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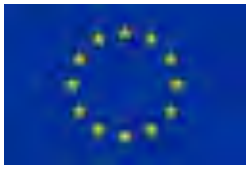
The role of Europe in building system-wide resilience to cross-border climate impacts

Research report | October 2023



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The role of Europe in building system-wide resilience to cross-border climate impacts

Hanne Knaepen (editor)

October 2023

Photo credit: Steve Buissinne from Pixabay

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Abstract

This report discusses how the European Union (EU) and the EU member states, in particular Germany and Spain, individually, collectively, and through their cooperation with international organisations, address cascading and cross-border climate impacts originating in agri-food systems in third countries with close ties to Europe. It finds that the EU and its member states have a rich array of policy frameworks and instruments to support climate adaptation in agri-food systems in partner countries to alleviate cascading impacts.

Nevertheless, there are gaps in the current European institutional architecture, foreign policy, development instruments and modalities to help build system-wide adaptation and, ultimately, system-wide resilience as a response to cascading and cross-border climate impacts. One reason is that traditional frameworks and policy processes on climate change impacts and adaptation define responses to climate impacts as either a sectoral or local challenge, primarily *within* national borders. Specifically, European actors face four strategic challenges to respond coherently, consistently and effectively to cascading and cross-border climate impacts: (1) Knowledge of cascading and cross-border climate impacts is still poor. Even less is known about what appropriate tools Europe could use and which measures to take to address them; (2) Policy incoherence, affecting adequate adaptation action, is a strategic problem; (3) Broad multi-level and multi-actor collaboration is missing; (4) Unilaterally closing the adaptation finance gap remains a daunting challenge for Europe.

As a way forward, this report presents a conceptual response framework that offers a comprehensive method for adaptation planners and policymakers in countries affected by cross-border climate impacts to identify, design, and filter adaptation responses suitable for different systems and levels. Furthermore, the various case study chapters in this report present concrete policy recommendations on how the EU and its member states, individually, jointly, and in their cooperation with international organisations, can ultimately work towards system-wide resilience in the face of cascading and cross-border climate impacts.

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Introduction

Europe's vulnerability to cascading and cross-border climate impacts originating in agri-food systems

Climate change impacts, such as droughts or floods, can have spillover effects that cross borders and continents. With its strong socio-economic links to, and interconnections with, the rest of the world, Europe is likely to feel the regional effects of a changing climate and the fallout of these effects materialising elsewhere (Hildén et al. 2020). For instance, in the Middle East and North African (MENA) and Central Sahel regions, a combination of higher temperatures and water shortages could reduce agricultural yields, causing disruptions in food value chains in the region and potentially leading people to move out of agriculture due to reduced opportunities. In the MENA region, increased rural-urban migration could strain public services, notably water, energy, and food. These factors can exacerbate social unrest and regional instability (Lahn and Shapland 2022). Increased migration to Europe, especially from Northern Africa and the Middle East, is anticipated in response to reduced options for employment, income generation, and education, as well as increased social unrest or regional instability. Unsafe or illegal migration may create opportunities for organised crime (e.g., human trafficking) and entail various risks for migrants (e.g., accidents, violence, exploitation). In the Central Sahel, climate change will continue to strain communal relations, increasing the risk of inter- and intra-communal conflicts. Besides disrupting local livelihoods and food security, it will potentially alter existing patterns of transhumance and mobility. Consequently, this could result in increased disputes over land use and access to water points, as well as crop damage (Brottem and McDonnell 2020). Climate change could continue contributing to the increased spates of violent extremism and the proliferation of armed groups in the region, which could (indirectly) affect security in Europe.

Cross-border climate impacts (also known as cascading and transboundary climate impacts)[1] will be enabled or exacerbated by societal and governance characteristics (Detges and Foong 2022). Addressing the barriers to climate-resilient and sustainable agri-food systems and their negative cascading effects implies addressing specific political or governance-related bottlenecks in addition to climate impacts. For example, in the MENA and Central Sahel regions, the effectiveness of responses to climate impacts will depend on irrigation capacity, market access and loans, access to agricultural services and inputs (e.g., seeds, fertilisers), an adequate understanding of climate-resilient production practices, other types of services, and social safety nets (Puig Cepero et al. 2021; Lahn and Shapland 2022; Zougmoré et al. 2019).

[1] Henceforth abbreviated to "cross-border climate impacts" in this report.

As mentioned, food systems-related climate impacts can cascade, directly or indirectly, into Europe (Lahn and Shapland 2022; Puig Cepero et al. 2021; Desmidt et al. 2021) with implications for European foreign and development policy. Increased regional insecurity compromises European objectives to strengthen stability, democracy, and human rights in its surrounding regions. However, the EU and its member states are only beginning to recognise the risks associated with these cascading and cross-border climate impacts (Hildén et al. 2020).

Assessing European responses to cross-border climate impacts in agri-food systems

The likelihood of increasing climate impacts makes us question how the European Union (EU) and its member states, in close cooperation with global actors, can coherently and effectively respond to cross-border climate impacts that originate in - or pass through - food systems? Throughout the various contributions in this compilation, this broad question is broken down into four sub-questions:

1. How (i.e., policies and instruments) and to what extent do the EU and the EU member states, individually, collectively, and through their cooperation with international organisations, contribute to mitigating cross-border climate impacts originating in agri-food systems in third countries with close ties to Europe (by supporting climate adaptation within these countries or regions)?
2. What obstacles and opportunities exist for the EU, the EU member states, and international organisations to support the climate adaptation and resilience of agri-food systems in third countries? And, what will be the implications if limitations are not fully addressed?
3. Which synergies or contradictions exist across policies in the domains of environment, development, security, migration, or trade concerning climate resilience of agri-food systems in third countries with close ties to Europe?
4. How can the EU's and the EU member states' policies and instruments, including through their cooperation with international organisations, be improved to address cascading and cross-border climate impacts?

We respond to these four questions in seven chapters. Through these different contributions, a core argument emerges: the EU and its member states have a rich array of policy frameworks and instruments to support adaptation in agri-food systems in partner countries, but there are gaps in the current European institutional architecture and foreign policy and development instruments and modalities for addressing these impacts in agri-food systems. In the case of the EU, barriers include an inability to close the adaptation finance gap, institutional fragmentation, and policy incoherence between interconnected policy domains such as climate, development, and security.

Similarly, there remain several ways in which European member states could make a stronger contribution to climate-resilient agri-food systems in third countries by helping them to adapt to climate impacts and thus mitigate cross-border climate impacts affecting them. They could increase overall adaptation funding and mainstream climate adaptation into development cooperation and security policy, particularly in fragile contexts. These recommendations are true for Germany and Spain, as discussed respectively in chapters 4 and 5.

Empowering field staff in vulnerable partner countries and enhancing capacities to work with a broad range of local and international stakeholders will be helpful.

Other chapters also look at the cooperation of the EU and the EU member states with international organisations, most notably the World Food Programme (WFP), the Food and Agriculture Organisation (FAO) in chapter 6 and the North Atlantic Treaty Organisation (NATO) in chapter 7, as partners of Europe. Whilst the EU and its member states are among the most significant financial backers of the major international humanitarian organisations, opportunities exist to further improve the quality and availability of this finance for those states facing the most critical agri-food challenges to alleviate them. Furthermore, collaboration with NATO is still centred on the impacts of climate change on defence and military capabilities, but within the context of COVID-19 and the invasion of Ukraine, moving food security further up the agenda for the EU-NATO partnership will be key to bolstering domestic and regional resilience.

Part of the reason for European actors' inadequacy to respond to cross-border climate impacts is that traditional frameworks and policy processes on climate change impact, adaptation, and vulnerability define responses to climate change impacts as a local challenge, mostly *within* national borders. Consequently, they fail to capture and plan for interdependencies and cross-border climate impacts (Benzie and Persson 2019; Liverman 2016; Paterson and Guida 2021). Previous work on cross-border climate impacts has conceptualised and raised awareness of the potential risks and rippling effects of neglecting such interdependencies (Carter et al. 2021; Challinor et al. 2018; Hedlund et al. 2018; Moser and Hart 2015). To better understand the appropriate approaches to address cross-border climate impacts within policy realms and design actionable adaptation strategies to respond to associated risks, the response framework, developed by Talebian et al. (2023) can help to systematically identify and appraise different types of responses to cross-border climate impacts. Chapter 1 covers this in more detail.

The analyses in the various case studies in this compilation are based on primary and secondary literature, ODA data from OECD, highlighting budgetary constraints and priorities, supplemented with experts' insights (from text analysis and/or interviews).

Pathways to build system-wide resilience

European actors could do more to contribute to system-wide adaptation, and ultimately, system-wide resilience in partner countries. Four categories of strategic problems block success:

1. Knowledge of cascading and cross-border climate impacts is still poor. Even less is known about what appropriate tools Europe could use and which measures to take to address them.
2. Policy incoherence, affecting adequate adaptation action, remains a strategic problem for Europe.
3. Effective diplomacy and multi-level and multi-actor collaboration is missing in Europe,

4. Unilaterally closing the adaptation finance gap remains a daunting challenge for Europe.

Based on the gap analysis, the report proposes four pathways that the EU and its member states, together with international actors, can follow to enable better responses to cross-border climate impacts. The four pathways include - in line with the four types of strategic problems - knowledge and tools, policies and plans, diplomacy and cooperation, and finance. The report also suggests concrete policy recommendations for European actors to minimise cross-border climate impacts and guide the EU in developing a comprehensive strategy for the wider geopolitical impacts of climate change - a challenge that may come to dwarf all other international dilemmas in future years.

Chapter 1 - Identifying appropriate adaptation solutions to cross-border climate impacts

Sara Talebian and Magnus Benzie

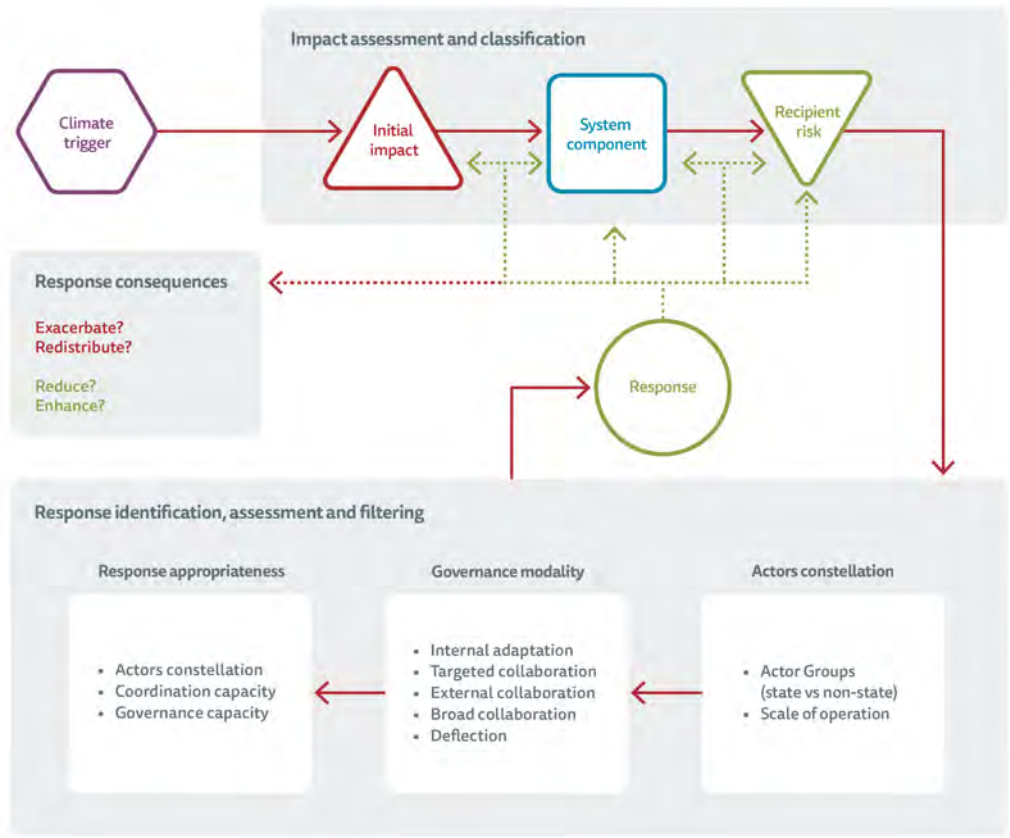
In a globalised world, economies, societies, and ecosystems are interconnected through multiple flows, such as trade links and global markets, financial interdependencies, and people's movement. When climate events such as droughts and flooding occur in one part of the world, the consequences can be transmitted to other countries, regions, and continents. Cross-border climate impacts traverse national borders and jurisdictional boundaries, posing risks to countries and communities distant from the initial origin of impact (Benzie et al. 2019; Carter et al. 2021; Hedlund et al. 2018).

As global warming accelerates, the climate events that trigger cross-border climate risks increase in intensity and frequency (IPCC 2018; Magnan et al. 2021). This calls for a better understanding of cross-border climate impacts and the design and implementation of more effective adaptation responses. Traditional adaptation solutions limit policy measures and interventions within national borders (Adaptation Without Borders 2023). These solutions often fail to consider the cross-border nature of climate impacts, and thus, overlook the necessity for international cooperation and transnational governance to address the climate crisis (Paterson and Guida 2021).

Climate change adaptation is being redefined as a global challenge that requires transnational and collaborative governance solutions (Dzebo and Stripple 2015; Persson 2019). In this context, a conceptual and analytical framework is required to appraise different types of cascading climate risks and investigate appropriate policy responses and governance approaches to address these risks.

We propose a framework to help understand and select different types of policy responses to address different types of cross-border climate impacts (figure 1). This **Response Framework** offers a comprehensive process for adaptation planners and policy makers in countries affected by cross-border climate impacts to identify, design, and filter adaptation responses suitable for different systems and levels (Talebian et al. 2023).

Figure 1. A conceptual framework for responding to cross-border climate impacts



First, the framework identifies a **climate trigger**, which refers to the original climate event that impacts an economy, society, or environment. A climate trigger can be a weather shock (e.g., heat wave or extreme precipitation) or a slow onset event (e.g., desertification or sea level rise).

The primary consequence of a climate trigger is called the **initial impact**. Initial impact is the direct impact of a climate event at the same location where the climate event originally occurred. For example, extreme rainfall could directly affect Pakistan through floods and damages to key economic sectors like agriculture, infrastructure, and livelihoods.

The initial impact of a climate trigger may then spread to other locations, crossing physical and sectoral borders. As the initial impact cascades, its negative consequences affect multiple systems, sectors, and locations along its propagation pathway. The **system component** in the response framework refers to any entity affected by the chain of impacts along the impact pathway.

The **recipient risk** is the manifestation of a cascading climate impact in a country at the receiving end of the cascade, i.e., the recipient country. For example, extreme flooding in Pakistan and damage to infrastructure and agricultural sites cause a shortage of agricultural commodities in the global markets and

contribute to food price spikes. An import-dependent country on the other side of the world could 'receive' the risks associated with flooding in Pakistan in the form of food unaffordability or insecurity if they depend on Pakistan's rice or fruit exports, for example.

The response framework focuses on options available to the recipient country. It supports policymakers and adaptation planners in a country at the end of cascading climate risks. The **r**esponse framework puts forward an **impact assessment and classification process** as the first step to identify and differentiate between different types of risks. It then offers a **response identification, assessment, and filtering process** to guide policymakers through selecting suitable policy responses to various types of cross-border climate impacts.

Finally, policymakers are advised to monitor and evaluate response consequences closely. The response framework recognises that while adaptation responses can reduce vulnerabilities and, in some cases, enhance opportunities for recipient countries, they might also have undesirable consequences and redistribute or exacerbate risks in other locations and countries.

In the following sections, we describe the main elements of the response framework in more detail. Throughout this chapter, we use a hypothetical case of excessive flooding in Pakistan caused by record rainfall and melting of glaciers to exemplify different components of the framework.

Impact assessment and classification

Cross-border climate impacts vary and pose different types of risks to recipient countries depending on multiple factors and drivers, including the distance over which they are transmitted (Browne et al. 2022), their mode of transmission and how they affect system components, and the recipient country itself (Carter et al. 2021). Our response framework proposes a typology of cross-border climate impacts based on their geographical dimension and transmission mode. Three clusters of cross-border climate impacts emerge:

Simple cross-border climate impacts cascade via a linear and single-tier system between two countries. These countries are either geographically adjacent (e.g., neighbouring countries) or remote but connected through direct links such as direct one-to-one trade relationships (e.g., the impacts of excessive flooding in India or China on infrastructure in Pakistan, which is downstream on the Indus river).

Complex cross-border climate impacts include two types. First, those that spread across multiple borders and create impacts in several countries through a linear and direct link (e.g., the impacts of excessive flooding in Pakistan on rice production to multiple importers of Pakistani rice, such as China, Malaysia, Kazakhstan, the United Arab Emirates or Afghanistan). Second, those that spread across a few neighbouring or regional countries through a highly complex and multi-dimensional dynamic (e.g., flooding in Pakistan affecting food production, which, when coupled with complex dynamics surrounding regional conflicts and social unrest, changes the dynamics of migration and human displacement across south Asia).

Systemic cross-border climate impacts are extremely complex in terms of both spatial dimension and mode of transmission. These types of impacts spread across multiple countries through multiple links that are compound, complex and interconnected (e.g., food affordability crisis in Europe driven by the simultaneous occurrence of a flood-related food production shock in Pakistan, crop failure in North America resulting from prolonged droughts, and a decline in food exports from Ukraine resulting from war).

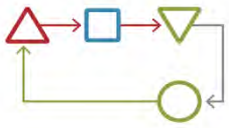
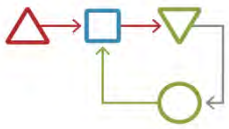
Response identification, assessment and filtering

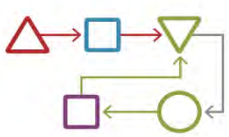
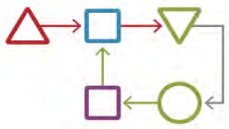
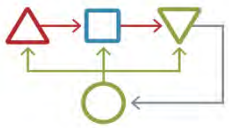
After identifying the cross-border climate risk type, the response framework offers a sequence of steps to identify and assess appropriate responses and governance approaches to address that specific type of risk. First, it is necessary to understand risk ownership and explore who is responsible and accountable for managing this type of risk (Jones et al. 2015; Young et al. 2015). Cascading climate risks spread across national and sub-national boundaries, and thus, managing them potentially requires inclusive engagement with a wide range of actors across multiple countries and governance levels. Considering different actor groups (state and non-state) and their level of operation and influence (Andonova et al. 2009), different **actor constellations** can be imagined (Talebian et al. 2023).

Second, the framework suggests exploring plausible governance modalities for addressing the risk**. Governance modality** refers to different approaches entailing different levels of cooperation for managing risks and implementing responses[2]. Each governance modality offers alternative types of responses to cross-border climate risks and recommends a certain level of collaboration with potential constellations of actors.

[2] The sequence of identifying actors and response types depends on the use case where the framework is being applied; if the framework is used as a tool to identify and select an appropriate response(s) to an ongoing or anticipated impact, it is necessary to first characterise recipients and actors who could potentially take responsibility for addressing the impact, and then explore different response types that could be appropriate given the nature of the impact and invested actors. But if the framework is utilised for evaluating historical cases of responding to cross-border climate impacts, it's advisable to identify response(s) type adjacent to the impact assessment process, and then characterise the constellation of actors who were involved in implementing the response(s).

Table 1. Governance modalities and response types

Governance modality	Cooperation and influence	Potential actor constellations	Response types	
Internal adaptation	Very low cooperation across scales Very low capacity for external influence	Public and private actors at local and national levels	**Block** – A response type focused on preventing a cascading cross-border climate impact from affecting the recipient country's economy, society, and ecosystem through setting up barriers. *For example, Egypt, affected by the global food security crisis, reduces its dependence on global markets by strengthening small-scale agriculture and production capacities at home.*	
			Domestic adaptation – A response type focused on reducing vulnerabilities and/or increasing adaptive capacity of the recipient country through managing and/or absorbing the risks. *For example, a country affected by higher prices of certain food commodities in the global market reduces its population's vulnerability by promoting alternative diets containing alternative grains and plants produced locally and/or imported from less volatile sources and markets.*	
Target Collaboration	Medium cooperation across scales Medium capacity for external influence	Public and private actors in a few (often two) countries	**Adaptation at origin** – A response directed at the source of an impact, i.e., where an impact originally occurred, to mitigate, manage, redirect, or adapt to an impact at the initial location. *For example, EU and member states promote drought-tolerant seeds, more varied crops, improved irrigation, and early warning systems in agricultural producer countries to address the global food security crisis at origin.*	
			Adaptation within the system – A response aimed at mitigating, absorbing, or adapting to an impact at a system component (country) in which the recipient country has influence, interest, or authority to intervene. *For example, the EU and member states increase climate adaptation finance in support of resilience agri-food systems in third countries affected by climate induced global food security crisis.*	

External Collaboration	Medium to high cooperation across scales Medium to high capacity for external influence	Public and private actors in a few countries, including those not affected by the impact	**Substitution** – A response focused on substituting the source of impact and reducing dependency to a vulnerable system by creating new connections with a third party(s), i.e., a country or entity not affected by the same cross-border climate impact. *For example, a country affected by climate events in its traditional trade partner countries diversifies its trade portfolio through finding and connecting with new exporter countries.*	
			Adaptation via a third party – A response focused on mitigating and/or managing an impact through engaging and collaborating with an external or third party, i.e., a country or entity not affected by the same cross-border climate impact. *For example, the EU manages migration from countries affected by climate events by supporting international humanitarian and organisations (e.g., UNHCR, WFP, FAO, etc.) to address climate-induced risks to livelihoods and food security in those countries.*	
Broad collaboration	Very high cooperation across scales Very high capacity for external influence	Public and private actors at transnational levels in several countries	**System-wide adaptation** – A response that targets a cross-border climate impact from multiple intervention points to maximise joint efforts in managing the impact, aiming at building system-wide resilience. *For example, the EU supports regional institutions and actors to drive regional integration and maintain political dialogue and transnational coordination and collaboration on addressing cascading climate impacts and implications for region-wide stability, development, and peace.*	

Internal adaptation refers to risk management and adaptation measures at national and sub-national levels, where the country receiving a cascading climate impact attempts to reduce vulnerability through domestic adaptation actions that prevent the risk from affecting communities, individuals, infrastructure, and other assets. Internal adaptation is confined within national borders and implies no transnational and cross-scale collaboration. Traditionally, most adaptation measures and activities are "internal": domestic, designed and implemented locally and nationally.

Targeted collaboration refers to a governance approach where a country affected by a cascading climate risk works together with other individually impacted

countries to adapt and reduce vulnerability at specific intervention points. For example, when excessive floods in Pakistan trigger price spikes and disruptions in global agricultural commodity markets, an import-dependent country like the UK can reduce future risks to its food affordability by supporting adaptation activities in rice farming areas of countries like Pakistan.

External collaboration refers to cases where the risk recipient country collaborates with a third party (e.g., a third country or an international organisation) that is not directly affected by the risk, for example, to substitute disrupted supplies. In the same example mentioned above, an import-dependent country that is a traditional trade partner to Pakistan could diversify its trade portfolio and find new trade partners to import rice and other at-risk agricultural commodities from.

Broad collaboration refers to wide-ranging cooperation and partnership between several countries affected by a cascading climate risk to implement system-wide adaptation across the impact transmission pathway. For example, when extreme flooding in Pakistan coincides with reduced food production in Africa, resulting in volatility in global markets, actors in many countries affected by price spikes could collaborate and implement coordinated efforts to manage the risks from multiple intervention points. This might include sending emergency recovery funds to Pakistan, to increasing adaptive capacity to manage droughts in African countries, to introducing regulations in global food markets to avoid the imposition of export restrictions, to brokering international agreements to reduce food price speculation in financial markets.

The response framework also recognises that in some cases, risk recipient countries might implement measures that do not constructively or genuinely aim to address the risk or society's vulnerability to it. Instead, the aim may be to deflect attention from the risk and achieve other objectives or protect interests other than those primarily affected by the cascading climate risks. We refer to these as pseudo-responses.

Third, the framework recommends adaptation planners and policymakers to utilise an analytical process to link risk and response types and evaluate **response appropriateness**. Ideally, This process enables policymakers to answer which governance modality and response types are more suitable for addressing a given type of risk.

Response appropriateness, first and foremost, depends on the type of cross-border climate risk it aims to address. Understanding the number of borders an impact cascades across and its mode of transmission helps to anticipate the extent to which the risk recipient country can influence and manage the risk, either by action from within or beyond its jurisdiction. Addressing simple, complex, or systemic cross-border climate impacts requires different levels of cooperation and resources and, thus different types of responses.

The constellation of actors responsible and accountable for managing the risk at different levels alters the suitability of different response types. Accordingly, the response framework encourages policymakers in the risk-recipient country to explore their capacities and aptitudes to cooperate and coordinate with constellations of actors at local, national, and transnational levels. Actors' capacity to collaborate, influence and coordinate their partners will determine the efficacy of responses designed to implement adaptation across multiple

countries and governance levels (Lodge and Wegrich 2014; Peters 2015). This step assists adaptation planners in anticipating to what extent the recipient country can engage with other countries and motivate cross-scale adaptation responses to a cascading climate risk.

Finally, the recipient country's governance capacity for implementing any given response type influences response appropriateness. Governance capacity refers to a wide range of resources needed for supporting policymaking, including political capacity and legal instruments, institutional capacity, administrative and managerial capacity, and budget and staff for implementing a policy (Bulkeley et al. 2014; Howlett and Saguin 2018). Understanding the recipient country's governance capacity and ability to engage and cooperate with actors in other countries is essential to understand the costs and benefits of various internal and external response options.

A recipient country with a strong capacity to coordinate and engage in multilevel governance can reduce adaptation costs by fostering collective action. In contrast, a recipient country with lower motivation and/or capacity to cooperate may have little choice but to reduce vulnerabilities to cascading climate risks through domestic policies, even where it knows that impacts could be prevented via international cooperation.

For example, a small, rich, influential country that depends on agricultural imports for its food security might seek to engage in diplomatic processes to secure commitment from exporting countries to continue supplying critical goods bilaterally, even when climate impacts affect yields. Perhaps the rich country can offer financial incentives, or threaten diplomatic retaliation as part of its bargaining, demonstrating high capacity. An even higher-capacity country, such as a major economic power, may seek to orchestrate a new international agreement on reducing volatility in global food markets as part of a strategy to increase its own food system resilience.

A poorer, less influential import-dependent country might not be able to pursue such a response strategy. Its options may be limited to subsidising domestic food consumption or appeal for international food aid in an attempt to absorb the shock and limit its disruption. It may not even have the capacity to protect its own domestic food supply chain from cheap, subsidised competition from abroad as a way to hedge risks of future global food price shock (e.g., due to the restrictive trade policies of more powerful countries). This situation exemplifies the low response capacity of many developing countries when dealing with cascading climate risks.

