been at the forefront on the issue of sustainable diets (Nordic Nutrition Recommendations documents the work done so far), leading the discussions on this challenge. Evidence from these first attempts to link diet and sustainability suggests that trade-offs will be necessary. And, the fact that this analysis comes from the Nordic region raises the question of how to adapt the recommendations to fit a variety of local contexts, each with its own eating culture and historically developed agriculture. The adapting must take into consideration what is possible for these various groups, as well as their cultural needs, while acknowledging that food and eating are both a functional need and a manifestation of local culture that helps the community maintain its way of life. This adapting cannot happen without local governments that are willing to tackle the issue. Governments must invest in this effort and develop guidelines for local sustainable diets. These guidelines will accelerate the transition by providing a reference point for the best way forward to a varied group of stakeholders •



New ways of thinking!

The transformation of food systems is an enormous task and can only be achieved if the full spectrum of food system stakeholders is involved and more than one challenge addressed at a time. We need to **rethink how** stakeholders are engaged and consulted so that everyone's on board with the transition and we benefit fully from all the tools, competencies, and skills available in agri-food systems •

Holistic and systemic perspective Researchers, international organisations, and other stakeholders now recognise the systemic nature of agri-food systems, and increasingly, this has become a starting point in the discussion on what's preventing the rapid change of its separate elements. Still, policies are rarely holistic; instead, they're formulated from a point of view that considers the system a string of unconnected parts. But to structurally engage with the challenges of climate change, we need to fully adopt the systemic approach. For a number of reasons, every activity introduced must be evaluated for its potential impacts across the system. Firstly, because the system incorporates multiple needs, challenges, cultures, and expectations. Its stakeholders have their unique roles and specific objectives. Farmers and consumers, for example, have different roles and objectives. This will have to be taken into account to make sure everyone is working towards the same goals and, more importantly, to make sure no one is left behind.

Secondly, the number of shocks and disruptions is growing exponentially, and we won't have the resources or time to deal with each separately. We cannot allow short-term challenges to distract us from long-term goals. Rather, we'll need to make an effort to find solutions that deal with all threats simultaneously. Consider the food shortages initiated by Russia's war in Ukraine. Solutions to these shortages shouldn't come at the cost to adaptation and mitigation of the climate crisis. Finally, we need to develop a holistic approach in order to make use of what we already have — building new infrastructures or developing new institutions is not always feasible or affordable. Instead, we can reconsider and reimagine existing structures and look for potential nature-based solutions.

Critical assessment of enablers We need to develop an environment that helps and enables those looking to facilitate the transition to more environmentally friendly agri-food systems and sustainable diets. This has a number of implications.

Firstly, the data required to guide the transition forward and the models for using it must be made available. Strengthening the scientific institutions that address these issues and taking part in projects that collect data and make it publicly available will be crucial. Secondly, the strategies and policies legitimizing the change must be in place. This will support activists and give them the arguments needed to engage local policymakers and others. Finally, finance needs to be mobilized, and made more innovative. It's also crucial that backers know they're investing in more than a one-off project, that their investments can be broadened to future promising initiatives. Public funding will remain important. However, the private sector will be key to a quick transition.

Developing new partnerships The push towards sustainable agri-food systems can't be initiated by just one individual or group. The systems we're trying to change are too complex. Representatives from all sides will need to make a joint effort to accelerate change. Policymakers, the private sector, civic society, and science must collaborate to make sure there's a joint perspective on how to move forward. Collaboration will help ensure that innovations, technologies, and funds crucial for the envisioned change are in place and available to everybody. These new partnerships are also crucial to inclusive and reflexive models of governance. With the global challenges we face accelerating, governance structures sensitive to local needs and that can rapidly respond to emergencies local communities might face are necessary. And, future governance must be more willing to act proactively rather than retrospectively. Finally, there will be an urgent need for new policy solutions that can be replicated and scaled to support communities across the globe.

If the preconditions for system-wide collaborations are created, unanticipated, smarter collaborations will likely emerge to facilitate social and technical innovations and support novel, responsible business models. These models will give civic society new ways to counter the challenges communities face •

Transparency will be key Only a collaborative effort can create a transition to more sustainable agri-food systems. But, how do we convince the various groups to join forces? The answer to this question is to build greater mutual trust. **Trust between partners**, both at the macro and micro level, ensures that everyone involved knows they're trying to solve the same problems and that all are willing to use their resources to tackle the challenges we face. The future will require **policies** that focus on global society's solidarity.

Trust can't be asked for — it has to be built, and the easiest way to do so is by being transparent. This could be a challenge, since those dealing with climate crisis threats might represent very different backgrounds. On the one hand, these are international organisations and at the other end of the spectrum, local communities with their local challenges and needs. In this context, transparency means being open about the decisions made and **basing decisions on scientific evidence**. It also means creating mechanisms that allow community representatives to be involved in and verify the processes taking place. An open approach can win peoples' hearts and engage new partners.



Localize and scale it The crises we face are global, but they're experienced locally. Vulnerable communities worldwide are struggling to cope with the disastrous effects of the climate crisis and collapsing ecosystems. Access to food and the ability to grow it are heavily affected. These communities need to be strengthened. This means providing resources as well as adapting existing technologies to local needs, ensuring they help both mitigate and adapt to the climate crisis. Infrastructure that provides the technical assistance to make this happen is necessary.

While local communities are better aware of their own needs, global knowledge could strengthen their attempts to cope. But, how can global knowledge be adapted to local needs, making sure it's effective while preserving local differences? Sustainable diets, for example, will differ from one place to another, and a joint effort to introduce them locally will be required. Another related and major issue is the need to replicate best solutions. We can't afford to develop entirely new best practices. Therefore, how we learn from what's already available must be improved. This includes developing new methodological tools for adapting best practices to new contexts, as well as open-access repositories to collect these practices.

In conclusion, local change won't be enough to support a system-wide transition. We'll have to figure out how to use local experiences to create global initiatives that replicate best local practices on a global scale •

Nordic Council of Ministers' Office in Latvia

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