Response consequences

Responses to cross-border climate impact may have undesirable consequences. A policy response may effectively reduce vulnerabilities at local and national levels in one country whilst increasing or redistributing risks to communities and sectors in another country (Barnett and O'Neill 2010; Magnan et al. 2016). For example, when a country responds to price shocks on international agricultural commodity markets by banning exports, it might successfully protect domestic food security while simultaneously exacerbating risks to food affordability and security for individuals and communities in other countries, thus undermining the resilience of the global food systems.

Minimising the risk of maladaptation (i.e., negative consequences of adaptation responses) is important for pursuing system-wide resilience, and achieving long-term objectives at local and national levels. Export bans on agricultural commodities eventually result in trade disruptions and inflation in the global food market. Inflation will cascade to other commodity markets and contribute to global affordability and cost-of-living crises. The recipient country that originally introduced export bans is likely at some point to be impacted by these spiralling market crises. In a highly interdependent world, what goes around comes around. Eventually, cascading climate risks will rebound; avoiding transboundary maladaptation by building systemic resilience is in everyone's long-term interest.

The response framework recommends policymakers and adaptation planners in a country affected by cross-border climate impacts to consider and continuously assess and monitor the unintended and undesirable consequences of policy responses. Consequently, adaptation responses in one place do not create risks elsewhere or hinder global and system-wide resilience objectives.

Conclusion

Climate change adaptation is a global challenge and calls for transnational and cross-scale solutions. Yet, few policy processes and governance approaches to adaptation account for cascading and cross-border nature of climate risks or propose concrete collaborative responses to address them (Harris et al. 2022). Adaptation policies are mostly owned and steered at the national level in siloes. Frameworks for global adaptation governance are lacking. Our response framework attempts to fill this gap by highlighting collaboration and cross-scale cooperation as core characteristics of adaptation governance.

Adaptation planners and policymakers can use the response framework to identify cross-border cascading climate impacts and anticipate their exposure and vulnerability to climate triggers beyond national boundaries. Having a comprehensive understanding of their vulnerability, governance capacity and strengths and barriers for cooperation, they can identify appropriate adaptation responses – potentially addressing a wider range of risks more effectively.

The framework assists policymakers in identifying suitable intervention points to address cascading climate impacts and anticipate when broad or targeted collaboration with actors across scales and jurisdictions is necessary. It serves to highlight the context in which internal adaptation is suitable and when combining different governance modalities is likely necessary and effective.

The following six chapters in the report will refer to the response framework and lightly apply it to the respective case studies in each chapter. The last chapter 7 applies the framework more thoroughly. The references to the framework are bolded throughout the text.

Chapter 2 - European policies to support adaptation in North African food systems

Hanne Knaepen

The current food security crisis in North African countries, including Algeria, Libya, Tunisia, Morocco and Egypt, was precipitated by the local and global economic shocks brought on by the COVID-19 pandemic in 2020, its 2021 aftermath and the Russian invasion in Ukraine in 2022. The latter incident greatly impacted many North African countries due to their high dependency on cereal grain imports (Vedie 2022). Yet, even before the war in Ukraine, global wheat markets were already very tight, as climate change was affecting cereal production in other parts of the world. In China, for instance, rare and heavy rainfall in the winter of 2021 delayed the planting of one-third of the land used for wheat, of which parts are dedicated to global export (Gu and Singh 2022). In addition, the failure to implement adequate measures to address increased water scarcity is at the core of the structural fragility of North Africa's food systems (Tanchum 2021). For instance, exceptional drought, and the lack of well-functioning water management systems, led to reduced yields in Morocco in 2022, forcing the government to increase bread subsidies and boost imports (Eljechtimi 2022). The latest IPCC report (2022) states that North African countries will struggle even more in the future to meet food needs as agricultural output will decrease due to water shortages and increased droughts (Ali et al. 2022).

North African countries' respective agricultural sectors constitute large parts of their gross domestic product (GDP), employing the majority of people: in 2021, Tunisia's agricultural sector accounted for 9.1% of GDP, Morocco's accounted for 12.6%, and Egypt's for 11.83% (WB 2023a). Combined with gender inequality, water mismanagement, high unemployment rates and demographic growth, this could translate into socio-political instability in the region (Gaub and Lienard 2021). History shows that high food inflation levels helped fuel the protest movements against corruption and injustice leading up to the Arab Spring more than a decade ago (Sternberg 2012).

Political instability and insecurity in North Africa may have negative repercussions for Europe: they can cascade across borders towards Europe via increased migration and challenge Europe's development, cooperation, and security policy (Detges and Foong 2022; Lahn and Shapland 2022). Therefore, the question of **how the EU might seek to support adaptation to build resilience in North Africa will likely be an increasingly strategic political priority**. But concretely, how is the EU supporting adaptation in North African countries' agri-food systems, and what are the main barriers to doing so?

This chapter looks more closely at Egypt, Tunisia and Morocco and finds that various factors, notably shifting political priorities or the low levels of (public and private) adaptation finance, block the EU's ability to support system-wide adaptation in North African agri-food systems. The analysis mainly uses qualitative methods, particularly desk studies, interviews with officials at the European Commission and the Dutch Embassies in Rabat and Tunis, and a field trip to Tunis in June 2022.

The EU's limited responses to a confluence of crises in North Africa

The Euro-Mediterranean Partnership, established by the Barcelona Declaration of 1995, intended to strengthen the EU's relationship with North African countries. The Union for the Mediterranean (UfM) was established in 2008 to formally promote dialogue and cooperation between both regions. Within the UfM framework, the EU gives high priority to climate adaptation. In 2021, the EU proposed the New Agenda for the Mediterranean (hereafter, the 'Agenda'), with which the EU aims to promote regional peace and cooperation through alignment with its Green Deal (EC 2021a). This Agenda features a strong commitment to green transition and climate resilience as one of the five key policy areas of focus (for more details, see table 2 below).

Beyond the broad regional Agenda, the EU has several sectoral policies for North Africa that reference climate change impacts and the required responses to address them. This chapter takes a closer look at the EU's policies and programmes for North Africa, specifically focusing on Egypt, Tunisia and Morocco, and examines how the cross-border nature of climate impacts is integrated into European policies. We will respond to this complex question by answering a set of subquestions throughout this chapter:

- To what extent do EU policies towards North Africa focus on climate adaptation and resilience in agri-food systems?
- To what extent and how does adaptation in agri-food systems feature on the policy agenda of North African countries (to ultimately guide EU policies)?
- To what extent will the European adaptation finance, including from the private sector or through blended mechanisms, support smallholder farmers in North African countries?
- Are climate (adaptation) considerations integrated into other EU policies, such as trade policies, towards North Africa?

EU policies to support adaptation in North Africa

During the period 2012-2020, the EU institutions (excluding the European Investment Bank) committed 2.6%, 0.9% and 0.1% of adaptation finance to Egypt, Morocco and Tunisia, via Official Development Assistance (ODA) grants, out of the total development finance budget (no ODA adaptation support was committed to Algeria or Libya), as illustrated in figure 2. In these three countries, the EU, together with the EU member states, committed most adaptation-related finance in support of agri-food systems, as compared to other sectors such as water supply or infrastructure (OECD 2022a). Among the EU member

states, Germany committed the largest amount of bilateral ODA to adaptation in Tunisia, Morocco and Egypt. In Tunisia and Morroco, the bulk of the funding was provided through loans, while the support to Egypt was entirely provided via ODA grants. During the same period, the European Investment Bank (EIB) committed $15.4 million in development finance loans for adaptation to Egypt, $22.6 million to Tunisia and $41.1 million to Morocco. However, none of these EIB commitments has effectively been disbursed.[3]

Figure 2. Percentage of adaptation finance out of total development finance committed by the EU institutions (excl. EIB) for the period 2012-2020[4]

In recent years, cooperation between the EU and North African countries has mainly focused on migration and counter-terrorism. This explains the rather low proportions of finance directed to adaptation in the three countries of focus (Barnes-Dacey and Dworkin 2020).

For 2021-2027, the EU has raised its climate ambitions and more strongly incorporated its adaptation ambitions into the programming of the €79.5 billion instrument "Neighbourhood, Development and International Cooperation (NDICI) Instrument - Global Europe". Out of the total, approximately €12 billion is planned for the Southern Neighbourhood, with the bulk being directed to Sub-Saharan Africa. The overall EU budget intends to allocate 30% of NDICI programming towards climate action, partly implemented by EU development finance institutions and the multilateral development banks. These latter institutions only marginally promote investment in climate adaptation (accounting for only 15% of the climate finance of the EBRD and 10% of the EIB). The enhanced European Fund for Sustainable Investment (EFSD+) under NDICI, in synergy with other external action instruments of the EU budget, could more significantly help leverage investments for climate adaptation, particularly in the agriculture sector, in line with the EU Adaptation Strategy. However, this is still speculative as, at the time of writing, not all the EU's multiannual indicative programmes (MIPs) for North African countries are finalised. Table 2 gives an overview of how adaptation in agri-food systems features in the available EU policies and strategies for the North African region and for specific countries.

[3] All data is generated with the SEI Aid Atlas tool (2023): https://aid-atlas.org/.

[4] Ibid.

Table 2. Overview of how adaptation in agriculture or agri-food systems features in key EU policies or programmes for North Africa

EU policy or strategy	How does adaptation in agri-food systems feature?
European Neighbourhood Policy (ENP) (2004), Review of the ENP (2015)	This foreign policy framework aims to bring the EU closer to its Eastern and Southern neighbours. Its 2004 version focuses on economic development, security, migration and mobility, completely lacking any focus on climate action or adaptation. The 2015 ENP Review underlines the need for climate action in light of the Paris Agreement. It emphasises the need for investments in agriculture in the neighbourhood.
Renewed Partnership with the Southern Neighbourhood. New Agenda for the Mediterranean (2021), known as 'the Agenda'	The 'Agenda', a regional cooperation initiative under the ENP, states that the EU will promote regional peace and cooperation through alignment with its Green Deal. Consequently, it commits to green transition and climate resilience as one of the five key policy areas. Within this area, 'adaptation' is considered a priority for the region, including the need to improve climate governance with "increasing climate adaptation capacities". Special attention goes to supporting sustainable food system transition, with reference to the sustainable management of agriculture.
Renewed Partnership with the Southern Neighbourhood Economic and Investment Plan (EIP) for the Southern Neighbours (2021)	This EIP supports the implementation of the five themes in the Agenda. It includes a series of (indicative) flagship investments and projects that can be financed under the NDICI. In the 'green transition' area, it proposes a regional flagship that focuses on 'deploying innovative financing instruments, including Green Bonds'. The plans for Egypt, Morocco and Algeria all focus on 'energy transition & energy security'. In the area of 'Strengthening resilience [...] digital transition', the EU will support Morocco in 'its transition to [...] resilient economy, by supporting investments, including for adaptation', in line with the EU-Morocco Green Partnership (see below).
Multi-annual Indicative Programme (MIP) for Southern Neighbourhood (2021-2017)	The EU commits to 'supporting cross-border cooperation among partner countries', and it recognises that environmental and climate challenges 'can only be tackled through a cross-border perspective'. The MIP comprises five priority areas and one on 'Green Transition'. In this area, one of the three sub-areas is 'adaptation and resilience to climate change impacts'. Concretely, this will consist of 'supporting countries to develop their adaptive capacity [...]'. Support will seek to involve a diverse set of stakeholders, including 'governments (from central to local), the private sector and civil society'. Climate finance is also set to increase, but the MIP does not provide any precise financial commitments per area.
Multi-Annual Indicative Programme (MIP) EU-Tunisia (2021-2027)	[Not available yet at the time of writing]
Multi-Annual Indicative Programme (MIP) EU-Morocco (2021-2027)	[Not available yet at the time of writing]
EU-Morocco Priorities for the EU roadmap for engaging with civil society (2021-2027)	The EU's aim of this roadmap is to help strengthen civil society to enhance democratic participation and strengthen accountability in governance. No specific reference is made to climate action, adaptation or food systems.
Joint declaration by the EU and Morocco (2019)	This declaration underlines that the 'Euro-Moroccan partnership for shared prosperity' will be 'comprehensive and resilient'. 'Cooperation on [...] the fight against climate change' is one of the two fields with specific operational measures. One of the three Team Europe Initiatives (TEIs) will focus on 'green transition'. One of the three focal areas of this TEI is 'building resilience in vulnerable sectors, including sustainable soil and water management'.
Multi-Annual Indicative Programme (MIP) EU-Egypt (2021-2017)	The MIP presents three priority areas, including 'Priority Area 1: Green and sustainable development'. One objective here is 'supporting integrated water resources management and promoting sustainable food systems'. This Priority Area 1 will get 45% of the total €240 million (€108 million). The MIP also presents two adaptation-related TEIs: one on 'climate change mitigation and adaptation through connected economy and society' and one on 'climate change adaptation through integrated water and food security'.

The overview in table 2 shows that support for adaptation and resilience-building in agri-food systems in North African countries features in the regional strategies and the approved MIP for Egypt. Although the Tunisian MIP is not yet officially approved, there are indications that 'climate change and its impact on agriculture' will feature in the forthcoming MIP, as well as the need for a regional perspective to deal with cross-border climate impacts. Probably one - out of three priority areas - will focus on 'an open and sustainable economy' through managing more sustainable food systems, with a focus on improving the lives of smallholder farmers. Another priority area is likely to aim for 'an inclusive and innovative society', including via locally-led adaptation (Interview, EU Delegation, Tunis, 30 June 2023). But, as long as the MIPs for Tunisia and Morocco are not officially approved, it is too early to assess whether the EU can effectively contribute to **adaptation at origin** or **adaptation within the transmission system** in these countries. Furthermore, recently, the EU agreed to offer nearly €1 billion to the EU Border Control Pact to help Tunisia counter migration towards Europe (EC 2023a). This may redirect climate-related finance and dwarf adaptation objectives.

The EIP for the Southern Neighbourhood (2021) reveals a strong interest in 'energy transition and energy security'. Even long before the Russian invasion of Ukraine and subsequent lack of energy supply, the EU looked at North Africa to supply the European energy market with renewable energy sources. The crisis that has turned off the gas tap has enlarged Europe's energy hunger, causing the EU and its member states to hastily search for alternatives to Moscow's oil and gas. The North African supply market would allow it to bridge the oil and gas supply gap and feed Europe with renewable energy, including solar energy and green hydrogen. In October 2022, Morocco was the first to sign a green partnership with the EU to strengthen renewable energy and climate change mitigation capacities (EC 2022a). In November 2022, the EU and Egypt signed a Renewable Hydrogen Partnership (EC 2022b). Consequently, there is concern that development cooperation budgets and climate finance will be redirected to renewable energy investments, known as mitigation projects. This could potentially harm the extensive adaptation needs of North African countries. Similarly, the same concern exists in the context of the EU's Global Gateway, with which the EU aims to mobilise up to €300 billion in investments between 2021 and 2027 to boost sustainable investments across the world, including a €150 billion investment package for Africa (EC 2021b). One out of five pillars of this initiative focuses explicitly on climate and energy, but so far, no investments are foreseen to support adaptation projects in African agri-food systems (EC 2022c). Again, the aim seems to be supplying the European energy market instead of supporting adaptation and resilience-building.

More generally, the crisis in Ukraine is putting pressure on the available public development and cooperation support to North Africa. The Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR) is responsible for sixteen partner countries, including Egypt, Tunisia, Morocco and Ukraine. As an immediate response to the Russian invasion of Ukraine and the repercussions for food security and trade disruptions in the Southern Neighbourhood, the European Commission, under the auspices of DG NEAR, dedicated €225 million to a new Food and Resilience Facility for the Southern neighbourhood to secure the supply of food and avoid shortages that can lead to instability. This funding aims to provide short-term support to countries experiencing debt and food

procurement problems and help partners transition to more sustainable agriculture production in the long run (EC 2022d). At the same time, the large-scale need to support Ukrainians and rebuild the country requires the repurposing of budgets (EC 2023b).

Ultimately, North African countries' development and climate policies and strategies, including the Nationally Determined Contributions (NDCs) or National Adaptation Plans (NAPs) are key in guiding the EU in its adaptation support in agri-food systems. However, progress on approving these policies differs among North African countries, as explained in box 1.

Box 1. Overview of North African countries' agricultural growth policies

Tunisia has been unable to provide a robust agricultural growth vision for Tunisia's agri-food system, including the sustainable use of water and soil resources (Knaepen 2021). The National Climate Change Adaptation Plan and Strategy for Resilient Development (SNRCC), or the sectoral adaptation plan for agriculture, have been under preparation for the past few years and are not finalised at the time of writing (Interview, Ministry for Agriculture, Water Resources and Fisheries, Tunis, 29 June 2022). These slow policy responses are problematic, as Tunisia urgently needs agrarian reform to reduce its food dependence and to make the agri-food sector more climate resilient. USAID projects that Tunisia's economy will suffer a reduced output of €2-2.7 billion between 2000 and 2030 owing to the combined effects of increasing global food prices and stagnant agricultural yields (WB 2014).

Egypt, by contrast, came forward with a list of climate-related policies and agricultural growth plans that provided a framework for the EU MIP (Interview (virtual), European Commission, DG NEAR, 13 May 2022). These include the NDC with a strong agri-food focus (Arab Republic of Egypt 2022), the Egypt National Water Resources Plan 2037 (MWRI 2017), and the Sustainable Agriculture Development Strategy (SADS) for 2030 that aims to support smallholder farming and diversified food systems (Arab Republic of Egypt 2009). In recent years, Egypt has increased agricultural production, but nearly half of its food needs is still met by wheat imports, the primary raw material facilitating Egypt's food subsidy scheme. Yet, Egypt needs major reforms to incentivise further the production of competitive crops, including vegetables and fruits. However, achieving Egypt's Vision 2030 will be unsustainable without adequate water supply. In particular, Egypt needs to find a resolution for better cross-border water management in the context of the troubling development of Ethiopia that started filling the massive Grand Ethiopian Renaissance Dam on the upper reaches of the Blue Nile on which Egypt depends for its water supply. Without a solution, Egypt will experience critical water shortages by 2025 (Kwasi et al. 2023).

The Moroccan 2008 Green Morocco Plan (Plan Maroc Vert) aimed to make the agri-food sector the engine of socio-economic development. This plan contributed to job creation and large-scale private-sector investments. The subsequent Green Generation 2020-2030 (Génération Green 2020-2030) strategy seeks to modernise the agricultural sector further. Building resilience and "eco-efficiency" is at the centre of the strategy (Kingdom of Morocco 2020). Successful implementation of its Green Generation plan could help free the country of its

current food import dependence and even lead to agricultural surplus production (Jobareth 2023). This strategy is considered a useful guideline by international partners active in Morocco (Interview (virtual) Agricultural Department, Embassy of the Kingdom of the Netherlands in Morocco, Rabat, 27 July 2022).

Although progress in agricultural growth policies differs among countries, agricultural research and innovation (R&I) remains an area that is underfunded and typically centred in a few research stations or universities with variable linkages to policy-makers and the farmers' needs (Hamadeh et al. 2015).

North African countries have played different roles in international climate diplomacy. Morocco and Egypt have respectively hosted COP22 (2016) and COP27 (2022), allowing them to play leading roles in global climate diplomacy. This has opened the door to green investments by European public aid and the private sector. While Tunisia has a small group of proactive climate advocates and activists, who fight to preserve smallholder farming, the barriers to moving the climate agenda forward, nationally and internationally, have been arduous (Interview UNFCCC focal point Tunisia, Tunis, 28 June 2022).

Financing adaptation in informal, agricultural settings

The EU's adaptation finance as a proportion of development finance (2012-2020) has been limited (see figure 2 above). Moreover, as explained, the amounts for adaptation support in Morocco and Tunisia under the current MFF are not yet available. Overall, an increased prioritisation towards climate action, including adaptation, can be expected. This is due to NDICI's 30% climate goal and the overall agenda-setting of the EU Green Deal that forms the guiding framework for the MIPs, unless priorities are strongly shifted towards energy transition and provision and support to the Ukrainian crisis.

The EU will rely on innovative financing modalities and instruments to support adaptation and close the adaptation gap in partner countries. More precisely, the regional MIP for the Southern Neighbourhood states that blending and guarantees under the enhanced European Fund for Sustainable Development Plus (EFSD+) could complement grant support. This EFSD+ and the External Action Guarantee provide the investment framework for NDICI-GE under the 2021-2027 financial framework. The EFSD+ has two Guarantee Investment Windows, one on 'Sustainable Finance' and one on 'Sustainable Agriculture, Biodiversity, Forests and Water - Natural Capital', which both refer extensively to adaptation. The EFSD+ will focus on crowding in private sector investment in cooperation with the EIB and EBRD (Knaepen 2022).

However, leveraging private finance for adaptation in North African agri-food systems will come with challenges. The extent to which adaptation is built into programming using EFSD+ resources is driven by the practices of implementing partners. The Investment Windows do not explicitly indicate the share between adaptation and mitigation, and they remain vague on what can be done precisely on adaptation (Di Pietrantonio 2021, cited by Knaepen 2022). The practices under the EFSD+ reveal the EU's interest in moving towards a much stronger involvement of the private sector, development finance institutes, and public and

multilateral development banks. However, North Africa's real economy is largely informal, and it consists essentially of small- and medium-sized enterprises (SMEs)[5]. The risk is that the EU's blended finance models and green bonds, as proposed in the regional MIP (EC 2021c), will not benefit informal actors, such as youth, women, cooperatives and SMEs that are typically less eligible for business incubation.

In most North African countries, the informal sector plays a major role, accounting for 80% of Morocco's total employment, 59% of Tunisia's and 63% of Egypt's. In all these countries, informal employment is most prevalent in the agricultural sector (Saoudi 2022). A large proportion of these informal actors in agriculture consists of smallholder farmers. In Tunisia, small-scale farmers with less than 5 hectares account for 53.5% of total farms and occupy 10.9% of agricultural surface areas (Bergeret et al. 2016). The OSAE reports that 3% of agricultural producers in Tunisia have more than 100 hectares each, making up 30% of the total arable land. Most of their production is exported (Ayeb 2019). In Morocco, the figures are respectively 69.8% and 23.9%. Lastly, in Egypt, small-scale family farmers with less than 5 hectares account for 98.2% of total farms but use only 70.7% of available arable land (Bergeret et al. 2016). However, despite the need to protect small-scale farmers and reduce these countries' chronic dependence on food imports, investments in small-scale agriculture (including building climate resilience) by the national governments in these respective countries have been meagre. In Tunisia and Morocco, the government's main interest lies in export-oriented large-scale agriculture (Desmidt 2021; Knaepen 2021).

Repercussions of Europe's food trade interests

The EU is North Africa's most important trading partner.[6] A large part of this trade consists of the export of agri-food products to the European market. Tunisia exports primarily olive oil to the EU (approximately 60% of all European olive oil imports come from Tunisia), citrus fruits and dates (FAOSTAT 2023). In Egypt, vegetables, including potatoes and tomatoes, are at the top of agricultural exports to the EU, followed by citrus fruits. Other food items include strawberries and olives (FAOSTAT 2023; EC 2022e). Morocco mainly exports horticulture, notably fruits, to the EU, with blueberries leading export growth, followed by watermelons and citrus fruits (FAOSTAT 2023; Blauer 2022). However, the liberalisation of trade, driven by EU trade agreements, has entrenched an already strong asymmetry in trade. In 2018, trade with the EU represented more than 50% of the North African countries' total exports, while the same countries accounted for 1% or less of the EU's total export volumes (Oxfam 2020). At the same time, the North African region is one of the least integrated regions in the world, partly due to agricultural policies in the region up until 1997 that centred on self-sufficiency - instead of self-reliance based on

[5] The International Labour Organization (ILO) defines informal employment as the proportion of workers without access to social security (ILO 2023).

[6] Trade data in this chapter is generated with the online tool Resourcetrade.Earth, developed by Chatham House (2023).

comparative advantage basis - and characterised a lack of coordination and investments within a unified Arab framework (Malpass 2021; Paciello 2015).

North African food trade flows to the European market will continue to grow while their food production systems are stretched to the limit. This is due to the current pressure on grain supply despite limited production capabilities, mainly due to water scarcity. Food self-sufficiency will, therefore, never be an option for countries in North Africa. Besides, the water needs of cereal production also compete with the interests of a sizable export industry in fruit and vegetables in countries such as Tunisia and Morocco (Woertz 2022). In the case of Egypt, more than half dependent on food imports for its food security (financed by 45% of its merchandise export), maximising domestic cereal production comes at the expense of increased agricultural water use despite scarcity. Options to meet national demand are limited because of the increasing demand for higher-value crops for exports (Christoforidou et al. 2023). Morocco's agricultural production model, by contrast, allows for more self-reliance, while benefiting from considerably high export income: exports have increased by 40% during the 2014-2020 period, with the agri-food sector accounting for around 21% of total exports, making Morocco the third largest agri-food exporter in Africa (Harbouze et al. 2019). Yet, critics argue that the production methods of export crops further contribute to water scarcity and deteriorate the soil in Morocco (Andrés and Agrifood Hub 2022). In Tunisia, monoculture farming systems to supply exports (e.g., olives for the European market) have been set up that largely deplete water resources and cause soil degradation (Knaepen 2021). Overall, the problem in these countries is that high import and export dependence on a limited number of goods limits risk diversification to help countries reduce their food systems' vulnerability to climate impacts (Bren d'Amour et al. 2016; Benzie and John 2015).

This leads us to ask whether European trade interests are fully aligned with climate objectives (or needs) in North Africa? The EU's trade relations with North African countries are framed by the Euro-Mediterranean Agreement and several bilateral association agreements – mostly signed between 1998 and 2001. However, these do not include farming products. Yet, they have generally not encouraged diversification of exports and have had a limited impact on growth in North African exports to the EU, partly because they were implemented in isolation from internal socio-economic processes. For instance, they did not contribute much to Tunisian employment or to tax revenues, as the products were mostly exported from zones with minimal duties (Dadush and Myachenkova 2018; Oxfam 2020). Since 2015, the EU has been negotiating a Deep and Comprehensive Free Trade Agreement (DCFTA) with Tunisia and Morocco under the ENP to advance market access and lift trade barriers (Hamadeh et al. 2015; Rudloff 2020). A DCFTA would involve a large reciprocal market opening for the heavily protected agricultural sector in countries like Tunisia and Morocco. For Tunisia, for instance, it could create better market access to the EU for Tunisian olive oil (e.g., higher quota) and allow for the implementation of a strategic upgrading policy for the olive oil sector (Grumiller et al. 2018). Yet, at the same time, it it would require countries to specialise in a selected number of food products, typically grown in monoculture systems, for the European markets at the expense of climate-related (and socio-economic) vulnerabilities. Therefore, EU trade interests risk encouraging an agri-food trade system that is not diversified and does not fully consider climate impacts in water-scarce regions.

Impact estimations of implementing the DCFTA in Morocco show an increase in high-skilled jobs (4% in the vegetables and fruits sectors), and a loss of low-skilled employment with a 2.6% loss in the grain and crop sector, employing a large share of Morocco's vulnerable population. Similar projections exist for Tunisia. As a result, low-skill job losses may (in)directly lead to regular and irregular migration from North Africa to Europe. This way, the EU could unwittingly create migration incentives via the DCFTA (Oxfam 2020).

In 2021, the EU agreed on a new Open, Sustainable and Assertive Trade Policy (2021), aligned with the EU Green Deal objectives (EC 2021d). With the new policy, the EU aims to become a global standard-setter to pioneer international green regulations. It recognises a stronger need for synergies between the EU's internal and external policies shaping trade, but concrete actions to achieve this are not identified (Blot and Kettunen 2021).

Conclusion and policy recommendations

North African agri-food systems' vulnerability may cause cascading effects on Europe. Therefore, it is in the EU's direct interest to support climate adaptation in North African countries. However, as evident from the discussion above, the EU is failing to support **system-wide adaptation** in North Africa. This is due to shifting political priorities, the lack of mainstreaming of climate adaptation throughout the wider set of EU policies and programmes and the low levels of (public and private) adaptation finance going to the region. Therefore, the EU can consider the following policy recommendations to contribute to adaptation in North African agri-food systems:

- **Apply a sustainable food systems approach to partner-country relations**. This approach will require adaptation-related investments in the entire food system, from farming to processing to marketing domestic produce (Dekeyser et al. 2020; Benzie and John 2015). Other adaptation solutions in agri-food systems might also include setting up strategic crop reserves, contingency planning, genetic diversification or diet change diversification (Bednar-Friedl et al. 2022).
- **Invest in agri-food related research and innovation** (R&I): greater agricultural production in North Africa will depend on innovation to enhance productivity growth in the face of scarcity of water and arable land (e.g., R&I on North Africa's irrigation potential, IFC 2019). The Partnership for Research and Innovation in the Mediterranean Area (PRIMA) (2018-2028) has launched myriad research initiatives in Tunisia, Morocco and Egypt related to food systems (PRIMA 2023).
- **Focus on strengthening North African countries' capacities, governance systems and institutional capacity** to overcome key barriers to effective and long-term adaptation (e.g., by working closely with local civil society as well as SMEs and smallholder farmers).

- **Improve cross-sector coordination within the EU** by building deeper interlinkages between the institutional silos that set policies, ranging from food to trade to (development) cooperation. This can concretely mean mobilising resources and knowledge for developing practices to better integrate climate adaptation as a policy dimension in the domain of trade (Pitzén et al. 2022). The regulatory impact assessments (RIAs) can be used to raise awareness of cross-policy effects by referring to assessments undertaken in other policy areas, e.g., the obliged Sustainable Impact Assessments (SIAs) for new trade agreements. The degree of cross-policy effects of certain new initiatives could be assessed as an explicit criterion for assessments, as well as the impacts on third countries or vulnerable actors (Rudloff 2022).
- **Stimulate, and make use of, innovative financing solutions** such as blending (i.e., using concessional donor funds to mitigate risks for investments that would otherwise not be commercially viable) (IFC 2022), including and beyond EFSD+ and European Guarantees, in alignment with North African countries' ability to mobilise funds by providing technical assistance and by engaging all actors including SMEs and small-scale farmers.
- Seek **entry points for fair (and climate-proofed) bilateral trade agreements**. In Tunisia or Morocco, the organic sector can offer attractive employment and export opportunities for the rural youth. There are approximately 3000 Tunisian certified farmers producing olive oil, dates, almonds or honey, mainly for export. The certified organic share of agricultural exports has large growth potential, as export to the EU rose from about 2% in 2006 to more than 13% in 2016 (Rudloff 2020; GIZ 2020).
- **Make use of Team Europe Initiatives (TEIs) to support adaptation in agri-food systems** at a larger scale. In Egypt, for example, the two proposed TEIs are adaptation-related and offer a key framework to collaborate broadly on adaptation in food systems. For example, in Tunisia, the work on Adapt'Action, by the French Development Agency (AFD), is based on a thorough analysis of Tunisia's adaptation needs, in close cooperation with national research institutes, and provides concrete adaptation action around which an adaptation-oriented TEI could be built (AFD 2019).
- **Use the Global Gateway, with a €150 billion investment package for Africa, to support adaptation in agri-food systems in North Africa** (EC 2022c). While the Global Gateway essentially aims to set up large-scale infrastructure projects, initiatives should not lose sight of the need for local training and capacity-building in rural areas to build resilience (Weko 2022).

- **Build alliances at the regional level and work with regional institutions.** Given the low levels of regional (agri-food trade) integration in North Africa, the EU can support regional institutions like the Union for the Mediterranean (UfM) or the League of Arab States (LAS) that can drive regional integration and maintain political dialogue on climate change implications for regional stability (this is an example of **broad collaboration**, explained in Chapter 1). The dialogue can also include a focus on cooperation towards better regional integration in the context of power system expansion in the search for energy expansion (IRENA 2023). A better integrated regional electricity power pool will be a key condition for a modernising agri-food sector in the region.

Chapter 3 - European support for local resilience-building in Burkina Faso

Fabien Tondel

Europe has a long history of cooperation with Sahelian countries. Yet, in recent years, the high level of vulnerability of Sahelian societies to climate change and the rise in instability and insecurity in the Sahel has brought the region to the centre of the EU's foreign, security and development agenda (EP 2017).

The Sahel has seen rapid climatic and environmental changes in recent decades due not only to anthropogenic climate change and population growth, agricultural land extension, and urbanisation. Surface temperature in this region is expected to rise by 1.5 to 2.3°C between 2000 and 2050 – 1.5 times faster than the world average. While future rainfall levels are uncertain, interannual rainfall variability will most likely be higher and extreme weather events (droughts, heat waves, floods) will be more frequent. At the same time, withdrawals of water supplies are expected to increase (Puig Cepero et al. 2021). Thus, climate change is a major source of risks for livelihoods and food security in countries where a large part of the population still relies on rain-fed agriculture, pastoral activities, fishing, forestry and other ecosystem services. Climate change also poses risks for the broader economy and society as it affects infrastructure – with large-scale floods, public health and well-being.

At the same time, the fragility of Sahelian states such as Burkina Faso has undermined the capacities of these countries to adapt to climate change. These states have largely failed to fulfil their sovereign functions – in the areas of security and justice in particular, and to ensure the delivery of essential services – for health and education notably, especially in hinterlands. They have also failed to implement significant governance reforms and stem out corruption. In the eyes of citizens, particularly rural populations and young people, who perceive the state as the main cause of their marginalisation and suffering, including food insecurity and inadequate economic opportunities, central states have shown little effectiveness and have lost much of their credibility. The failures of Sahelian states have thus caused discontent in societies, which in turn has fuelled political instability.

What has emerged is a long-term challenge combining climate change and other factors leading to instability, which also affects European interests through complex socio-economic and political mechanisms, also involving other regions – the Maghreb in particular. The situation in Sahelian countries threatens to create safe havens for jihadist insurgents, which could destabilise entire national territories, bolster radicalised transboundary networks also established in Europe, entrench further illicit trade networks, and aggravate population displacement and irregular migration. While undermining European interests in

avoiding humanitarian crises in those countries, this situation could also affect European development, economic and political interests in West African coastal countries and Maghreb countries.

The fragility of Sahelian states has also created obstacles to the conduct of development cooperation and the provision of development finance (Crisis Group 2019). This situation has created a major challenge for international partners, confronted with poorly functioning political and administrative systems, calling into question their objectives and modalities of intervention (Taylor 2021; Bernard 2022).

The efforts of the EU and other European partners in supporting improvements in governance have been seen as critical for the stabilisation and development of Sahelian countries (Jezequel 2020). Furthermore, given the weaknesses of central states, local authorities and communities have increasingly been seen as having key roles to play in promoting socio-economic development and solving security issues. For instance, in its current development cooperation programme for Burkina Faso (EU undated), the EU aims to direct technical and financial support towards local actors, and in this way, support enhanced governance and more effective development in different sectors, while making climate action a transversal priority. It follows, in particular, a territorial approach to local development, which can contribute to resilience building. In parallel, subnational governments have been increasingly recognised by local and international actors as major contributors to climate change adaptation and mitigation (ICLEI 2015 and OECD 2021a). Also, promoting better governance and institutional change is generally seen as critical for creating a more enabling environment for diverse actors to contribute to food security, particularly at the local level (Engel 2014)[7].

Focusing on Burkina Faso, this chapter looks at the relevance and feasibility of the territorial approach followed by the EU for climate adaptation. This approach could support the empowerment of local authorities and allow them to take a greater role in promoting resilience to climate change, in particular in agri-food systems and rural areas, in a way that complements the action of the central state.

Governance crisis in Burkina Faso, climate change, and the EU's approach

An unprecedented crisis

The popular uprising of 2014, which was followed by a transition to free elections (the first ones since 1978), brought about greater openness of the political system and the public space, as shown by the emergence of various initiatives of civil society actors (Diallo 2017). The new political leadership adopted more participatory approaches in the formulation of policies. At the time, the fall of former President Blaise Compaoré's regime, with its many authoritarian

[7] Given the political aspect of food security, farmers, entrepreneurs in agricultural and food value chains, and civil society organisations need a supportive institutional environment for making investments in production, marketing, the sustainable management of natural resources, and rural and market institutions.

characteristics, raised high hopes of substantial democratisation and alleviation of social and territorial inequalities. However, the regime change in 2014 did not lead to a change in the way public affairs and the economy are managed (Saidou 2020). In the following years, mounting social and political tensions tarnished the reputation for democracy and integrity in the management of public affairs that the Burkinabe authorities had sought to maintain with international partners.

Also, since 2015, Burkina Faso has been severely destabilised by a jihadist insurgency that spilled over across its borders from Mali and Niger and led to the loss of state control over a large part of the national territory (about 40 %). Jihadist violence and ensuing insecurity have disrupted agricultural and economic activities in the north of the country, occasioned the looting of grain stocks and theft of livestock, forced school closures, and displaced large numbers of people, which quickly resulted in a dramatic humanitarian crisis and a rise in food insecurity (Douce 2021). The presence of armed groups has also hindered humanitarian access to vulnerable populations. In 2022, two successive army coups, in February and September, removed the civilian government, which was accused of failing to fight terrorism, and installed a junta in power.

EU development cooperation

The EU is a long-time development partner of Burkina Faso for multiple reasons, including developmental ones[8] as well as geopolitical interests[9]. Until recently, Burkina Faso was a "donor darling", as evidenced by the substantial flows of foreign aid the country received after independence, except for the period of the Sankara regime (Rasmussen 2013). The country had established itself as a credible and reliable partner in the eyes of international actors.

However, in the years preceding the coups, donors were increasingly doubtful of the commitment of those in power to carry out the reforms required to tackle the country's structural problems. At the same time, concerns about insecurity, terrorism, several kinds of trafficking (drugs and weapons especially) and illegal migration have underpinned much of European assistance to Burkina Faso. The main objective of the Multi-Annual Indicative Programme (MIP) 2021–2027 of the EU for Burkina is to "respond urgently to the current situation of fragility, to prevent any further deterioration and to contribute to the stabilisation of the country". In the framework of the Contrat de consolidation de l'État et de résilience signed in 2020, the EU has provided Burkina Faso with budget support for a new programme to implement institutional reforms and improve the provision of services in underserved territories.

With the current MIP, the EU has sought to deliver more support at the local level. Its first priority domain includes supporting governance improvement, security, peace and conflict prevention, and local development. The stated intention of the EU is to further support decentralisation and boost the capacities of the territorial administration and local and regional authorities in rural and urban

[8] Burkina Faso has a high poverty rate, a low level of human development, and weak institutions by international standards.

[9] Blaise Compaoré, during its long reign, had built up a good reputation as a mediator in the many conflicts in the region.

areas. It also aims to support the prevention and management of local conflicts about the use of natural resources and better governance of these resources.

The European Commission's Communication on Empowering Local Authorities in partner countries for enhanced governance and more effective development outcomes (EC 2013), recognised the developmental role of local authorities as expressions of political constituencies at the level of subnational territories, and argued for EU support to decentralisation as a modality for better development results, including climate adaptation. The Communication identified multiple pathways to implement this agenda, including the promotion of local development through a territorial approach. The territorial approach to local development (TALD) is a form of governance that puts local authorities at the centre of change processes as mandated political entities and leaders[10]. Potentially, it can harness endogenous socio-economic dynamics or conflict resolution mechanisms in local communities, which are often neglected by the central state or state security forces.

Another key area of cooperation with Burkina Faso is the 'green and resilient economy'. In this area, the EU aims to contribute to sustainable, inclusive green growth that generates decent employment and food and nutrition security. The EU's intervention in this area is aligned with the implementation plan for the national development strategy, the Plan national de développement économique et social 2021-2025 (PNDES-II). It is also intended to contribute to the implementation of the Nationally Determined Contribution (NDC) of 2016 (which was reviewed in 2021), and the Stratégie nationale d'économie verte 2019-2023.

The EU has supported actions for the conservation, restoration, sustainable exploitation of natural ecosystems, especially forests. It has provided support to communities at the periphery of protected areas to enable a more participatory management of local development. While the EU has taken a "landscape approach", it intends to take a territorial approach to promote locally-led sustainable forest management while also supporting rural economic development, a better management of transhumance, and a reduction in the use of fuel wood. The EU has also supported the modernisation, diversification and resilience of agricultural and food systems, focusing on small and medium-sized enterprises and the adoption of agroecological practices. Furthermore, through the Global Climate Change Alliance, the EU has financed programmes and projects in Burkina Faso focused on climate resilience, sustainable agriculture, water resource management, and flood risk reduction[11].

Long-lasting impacts of climatic shocks on social cohesion

The insurgency that has taken root in peripheral territories is largely the result of a society rife with conflicts due to structural and conjunctural factors. Political

[10] The TALD was detailed in a subsequent technical document (EC 2017).

[11] The EU has notably financed activities to strengthen the resilience of communities exposed to flood risks in the Centre-Nord region. According to the Aid Atlas (https://aid-atlas.org/), from 2012 to 2021, in total, EU Institutions committed $10.1 million in development finance to Burkina Faso for climate adaptation, largely through the sectors of environment protection and of agriculture, forestry and fishing.

and economic exclusion of large swaths of the population, inequity and injustice, and poor governance are the main causes of the deterioration of the situation (Crisis Group 2017). Despite the democratisation process that emerged between the late 1980s and the early 1990s, those in power have sought to maintain the status quo and have managed the country with a short-term perspective (Alenda and Robert 2018).

The conflicts between Mossi farmers and Fulani herders epitomise the consequences of this mode of governance, which has affected various sectors, from the management of land to the provision of basic services. While intercommunal conflicts have occurred for centuries, the tensions between these two groups over the use of natural resources have intensified in northern Burkina in the recent period. Nomadic herders have traditionally been excluded from political decision-making, particularly for the use of land and water, and disadvantaged by the legal system (Züllich et al. 2012; Tondel 2019; Crisis Group 2020; Bisson et al. 2021).

Following the major droughts of the 1970s and 1980s, which had lasting effects on economies and societies in the Sahel, the government favoured investments in large-scale irrigated schemes, agriculture and sedentary livestock rearing while neglecting the needs of pastoralists. Compounded by the hoarding of land by affluent urbanites and uncontrolled urban sprawl, this policy contributed to encroachments on transhumance routes, made it more difficult for pastoralists to access land and water resources, and eventually exacerbated intercommunal tensions. Climate change has also directly affected pastoralists by making rainfall less predictable, thus rendering transhumance more difficult to organise and disputes more frequent (Brottem and McDonnell 2020). Over time, the level of trust between communities has declined, and the resettlement of pastoral communities and other displaced people has put pressure on host communities' resources and caused tensions between autochthones and allochthones.

Although in some places, traditional dispute resolution mechanisms have mitigated intercommunal tensions, jihadists have exploited them to advance their aims. The lack of inclusiveness of national policies has particularly affected the young population and has led to disappointment and frustration. Underemployment, unemployment, increasingly difficult access to cultivable land for the rural youth, and the recruitment of young people by extremist groups represent major threats to the stability of the country, as elsewhere in the Sahel (Guene 2019).

Successive governments have produced many strategies, policy documents and action plans for critically needed socio-economic reforms. Still, usually, reforms have stopped at the formulation stage, or implementation efforts have been insufficient to yield significant change. For example, Burkina Faso was one of the first least developed countries to develop a National Adaptation Plan (NAP) in the early 2010s, which was accompanied by a whole set of institutional arrangements. Yet, few actions in the Plan have been implemented or translated into enforceable legislation, while little financing has been provided for it (Bayala

2019) and the Burkinabé government has given little attention to climate and environmental issues[12].

Territorial disparities undermining broad-based climate adaptation

The inadaptation of national policies to the specificities of local economies and labour markets in peripheral territories too has contributed to social discontent, food insecurity and climate vulnerability. Over the past decades, poverty has remained widespread in rural areas, and public and private investments have flowed mainly to cities, leaving the former with inadequate infrastructure (e.g., paved roads, electricity networks and the water supply) and poor availability of basic services (health centres and schools) as well as a shortage of employment opportunities. Displacements due to climate shocks and violent conflicts have created further pressures on resources in host localities (Newborne and Gansaonré 2017).

The uneven development patterns seen in Burkina Faso, especially the striking disparities between urban centres and peripheral territories, reflect the fact that the decentralisation process initiated in the 1990s has not met expectations, despite the solid policy documents, instruments, and assessments that were established at the outset. The Schéma National d'Aménagement et Développement Durable du Territoire (SNADDT) was an attempt to operationalise the 2006 Politique Nationale d'Aménagement du Territoire (PNAT) while adapting it to the specificities of territories. The SNADDT intended to improve territorial cohesion by promoting the development of a network of regional urban centres and economic linkages with rural areas. Yet, the collectivités territoriales were granted little autonomy for the implementation of the PNAT, thus remaining constrained to follow national and provincial land use plans[13].

Drivers of governance and implications for natural resources management and climate resilience

A better understanding of the functioning of the political system in Burkina Faso is needed to assess the feasibility of a territorial approach to local, climate-resilient development. The political settlement is a central factor in the

[12] Personal communication with an officer of the Delegation of the European Union in Burkina Faso, 2023.

[13] Other examples of the stalled decentralisation process are provided by the national policy for housing and urban development and that for rural development, which have remained largely centralist and sectoral and have given little autonomy and institutional capacity for local governments and the deployment of local development policies. As part of the decentralisation process, the national rural development policy, as initially formulated in the 'Decentralised Rural Development Policy Letter' (DRDPL) issued in 2002, was a promising action towards a more territorial approach. However, over time, the rural policy has in effect reverted back to a more narrowly conceived sectoral approach to planning and implementation. The government has been reluctant to delegate the implementation of the rural policy's actions to territorial authorities and has not manifested much interest, if any, in enabling greater autonomy for these authorities to develop local development policies and the necessary institutional capacities and democratic space at the local level, as envisaged in the LPDRD.

management of public affairs, which so far has precluded in-depth reforms (Koussoubé et al. 2014).

Institutions, actors and interests shaping policies

To a considerable extent, Burkina Faso's formal institutions conceal informal "rules of the game" that work against reforms that would otherwise redistribute resources and change socio-economic outcomes. The political system is characterised by a patrimonial regime, in which the securement and distribution of rents serve to maintain cohesion in the ruling coalition, which historically has been dominated by the army (Koussoubé et al. 2014). This system relies on clientelism and patronage, not only at the national level but also at the local level (ECDPM et al. 2022). The clientelist practices and corruption that affect the management of public affairs flourished during the period of economic liberalisation[14].

In the recent period, a growing culture of enrichment, in association with intensifying corruption, has pervaded various sectors of the economy. The competition for natural resources has intensified, notably through the commodification of land[15]. Politicians, bureaucrats and businessmen have notably exploited loopholes in land regulation and weaknesses in the judicial system to acquire rural and peri-urban land (Koussoubé et al. 2014)[16]. The concentration of land assets in the hands of this affluent class has, in all likelihood, compounded other factors leading to tensions over land use.

The regional security crisis in the Sahel has been a key geopolitical factor in the trajectory of Burkina Faso. European actors have largely focused on counter-terrorism. At the same time, they have given little attention to – or failed to anticipate – governance issues such as the widespread corruption that has undermined the integrity of the state and abuses against civilians by state security forces and local militias. Security interventions focusing on jihadist insurgents have overlooked the fact that petty crime, banditry in villages and towns, daily insecurity and injustices constituted the main source of concern amongst local populations (Taylor 2021)[17]. This skewed approach of international partners may have adversely affected prospects for stabilisation. The objective

[14] Although the Burkinabé economy benefited from the economic liberalisation reforms of the 1990s, macroeconomic discipline and sound public financial management, the failure of the state to promote inclusive growth and redistribute wealth led to rising inequalities.

[15] In the gold sector, which the state has left to private actors and for which it reduced the tax on corporate profits, the governance of the mining areas has been concentrated in the hands of powerful actors, excluding weaker users of natural resources and informal workers. Gold mining causes significant pollution of soil and water resources, which negatively affects resilience to climate change.

[16] The agents of the national office for forests have also contributed to the grabbing of land around protected areas, causing tensions with local populations (personal communication with a researcher of a knowledge institute working on environmental issues in Burkina Faso).

[17] Humanitarian and non-governmental actors have criticised the French and the EU security support and development assistance for propping up deficient governments, overlooking corruption, human rights abuses and ethnic favouritism in the name of fighting terrorism and upholding stability. Yet, according to French and EU officials, Sahelian governments, including that of Burkina Faso, have weak and fragile human and financial resources, low numbers of civil servants compared to their population sizes (Taylor 2021).

of stemming the flow of migrants to Europe may have also relegated longer-term governance support to a lower priority level, although it generated additional resources for Sahelian countries.

International partners have been long-time providers of aid to Sahelian countries. Over the past years, as they have grown worried about the lack of reforms, which has led them to express more stringent demands for norms, results and accountability to the elites in power. Yet, the aid provided to Sahelian countries over the past decades not only has led to little change in practices and performance in public institutions and administrations, but it has also weakened state capacity (Barthet 2022). Some Sahelian states have become rentiers of foreign aid, ostensibly adopting "good governance" practices but making little change in the management of their countries. In Burkina Faso, the political settlement has been partly, unintendedly, sustained by the provision of international aid (Koussoubé et al. 2014). Furthermore, in Burkina, as in other developing countries, international financing and interventions for adaptation to climate change, which have largely been driven by donors and channelled through the central government, may have contributed to the deleterious effects of aid (Eguavoen and Wahren 2015).

The case of the decentralisation policy

In principle, decentralisation should provide a favourable institutional framework for pursuing local strategies responding to climate change. Effective climate action at the local level requires appropriate local governance structure and planning and coordination mechanisms that span multiple sectors and involve local communities in designing and planning climate adaptation interventions (Fall 2022). In Senegal, for example, the participation of target groups in vulnerability assessments, the identification of actionable levers for resilience building, and the planning of climate adaptation interventions has been shown to be crucial for their effectiveness and the demand for accountability by the local citizenry (Fall 2022). The social acceptance of climate-related interventions in local communities, the participation by women[18], and the support of local social networks are also key to success (Ragasa et al. 2014).

Yet, in Burkina Faso, in reality, local populations have contributed little to the establishment of local institutions resulting from the decentralisation process, which have largely been captured by local elites, customary authorities and sometimes representatives of the central state (from the central state administration, deconcentrated services and political parties) (ECDPM et al. 2022). In turn, they have replicated the dysfunctional performance of national institutions, often neglecting the involvement of local civil society actors in the management development processes. The vast majority of local authorities thus lack legitimacy in the eyes of the population and have shown little transparency about decisions and public finances. For example, through the decentralisation process, the transfer of responsibilities for land management to local authorities has given rise to self-interested behaviours whereby the most affluent and

[18] As an example of participatory vulnerability assessment in Burkina Faso and differences between men and women in the identification of resources critical for the implementation of adaptation strategies (Somda et al. 2014).

powerful actors have taken advantage of transaction opportunities involving land managed by communes. In some communes, municipal councils have taken measures to limit the acquisition of land by these new actors, yet they have been confronted with heavy pressure from powerful actors[19].

In the water sector, decentralisation has produced some positive results (Newborne and Gansaonré 2017). In line with the principles of integrated water resources management, multi-actor platforms called comités locaux de l'eau have been created by the Burkinabé authorities to manage water at the sub-river basin level. Although these committees have enabled more interactions between different stakeholders, they have not yet instilled real change in the management of interdependencies between multiple water uses and the regulation of narrow interests and power relations between actors (Barnèche-Miqueu and Lahaye 2005, cited by Torou et al. 2018).

Unsurprisingly, national policymakers have shown little interest in responding to local needs for adaptation measures and have taken a top-down approach (Eguavoen and Wahren 2015). In the past, priority sectors for adaptation were selected by the government before the assessments at the level of targeted local communities, and few adjustments were made in interventions in different localities, for example, for afforestation projects. It also appears that policy choices related to climate change followed logics other than those suggested by scientific assessments.

Implications for European support for local governance and climate action

The two successive coups in 2022 that installed military juntas in Burkina Faso have disrupted the normal course of cooperation with the EU and other European partners. The EU suspended its budgetary support to the Burkinabé government. At the time of writing, it only supports activities implemented by non-state actors that target the population segments most in need of humanitarian and development assistance[20].

After the first coup in 2022, central authorities dissolved the elected councils of collectivités territoriales, replacing them by délégations spéciales. These special delegations are presided by representatives of the central state and involve the personnel of the decentralised services and also that of local and regional administrations. These new local authorities were mandated to manage the current affairs of municipalities and regions while supporting the efforts of the national authorities to ensure security and regaining control of the whole territory of Burkina Faso. The schedule of the future presidential and parliamentary elections, and so the return of a civilian central government and regular local governments, is still uncertain at the time of writing.

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[19] This phenomenon has been recounted by multiple observers and analysts who have participated in consultative online workshops organised by the CASCADES during the period of the Covid-19 pandemic.

[20] Personal communication with officers of the Delegation of the European Union in Burkina Faso, 2023.

In the current circumstances, the implementation of the territorial approach to local development described in the MIP 2021–2027, which requires the empowerment of local authorities as autonomous institutional actors, policy-makers and promoters of endogenous change rather than just promoting the 'territorialisation' of national policies, is neither a priority nor feasible.

Yet, the EU and other development partners may still sustain their engagement with local actors and the central government to address urgent issues, especially to prevent the spread of conflicts and resolve existing ones and host and integrate displaced populations. As possible, they may also continue to put in place the conditions enabling in the future a territorial approach and locally-led interventions in essential areas for peace, development and resilience to climate-related shocks for which the central state, although legally responsible, lacks legitimacy amongst local communities, capacity and efficacy. Those notably include conflict resolution, the administration of justice, resources mobilisation, the provision of basic services, and the conduct of public investments.

Concluding remarks and recommendations

While it is widely accepted that the EU should do more and better to support governance reforms in Sahelian countries, it is less clear what modalities it should take. Some analysts (e.g., Taylor 2021) have argued that the EU should take a more conditional approach to providing budget support to Sahelian countries, linking it to an agreed set of benchmarks for key governance reforms, notably for political inclusion and the delivery of adequate public services. Improvements in governance require greater ethnic inclusion, power sharing, and transparency, which are seen are crucial conditions for stabilisation and development.

In the current circumstances, in Burkina Faso in particular, protecting populations, removing young people from the influence of jihadist groups, supporting livelihoods and ensuring justice should be priorities in Sahelian countries. Restoring and strengthening the effectiveness of the central state is a key factor in addressing these challenges. Yet, policy-makers should also be concerned with finding the right balance between urgent measures and responses to long-term challenges, including those related to climate change (Ouédraogo et al. 2023). Thus, commitments for long-term climate action could be included in governance reform benchmarks as a way of enabling more systemic adaptation. The failures of the central state and the crisis of local governance, which have been at the root of discontent in peripheral territories and have become increasingly visible, may open the way for the emergence of local authorities and institutions to respond to the essential needs of the population at the local level, especially in the context of conflicts[21].

Locally-led climate action, appropriately supported by external actors and building on existing initiatives of local actors, could contribute to the development of local state institutions that become more legitimate and accountable. In turn, more effective and inclusive governance at the local level

[21] Several experiences in other countries (Somalia, Libya, Palestine) indicate that there is no automatic causality between the fragility or failure of the state and the lack of legitimacy of local authorities (for example, in the case of Somalia) (De Tommaso 2020).

would improve the management of natural resources, the prevention and resolution of conflicts, and the planning and implementation of economic investments contributing to climate-resilient development. In areas partly controlled by armed groups, at least, climate risks should be integrated into security and peacekeeping operations and mediation processes. Support for local governance may also help bring the rule of law and anti-corruption measures closer to citizens, thereby improving access to public services and economic opportunities and also the management of public finances.

According to this approach, some policy recommendations regarding EU-Burkina Faso cooperation are formulated as follows.

- **Local experimentation.** In cooperation with the Burkinabé government and possibly other international partners, the EU should encourage experimentation with the territorial approach for selected local authorities that already have a minimum level of legitimacy amongst local populations in zones that remain sufficiently secure. It should foster and support this process with a view to enabling a more participatory form of local governance, allowing for a certain degree of autonomy of local authorities alongside the devolved administration of the central state. The legitimacy of local authorities would be built up progressively through the planning and implementation of a territorial approach to local development and the exploration and realisation of the potentialities of territories. To do so, the EU would have to provide financial support to central and local authorities while also supporting civil society organisations that contribute to the process, are involved in the implementation of the territorial approach, and scrutinise the actions of the public authorities.
- **Inclusive dialogue.** The EU could also support the establishment of mechanisms and a culture of dialogue amongst locally elected officials, central and local bureaucrats and local citizens, promoting accountability for climate finance, using the lessons in municipalities of the Kaffrine region in Senegal (Fall 2022). Accountability is a way of strengthening the institutions of local governments, providing better information to local citizens about the availability and use of financial resources, particularly for managing financial resources with regard to climate action, and building trust.
- **Priority sectors.**
  - **Natural resources and agri-food systems.** Concerning the objectives of security, development and climate change, such experimentation could tackle the problem of conflicts around land use and the sustainable management of land and soil resources. At the local level in rural areas, in cooperation with the délégations spéciales, the EU could support mediation within and between communities, inclusive dialogues about land management, awareness campaigns amongst rural populations, and efforts to chart a future course of action to harmonise the different property right regimes in existence with a bottom-up approach and to build capacity at the communal level. In the pastoral sector, the EU should support the involvement of border municipalities in the management of cross-border transhumance.

- **Energy.** In partnership with the national government and its local representatives, the EU can continue to support investment in local energy systems in synergy with efforts to develop and invest in agri-food value chains. The development of energy systems outside urban centres is also crucial for reducing the use of fuel wood, which currently covers 85% of household energy consumption in Burkina (Tomalka et al. 2020), and thus protecting forests and soils – which play a positive role in the resilience of agri-food systems, ecosystems, territories and local communities to climate change.

- **Learning and adaptation.** The EU should anticipate the difficulties in working with the central state on the territorial approach, considering that bureaucratic practices are not always conducive to open-ended processes, experimentation and learning. It will also have to secure the commitment of selected local authorities involved in the experimentation to overcome the limits of legitimacy, autonomy and capacity that have so far limited their action. Through dialogues at the political and policy levels, EU staff could foster such commitments, using financial instruments as incentives and its development and cooperation programmes in multiple sectors, including social protection and sustainable agricultural and food systems. As experiments with a few municipalities and regional councils progress, early achievements and as well as challenges encountered along the way in different policy sectors would inform the dialogue with the central government and sectoral actors with lessons on what works and what blocks the emergence of territories. This knowledge and dialogue would incrementally demonstrate the value added of EU support to local action in favour of climate-resilient development.

- **Education and the knowledge-policy link.** The EU could invest in education, professional training and extension courses to prepare local civil servants, civil society actors and journalists to engage in local action to manage climate and environmental risks and work with multiple stakeholders. A large part of the Burkinabé society is not well aware of climate change risks and adaptation needs(Theokritoff and D'haen 2019). In Burkina Faso, political leaders and senior public administrators have so far given little attention to the production, communication and utilisation of scientific data about climate change and other environmental trends. Linkages between academic researchers working on climate and ministry staff are still weak, as policy-makers follow political priorities that are rarely based on scientific evidence. At the level of local authorities, these obstacles are likely to be even greater. The accompaniment of the future collectivités territoriales in developing competencies and tools to integrate climate risk information and vulnerability assessments into their local policy processes and to support

social networks and innovation[22] is a crucial factor for the effectiveness of local climate action (Fall 2022).

- **Financial means.** The EU should take actions to strengthen the capacity of local administrators, local financial institutions (such as savings and credit cooperatives) and civil society actors to access international climate finance and also to improve the management of climate finance at the national and local levels. International climate finance mechanisms have so far mainly provided funds to national public actors and large NGOs, while remaining hardly accessible to local authorities and non-state actors (Fall 2022). Vulnerable communities have often been excluded from decision-making regarding the use of climate funds. That has also led to funded interventions not corresponding to the adaptation needs of vulnerable populations and resources taking a long time to reach local beneficiaries affected by climate-related disaster or slow-onset environmental changes[23]. Therefore, the EU and other European actors should also act to simplify contracting mechanisms and funding procedures for local authorities and non-state actors as recommended by the Association of Niger Municipalities (Alliance Sahel 2023). At the same time, major partners such as the EU, should be aware of the risk that international climate financial flows could lead competent civil servants to go to work for intermediaries – international agencies and non-governmental organisations, as it has often been the case with traditional aid.

This case study of EU-Burkina Faso cooperation contributes to reflections on the ways in which European actors can support in synergy governance improvement and the management of climate risks at the origin and in impact transmission systems across partner countries and regions. Across OECD countries, between 2013 and 2016, the share of ODA for climate change governance delivered to local authorities in the total provided to public actors was negligible, as most of it was received by central states[24]. Also, compared to bilateral donor agencies and international NGOs, local CSOs received very little ODA for climate change governance.

The EU is a major actor in the areas of governance support and the promotion of democratic governance and the rule of law internationally. However, as the recent evaluation of EU support to the rule of law and anti-corruption in partner countries (EC et al. 2022) indicated, despite some achievements, EU support to

[22] Practitioners have emphasised the importance of social interrelations to understand the implications of climate change locally and adopt or develop technologies and practices aiming to adaptation and risk reduction in the agricultural sector and the management of natural resources (soil restoration and conservation, agroforestry and so forth), for example in the village of Tibtenga in northwestern Burkina Faso (Somda et al. 2014). Adaptation is not an individual undertaking; putting adaptation into practice entails deep and permanent changes and requires the sustained engagement of vulnerable communities, continuous information sharing and collective action, particularly at the local level.

[23] Beyond the case of Burkina, it has been observed that local institutional mechanisms dedicated to the coordination of actions related to climate change in Mali and Senegal have little efficacy, largely because they receive little predictable funding from public budgets, relying instead on local projects or programmes (Fall 2022).

[24] As of 2016, ODA provided by OECD countries for climate change governance attained $11bn, on the rise from the previous year (OECD 2021a).

governance has shortcomings that could hinder its role in helping countries adapt to climate change.

The EU suffers from a siloed approach to promoting the rule of law. It tends to focus on the reform of formal institutions and administrations of the justice sector (notably with a view to improving access to justice for vulnerable population segments), while devoting much fewer efforts to the implementation of the rule of law norms and mechanisms in support of inclusive socio-economic development. This evaluation showed few attempts to link the promotion of the rule of law and anti-corruption measures to the areas of private sector development, trade, and natural resource management, even where the violation of laws and corruption were major obstacles to development effectiveness.

Also, the EU has provided little support for anti-corruption measures in comparison to support for the justice and security sectors. At the same time, anti-corruption interventions have often been subsumed into programmes implicitly dealing with corruption issues under the formulation of public financial management or accountability. This timid approach to tackling corruption and other practices undermining the rule of law may fail to support land tenure reforms and improvements in climate finance management, which are particularly critical areas for alleviating climate risks. These linkages between climate action and governance support underline the importance of inter-sectoral collaboration and information sharing for the effective management of climate risks.

Lastly, besides financial and technical assistance, the quality of the dialogue between international partners and central governments appears to be another important requirement for supporting the management of climate risks. The EU, in particular, has been grappling with revitalising and deepening the dialogue with partner countries at both the political and policy levels (Rodríguez Prieto and Hemkemeyer 2021). This dialogue will be essential for conceiving and executing policy experiments that enable local authorities and communities to lead interventions building resilience to climate change and access adequate flows of domestic and international finance. Maintaining robust dialogue mechanisms in countries with undemocratic governments, yet highly vulnerable due to climate change, will be a major challenge for the EU in the coming years.

Chapter 4 - German support for climate-resilient agri-food systems abroad

Adrien Detges and Susanne Wolfmaier

Addressing cascading and cross-border climate impacts from a foreign policy and development cooperation perspective involves the strengthening and climate-proofing of agri-food systems in vulnerable and politically fragile countries, which often stand at the outset of such risk cascades (i.e. **adaptation at origin**). When it comes to addressing these challenges from a European perspective, EU member states have an important role to play as they retain considerable decision-making power, have important resources in matters of foreign- and development policy, and can lead by example for EU institutions, as well as other member states.

This chapter discusses how well the German government is positioned to drive and support European responses to cross-border climate impacts. In particular, it emphasises Germany's **governance and coordination capacity** in addressing cross-border climate impacts that originate in agri-food systems in third countries. It reviews to what degree German foreign, security and development policy integrates climate adaptation of agri-food systems in vulnerable countries and what resources the German government has mobilised to this end. It discusses obstacles and opportunities - in terms of awareness, committed resources, organisational structures, and political context - and looks at the interaction of German development, security, and trade policy around this issue.

The analysis finds that Germany faces favourable conditions for supporting the climate adaptation of agri-food systems in third countries: financially, in terms of administrative capacities, and the increasing standing of climate action within powerful ministries and with the German public. That said, there remain several ways in which Germany could make an even stronger contribution, including increasing overall funding, putting a stronger emphasis on climate adaptation (as opposed to mitigation), as well as further advancing the integration of climate action, development cooperation, and security policy. There is also room to further empower field staff - in particular in fragile and conflict-affected situations.

The chapter draws from an analysis of relevant strategy documents of the German ministries, an analysis of OECD data on German ODA commitments, secondary literature, and semi-structured interviews with German stakeholders involved in international cooperation on climate adaptation, agriculture, and (food) security.

Integration into existing strategies, instruments, and policies

The German government is well aware of the importance of addressing the climate vulnerability of agri-food systems in its partner countries. Climate adaptation objectives for agri-food systems in developing countries are mainly featured in the Strategy for Sustainable Agri-Food Systems (BMZ 2021a) of the German Ministry for Development Cooperation (BMZ), its Water Strategy (BMZ 2017a; BMZ 2019a), and Biodiversity Strategy (BMZ 2020a). Those target different domains in support of climate-resilient agri-food systems. We can distinguish here between direct support to agri-food systems (i.e. **adaptation at origin**: e.g. promoting adapted seeds, improved irrigation and early warning systems, climate insurance, nature-based adaptation etc.) and indirect support by targeting enabling conditions for adaptation, such as legal structures that facilitate adaptation, access to resources for vulnerable groups, north-south cooperation on research, capacity building, and knowledge transfer (i.e. **adaptation within the transmission system**)[25].

German adaptation efforts in agricultural cooperation are complemented by efforts to target agri-food systems in German cooperation on climate adaptation and disaster risk reduction. Key strategies in this domain are the Federal Ministry of Economic Cooperation and Development's (BMZ) Climate & Energy Strategy (BMZ 2021b) and the BMZ's Approach to Comprehensive Risk Management (BMZ 2019b). They contain objectives to increase climate adaptation finance in support of agri-food systems in partner countries, support reforms to strengthen the climate resilience of these systems and promote climate adaptation through agroecological approaches and the sustainable management of water, land, and other key resources. Noticeably, these strategies also involve several more general adaptation objectives that potentially include agri-food systems among other sectors, like, for example, the mobilisation of private capital for climate adaptation (i.e. **adaptation via third party**) or supporting more inclusive and effective local administrative structures for managing climate risks.

Furthermore, the climate-resilience of agri-food systems is targeted in regional strategies like the Africa Policy Guidelines of the Federal Government (Bundesregierung 2019) or the Framework for a Marshall Plan with Africa (BMZ 2017b). These strategies promote African-German research cooperation, technology transfer, and the mobilisation of private investment for climate-sensitive agriculture, potentially creating enabling conditions for climate-resilient agri-food systems. They also aim to strengthen African institutions for climate adaptation in agriculture and offer targeted support to vulnerable groups. Securing land rights and supporting these groups' access to land are key objectives in this regard.They include several more general objectives around climate adaptation and agricultural cooperation, potentially contributing to more climate-resilient agri-food systems. For example, they support the development of road infrastructure projects to connect rural to urban areas or

[25] More details on policy objectives and respective strategy documents mentioned in this chapter can be provided upon request.

promote measures to facilitate human mobility as a strategy for livelihood diversification and coping with difficult climatic conditions.

Climate-resilient agri-food systems are also explicitly and implicitly targeted in German strategies around security and peace. For instance, the Guidelines of the Federal Government for Preventing Crises and Managing Conflicts (Bundesregierung 2017a) of the German Federal Foreign Office (Auswärtiges Amt) refers to climate adaptation, insurance against disasters, and cooperative and inclusive resource management (e.g., cross-border water management, fair and transparent land rights) in view of promoting peaceful societies and geopolitical stability. German Transitional Development Assistance (BMZ 2020b; BMZ 2019c) promotes food security in fragile contexts, supports rehabilitating (climate-sensitive) infrastructure, and aims at protecting agri-food systems against future shocks. Furthermore, the Joint German Strategy on Promoting the Rule of Law in Crisis Prevention and Conflict Management (Bundesregierung 2017a) promotes inclusive and transparent processes to address economic and environmental challenges in agriculture.

Similarly, resilience objectives for agri-food systems feature in strategies for trade and for regulating international supply chains, particularly regarding possible **substitution** strategies. For example, the BMZ's position on Aid for Trade (BMZ 2017c) advocates for regional trade to reduce extreme fluctuations in international food prices, which can occur in the event of simultaneous climatic shocks in major food-producing regions. The Federal Ministry for Economic Affairs and Climate Action (BMWK 2021) supports the development of sustainable technologies for agricultural production and trade in Africa, which creates opportunities for improving climate resilience in the region.

Most of the above strategies emphasise the need to align climate adaptation with food security, peace, and other relevant objectives for increasing the resilience of agri-food systems in the face of multiple and intertwined crises, such as climate change, COVID-19, food prices, recurring conflict, and so forth. Those are favourable conditions for **system-wide adaptation**. In particular, the Guidelines for Crisis Prevention (Auswärtiges Amt), the Strategy on Transnational Development Assistance (BMZ), as well as regional strategies like the Africa Policy Guidelines (Auswärtiges Amt) promote integrated, multi-sectoral approaches to food security, crisis prevention, peacebuilding, and social inclusion.They further acknowledge the need for coherent approaches across national, regional and global policy levels and strong partnerships with European and multilateral organisations (OECD 2021b). For example, the BMZ is committed to aligning its initiatives around climate action with the work of organisations such as UNDP and WFP (BMZ 2020c). In addition, the German government promotes coordination with EU partners and the integration of national and European instruments, particularly when engaging with African partners (Bundesregierung 2019). Germany's support for EU joint programming and the Team Europe approach opens avenues for better coordinating German initiatives with those of the EU and other member states, including supporting climate-resilient agri-food systems outside Europe (OECD 2021b; BMZ 2023).

All those are favourable conditions for Germany to take on an active role in promoting climate-resilient agri-food systems through its foreign policy and development partnerships. But there are also limitations. First, while climate adaptation is considered in a number of strategies, it remains often a secondary

issue. Mitigation issues usually take precedence in climate strategies, and sustainability and environmental protection issues take precedence in agricultural cooperation - climate adaptation being sometimes included implicitly and sometimes not. German foreign policy strategies are just beginning to seriously consider the relevance of climate adaptation in the context of migration, security and other connected issues, even though mitigation and energy security questions tend to dominate current strategic considerations[26]. Second, current strategies are missing some major opportunities to support climate-resilient agri-food systems through market incentives and enabling institutional frameworks. For example, the Federal Republic could ramp up its efforts to support the restoration of land and ecosystems to strengthen the resilience of local agri-food systems. Soil erosion through over-cropping increases farmers' vulnerability to extreme events like floods. Yet, in several developing countries, few economic incentives exist to let land fallow and regenerate. German development cooperation is already quite committed to protecting and rehabilitating soils and ecosystems, which shows in several relevant strategies of the BMZ. But these efforts could be complemented by a stronger push (including by other ministries) for more transparent and inclusive carbon offset markets that would create incentives for smallholders to engage in land restoration[27].

Financial and personnel capacities

In line with the above ambitions, the German government is investing considerable financial resources to support climate-resilient agri-food systems in third countries. Between 2012 and 2020, Germany committed more than $1.6 billion per year to agricultural projects abroad, with adaptation as their main or important objective among others (see figure 3). This is more than any other commitment made by an EU country over the same period. German commitments in this domain have also increased over the past years (see figure 4).

[26] Based on the authors' assessment of ongoing consultations around, for example, Germany's new National Security strategy or its upcoming Climate Foreign Policy Strategy.

[27] This was pointed out in one of the interviews conducted with experts and stakeholders.

Figure 3. EU27 bilateral ODA commitments to agricultural projects with a significant climate adaptation component (2012-2020)[28]

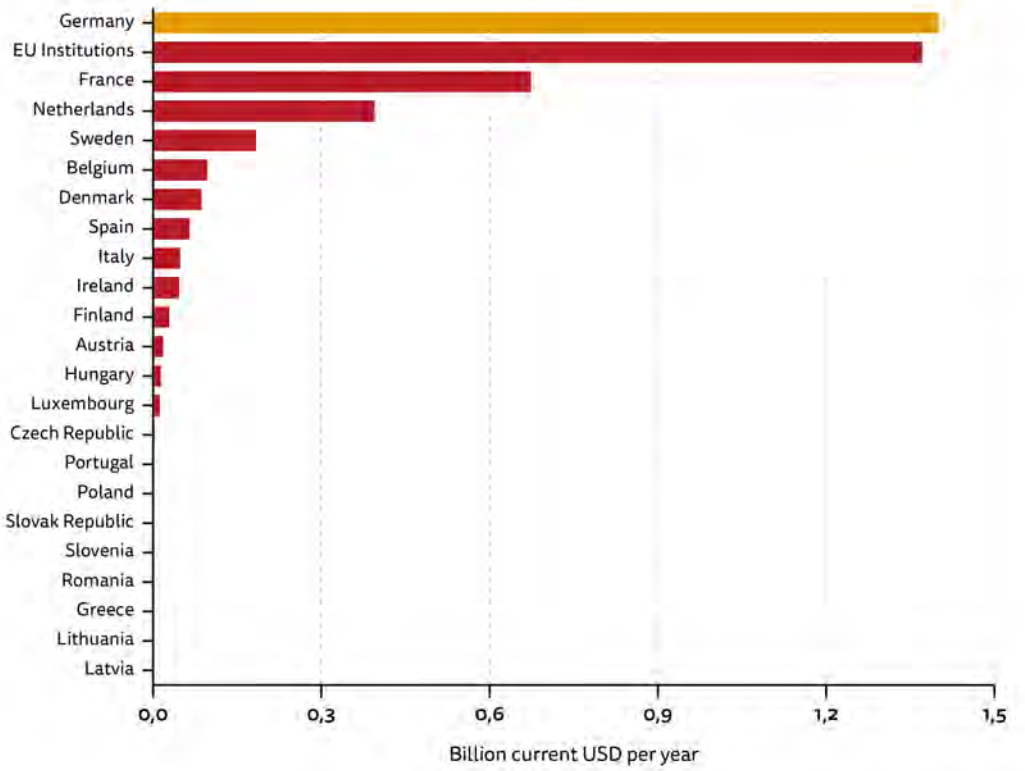
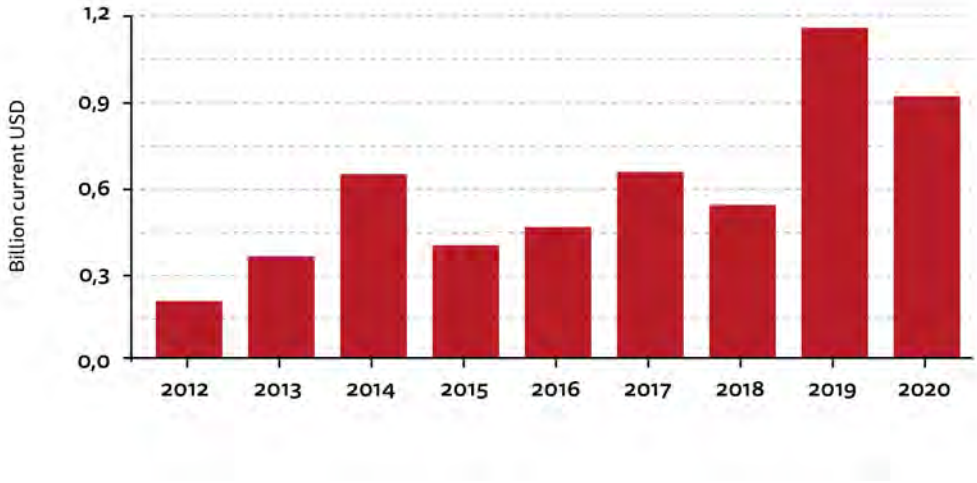


Figure 4. German bilateral ODA commitments to agricultural projects with a significant climate adaptation component (2012-2020)



[28] All figures in this chapter draw on the OECD DAC database (2023) accessible online: https://stats.oecd.org/qwids/.

Overall, German ODA commitments to climate adaptation and agricultural development seem well integrated and fit for purpose. Most German ODA commitments to agriculture target projects with a climate adaptation component. Yet, the share of funding committed to projects with adaptation as their main objective is considerably smaller than the share committed to projects that target adaptation, among other objectives[29]. Thus, it is hard to give a precise number of financial resources "purely" committed to supporting climate-resilient food systems.

Conversely, a good part of German bilateral climate adaptation finance is committed to projects in agriculture, forestry and fishing; next to projects around environmental protection and water supply: two sectors that are also highly relevant for the climate-resilience of agri-food systems[30]. This underlines the relevance of agri-food systems in German adaptation finance.

Germany is also well-placed regarding its implementing agencies and personnel resources. Actors like GIZ, KfW, and BMZ enjoy an excellent reputation in partner countries and can rely on well-trained staff and rich technical and political expertise. Staff in partner countries are mainly recruited locally, increasing ownership and bringing in local knowledge, networks, and expertise. The BMZ has substantially increased its budget for training (34% over the past five years), which also benefits other German ministries and agencies (OECD 2021b).

Moreover, German development cooperation is present in several fragile contexts (permanent presence at 24 embassies in countries classified as fragile) (BMZ 2022) and has developed several tools to operate effectively in protracted situations. Germany can rely upon those assets to promote climate-resilient agri-food systems, even in conflict-affected regions.

That said, German financial commitments to climate adaptation still miss the mark. In particular, support to civil society organisations in climate-vulnerable countries is falling short (OECD 2021b). Pledges for climate finance have not been reached yet. And the share of climate adaptation finance dedicated to adaptation is still significantly smaller than that of climate mitigation.

Moreover, adaptation projects in agriculture, such as the restoration of soils, usually require long-term commitments over several years. In contrast, budgets for adaptation are set yearly and subject to fluctuations and distributional conflicts among the German ministries. Also, funding for immediate crisis response usually takes precedence over funding for crisis prevention and climate adaptation. The resulting budgetary uncertainty makes it more difficult for German development cooperation to offer continuous support where it is needed.

Addressing climate vulnerability in fragile contexts has been particularly challenging for Germany. Despite being the third largest OECD donor of bilateral aid to fragile countries, those commitments represent only 23% of its total ODA, below the OECD average of 33%. Programmes that focus on job creation and private sector investments do not target those contexts that are least conducive

[29] Ibid.

[30] Ibid.

to such investments (OECD 2021b). Augmenting the share of adaptation finance, offering more flexible funding, and building additional capacities in fragile contexts could go a long way in making climate adaptation a more effective tool to address the security implications of climate shocks on food systems and agriculture.

Administrative and collaboration capacities

Germany's institutional setup is generally favourable for a strong engagement in support of climate-resilient agri-food systems in third countries. Germany is the only Development Assistance Committee (DAC) member with a dedicated Ministry for Development Cooperation. This setup allows for a larger budget, more autonomy, and possibilities to advocate for partner countries' needs, including supporting climate adaptation. German development cooperation is further supported by fourteen other ministries and sixteen German states - even if this sometimes makes it challenging to ensure a coordinated German approach (OECD 2021b). Generally, external climate action is also more strongly integrated into the work of powerful ministries like the Foreign Office and the Ministry for the Economy. This raises the profile of climate action and could facilitate support for agri-food systems in partner countries.

Several instruments and coordination mechanisms are already in place to facilitate collaboration across ministries involved in climate resilience and peacebuilding. This provides opportunities to engage more effectively in fragile contexts, where climate impacts on agri-food systems are more likely to cascade into further destabilisation[31]. Several thematic interministerial working groups and operational guidelines improve how different ministries interact. The Federal Foreign Office, BMZ, and their implementing agencies have developed joint mechanisms for peace and conflict analysis and early warning systems to identify the potential for crisis escalation. The two ministries agreed on the modalities of a joint analysis and joint planning (GAAP) approach in 2019 (OECD 2021b; Bundesregierung 2017b; Bundesregierung 2019).

Furthermore, the BMZ strives to implement its programs in a context-sensitive way. Conflict sensitivity is one of the six quality criteria of the BMZ (BMZ 2020d). Likewise, GIZ and KfW have designed a set of specific guidance documents and strategies for engaging in fragile contexts (GIZ 2022; KfW 2022). Those help German development cooperation to be involved earlier and more effectively in various situations. Context sensitivity is also promoted in the BMZ's Strategy for Sustainable Agriculture and Food Systems (BMZ 2021a). While there is scope to further improve these instruments and mechanisms, they nevertheless put Germany in a good position to support climate-resilient agri-food systems where it matters most.

That said, German support for climate-resilient agri-food systems faces several organisational challenges. German development cooperation is highly centralised, with most staff working at headquarters. It has been suggested to give more autonomy to staff working in partner countries and increase the

[31] Germany, in particular, has been praised by the OECD for its internal processes to engage in fragile contexts (OECD 2021b).

number of BMZ staff in embassies worldwide. This would improve effectiveness and flexibility and ensure that BMZ's political decisions better reflect field and regional perspectives (OECD 2021b).

German development cooperation also struggles with several bureaucratic hurdles, especially when cooperating with and funding civil society organisations (CSO) in partner countries. Germany can only work indirectly with southern civil society partners by supporting international or German civil society actors in partner countries. This manifests itself in the share of Germany's development funding going to CSOs (8%), which remains well below the OECD average (15%) (OECD 2021b). BMZ staff are further confronted with a high workload. This is partly due to increased parliamentary oversight and requirements to comply with various transparency and public accountability standards. Across BMZ, GIZ and KfW, staff numbers grew on average by only 28% since 2015, while the budget for German development cooperation increased by 93% (OECD 2021b).

Several ministries support external climate adaptation: BMZ assumes the major share, but other ministries like the Foreign Office and, more recently, the Federal Ministry for Economic Affairs and Climate Action (BMWK), play an increasingly important role as well. This creates challenges for coordinating political initiatives, spending, and avoiding the duplication of efforts. In theory, crisis management falls into the area of responsibility of the Foreign Office, while reconstruction and resilience building are BMZ domains. Yet, in practice, climate impacts on food and agricultural systems create fluid situations where resilience- and humanitarian response needs are often intertwined. This makes it challenging for the BMZ and Foreign Office to delineate their responsibilities and engage effectively.

Both ministries are committed to adopting a nexus approach to better coordinate their work on climate, development, humanitarian needs, and peace. This is reflected throughout key strategies and in ministerial declarations and speeches. The forthcoming German Strategy on Climate Foreign Policy is an important step in that direction. However, the integration process will take more time and dedicated effort to advance and permeate ministerial bureaucracies and workflows. Empowering German embassies and strengthening cooperation with actors at the country level would help this process[32].

Similarly, there is room for improving the coordination modalities between Germany and the EU. For example, Germany is strongly committed to EU joint programming. Yet, its country strategies and programming documents rarely reflect this (OECD 2021b). Addressing this gap would strengthen German-EU collaboration and allow for more effective support of agri-food systems in third countries.

Political context

Politically, Germany is in a good position overall to support the climate adaptation of agri-food systems in partner countries. Thanks to strong and vocal civil society organisations, there is growing public awareness around

[32] Highlighted during interviews with experts and stakeholders.

environmental issues and support for climate action. With an increased number of people fleeing the Middle East and other climate-security hotspots worldwide, climate adaptation is increasingly considered instrumental by German decision-makers in addressing the root causes of displacement (Bundesregierung 2016; OECD 2021b). While this bears a risk of increased securitisation, it also raises awareness and the profile of adaptation policies, while migration and displacement continue to be a priority geopolitical issue for Germany (Günther 2017; BMZ 2020e).

On the other hand, disagreements within the currently ruling coalition and competing spending on mitigating the social and economic effects of rising energy prices are obstacles to further committing to climate adaptation. Parts of the German leadership are eager to contain further spending, as large sums are already mobilised to address the consequences of the COVID-19 pandemic, to equip the German Bundeswehr in light of the full-blown Russian attack on Ukraine, to support the transition towards a green economy, or to finance large relief packages for German businesses and households. Faced with multiple crises, German politicians and voters might become less inclined to support more ambitious overseas climate adaptation projects.

Conclusion and policy recommendations

Overall, Germany faces favourable conditions in terms of **governance and coordination capacities** for supporting the climate adaptation of agri-food systems in third countries as a way to address possible cross-border climate impacts that originate in, (**adaptation at the origin**) or transit via agri-food systems in third countries (**adaptation along the transmission system**). This is thanks to *inter alia* a dedicated Ministry for Development Cooperation and effective implementation agencies, wide public support for climate action, and increasingly an integration of climate objectives in the work of powerful ministries like the Foreign Office and the Ministry for Economic Affairs. Germany spends more on climate adaptation of agri-food systems in third countries than any other EU member state, and mechanisms to coordinate its external engagement around climate, development, and security are gaining ground in relevant ministries. That said, there are several ways in which Germany could make an even stronger contribution to the resilience of agri-food systems in partner countries:

- **Raise the profile of climate adaptation**. Germany would benefit from raising the profile of climate adaptation in its development cooperation and foreign policy portfolio (‘**adaptation at the source**’). Dedicating more resources and attention to adaptation in third countries would place Germany in a better position to address humanitarian, security, and development challenges linked to climate-vulnerable agri-food systems, with positive implications for other German objectives around human security, sustainable development, and political stability in the European Neighbourhood.

- **Prioritise the restoration of land and ecosystems**. The restoration of land and ecosystems needs to be a priority issue in building climate-resilience of agri-food systems worldwide - both against the effect of local climatic shocks ('**adaptation at the source**') and disruptions in international food markets due to extreme events ('**substitution**'). Efforts to develop more transparent and inclusive carbon offset markets that incentivise smallholders to engage in land restoration could go a long way in achieving this objective.
- **Ensure stable and flexible funding**. Addressing the climate vulnerability of agri-food systems in partner countries will also require more consistent and stable funding for programmes that require continuous support over extended periods ('**financial capacity**'). At the same time, funding modalities need to become more flexible for development actors to adjust to complex and fluid situations in the field.
- **Improve funding and capacities for climate adaptation in fragile contexts**. Augmenting the share of adaptation finance going to fragile countries ('financial capacity') and building additional capacities for climate- and conflict-sensitive programming in those contexts ('administrative capacity') could make climate adaptation a more effective tool to address the security implications of climate impacts on food systems and agriculture.
- **Promote decentralisation and collaboration with local actors**. Better coordination and integration of climate adaptation, humanitarian, and security approaches ('**collaboration capacity**') could be achieved by increasing the embassies' staff and delegating more responsibilities to embassies. It is also advised to increase the BMZ's presence at the country level and encourage exchanges with actors working on those issues in the field, notably civil society, businesses, regional and international organisations, and so forth.
- **Improve modalities for joint analysis and programming, and evaluation** (OECD 2021b). This would facilitate a more coherent German approach vis-à-vis climate impacts on agri-food systems and their possible repercussions for security and migration (collaboration capacity).
- **Encourage stronger links to joint EU programming, Team Europe Initiatives (TEIs) and implementation**. This type of multi-actor cooperation should be done within the scope of country strategies ('**collaboration capacity**').

Chapter 5 - Spanish responses to cross-border climate impacts in the agri-food sector

Héctor Morales Muñoz

Climate impacts on local farming and food systems are often an inflexion point before subsequent risks materialise that can cascade across sectors (locally) and borders (internationally) (Detges and Foong 2022). Targeting the agricultural sector thus offers opportunities to interrupt potential cross-border climate-security risks early on, fostering **adaptation at origin**. Furthermore, reducing the vulnerability of countries close to the source of climate risk can enable **system-wide resilience** by interrupting cross-border impacts cascading further away from it but still connected to the former type of countries.

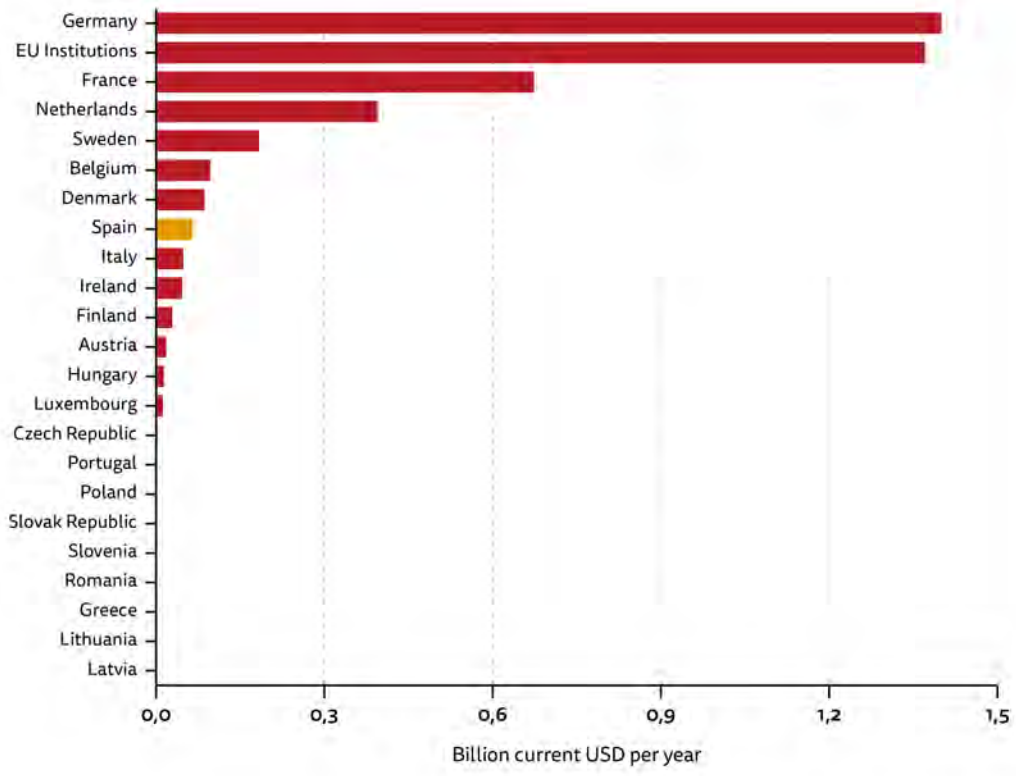
This chapter discusses how Spanish foreign policy and development cooperation support the **adaptation at the origin** of agri-food systems in countries outside of Europe and what resources the Spanish government has mobilised in this domain. The analysis finds that although Spain's development cooperation strategy has the coordination of sectors and the mainstreaming of climate change as priorities in the narrative of its national and international policies, its climate change strategy documents are outdated. The chapter further discusses the obstacles Spain faces, the synergies and inconsistencies between Spanish foreign support to climate adaptation of agri-food systems, and its objectives in other outward-facing sectors, such as peace, security, trade and migration. Spain has yet to develop a specific ODA strategy that integrates **system-wide adaptation** to cross-border climate impacts on agri-food systems. Spain can also improve the coherence of its ODA instruments by enhancing the capacities within the Spanish Agency for International Cooperation (AECID) and other institutions about the cascading cross-border impacts of climate change affecting its national and international priorities, even more, enhancing capacities to build climate adaptation responses in a **broad collaboration** with stakeholders and sectors. Lastly, the chapter ends with recommendations for improving the coherence and effectiveness of Spanish international cooperation policies addressing the cross-border effects of climate change.

The chapter draws from an analysis of relevant strategy documents of relevant Spanish ministries and AECID, an analysis of OECD data on Spanish ODA commitments, secondary literature, and semi-structured interviews with Spanish stakeholders, including government, civil society and academia involved in international policy, cooperation, climate adaptation, migration and sustainable development.

Spanish support for climate resilience of agri-food systems abroad

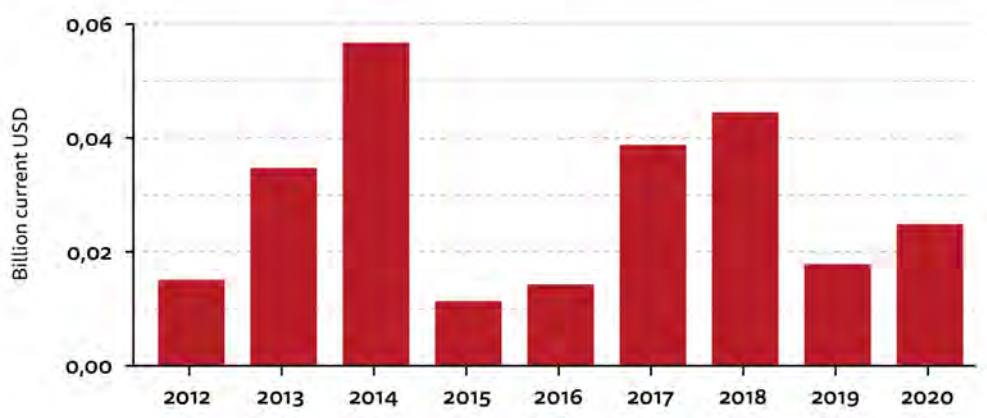
In terms of ODA spending, Spain occupies the eighth position in Europe for addressing the climate vulnerability of agri-food systems in countries with close ties to Europe after countries such as Germany, France, the Netherlands and the EU. Between 2012 and 2020, Spain committed around $5.5 million annually to agricultural projects abroad with **adaptation at the origin**-related objectives. (see figure 5). The amount increased in 2020 compared to the previous year, 2019. But it remains below average, considering earlier commitments in 2013, 2014, 2017 and 2018. (see figure 6). Overall, we can observe a fluctuation in Spanish ODA spending for strengthening the climate resilience of agri-food systems abroad.

Figure 5. EU27 bilateral ODA commitments to agricultural projects with a significant climate adaptation component (2012-2020)[33]



[33] All figures in this chapter draw on the OECD DAC database (2023) accessible online: https://stats.oecd.org/qwids/.

Figure 6. Spanish bilateral ODA commitments to agricultural projects with a significant climate adaptation component (2012-2020)



Responsibility for this domain mainly lies with AECID, the decentralised cooperation from the 'Comunidades Autónomas' (Autonomous Regions), and the Ministry of Foreign Affairs and Cooperation, which coordinates Spain's collaboration with the European Union and the external dimension of its climate policies. Table 3 summarises the financial commitments by these actors.

Table 3. Spanish ODA commitments to agricultural projects with a significant climate adaptation component by agency ($million 2012-2020)

Institution	Bilateral ODA commitments (2021-2020)
Spanish Agency for International Development Cooperation (AECID)	$114 million
Comunidades Autónomas	$50 million
Ministry of Foreign Affais and Cooperation	$45 million
Autonomous Governments	$36 million
Municipalities	$8 million
Ministry of Agriculture, Fisheries and Food	$3 million
Other	$2 million

Climate adaptation in agricultural cooperation

Objectives to promote climate adaptation in agricultural cooperation are present in AECID general and sectoral strategies (AECID 2023a). Including the Spanish Foreign Action Strategy 2021-2024 (MAEUEC 2021a), the fifth Master Plan for Spanish Cooperation 2018/2021 (AECID 2018), the AECID Action Plan 2022-2023 (AECID 2022a), and sectoral action plans related to water (AECID 2009a), environment and climate change (AECID 2009b) and rural development and the fight against hunger (AECID 2009c). Those refer to broader objectives around the promotion of sustainable production systems and support for adaptation to climate change within small-scale production, contributing to improving

sustainable productivity and diversification in small-scale farming, aquaculture and forestry; small-scale fishing systems, aquaculture and control of fishery resources; promoting scientific and technological research and women's access to the means of production. All of these objectives correspond to **targeted collaboration**, contributing to interrupting climate risks at the point of origin.

Regarding the financial sector, the Spanish Agrarian Insurance System of the Ministry of Agriculture, Fisheries and Food has established a Combined Agrarian Insurance Plan, including a specific strategic line to promote collaborative actions with international institutions and governments interested in developing agricultural risk management models. Through this, Spain contributes to institutional capacity building and to the dissemination, design and improvement of insurance models in different countries around the world, aimed at contributing to the stabilisation of income in the agricultural sector and strengthening the resilience of rural populations after the occurrence of uncontrollable shocks that cause damage to agricultural production (MAPA 2023). Climate adaptation is rarely the principal objective of agricultural projects in Spanish development cooperation but rather figures as one objective among others in such projects. Even then, less than half of Spanish financial commitments to agricultural cooperation had a climate adaptation component (either as a principal objective or project component, among others) between 2012-2020. Exceptions were the years 2013, 2014, and 2018, when more than 50% of Spanish ODA commitments to agricultural cooperation had an adaptation component.

Support to climate adaptation in agriculture

Since the Sectoral Action Plan for the Environment and Climate Change was approved in 2009, the Spanish cooperation has prioritised four areas: planning, assessment, training and internal management. Progress has been made mainly in developing tools in key AECID instruments to mainstream climate change in all operations. Spain’s adaptation finance is committed to agriculture, forestry and fishing, water supply and sanitation projects, and support to governance and civil society. Since 2019, Spain has contributed €161 million to the UN adaptation fund and the Green Climate Fund (MAEUEC 2019a). Spain’s contribution to the Cooperation Fund for Water and Sanitation (FCAS) is where it has developed expertise to support risk management in agricultural projects in Latin America. These include, for example, promoting agricultural diversity and soil improvement, enhancing food security and creating synergies with the respective National Climate Change Adaptation Plans (NAPAs) and National Appropriate Mitigation Actions (NAMAs). Furthermore, the FCAS, created in 2009, is the instrument of Spanish Cooperation to ensure access to drinking water and sanitation for the most vulnerable populations in Latin America and the Caribbean. It has a broad component on climate adaptation and integrated water resources management (MAEUEC 2019b). Objectives around hydrological-forestry restoration and support toearly warning systems for disaster prevention and the mitigation of disasters are part of the Spanish portfolio. More recently, the Spanish cooperation has joined the International Alliance for Drought Resilience, an initiative led by Spain and Senegal with the help of the United Nations Convention to Combat Desertification (UNCCD), enhancing the emphasis on risk management and infrastructure protection for water access projects (AECID 2022b).

Climate adaptation of agri-food systems in regional strategies

Spain's development cooperation typically focuses on Latin American higher middle-income countries due to its colonial linkages. Spain is willing to capitalise on its experience in Latin America to achieve the SDGs in North African middle-income countries.

Spain ultimately benefits from supporting adaptation and building resilience in neighbouring regions, such as the MENA plan. The importance of addressing cross-border climate impacts is evident in the case of cross-border migration. National interest determines Spain's international development cooperation policy in Africa. It is closely linked with its security and foreign policies and interests, whether in its military aspects, asylum, or migration policies. Other Spanish external action policies, like trade or investment, are mixed with strategies to build African resilience. Spain aims to strengthen Spanish companies' resilience by supporting African regional integration processes such as the African Continental Free Trade Area (AfCTA). Spain seeks to foster agro-industrial development resilience, water and sanitation and renewable energies through financial mechanisms to support investment by Spanish companies in Africa, including leveraging multilateral, EU and European Investment Bank (EIB) sources of financing (MAEUEC 2021b).Take the example of Spain’s support to Latin America and the Caribbean. In this region, the Spanish Cooperation promotes mechanisms to increase the capacity for effective planning and management of climate impacts (AECID 2022c). One of the region's most salient initiatives for climate adaptation of agri-food systems is the Team Europe Initiative on the Regional Green Deal, where AECID acts as an intermediary between the EU and Latin American countries. AECID is already playing an essential role in this area through its participation in the European EUROCLIMA programme and its programmes, such as the Programme for Environmental and Climate Change in Latin America and the Caribbean (ARAUCLIMA) or the Fund for the Ecological Transition (FONTEC) (MITECO 2023). ARAUCLIMA is a €5,5-million program that seeks to support the region's countries in their actions to mitigate the climate impacts and adapt to environmental changes. Some of the programme's actions include the participation of community agricultural organisations in the design of financial protection schemes, intending to reduce the climate vulnerability of this sector, which constantly puts their activity and, therefore, the well-being of their families at risk (AECID 2023b).

Institutional capacity-building for climate adaptation with a regional perspective is done through key initiatives, such as the Ibero-American Network of Climate Change Offices (RIOCC) (RIOCC 2023) or UNEP's REGATTA Project, for technology transfer on climate change adaptation in Latin America and the CaribbeanThe Ibero-American Network of Climate Change Offices has developed an Ibero-American Programme for Impacts Assessment, Vulnerability and Adaptation to Climate Change. This programme identified hydrological systemic risks as the highest priority for adaptation, followed by the silvo-agro-livestock sector (agro-export, subsistence agriculture, pastures, forests) (RIOCC 2006).

Spanish cooperation in Latin America and the Caribbean is an interesting example of cooperation with the MENA region, including all the EU's southern neighbourhood countries. AECID plans to assess its prospects to develop approaches to address regional and global challenges, including infrastructure or trade integration. This includes focusing on cross-border climate impacts and

access to and management of natural resources (AECID 2022a). Based on the experience of AECID's water-focused work in Latin America and the Masar-Water programme, Spain is interested in strengthening its development cooperation in water management in the MENA region, especially in Morocco and Algeria. Part of the strategic objectives of Spain is to support the ecological systems in those countries and to participate in essential projects for sustainable development, such as food security, conservation and restoration of biodiversity, and sustainable use of natural resources (MAEUEC 2021a).

Obstacles and opportunities for Spanish support to climate-resilient agri-food systems

Gaps in reviewed strategies

Rural development, an area critical for resilient agri-food systems, appears in position number five of the commitments of climate adaptation by sector (MAEUEC 2019b). Spain still needs a dedicated strategy for supporting cross-border climate adaptation of agricultural and food systems in countries outside of Europe.

There is ample room for further training and strengthening capacity-building to mainstream adaptation throughout Spanish development cooperation policies and programmes. In the third Africa Plan, climate adaptation is not an objective in itself. However, there is an abundant reference to sustainable development resilience-building. Nevertheless, there are possible synergies with other priorities, such as economic growth after COVID-19, social equality, human rights protection and rural women's inclusion. These objectives converge with the social conditions of system-wide adaptation.

Political obstacles and opportunities

The current director of the Spanish Cooperation Agency acknowledges that "cooperation has been focused on social issues, and it is necessary for us to be greener" (Leis 2022). The post-COVID-19 situation has affected climate adaptation and low-carbon development priorities. Priorities include short-term objectives aimed at economic reactivation, and longer-term objectives of economic growth, poverty reduction, and inequality dominate AECID's agenda. However, in Spain's 5th Master Plan of Cooperation, there is a thematic focus area on 'resilience' for middle-income countries (OECD 2022b). This has the potential to include climate adaptation objectives to address cross-border climate risks, including in agrifood systems. However, there is no explicit strategy for cross-border climate adaptation.

In Spain, many cooperation actors, particularly civil society organisations, decentralised cooperation actors (e.g. municipalities) and NGOs, do not yet fully incorporate climate adaptation in their strategies, missing out on an excellent opportunity to support the poorest countries in adapting to climate change. Despite the strong focus on resilience in the 5th Spanish Cooperation Master Plan, this policy document is not considered binding for actors outside the formal governmental institutions such as the Ministry of Foreign Affairs and AECID. In addition, many initiatives could be affected in the short term, and their positive

development impacts could be cancelled out by climate-related effects (Filippi 2015).

Yet, climate adaptation is considered in the context of migration. Spanish political actors' and institutions' internal agenda is giving in to populist-nationalist discourse and fears of increased migration to Spain. However, from a human rights perspective, there is a gap in addressing the cross-border climate impacts affecting agricultural production in Africa or other regions of cooperation. This means there is an interest in supporting vulnerable communities to deal with adverse climate impacts affecting their livelihoods as long as it can (indirectly or directly) prevent them from migrating internationally (Expert interviewed on Spanish cooperation in the Maghreb).

AECID's tools for mainstreaming climate adaptation and mitigation make reference to 'policy coherence'. In its 5th Master Plan for Cooperation (2018-2021), environmental sustainability, including adaptation, is seen as a cross-cutting principle. In the Sectoral Action Plan for Rural Development and Fight against Hunger (2009), a prominent objective is to promote coherence between climate action and the rural development and anti-hunger objectives set in those regions. AECID aimed to focus on areas of synergy with the respective National Climate Change Adaptation Plans (NAPAs) and National Appropriate Mitigation Actions (NAMAs) (AECID 2009b). At the same time, Spain is only partially aware of the connections between the requirements for implementing adaptation policies for the agri-food sector and the possible unintended consequences of maladaptation that could affect its security or trade objectives. Due to the lack of financial instruments and the emphasis on current economic goals (reactivation of national economies after COVID), these actions do not have the relevance to achieve the co-benefits that resilient rural development models can bring to other objectives such as stability in the different regions (Morales-Muñoz et al. 2022). The guides to mainstream climate in Spanish cooperation and humanitarian action and emergencies are good technical resources (AECID 2015). However, the operationalisation of those into tangible objectives and projects is lagging.

Financial obstacles and opportunities

Spain's Official Development Assistance (ODA) of the General State Administration (GSA) has risen from 0.28% in 2022 to 0.34% in 2023 of gross national income (GNI), intending to reach 0.7% in 2030 (MAEUEC 2022). This figure stood at 0.19% in 2017. However, the European average stands at 0.46% in 2022, and Spain is still far below the 0.7% goal. (La Coordinadora 2020a).

The majority of Spain's gross ODA (63.8%) was multilateral ODA in 2019, provided as core support, and mainly allocated to EU institutions. This makes it difficult to track the share of commitments supporting climate adaptation. Nevertheless, some advancements exist. From 2002 to 2021, Spain committed $303 million in development finance to Climate Adaptation. The disbursement ratio of development finance from Spain targeting Climate Adaptation over this period was 90%. By comparison, the global average disbursement ratio for all

development finance worldwide over the same period was 83.2%.[34] The ODA allocation is completed by the Water and Sanitation Cooperation Fund (FCAS), with €25 million, and the Fund for the Promotion of Development (FONPRODE), with €219.23 million. FONPRODE invests more in adaptation-related research. There is the potential to leverage microfinance investments, amounting to up to 32% of FONPRDOE's budget, focusing on building adaptation capacities of small rural producers, especially women and youth (Curbelo 2022)[35].

Organisational and technical obstacles

Most of Spain's climate adaptation strategies are outdated. For example, climate adaptation references and targets are found in sectoral action plans dating from 2009 and 2015. This includes the sectoral action plan for the environment and climate change, the sectoral plan for rural development and the fight against hunger, and the sectoral plan for water (AECID 2009a, b and c). These plans, written more than ten years ago, are the conceptual basis of current international cooperation strategies. However, there is a dissonance with new trends, evidence and literature on climate change affecting agri-food systems. For example, the 2009's sectoral plan on renewable energy is presented as an adaptation strategy rather than a mitigation strategy. The models and projections providing the base for climate risk analysis are only up to 2020. Spanish cooperation policies regarding agricultural resilience support must be updated and made more climate-sensitive. Similarly, better documentation and learning need to be conducted from maladaptation practices (e.g., adaptation outcomes are inequitable). Furthermore, the concept of transformational adaptation could be integrated into their cooperation strategies to enable **'system-wide adaptation**' responses (Hammill and Dekens 2014).

Convergence with trade and supply chain objectives

Recently, the Spanish development cooperation has begun to take steps to incorporate the private sector through "Public-Private Partnerships". There exist some pilots to support migration as an adaptation strategy, for example, to develop regular migration by providing formal, safe channels and means to

[34] Data generated with SEI AidAtlas (2023): aid-atlas.org. The 'disbursement ratio' refers to the amount of finance disbursed as a percentage of the total amount committed or approved in the same period. Low disbursement ratios could indicate that there are challenges implementing projects or that funding was subsequently re-directed after approval. The data above does not capture any contributions that may have been provided to multilateral institutions.

[35] Other actors and instruments that play an important role in financing projects in developing countries with an impact on climate action are the Fund for the Internationalisation of Enterprise (FIEM); the Spanish Development Finance Company (COFIDES); the Spanish Export Credit Insurance Company (CESCE); and the Official Credit Institute (ICO). The Spanish Council of Ministers approved Spain's participation in the first replenishment of the Green Climate Fund with a contribution of 150 million euros for the period 2019-2023. With this contribution, Spain's commitment to the challenges of climate change is reinforced by financing investment projects in developing economies through COFIDES. The participation of this fund presents opportunities to generate synergies so that Spanish companies with experience in water management can participate in projects that contribute to improving the adaptive capacities of agri-food systems in developing countries (COFIDES 2019).

migrate. An illustration is the programme for temporal migration in Senegal (2015-2020) that provided working contracts to people in rural areas to adapt to climate change**.** The project facilitates farmers affected by droughts who cannot work in their fields, sign work contracts to come to Spain, learn techniques and send remittances that contribute to adaptation in their countries of origin. (Expert in Spanish cooperation in Africa interviewed).

Regarding how possible climate adaptation strategies can affect Spain's own agricultural sector. It is important to recognise that the Spanish farming industry is vulnerable to climate change (MITECO 2020). Therefore, other EU countries might be inclined to substitute Spanish products with less climate-sensitive imports from overseas to increase their resilience against cross-border climate impacts on agriculture. The Spanish public development sector gives financial incentives to Spanish companies to invest in developing countries. However, some of the priorities of Spanish private companies in Africa may impede the system-wide adaptation needs of vulnerable, rural communities. For example, large companies adapt to climate change by simply changing their sources of supply. In this way, they have protected their customers from disruptions in their products' price, quality and availability. When disaster strikes and large companies can no longer buy smallholders' produce, they are left vulnerable. Second, exports by Spanish companies competing in African markets with a comparative advantage via price may affect the climate change adaptation strategies of small-scale producers who sell their products for subsistence in local markets.

Possible solutions arise by fostering dialogues about fair trade between large companies and small rural suppliers. The Spanish development cooperation can apply an **adaptation response via a third party** by encouraging companies to engage in discussions with their suppliers on how to adapt to climate impacts, especially as it is directly linked to the needs of these suppliers. These negotiations and strategies should focus on a better understanding of cross-border climate change impacts in value chains and ensure that additional investments to adapt to climate change are taken on by large companies that have financial levers from international cooperation.

Conclusion and policy recommendations

The Spanish government includes climate adaptation in agri-food systems within its national and international policies and strategies.Within its national Security and Defence Strategy and its National Climate Change Adaptation Plan, the Spanish government acknowledges the need to support the resilience of vulnerable communities in developing countries, highlighting the importance of cross-border responses and sharing responsibility for environmental protection and the management of natural resources at a global level. However, Spain should translate this into more concrete system-wide responses based on increased financial commitments.

Based on the above analysis, the following actions are recommended to work towards system-wide adaptation of agri-food systems:

- **Update (outdated) Spanish policies and strategies** around cooperation for climate adaptation and promote system-wide responses for resilient agri-food systems, trade, security, and safe migration.

- **Develop expertise and conduct training** on climate adaptation and its linkages with other sectors, focusing on cross-border climate impacts on security, trade or migration.
- **Accelerate the implementation of the technical guidance on mainstreaming** climate change mitigation and adaptation, developed in 2015 (AECID 2015), across all Spanish development cooperation strategies.
- **Increase overall ODA**. Spain mobilises comparably little bilateral aid compared to other members of the OECD DAC. Since 2008, the ODA budget has been reduced by two-thirds. The instruments and programmes in the domain of climate adaptation, developed in collaboration with multilateral institutions, fell victim to this budget down-sizing (La Coordinadora 2020b).
- **Increase the allocation to the cooperation instruments FONPRODE (the leading Spanish cooperation fund) and the Cooperation Fund for Water and Sanitation**. Also, bureaucratic processes should be made more flexible within FONPRODE to improve its impact, including facilitating decision-making that integrates multi-sectoral coordination and the inclusion of the recipient countries' priorities (Moreno Sanchez and Esquiaqui Buelvas 2020; Jung Altrogge 2021).
- **Increase contributions to global funds,** such as the Green Climate Fund and push for projects focusing on system-wide resilience.
- **Develop more programmes and projects on the intersection** between rural development and private enterprises that benefit small farmers' suppliers in the global south in a just manner (food industry and sourcing).
- **Promote coherence between sustainability standards** for private companies in the EU and outside.
- **Conduct strategic evaluations of programmes**, such as on temporary labour migration, to facilitate regularised migration as an adaptation strategy for rural populations. Evaluations will contribute to understanding relevant mechanisms and lessons learned and scaling up.

Chapter 6 - Bolstering European support for humanitarian efforts to create resilient agri-food systems

Owen Grafham

The world is close to a global food crisis. The war in Ukraine has created physical and economic disruptions to food markets. The conflict is playing out against a backdrop of existing and exceptional upheaval to global supply chains in the wake of the COVID-19 pandemic and an already severe global cost-of-living crisis (Benton et al. 2022). In 2022, food commodity prices reached an all-time high, and despite some price decreases in 2023, prices remain stubbornly high. Domestic food inflation in more than 60 countries is 15 % or higher year on year (Husein 2022). In rich countries, the crisis forces people into poorer and less nutritious diets and pushes many towards poverty. In poorer countries, the crisis is having even more dire impacts. Up to 828 million people worldwide were undernourished in 2021, with 50 million at the edge of famine (FAO 2022a). And overall, 193 million people in 53 countries faced acute food insecurity in 2021 (WFP 2022a).

Currently, East Africa is one of the hotspots for this humanitarian crisis. The region is suffering what some have described as its worst drought in 40 years - with a historic fifth consecutive failed rainy season recently confirmed (FEWS 2023a). The effects of this drought are perilous. Severe water shortages are forcing pastoralist populations to travel increasing distances (WFP 2022b), and deaths of livestock mean that herders and pastoralists compete for fewer resources (WFP 2022b). Rising food prices and pressure on household incomes will exacerbate malnutrition. Crop failure - and the deterioration of delicate local food systems - will uproot millions into displacement camps and temporary accommodation; and all of this will mean that lives and livelihoods will be lost.

In Kenya, around 4.4 million people faced crisis levels of acute food insecurity in March 2023, including 774,000 people in emergency situations (IPC 2023a). In Ethiopia, already critical food insecurity levels are likely to worsen, with 9.9 million people estimated to be facing crisis levels of acute food insecurity and some populations likely in catastrophe (FEWS 2023b). Furthermore, in Somalia, between January and March 2023 nearly 5 million people faced high levels of acute food insecurity, including close to 1.4 million people in emergency and at

least 96,000 people in catastrophic situations. Famine is also predicted in several areas of the country (IPC 2023b)[36].

But whilst we know that the current food crisis has emerged from a confluence of challenges - COVID-19, climate and conflict - we also know that the impacts of all three are not constrained to national borders. Indeed, the effects of all three have transmitted across borders in complex, multifaceted ways that transcend financial and trade networks as well as geography (Benzie et al. 2019; OECD and SWAC 2022). So, **are international humanitarian organisations (IHOs)[37] equipped to dealing with the threats and challenges posed by cascading climate impacts? And how can the EU and its member states support the future preparedness of such organisations?**

This chapter first examines the institutional preparedness of IHOs - and particularly the 'Rome-based agencies' given their remit for agri-food systems - for dealing with cross-border climate impacts. Drawing upon the conceptual framework outlined in chapter 1 of this paper, this chapter will outline how IHOs are deploying both **targeted** and **broad collaboration** to limit the impacts of cross-border climate impacts and enhance the resilience of food systems at country and regional levels. It will then examine whether and how IHOs are improving the resilience of third countries to cross-border climate impacts, with a particular focus on the role that early warning systems and new financial instruments might play in this resilience-building agenda. Finally, it will examine how the EU and its member states can improve their interactions with the IHOs and promote a more coordinated and coherent understanding of cross-border climate impacts.

The analysis finds that IHOs are -often unconsciously - deploying strategies that make them more able to address cross-border climate impacts. However, these efforts currently fall short of what is necessary to truly equip the system to build **system-wide adaptation**, or ultimately **system-wide resilience**. The chapter draws from analysis of relevant policy documents of the major IHOs, secondary literature and interviews with stakeholders involved in climate, agri-food systems and early-warning systems.

How the international humanitarian system has dealt with cross-border climate impacts

IHOs are already undertaking a vast array of initiatives to strengthen the resilience of local agri-food systems. Projects and programmes are wide-ranging and nearly always tailored to local issues and systems but include projects to

[36] The Integrated Food Security Phase Classification (IPC) provides a common scale for classifying the severity and magnitude of food insecurity and acute malnutrition. The Acute Food Insecurity (AFI) scale classifies the severity of food insecurity in five phases: of which Phase 3 represents 'crisis', Phase 4 represents 'emergency'; and Phase 5 represents 'catastrophe'. More details can be found at https://www.ipcinfo.org/.

[37] This paper uses the term international humanitarian organizations (IHOs) to refer to UN agencies and international non-governmental organizations that publicly abide by humanitarian principles. The paper's focus on agri-food systems means that the primary focus is devoted to the 'Rome-based agencies' - the World Food Programme (WFP), the Food and Agriculture Organization of the UN (FAO), as well as the International Fund for Agricultural Development (IFAD).

support local farmers and rural communities to diversify their crop basis, to transition to climate-smart technologies, methods and ways of working, and to increase their capacity to deal with future climate shocks. Practical projects often involve training and capacity building for smallholder farmers and rural communities, often in combination with agricultural (fertilisers, seeds etc.) or financial (for example, cash-based) inputs. Sustainable land management practices that improve local biodiversity, soil health and water conservation are also key aspects of the IHO agenda. But much of this programming is dependent on short-term budget and project cycles, and there are significant gaps in the institutional set-ups and risk-management processes.

Risk management in humanitarian organisations

Over the past decade IHOs have gradually introduced risk management systems in their operations which help them to understand and quantify a range of threats to their operations. But - unlike corruption or terrorism - the risks associated with climate change have not routinely figured in these systems (Brown and Dimsdale 2021). The Food and Agriculture Organisation (FAO) and World Food Programme (WFP) are among the few of these organisations that mention climate change in their strategic planning, include indicators of climate change, have a risk management system and include mention of climate risks within that system (Brown and Dimsdale 2021; FAO 2022b). However, there are still substantial weaknesses within these strategic planning documents. For example, in WFP's corporate risk register, climate change is only mentioned in terms of whether staff have sufficient skills to engage in climate and disaster risk reduction programmes (WFP 2019).

In general, IHOs have been slow to incorporate climate risks within their strategic and operational planning. This has led to an approach favouring reactive solutions implemented at the 'project level' rather than proactive ones implemented at the 'organisational level (Brown and Dimsdale 2021). FAO's new Strategy on Climate Change (2022-2031) is perhaps an outlier because it moves the focus from production to food systems and enshrines global, national and local measures to ensure this approach is joined up (FAO 2022b).

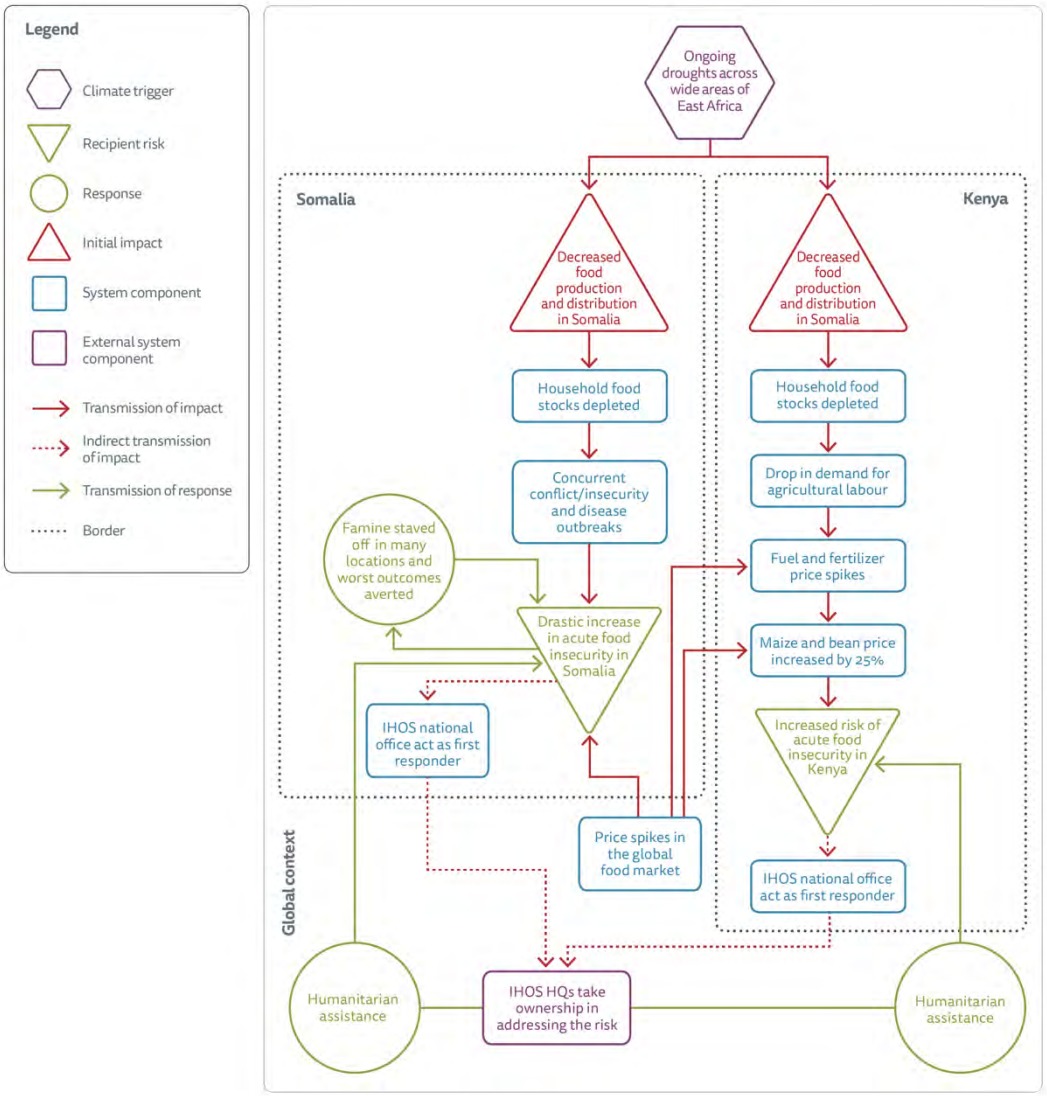
Dealing with cross-border climate impacts

Despite these strategic difficulties, when climate impacts take a significant toll on human lives and livelihoods, IHOs are often among the first responders. Many of the primary humanitarian organisations are mandated to respond to emergencies. This 'emergency-relief' identity also affects how they operate and transact their roles. Historically, these organisations have responded to climate emergencies (floods, droughts, cyclones etc.) at the site of the emergency itself, distributing emergency food supplies, cash, medical supplies, and dealing with the immediate protection of people in need. But increasingly, humanitarian organisations have a broader resilience agenda that supports those likely to fall into crisis in the future. Humanitarian agencies – consciously or unconsciously – are undertaking response strategies directly or indirectly rooted in the acknowledgement of cascading climate risks.

For example – WFP's Climate and Earth Observation Division has been tracking the emerging famine in East Africa for many months, and the organisation has been using climate and market intelligence to allocate additional resources to

country and sub-national offices to avert the most severe impacts. In this case study, the risk owner is not the risk recipient. This allows WFP to reduce vulnerability to the risk of future climate impacts on food systems that might be caused or exacerbated by events happening across borders. Although there is debate about whether such action amounts to adaptation, evidence shows that acting before shocks occur helps communities cope more effectively with a crisis and reduces recovery costs. Hence, early warning systems triggered by rainfall forecasts and projected food insecurity provided the data to allow increased allocation of financial resources by a range of humanitarian agencies. These resources were then spent on interventions which ensured continued access to water, distribution of drought-resistant seeds or cash assistance to support household resilience. Such a strategy is an example of the **adaptation at the origin**, stylistically depicted below in figure 7.

Figure 7. Depiction of an 'adaptation at the origin' response to cascading climate risk in the context of the East African famine warning *(adapted from Talebian et al. 2023)*

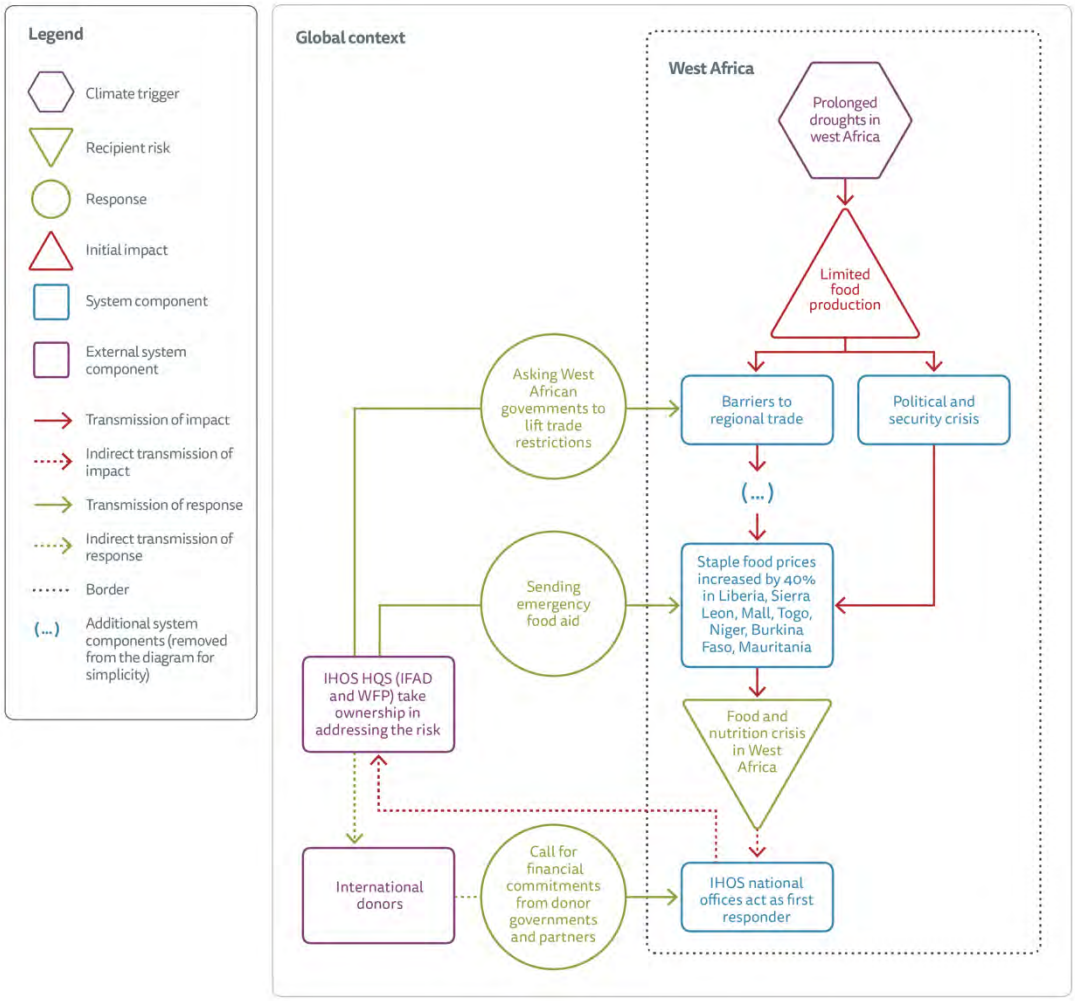


Similarly, following the 2022 high-level conference in Paris on food security and nutrition situation in West Africa, FAO, WFP, and the International Fund for Agricultural Development (IFAD) put out a joint political statement calling for longer-term political and financial commitments from donor governments and partners to address the food crisis in the region (WFP 2022c). The statement called for "a step-change in tackling the underlying drivers of hunger and malnutrition". It highlighted the "high risk that the food and nutrition crisis will be further aggravated due to [...] the impact of the climate crisis" (WFP 2022c).

Following the conference and the statement, the EU announced a total of €554 million would be targeted at increasing food security in the Sahel. This money was split between immediate emergency response funds (€240 million) and enhancing the underlying sustainability of food systems and nutrition insecurity (€314 million) (EC 2022f).

By seeking - and actively mobilising for - these additional financial commitments - the statement and subsequent financial commitments provide an example of the **external collaboration** response mechanism - attempting to promote adaptation via a third party. The statement also included a call to governments within the region to "lift barriers to the regional trade" – or attempt targeted influence within the system. Taken together with the increase in emergency food aid, we can say that this intervention amounts to **system-wide adaptation**, as depicted in figure 8.

Figure 8. Depiction of IFAD and WFP system-wide adaptation in the context of the 2022 West African food security crisis *(adapted from Talebian et al. 2023)*



The growth of regional response strategies

Many humanitarian organisations devolve significant power to their national offices rather than having it concentrated in global or regional bureaus. This means that national-level interventions are often the most obvious way to both conceptualise and deliver interventions. As a result, IHO interventions that address cross-border climate risk most often fit under the 'targeted collaboration' governance modality described in chapter 1, whereby interventions take place within a given location to 'adapt at the origin'. On occasion, however, the global reach and 'moral-power' of the IHOs can enable them to operate at the 'external collaboration' or 'broad collaboration' levels and activate strategies that influence global-level actors and advocate for wider system change. Figure 8 is an example of this. It shows the gradual movement among IHOs towards responding to crises at the regional level rather than entirely at the point of emergency.

UNHCR, for example, is increasingly deploying 'regional response strategies' as a means of responding to the ways that both climate and conflict risks can cross national borders and increase insecurity in neighbouring countries (Grafham et

al. 2022). In June 2022, UNHCR released a regional Drought Response Emergency Appeal for the Horn of Africa, requesting $42.6 million to address critical humanitarian needs for some 1.5 million refugees and internally displaced people affected by the drought in Ethiopia, Kenya, and Somalia. WFP released a similar 'Regional Drought Response Plan for the Horn of Africa', requesting $2.4 billion to *"meet immediate life-saving food and nutritional needs while simultaneously building resilience to extreme climate variability"* (WFP 2023). This regional approach allows IHOs to fundraise at a greater scale and with specific audiences in mind and it also allows resources to be deployed in a more flexible way as the focus of the crisis changes shape over time.

Does the 'mandate' affect the ability to respond?

Many IHOs are set up with an 'emergency response' mandate. And there is consequently some tension between this and the idea of pre-empting cascading climate risks. In structural terms, most of the work done by UNHCR and WFP (who most explicitly embody this 'emergency response' mandate) is done at the local level. In practical terms, this means that the country-level operations of these organisations are significantly larger than the regional or global components of the organisation. They drive the bulk of operations (both in monetary and staffing terms). On top of the country level - both organisations then have a layer of 'regional headquarters' that are more interested in the regional perspective and the multi-country response. Then, on top of this is the global level HQ, which is the smallest in terms of staffing and budgets, but it carries significant influence over global activities, thematic positioning and leadership. Overall, this structure means that 'local responses' will often drive the bulk of any food crisis response. This has the benefit of ensuring that these organisations are well placed to ensure emergency provision reaches the most vulnerable populations, primarily because the distance from the centres of decision-making and budget allocation is reduced. However, being close to local dynamics and managing budgets for a national office is not necessarily conducive to understanding cascading climate risk. This requires a more regional or global understanding of risks and the ability to divert resources to different locations. This is understandable in the context of providing emergency lifesaving food support to the most vulnerable populations. However, it provides a dilemma for how these organisations can adapt to future cascading and cross-border climate impacts.

This differs for other agencies whose mandate covers significantly more than the emergency phase. Each organisation has its own complex internal administration to deal with. FAO – for example – whose mandate is *"to build a world without hunger through technical cooperation and assistance"* has to have major policy shifts signed off by agricultural ministers of its constituent members. This can make it difficult to push process changes through the various committees. A subject like cross-border climate impact and the complex responses that would be required to embed better preparedness would potentially require complex internal approvals and shifts in internal governance.

Nonetheless, there is significant overlapping functionality across various IHOs. And considering how to generate efficiencies in operations in the

context of climate risk assessments could be an important avenue to pursue in the future. The model of the ENSO cell described below in box 2 provides a useful example.

Box 2. Developing Standard Operating Procedures (SOPs) for ENSO events

Between 2014 and 2016 Southern Africa experienced three El Niño-Southern Oscillation (ENSO) events in succession – triggering a series of climate impacts that led to a serious emergency across the region. The interagency response which emerged from this has -however - left the Rome Agencies and the UN system in a vastly better place to respond to forthcoming climate risks with genuine action.

In March 2016, WFP, FAO, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and IFAD made a concerted effort to collaborate and develop a process that would ensure collective action around ENSO events. In December 2016, Mary Robinson and Ambassador Macharia Kamau (the UN Secretary General's (UNSG) Special Envoys on El Niño and Climate), submitted a 'Blueprint for Action' to support those countries most at risk from ENSO events to climate-proof their early action and resilience (UNSG 2016). The Blueprint for Action establishes a Standard Operating Procedure (SOP) for triggering ENSO-related action.

In practice, ENSO events reveal themselves in very different ways and so the SOP dictates that when there is a 55% chance of an El Nino/La Nina developing, OCHA, FAO and WMO will convene a Global ENSO Analysis Cell (IASC 2018). The purpose of this "phase 1" response is to assess which countries are at the highest risk, and which should be prioritised for further analysis, support and early action planning. Phases 2 and 3 (in-country actions which attempt to avert crisis) are then triggered when country-specific thresholds (for example around rainfall or temperature) are reached or surpassed.

How are the policies of international humanitarian organizations affecting adaptive capacity in third countries?

Large international humanitarian and development organisations can often be at the forefront of how agricultural reform policies are implemented in low-income countries. These organisations typically occupy an intermediary space, which is trusted to receive large volumes of money from EU and member state sources. At the same time, they are close enough to the ground to practically deliver programmes and projects. Although this position is the subject of much debate (Soanes et al. 2021), it highlights the priority of the IHOs in the climate resilience and adaptive capacity of the countries where they work in.

Developing an increasingly sophisticated knowledge base

IHOs have made substantial investments in systems to improve their ability to predict food crises. Both WFP and FAO have early warning systems that monitor several significant climate impacts – and perhaps even more significantly – commodity prices, food availability and market functioning across a huge selection of global markets. Such systems work upstream (to raise the profile of an issue in the public consciousness, with governments and the public promoting knowledge about issues and problems at a global level) and also downstream (to provide knowledge for regional and country-level operations). Box 3 below outlines some of the detailed work that goes into gathering data and the blurred lines between 'the humanitarian' and 'the development' imperatives that motivate the IHOs.

Box 3. Assessing needs in the IHOs

WFP is currently monitoring the functioning of food markets in 75 countries. This includes price alerts which seek to understand the impact of the change in commodity prices on the purchasing power of people in vulnerable communities. It also includes market assessments that seek to understand food availability, food quality (refrigeration) and market infrastructure. For example, in Mali, WFP is currently monitoring 50 markets, with several commodities in each market. WFP also maintains a global 'Hunger Map' which monitors food insecurity at the global level. It does this by monitoring the indicators and drivers of food insecurity. This means the group collects primary data on food consumption but also pools data from internal and external sources (rainfall, vegetation index) to see how these factors affect household food security/insecurity.

At the same time, FAO's Global Information and Early Warning System on Food and Agriculture (GIEWS) has been monitoring and reporting on food production and security since its set-up in the early 1970s. GIEWS incorporates earth observation for the growing conditions of major crops, forecasts of crop production, food price monitoring in around 90 countries, and Crop and Food Security Assessment Missions (CFSAMs), which are undertaken in collaboration with WFP (FAO 2023).

The 'household consumption' focus of WFP complements FAO's primary focus on production dynamics. Other platforms, such as the Agricultural Market Information System (AMIS) - set up in 2010 by the G20 to enhance market transparency and reduce volatility - also fill knowledge gaps by improving reporting on agricultural stock levels and market fundamentals. However, the Early Warning Systems highlighted here are primarily locally oriented around direct risks rather than cascading risks, whether from disrupting supply chains or financial flows or international commodity markets and price transmission. If used appropriately, such systems can give significant new insight into the impact of cross-border climate impacts, but more can also be done to integrate key sources of cascading risk into existing systems.

However, several of those interviewed stated that "early warning is the least of our problems" (Interview (virtual), Research, Assessment and Monitoring division, WFP, 11 November 2022). This is because most organisations do not lack the analytical capacity. Instead, they lack the tools – and financial resources – to turn analytical warnings into real action. Work is therefore needed to demonstrate how to operationalise early warning systems at the local and national level, and to ensure governments can use warnings and impact-based forecasts to communicate effectively and divert resources to at-risk populations.

Protecting against disaster-related losses through innovative finance

IHOs have increasingly been looking at the possibilities of disaster-risk financing to adapt to the uncertain climate futures that many low-income countries worldwide are facing. Many forms of disaster risk finance are increasing, including property catastrophe risk insurance and scalable social safety net programmes that are triggered during disaster events. But perhaps the most important vehicle for the agri-food system is agricultural insurance for losing crops and livestock. In Kenya, the drought that took place between 2008 and 2011 led to $9.1 billion in losses for livestock owners across the country (WB 2023b). And FAO estimates that $30 billion was lost in Sub-Saharan and North Africa between 2008 and 2018 due to declines in crop and livestock production in the aftermath of disasters (FAO 2021). These impacts are not only felt nationally but also regionally, and throughout the entire socio-economic systems. Whilst crop insurance cannot change the impact of such events on production volumes, it can cushion local economies and livelihoods.

At COP27, it was announced that WFP will receive $20 million from Germany and the United Kingdom through the World Bank's Global Shield Financing Facility. The funding will support the expansion of WFP's climate and disaster risk financing cover in 23 countries across the globe, protecting up to 4.6 million people from climate risks over the next two years. This is an expansion on the insurance already provided to seven African countries, which have already seen WFP receive five payouts totalling $9.9 million for four countries (WFP 2022d). At the supranational level, FAO is also promoting the idea of a Food Import Financing Facility (FIFF), available to economically vulnerable food importers to help ease the costs of food imports. At its most basic - the idea of the FIFF would be to support the most vulnerable countries to finance their food purchases and minimise any risk of social unrest (FAO 2022c).

How are EU and member state policies towards the IHOs affecting food system resilience in third countries?

A bleak picture of increasing need

The overall budget envelopes of most IHOs are increasing. In 2022, WFP raised $14.2 billion, more than double the $6 billion raised in 2017 (WFP 2018). FAO's 2021 budget was $1.92 billion, a record level of funding for the organisation, despite the backdrop of the COVID-19 pandemic and subsequent economic

malaise. The organisations are enormous, with WFP counting nearly 21,000 staff in more than 80 countries around the world.

The EU and its member states are among the foremost financiers of almost all of the major humanitarian organisations. For example, in 2021, roughly 26% of WFP's $9.5 billion funding and 28% of FAO's $1.92 billion funding came from the EU and its combined member state budget. But despite this, the US provides four times as much financing for WFP ($7.2 billion) than the next largest contributor, Germany ($1.8 billion).

The EU can and should do more to support help support crises more including by increasing finance. In 2021, the EU's collective development aid amounted to €70.2 billion, but only 4 EU member states exceeded the 0.7% of gross national income on Official Development Assistance (ODA) spending target in 2022 (CoEU 2022), despite the obligation for the EU and its member states to increase their ODA targets.

However, with the increasing frequency of climate crises comes a need to change our systemic approach to crisis response. Emergency appeals (the default humanitarian response to crises that are already wreaking devastation) and ad-hoc responses will forever be underfunded and compete against each other. Perhaps more important than the quantity of finance is improving the quality of this finance, as shown in one example below in box 4.

Box 4. Multilateral climate funds and humanitarian interventions

Europe and its member states are large contributors to the multilateral climate funds, including the Green Climate Fund (GCF), the Global Environment Facility (GEF), the Adaptation Fund (AF) and the Climate Investment Funds (CIF).

These funds contribute to IHOs in a substantial way. For example, the GCF and the GEF were, respectively, the 3rd and 4th largest donors to FAO in 2021. But fragile and extremely fragile countries, where the bulk of humanitarian assistance is delivered, receive significantly less funding per capita from the GCF, GEF, AF and CIF than non-fragile states (UNDP 2021; Aberg 2022). The ICRC underlines that "it is clear that conflict-affected areas are among those most neglected by international climate action and finance" (ICRC 2021). In part, this can be attributed to the complexity (and non-linearity) of accessing finance through these instruments. The High Commissioner of the Republic of Maldives to the United Kingdom told Chatham House in 2002 that access to climate finance was onerous and that 'It feels like you need a PhD in climate finance to get hold of any funding' (Aberg 2022). But the lack of projects is in part due to the risk attitude of the funds and their reluctance to operate in risky settings.

As a significant donor - the EU and its member states have considerable influence to wield on the major climate funds. As a starting point, they can consider attempting to create a more proactive approach to the accreditation of projects in conflict settings and to ensure easier access to funds from those countries at the frontline of climate and conflict crises.

Finding the right balance between emergency response and development assistance

Looking at environmental and social outcomes of global food systems, it is clear that the EU is not doing enough to meet internationally agreed targets on food security, nutrition, public health, climate action, biodiversity conservation or environmental sustainability. These global targets cannot be met purely by responding to humanitarian needs.

Some of the previous examples highlight that IHOs are already aware of the need to balance emergency imperatives with developmental ambitions. They are fundraising and deploying activities with this balance in mind. At the same time, IHOs can look for opportunities to create longer-term impacts within their humanitarian interventions. For example, by ensuring that programming supports or develops 'legacy assets' that outlive the immediate emergency phase of the crisis - such as power supplies, communication systems and transportation methods, as well as farm buildings, processing buildings and storage units. DG ECHO can support this by commissioning further research, which helps the IHOs move from a 'single point of crisis' approach to one which thinks 'along the cascade', considering compound crises and drivers of risk.

Individual member states such as Germany or the Netherlands are also using their large bilateral development aid programmes to promote sustainable food system outcomes. This increases the coherence of the aid and development outcomes they seek to promote. But ensuring a genuine long-term food systems transformation will require much greater political attention and commitment. For decades, the way food is produced and consumed has been associated with under-nutrition and micronutrient deficiencies, overweight and obesity, and diet-related diseases. At the same time, global food systems account for around 30% of global greenhouse gas emissions. They are the primary driver of deforestation and forest degradation, habitat and biodiversity loss, and are a major source of soil, water and air pollution. Many countries facing humanitarian crises find themselves using precious agricultural inputs (such as fertilisers) to support industries that export their produce. Without changing the system, these structural issues will continue to provoke problems. In this context, the balance between meeting humanitarian needs and transforming the global food system remains among the top concerns of European diplomats and civil servants working on this agenda.

Migration

There are strong links between food crisis and displacement (Yuen et al. 2022; Betts 2013) and migration is often one of the coping strategies for chains of cascading climate impacts triggered by food crises (Quiggin et al. 2021). Rightly or wrongly, migration control is also often at the top of the list of concerns and priorities for Europe and its member states when it comes to the rationale and justification for providing resources to the LICs and LMICs. Over 80% of displaced people are hosted within LICs or LMICs, as people most often move relatively shorter distances (UNHCR 2021).

To promote a more coherent humanitarian agenda, the EU can therefore support regional organisations such as IGAD and the African Union - and the humanitarian organisations supporting them - to plan for, and manage migration more effectively. The Kampala Ministerial Declaration on Migration, Environment &

Climate Change, signed in 2021, championed by IOM, aims at bringing nations across East Africa and Horn of Africa together to galvanise global support to deal with the harsh impact of climate change on human mobility, including through reversing progressive desertification and land degradation and the unsustainable use of ecosystems (Republic of Uganda 2022). The Global Compact on Migration and the Global Compact for Refugees both support the rights of migrants to integrate into local economies. They also provide political frameworks that Europe and its member states can support. But doing so requires several EU member states to take a position that stands at odds with their own approach to the domestic integration of migrants.

The EU can deepen its cooperation with international humanitarian agencies in other ways that would support improved migration outcomes for those forced to migrate due to food crises. First, the EU can support border management, including monitoring and tracking safe and orderly migration. Second, the EU can support, and advocate for, the greater use of humanitarian visas. The EU activation of the Temporary Protection Directive (TPD) in the wake of the Ukraine war was a significant step towards a more humane protection regime and fairer responsibility-sharing among member states. Without the need for the examination of individual applications, those fleeing Ukraine can access harmonised rights across the EU for three years – including residence, housing, medical assistance, and access to the labour market and education (Venturi and Vallianatou 2022). More can be done to ensure that the coherent policy measures taken for Ukrainians are also extended to other vulnerable populations fleeing their homes due to cross-border climate impacts.

Conclusion and policy recommendations

The internal structure of most of the IHOs means that nationally designed and targeted interventions are the most frequent and widely deployed. As a result, many IHO interventions which address cross-border climate impacts represent a **targeted collaboration** modality whereby interventions take place within a given location to **adapt at the origin**. Nonetheless, IHOs have a global reach and a 'moral power' that can operate at the **external collaboration** or **broad collaboration** levels and this paper has attempted to demonstrate both through the use of the cascades conceptual framework.

Overall, the analysis finds that IHOs are -often unconsciously - deploying strategies that make them more able to address cross-border climate impacts But, these efforts currently fall short of what is necessary to truly equip the system to build **system-wide adaptation**, and ultimately **system-wide resilience**. In order to better respond to this imperative in the future, this paper makes a series of recommendations, both for the EU and its member states, and for the IHOs:

For the EU and member states

- **In the short term, scale up emergency response provided to the IHOs** in order to avert a devastating food crisis over the coming year(s). In the longer term, work with IHOs to try to move away from the 'ad-hoc' appeal model.

- **Use influence with the climate funds** to ensure easier access to funds by those countries at the frontline of climate/conflict crises; to ensure that all programming is cognisant of the need to factor in climate resilience; and to ensure more funding reaches the IHOs undertaking agri-food work on the ground.
- **Commission further research to help DG ECHO** move from a 'single point of crisis' approach to one which thinks 'along the cascade', considering compound crises and drivers of risk on local and national agri-food systems.
- **Reduce policy incoherence** in regards to migration by supporting broader take-up of the temporary protection directive in response to future humanitarian crises, and by supporting regional priorities such as those enshrined in The Kampala Ministerial Declaration on Migration, Environment & Climate Change.
- **Seize the 'political moment'** by working with the UAE COP Presidency and stepping forward with transformational action on food systems at COP28 in Dubai.

For the IHOs

- **Move away from reactive project-level attempts** to capture climate risks and move towards organization-level responses which prioritise climate risk as part of an overall risk management framework. Consider whether 'climate spend' can be integrated across all programming and/or whether targets for climate spending can incentivise climate-coherent programming.
- **Look for opportunities to enhance short-term crisis responses** into longer-term impacts. For example, this can be done by building 'legacy assets' such as power supplies, communication systems and transportation methods, as well as, farm buildings, processing buildings and storage units built into emergency response programmes.
- **Deepen collaboration and coordination with other IHOs** - particularly around early warning - to ensure expertise does not overlap and synergies are developed between and across organisations. The key will be to prioritise interventions within and across organisations, rather than simply making each organisation bigger.
- **Ensure early warning systems are aligned** with country-level coordination mechanisms, anticipatory actions and plans to translate better knowledge into better national-level delivery.
- **Promote the provision of international and domestic climate finance and investments** into agri-food systems, in particular through scaling up readiness and the ability to absorb substantial funding from major climate funds.

Chapter 7 - Strengthening EU-NATO cooperation to tackle cross-border climate impacts and food insecurity

Sophie Desmidt and Anum Farhan

An EU-NATO partnership on climate change and food security has become increasingly important in the new global political and security environment, **with a focus on internal adaptation of response mechanisms and some level of targeted collaboration (through sharing best practices and lessons learned, and joint analysis) (see also figure 1)**. There is a growing awareness that neither the EU nor NATO alone are able to respond to and address multifaceted and cross-border climate impacts. Following the invasion of Ukraine, their cooperation for a coordinated approach to crisis management in Europe has grown significantly. Importantly, the functional overlap, including membership, between both organisations is notable and has increased over time. There are twenty-one EU Member States that are also NATO Allies. This means that issues that are given importance at the EU's Political and Security Committee will also likely make it onto the agenda of NATO's North Atlantic Council (Farhan et al. 2023). Yet this overlap can also have an obstructive role, as seen with the tensions between Turkey and Cyprus restricting actions on security and defence. Nevertheless, the EU-NATO partnership brings not only expertise but also critical mass, and the transatlantic element of NATO (i.e., the role of the US) is a formidable strength in enabling both organisations to play complementary and mutually reinforcing roles in bolstering climate cooperation (Ewers-Peters 2023).

Our analysis[38] finds that the current state of the EU-NATO partnership is more clearly focused on addressing the impacts of climate change on security within the EU-NATO block. In contrast, the need to strengthen food security across member states and partner countries has not been given as much attention. Collaboration is centred upon bolstering **internal adaptation** and **domestic resilience** within EU and NATO membership. It includes limited operational action plans to increase **external collaboration** and **targeted influence** outside the EU-NATO membership. In general, the approach to climate change and food security within the EU-NATO partnership is targeted to, on the one hand, operational capabilities and on the other, on sharing situational awareness and assessments on the impact of climate change on European defence and security. NATO, but also the EU, is looking increasingly closely at the impact of climate

[38] This chapter is adapted from a forthcoming CASCADES publication on 'Preparing NATO for Climate-Related Security Challenges' due to be released in June 2023.

change on military and defence capabilities and the ability of military and security actors to respond adequately to the threat of climate change. The EU and NATO actors also cooperate to increase the situational awareness of their respective leadership on the impact of climate change on security. While working level (staff-to-staff) exchanges are frequent and rich, they focus on analysis, lessons learned and best practices. There is a division of labour in place, rather informally, where certain parts of both EU and NATO institutions focus on policy and operational aspects respectively (within NATO); or on hard security and human security considerations (within the EU) (Interview (virtual), EU, 12 January 2023)[39]. Russia's war in Ukraine and the negotiations around the grain deal have given some more prominence to the issue of food security and the interlinking impacts of security and climate change, but the topic remains somewhat less prominent in EU-NATO cooperation. Moving food security further up the agenda will be key to an EU-NATO partnership that is able to mitigate and adapt to the cascading and cross-border impacts of climate change and meet its objective of preserving peace and security.

The EU's and NATO's approaches to climate change and food security

Recently raised profile of climate change in NATO and the EU

Both organisations have given climate change increased attention in recent years, including in their respective latest strategic concepts and documents. Since the start of Russia's war in Ukraine, food security has become more prominent across EU and NATO policy agendas, next to the energy security issue (Interview, NATO, 31 January 2023). For example, during succeeding European Council and NATO meetings in March 2022, observers noted *"the return of food production as a tool of humanitarian assistance and geopolitical stabilisation"* (Fortuna et al. 2022). Italy's then Prime Minister Mario Draghi emphasised the need to secure the EU's food supply whilst the EU Agriculture Commissioner Janusz Wojciechowski situated agriculture alongside energy security as the EU's top priority: *"Agriculture has become a crucial security policy"* (Fortuna et al. 2022). As the conflict has shown, strengthening food security and the security of other vital goods requires a shift in the focus and attention of NATO and EU interests, as well as internal adaptation responses and current doctrines.

In June 2022, climate change was included in *NATO's new Strategic Concept.* In this, NATO sees climate change as a threat multiplier and a factor which will increasingly affect geopolitical stability and competition, as well as impact the Alliance's operational capabilities (NATO 2022a). The strategic concept was published in parallel with a climate assessment report (NATO 2022b) in which NATO recognises climate change as an *"overarching challenge of our time"* that

[39] Given its competency in foreign policy, development and humanitarian issues, the EU considers de facto a wider range of issues. For example, the recent EC Communication on "Safeguarding food security and reinforcing the resilience of food systems" notes that "Humanitarian assistance should be stepped up addressing food-deficit countries as well as countries affected by conflict in North Africa and the Middle East, in Asia and sub-Saharan Africa. The assistance should, where relevant have a humanitarian-development-peace nexus approach (EC 2022g). A more in-depth assessment of this falls outside of the scope of this chapter which focuses on EU-NATO cooperation.

will measurably increase the risks to security and *"worsen as the world warms further"*. The report noted that NATO would have to *"fundamentally transform our approach to security and defence"*, and commits to reducing its emissions by at least 45% by 2030 and achieving net zero by 2050 (NATO 2022b). Whilst NATO's commitment to reducing its carbon footprint is key to its credibility in the climate community, the target only applies to NATO's military headquarters and NATO-owned equipment. It does not cover the more significant emissions of member state militaries (Keating 2022).

Food security is mentioned sparsely within the *Strategic Concept and the Climate Assessment Report*. Food safety and (in)security are mentioned as part of NATO's broader concept of civilian resilience. NATO's baseline requirements for national resilience include building resilient food and water resources and the diversification of supply chains (Roepke and Thankey 2019). Still, adapting concepts and doctrines, information and logistics to meet this commitment has been slow. For example, food insecurity is mentioned as an aspect of civilian crisis management and relief operations, which NATO wants to help strengthen among Allies. However, it is unclear where responsibility for its implementation lies.

For some regions, notably the Southern Neighbourhood, North Africa and the Sahel, food insecurity is mentioned as a factor that "could directly affect our security and the security of our partners." Ahead of the 2022 NATO Summit in Madrid, Spanish Foreign Minister Jose Manuel Albares advocated for the inclusion of food security as a "hybrid threat" in the Alliance's Strategic Concept (Euractiv 2022) and at the 2023 NATO Summit in Vilnius Allies agreed that food insecurity and other emerging challenges warranted deeper analysis and consultation with partners. The results of this analysis will be presented at the 2024 NATO Summit (NATO 2023). These interpretations point to a level of understanding of the possible cross-border effects of climate change on NATO membership. But the understanding of climate change and food security is rather securitised and linear: climate change will lead to resource scarcity, including food insecurity, and increased instability and conflict. As our research in the Sahel and North Africa has shown, the relationship between climate change and (food) security is far from linear and is mediated by various economic and political factors (Puig Cepero et al. 2021).

In its climate assessment report, NATO vows to become the "leading international organisation when it comes to understanding and adapting to the impact of climate change on security" (NATO 2022b). Despite this bold language in addressing climate change, the overall sense among experts was that NATO's plan lacked ambition and precision as to how exactly NATO would make a meaningful impact on addressing climate change, in particular on reducing emissions (Keating 2022). NATO's methodology to show how emissions are being calculated was made public at the 2023 NATO Summit, but data was not included due to sensitivity concerns. The inability to scrutinise or assess this methodology, and the uncertainty regarding which member states, if any, will be adopting this process, has left an accountability gap that is far-reaching. Secretary-General Stoltenberg, who previously served as a UN Special Envoy on climate change, has been at the forefront of NATO's leadership on climate change, but his term will come to an end in October 2024. The scale of ambition therefore requires a significant injection of resources and personnel to ensure the internal mainstreaming and effective implementation of NATO's commitments.

The *EU's Strategic Compass*, launched in March 2022, includes a more comprehensive appreciation of climate change and how the EU and its member states aim to address climate change. While food (in)security is not mentioned in the EU's new Strategic Compass, the document sets out several concrete recommendations concerning climate change. For example, the EU has vowed to ensure that Member States develop national strategies to prepare the armed forces for climate change by 2023. By 2025, all CSDP missions and operations should have an environmental advisor and report on their environmental footprint. But important linkages are not made. For example, there is no mention of enhanced information sharing on extreme weather events or climate risks in the Single Intelligence Analysis Capacity. More recently, the EU released a *Joint Communication in June 2023* outlining how it will respond to the impact of climate change and environmental degradation on peace, security and defence. This makes several mentions of food security and the wider geopolitical implications of the climate and food security nexus on "policy making, planning and operations" (EC 2023c).

While there is a high degree of alignment between European and NATO agendas on security, the EU has an understandably more comprehensive approach to climate change, which reaches far beyond security considerations, as a result of the EU's broad policy mandate on areas covering food security and agri-food issues, covering foreign policy, development cooperation and security, but also trade and agricultural policy. Through its external action and development cooperation, the EU has developed mechanisms for advanced external collaboration on food security, energy and security, focusing on adaptation in partner countries facing severe climate change challenges. For example, the EU has launched a *European Green Deal*[40], which includes initiatives to strengthen healthy and affordable food provisions as part of a wider ecological transition, but also policies such as the *Farm to Fork (F2F) Strategy,* which aims to reduce the environmental and climate impact of primary production whilst ensuring fair economic returns for farmers. These policies aim to strengthen internal adaptation responses and external collaboration. The *EU Climate and Defence Roadmap* (adopted in 2020) addresses food security sparingly and does not outline any concrete targets or recommendations regarding how the EU could address food insecurity due to climate change. Other parts of the EU machinery look at food security more closely in the context of (climate) disasters, support to agri-food systems and resilience (Interview (virtual), 12 January 2023). The European External Action Service (EEAS) includes a unit working on integrated responses to conflict and security, which includes climate change and food security. The Service for Foreign Policy Instrument (FPI), a shared service between the EEAS and the European Commission, is responsible for tackling both emergency and crisis situations, including food security across their interventions, which include support to peacebuilding and conflict prevention measures, but also in their conflict analysis. For the EU budget 2021 - 2027,

[40] The European Green Deal presented by the Commission also recognises the global climate and environmental challenges as significant threat multipliers and sources of instability. The ecological transition will reshape geopolitics, including global economic, trade and security interests. These challenges can become sources of conflict, food insecurity, population displacement and forced migration."

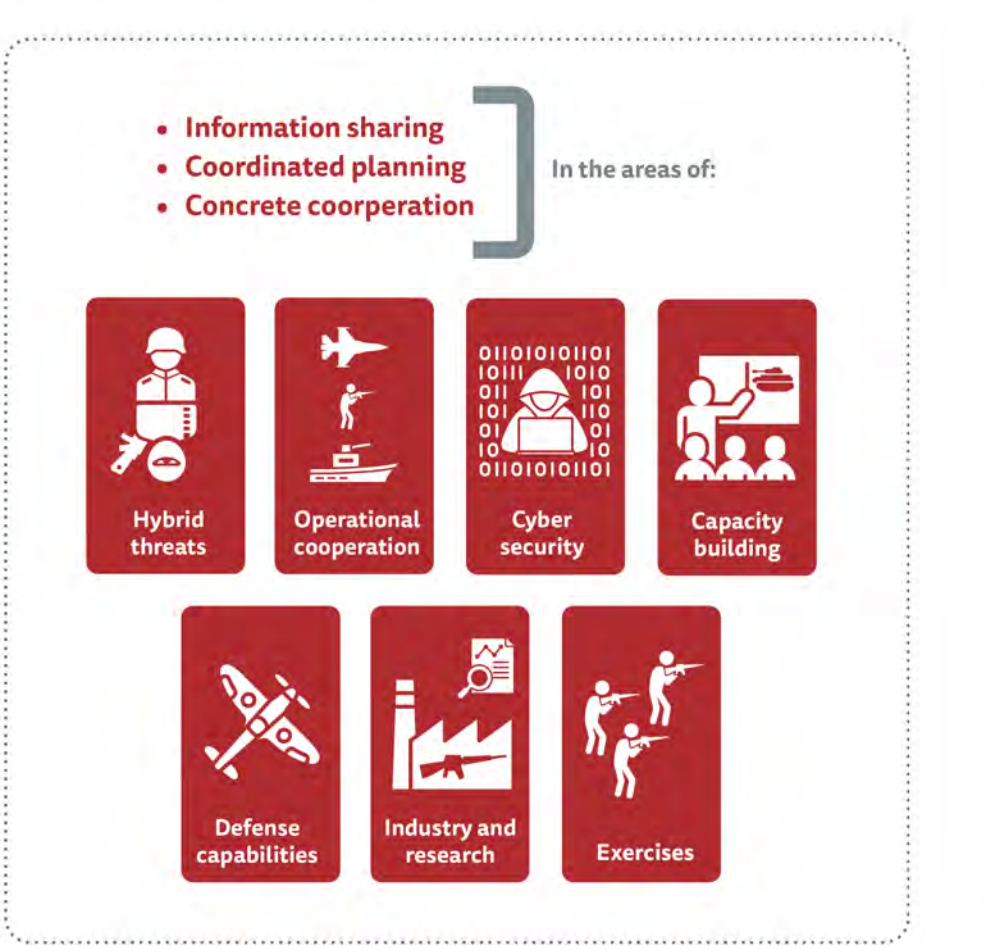
climate change has been identified as a priority action, and issues around food security are expected to be taken into account (EC 2021e), including as part of its programming covering Peace, Stability and Conflict Prevention. At the beginning of 2023, the EEAS went through a reorganisation of its different teams, including responding to new challenges, such as climate change, as identified in its new programming cycle for 2021-2027 (Interview, EU, March 2023) Several other Directorate Generals of the European Commission, notably on International Partnerships (DG INTPA), on Climate Action (DG CLIMA) and on European Civil Protection and Humanitarian Aid Operations (ECHO) also include food security issues extensively across their interventions and programming, notably in partner countries and regions, heavily anchored upon external and targeted collaboration.

Level of current cooperation between NATO and the EU

There exist several key factors that inform the current overall cooperation between the EU and NATO. At the level of policies, a key framework to understand EU-NATO cooperation is the 2016 Warschau Joint NATO-EU Declaration, between the presidents of the European Council, the Secretary General of NATO, and the President of the European Commission (see figure 9). In this Declaration, the institutional leadership of the EU and NATO vowed that the EU remained "a unique and essential partner for NATO" (EU-NATO 2016). Based on this Joint Declaration and against the backdrop of changes to the European security architecture (e.g., the United Kingdom leaving the European Union), seven concrete areas where cooperation between the two organisations should be enhanced were identified[41].

[41] These included 1. countering hybrid threats; 2. operational cooperation, including at sea and on migration; 3. cyber security and defence; 4. defence capabilities; 5. defence industry and research; 6. exercises; 7. supporting Eastern and Southern partners' capacity-building efforts.

Figure 9. EU NATO areas of enhanced cooperation based on July 2016 Joint EU-NATO Declaration



Source: Borrell 2020

To implement this joint declaration, a list of 74 common sets of proposals were endorsed by the EU and NATO Councils in December 2016 and 2017. Five progress reports have been submitted since then. Climate change was not included in this list of 74 measures. However, following the publication of the EU Strategic Compass and NATO Strategic Concept, respectively four areas of increased collaboration were identified, including climate change and defence. These were set out as key areas for increased cooperation in response to emerging threats in the NATO Agenda 2030, alongside threats from global competition, cyber security and disruptive technologies (De Maio 2021).

In January 2023, a third Joint Declaration on EU-NATO Cooperation was released. This highlights several key areas where cooperation will be deepened to address "geostrategic competition, resilience issues… the security implications of climate change, as well as foreign information manipulation and interference" (EU-NATO 2023a). Although the Declaration is primarily symbolic with no announcements or outcomes, it reinforces the priorities agreed upon in NATO's Strategic Concept

and the EU's Strategic Compass and encourages deeper exchange between the organisations and possible new joint projects (Monaghan et al. 2023).

Staff-level cooperation between the EU and NATO is primarily informed by the Warschau common actions agenda. Informal exchanges between EU and NATO staff are frequent and rich, according to interviewees (Interview (virtual), NATO, 24 November 2022; EU, 23 January 2023). While food security is not a main area of exchange (yet), climate change, in particular with regard to the impact of climate change on operational capabilities, is taking place. This, for example, takes shape in informal exchanges on monitoring trends and supporting situational awareness, including food security trends and how these can affect global and transatlantic relations. Interviewees noted that NATO's attention to climate change and food security is not new in terms of generating situational awareness reports and monitoring trends. They also mentioned that the impact of climate change on food security - but also, for example, on the disruption of critical supply chains and infrastructure - has been a fairly strong component of NATO monitoring and situation awareness (Interview (virtual), NATO, 24 November 2022; EU, 23 January 2023). This exchange of information has become easier as climate data, unlike other forms of data on security and defence, is often not confidential and can be shared between partners (Interview (virtual), NATO, 23 January 2023).

Beyond monitoring and sharing trends analysis, staff-to-staff exchanges between the EU and NATO also take place concerning operational planning, even if, for the moment, these exchanges remain largely at the conceptual stage. However, one interviewee noted that significant obstacles emerge when topics need higher political buy-in or further institutional embedding, given the ongoing political challenges at the level of NATO due to Turkey-Cyprus relations (Interview (virtual), NATO, 24 November 2022. The fact that Turkey does not recognise the government of the Republic of Cyprus seems to remain an important obstacle when an inter-institutional agreement between EU and NATO heads of state and government needs to be found. For the EU, 'inclusiveness' is a key principle with regard to decision-making procedures, meaning they do not accept formal meetings between the EU and NATO where Cyprus is excluded (Interview (virtual), NATO, 24 November 2022). Hence, several key EU-NATO agreements, including the Warsaw Declaration, are only signed by the institutional leadership of the EU and NATO, not by EU member states' heads of government.

Current gaps and limitations

Despite a certain convergence of a policy agenda on climate change, concrete discussions on comparative advantages and information and intelligence sharing between the EU and NATO are hindered by institutional blockages due to sensitivities between Turkey and Cyprus, as mentioned above. Intense exchanges at the operational level focus on discussing options for internal and domestic adaptation. There are also several stated agreements between the institutional heads of the EU, for example, between the NATO Secretary-General and the President of the European Commission, on tackling issues related to climate security. For example, in their third Joint Declaration, the EU and NATO agreed to deepen their cooperation to address climate security challenges (EU-NATO 2023b). But, decisions on sharing sensitive information, or sharing military

capabilities in the context of climate security interventions, or supporting humanitarian operations would require joint decisions by the heads of state and government of both organisations. According to interviewees, this seems unlikely, given the political tensions (Interview, NATO, November 2022; Interview, NATO, 23 January 2023).

Food security remains a fringe topic, at best included in context analysis on the possible impact of rising food insecurity on (geopolitical) stability. Discussions on the impact of food security on partner or third-party countries are also included in these analyses. Still, the extent to which these aspects are currently integrated into thinking about domestic adaptations are rather limited (Interview, NATO, January 2023). The increasing frequency and intensity of climate change impacts across member states and partner countries are likely to create food insecurity and social unrest in regions important to the security of Europe, including sub-Saharan Africa, the Middle East, and the Indo-Pacific. For example, Iran, Iraq and Lebanon saw an outburst of violence and protest in 2022 after extreme temperatures and drought caused food and water shortages (Sikorsky 2022a). The EU and NATO must avoid a rigid comparative approach to prioritise security risks (for example, deciding that China is a greater or lesser threat than climate change) and develop new frameworks to understand and evaluate cross-border climate impacts (Gilli et al. 2022).

Questions around internal adaptation and domestic resilience within the NATO membership are most frequently discussed. This relates primarily to the possible impact of climate change and food security on political stability broadly, including in third countries. Discussion on resilience and what measures NATO could take rarely discuss how NATO could intervene in third countries. Even concerning NATO member states, discussion around NATO's role focuses on sharing lessons learned and best practices rather than designing NATO interventions in this field. According to interviewees, however, the experience of NATO engagement in delivering humanitarian and food assistance in the aftermath of an earthquake in Pakistan in 2006 was an important precedent for future NATO interventions. This experience is seen as important in the assumption that there will be an increased demand for support from military actors and alliances such as NATO to protect and support civilian infrastructure. While there is uncertainty on when the war in Ukraine will end, short-term thinking and actions will threaten global efforts to significantly reduce emissions in line with international climate commitments. Amid conflict, governments within the EU and NATO face political pressures to reduce dependency and increase self-sufficiency in energy and food security (Benton et al. 2022). This often comes at the cost of climate commitments to mitigation and adaptation: on 20 September 2023 UK Prime Minister Rishi Sunak announced revised climate targets in part, to ease the cost of living crisis he said was generated by Russia’s invasion of Ukraine (Froggatt 2023). Yet the energy and food sectors are simultaneously the largest contributors, and the most exposed, to climate change. One must expect that the impacts of climate change will increasingly act as threat-multipliers, leading to sustained cross-border climate impacts and systemic risks (Benton et al. 2022). The EU-NATO partnership is critical in demonstrating sustained leadership in meeting climate objectives and cooperating to prevent duplication or contradiction in measures and avoid competition over member states’ resources (Blockmans 2018).

Opportunities for NATO and the EU to strengthen their approach to climate change and food security

Political leadership and climate diplomacy. The EU and NATO play an important role as values-based organisations. Both military and civilian leaders can tap into the political momentum generated by Russia's assault on Ukraine and engage in genuine and longer-term political dialogue on climate change and food security. The leadership of NATO Secretary General Jens Stoltenberg has been crucial in driving NATO's current posture towards climate change, but this in itself will not be sufficient, particularly as a new Secretary General will be selected in October 2024. Efforts must be made to maintain "standards of membership and behaviour that are higher than the lowest common denominator", perhaps by exerting pressure to allow both organisations to make progress on tackling sensitive issues (Krimi 2020). Notably, consistent and coherent EU-NATO dialogue through regular high-level and staff exchanges, joint declarations and communiqués, and trilateral partnerships can send a strong signal to withstand influence from external sources and prioritise implementing their respective climate objectives (Krimi 2020).

Investing in personnel will also be key; NATO and the EU can increase funding for staff structures responsible for devising strategies to address climate change and food security. They can also recruit and educate staff cross-institutionally to ensure that climate and food are not seen as compartmentalised work areas but rather permeate how both organisations conceptualise their security, mandate and operations (Lazard 2021). There is a growing public understanding of the interlinkages between pandemics, food insecurity and climate change; the political momentum, therefore, exists for stronger EU-NATO leadership, but it is difficult to know how long this trend will last (MSC 2022).

Exchange of best practices and lessons learned. Climate change is a transnational threat, and creating a learning-based network across the EU and NATO would help to add formal substance to the cooperation. Liaison committees and working groups can influence and shape each other's policies, procedures, and projects. Hybrid threats were previously a key area for reinforced EU-NATO collaboration leading to a technical partnership between the EU's Hybrid Fusion Cell and NATO's Hybrid Analysis Branch (Blockmans 2018). Using this same model, there is a route to collaboration for the EU and NATO's Climate Change and Security Centre of Excellence (CCASCOE), which is being operationalised in Canada in 2023. This centre provides a platform where experts from both sides can share best practices, lessons learned, and new ideas and produce training courses and multidisciplinary analyses on climate and food security (Government of Canada 2022). Bringing together typically siloed communities – technical, military and political – is key to ensuring complementarity and coherence. Dialogue on climate change will strengthen individual and collective regional security, and the EU could use its partnerships in third countries to facilitate the involvement of those in the global South most vulnerable to the impacts of climate change (Shea 2022). Importantly, the CCASCOE can act as a centre to coordinate between actors, foster synergies and empower member states to meet their adaptation and mitigation commitments (Farhan, Kossmann and van Rij 2023).

Assisting humanitarian aid and disaster relief operations. There is growing demand for governments to respond to climate-driven events, leading to the frequent

mobilisation of armed forces for humanitarian aid and disaster relief support. In 2022, several countries, including China, India, Uganda, the UAE and the USA used the rapid response capabilities of their militaries to respond to forest fires and flooding and to repair transport and power infrastructure in the aftermath of extreme weather events (Sikorsky 2022b). As natural disasters continue to overwhelm societies' capacities to cope, EU and NATO coordination and assistance will be increasingly sought after and become more important to maintaining peace and stability in affected countries. This could entail providing food, water and medical supplies in the aftermath of a disaster, border security operations, protecting vital infrastructure, or managing tensions over natural resources (King 2014). These shifts will compel a more strategic approach to collaboration on climate change and food security between the EU and NATO and must be factored into security considerations. Reactive responses to heatwaves and flooding, for example, will strain resources and leave both organisations less prepared to deal with conventional threats (Farhan, Kossmann and van Rij 2023).

Capacity building in partner countries. Capacity building in partner countries is an area where the EU and NATO have the most experience in establishing joint operations, particularly in the field of counterterrorism. In many of these countries, primarily across the Middle East and sub-Saharan Africa, EU and NATO officials have developed informal frameworks for information exchange and cooperation on tactical and operational levels (Mesterhazy 2017). The EU and NATO could integrate climate resilience training for military officials, strategic planners and policy staff in these countries, particularly in areas vulnerable to environmental degradation and natural resource conflict (Lazard 2021). Using this as an opportunity for collaboration would require a common strategy on climate change and food security and a shared understanding of potential limitations of the other's capabilities (Mesterhazy 2017). Attention should be paid to the local ownership and sustainability of this training. It is uncertain if local forces will have the appetite to continue focusing on climate change when their immediate concerns are addressing growing extremism and violence.

Countering disinformation. The recent Joint Declaration on EU-NATO Cooperation mentions the need to strengthen efforts against "foreign information manipulation and interference, " which applies to climate change and food security (EU-NATO 2023a). David Miliband, former British Foreign Minister and President of the IRC, stated that transatlantic partners must do more to address disinformation and scale up efforts to tackle food security because "globally more people are blaming the sanctions for rising food prices than are blaming the invasion [of Ukraine]" (MSC 2022). Experts have suggested that Russia capitalises on food and energy insecurities "to pit Western nations against one another in a blame game over who is responsible for the shortages" (Peters 2022). The spread of false reports of international manipulation of food supply is of particular concern as these beliefs can be more radicalising than conspiracy theories concerning vaccines or voter fraud: "If you lose an election, you can win it back… But when it comes to food, it becomes a matter of selecting who lives and who dies. And the threat of political violence becomes completely justified in the minds of certain people" (Peters 2022).

EU and NATO information officers have already been working together to counter disinformation campaigns aimed at undermining European and Euro-Atlantic solidarity and which portray the EU and NATO as ineffective

organisations through the European Centre of Excellence for Countering Hybrid Threats in Helsinki (Zandee 2021). This could expand and become ever more important in rebutting climate change denialism, disinformation and sensationalism from malign actors, particularly regarding the energy transition, the rising cost of food, and climate migration. Disinformation networks will increasingly use such narratives to exploit fears and vulnerabilities to sow dissent among citizens and create public unrest (De Maio 2020). The EU and NATO can use their role as trusted and reliable sources of information to perform an important role in countering disinformation from malign actors.

Conclusion and policy recommendations for better EU-NATO cooperation

The profile of EU-NATO cooperation on climate change and security has risen considerably in th. Climate change and security is collaboration a well-established area of working-level exchange between both organisations. The topic has been identified as a shared security challenge to tackle in the coming years. There are some high-priority areas of future improvement:

- **The EU and NATO could jointly push further efforts and investments in external and broad collaboration** as a response mechanism by strengthening third-country or partner resilience to climate change as part of their capacity-building in partner countries. This could be done by integrating climate change into training for military officials, strategic planners and policy staff in third-party countries or partner countries in a way that is localised and responds to the needs of partner country priorities and capabilities. Regarding domestic and internal adaptation and targeted collaboration, the partnership can also support the sharing of best practices on how climate and food security can be integrated into national strategies and resilience capabilities.
- **The EU and NATO should explore a more strategic approach** to their **targeted collaboration** and discussions on **domestic resilience and adaptation** to climate change and food security, especially with regard to humanitarian aid and disaster relief operations. Governments will be increasingly faced with pressure to respond to climate-driven events and will need to rely more and more often on the rapid response capabilities of their armed forces.

- **Through the CCASCOE, the EU and NATO should enhance efforts to bridge different communities** (technical, military and science) and establish an effective platform to generate sharing best practices and learning. This could further help strengthen efforts to consider more system-wide adaptation and establish **broad collaboration** within and outside the EU-NATO partnership. Strengthened knowledge and capacities among member states and partner countries would provide an important opportunity to build trust and cooperation across the political landscape of the EU and NATO. This development could also be a pathway to avoid duplication, improve coordination, and empower member states to prioritise implementing their climate objectives based on state-of-the-art research and knowledge exchange. This learning could be shared more widely with the broader climate community (UN agencies, international bodies, NGOs) where appropriate.
- **With a new incoming leadership of NATO by autumn 2024, the EU and NATO should consider ways to cement the institutional knowledge** in both organisations and support a sustained and open political dialogue on climate change and food security. This needs to be done at two levels. First, at the operational level, both organisations need to invest in staff capacity and increase funding for staff structures that support the EU-NATO partnership on climate security and food security. Secondly, at the political and diplomatic level, consistent and coherent EU-NATO dialogue through regular high-level and staff meetings, joint declarations and communiqués, and trilateral partnerships are needed to send a strong signal to help prioritise implementing their respective climate objectives. Appointing a 'champion' or 'special adviser' for climate change and security within NATO and the EU can help raise this partnership's profile.

Conclusion: Four challenges to building European system-wide resilience to cross-border climate impacts

Adapting and building resilience to cascading and cross-border climate impacts is imperative for Europe. The most effective approach is via system-wide adaptation and collaborative responses in partner countries, alongside domestic action and internal adaptation efforts. Ultimately, system-wide adaptation includes cases where the recipient targets interventions at the entire impact transmission system to build system-wide resilience (Talebian et al. 2023). In other words, adaptation is more short-term and action-oriented, while resilience is the long-term manifestation of robust adaptation.

The analyses in this compilation show that achieving system-wide adaptation, and ultimately system-wide resilience, requires a level of international cooperation currently missing from European adaptation efforts. Therefore, the EU and its member states are ill-prepared to meet the challenge of cascading and cross-border climate impacts. To recap, we outline the key lessons hindering system-wide adaptation and resilience detailed in the previous six chapters in box 5.

Box 5. Overview of the six case study chapters (Chapters 2 - 7)

Chapter 2 finds that the EU's commitment to supporting adaptation in agri-food systems in North Africa features in the regional strategies and (available) national programmes. However, European adaptation finance to the region is limited. As the EU may mobilise more adaptation-related finance via the Global Gateway initiative or innovative schemes, it will be important to ensure that smallholder farmers can benefit from this type of finance. Lastly, as long as adaptation is not established as a legitimate policy dimension within the EU's (agri-food) trade policies vis-a-vis North Africa, the EU cannot achieve system-wide adaptation and resilience.

Chapter 3, based on a case study of Burkina Faso, finds that a territorial approach that empowers local authorities and involves local communities in resilience-building processes would be a relevant component of a European approach to managing complex cross-border climate risks in the Central Sahel region. Enhancing the management of land and water resources, which are at the centre of inter-communal tensions that have destabilised the countries of this region in the aftermath of climatic shocks, requires legitimate, effective and accountable institutions responding to the needs of local populations and agri-food enterprises.

Chapter 4 finds that Germany faces favourable conditions for supporting the climate adaptation of agri-food systems in third countries. That said, there remain several ways in which Germany could make an even stronger contribution, including increasing overall funding, putting a stronger emphasis on climate adaptation (as opposed to mitigation), as well as further advancing the integration of climate action, development cooperation, and security policy and working towards further empowering field staff - in particular in fragile and conflict-affected situations.

Chapter 5 finds that Spain's development cooperation strategy has 'mainstreaming climate change' as a priority in its national and international policies. But, its climate-related strategies are outdated. Spain has yet to develop a specific development strategy that fully integrates adaptation to cross-border climate impacts involving agri-food systems. Likewise, it would benefit from a stronger integration of development cooperation instruments and enhanced capacities within the Spanish Agency for International Development Co-operation (AECID) and other relevant institutions to work with various stakeholders.

Chapter 6 finds that the EU and its member states are already strong supporters of key international humanitarian organisations working on the agri-food agenda. It also finds that these organisations are already taking action that supports resilience against cross-border climate impacts. But, to achieve system-wide resilience, a greater quantity and quality of financial commitments are necessary. And, there is a need for an increased focus on cross-border climate impacts within existing predictive tools.

Chapter 7 highlights that the EU-NATO partnership is centred upon bolstering domestic resilience to climate change and security impacts within EU and NATO member countries. Despite high-level commitments to addressing climate change in 2022, food security has not been given as much attention from both a strategic and operational perspective. Future areas of collaboration between the EU and NATO should include political leadership and climate diplomacy, exchange of best practices and lessons learned, assisting humanitarian aid and disaster relief operations, capacity building in partner countries, and combating disinformation. Jointly, these efforts could move the EU-NATO partnership to more inclusive collaboration to achieve system-wide resilience.

Through the various contributions in this compilation, a core argument emerges: the EU and its member states have a rich array of policy frameworks and instruments to support adaptation in agri-food systems in partner countries and to ultimately address cascading and cross-border climate impacts. However, there are gaps in the current European governance architecture and aid systems for addressing these impacts in agri-food systems.

By and large, four types of strategic problems for the EU and its member states block system-wide resilience: a lack of knowledge and tools, policy incoherence, ineptitude in diplomatic and cooperative endeavours, and inadequate finance. Therefore, the EU and its member states, individually, collectively and in cooperation with international organisations, could **develop, adopt and mainstream better responses and pre-emptive approaches to minimise**

cascading and cross-border climate impacts while simultaneously working on these four fronts.

Figure 10. Strategic challenges for Europe to build system-wide resilience to cross-border climate impacts

Chapters 2 until 7 in this compilation each ended with a list of concrete policy recommendations based on the research into specific geographies and sectors[42]. This has allowed reflecting on the broader lessons for the EU and EU member states as they grapple with building resilience to cross-border climate impacts. Based on these lists of policy options and the above-mentioned gap analysis, a few selected recommendations, derived from case studies above, are presented below. Alleviating these four strategic challenges is a key step towards more effective multi-level and multi-actor coordination and coordinated governance to more effectively support adaptation (see Chapter 1).

Knowledge and tools

Knowledge of how climate impacts occurring outside of Europe might affect the continent is still poor. Even less is known about what appropriate tools Europe could use and which measures to take or to address them (Hildén et al. 2020). The reason for these gaps in knowledge, and relatedly the inadequacy of tools to respond, can be attributed to the fact that cross-border climate impacts

[42] A forthcoming publication from the CASCADES project will also integrate the recommendations in this report. Townend, R., Aylett, C., and Benzie, M. 2023 forthcoming. Strategic recommendations for European resilience: adapting to cross-border, cascading climate risks. CASCADES Policy Brief.

create systemic risks, characterised by high complexity and uncertainty, non-linearity and tipping points (Talebian et al. 2023). Different cross-border climate impacts exhibit different characteristics and transmission dynamics, resulting in different types of risks and opportunities for European societies.

To look beyond probability and unpack complexity, Europe needs considerable investment in knowledge generation and appropriate tools. However, there is a general lack of investments in research and innovation (R&I) in climate science and data generation, as well as analytical and risk monitoring tools in the domain of cross-border climate impacts, hindering European policy-makers and other (private) actors to make calculations about climate impacts and how they may affect their interests.

The previous chapters proposed various tools and approaches to bridge knowledge gaps to effectively address cross-border climate impacts. For instance, the EU and its member states should invest in agri-food related R&I. Innovation to enhance productivity growth in the face of scarcity of water and arable land can allow for greater agricultural production in North African or Sahelian countries. Or, the EU and its member states can accelerate the mainstreaming of climate adaptation across development and other foreign policy strategies, as made clear in the chapters on Germany and Spain (Chapters 4 and 5). Lastly, together with international partners, such as NATO, Europe can push further efforts for integrating climate change into training for military officials, strategic planners and policy staff in these countries in a way that is localised and responds to the needs of partner country priorities and capabilities.

Policies and plans

Policy incoherence, affecting adequate adaptation action, remains a strategic problem for Europe. Responses to cross-border climate impacts are impeded by various types of "incoherence", including the incoherence between interconnected European policy domains or sectors, such as climate, development and security, that hamper system-wide adaptation in fragile contexts such as the Sahel, characterised by weak governance. Also, there is incoherence between the EU's Green Deal policies' external repercussions, such as the Farm-to-Fork policy, and policy objectives in partner countries (see Chapter 2). A key reason is that, in the complex context of cascading and cross-border climate impacts, it remains unclear who are the recipients and the owners of risks. As a result, for instance, it is unclear what the risk ownership and the adequate responses are of directorate generals within the European Commission, who may not immediately have a strong climate portfolio but whose policies may undermine or support system-wide adaptation.

Within the European policy-making realm, there is a general understanding that adaptation actions should not be limited to climate policies alone. Rather, they should be integrated into the entire policy mix, including trade, finance, development and security. The EU could, for instance, work towards a comprehensive nexus approach. Concretely, in the domains of development planning and resource management – encompassing land use, mobility, water, energy and waste – a nexus approach considers the sustainability of resources and climate resilience. In particular, the (positive or negative) effects of trade policies on vulnerability and adaptive capacity in agri-food systems must be better factored in policy-making.

In its cooperation with partner countries, the EU should focus on strengthening partner countries' capacities, governance systems and institutional capacity to overcome key barriers to effective and long-term adaptation (e.g., by working closely with local civil society) and also supporting decentralised governance systems and inclusion of local communities in responses to climate security risks, particularly in fragile regions. Lastly, it is key to support reforms to lift barriers to regional trade to allow for food imports that can compensate for crops lost to extreme climatic events.

Diplomacy and cooperation

Broad multi-level and multi-actor collaboration to respond to cascading and cross-border climate impacts is missing in Europe, despite the need for a "constellation of actors across the entire system, including public and private actors groups at transnational scale" to address the widespread risks created by cascading climate impacts (Talebian et al. 2023). The EU's climate diplomacy efforts are not yet geared towards reaching effective and joint responses to cross-border climate risks by both public and private actors.

The EU and the EU member states should use (climate) diplomacy to reach better coordinated and joint responses to cross-border climate impact to overcome the current sectoral fragmentation and institutional segregation. For example, the EU and its member states primarily engage with transboundary water cooperation through development cooperation. Instead, they could make better use of the diplomatic structures of the EU. In particular, to more effectively address transboundary water problems, which in some cases constitute major factors for agricultural production and food security, development and diplomacy need to come together. The EU Delegations' Heads of Mission can provide momentum for a joined-up "Team Europe" approach, and the political section and operations staff working together in EU missions and delegations can ensure a consistent and shared flow of relevant information and analysis. Similarly, European diplomatic missions could collaborate more effectively to support the cross-border mobility of populations in regions affected by climate-related natural disasters and the provision of humanitarian assistance and safety nets by governments and international organisations in those regions.. For the MENA region specifically, the EU and partners can support regional institutions like the Union for the Mediterranean (UfM) or the League of Arab States (LAS) that can drive regional integration and maintain political dialogue on climate change and its implications for regional stability, development and peace.

The EU and its partners can also **support governance reforms that empower local actors and rebuild institutional trust** among rural populations affected by climate change, political neglect, and insecurity. This was highlighted in the case of Burkina Faso (Chapter 3) where reforms towards a territorial approach to local development could go a long way in creating the conditions necessary for tackling the connected climate, security, and political crises in the Central Sahel.

Lastly, the EU should also move away from a 'single point of crisis', reactive approach to crises to one that works 'along cascades', considering compound crises and drivers of risk, both within the EU (DG ECHO) and international humanitarian organisations (IHOs). This type of reform can help move towards organisation-level responses that prioritise climate impacts as part of an overall risk management framework.

Finance

The EU's financial contribution to adaptation has grown over the years, but closing the adaptation finance gap remains a daunting challenge[43]. Over the years, climate finance has become one of the fastest-growing dimensions of EU external policy. In 2009, the EU committed €7.2 billion to its first formalised package of climate funding. Since then, climate finance has grown considerably and totalled €21.7 billion in 2018[44]. The Multi-Annual Financial Framework for 2021-2027 stipulated that a minimum of 30% of all EU funding should be spent on climate-related issues. In 2019, EU member states committed to increasing their contributions to the UN Green Climate Fund to help developing countries with energy transition: France, Germany and the UK all doubled their pledges. However, the EU is also accused of double-counting climate finance, and it is questionable whether public and private adaptation finance and their innovative blending schemes will effectively create resilience on the ground.

To tackle these last strategic challenges, the contributions in this compilation presented various ways for European actors, in cooperation with international bodies, to financially support adaptation and resilience-building to cross-border climate impacts originating in, or impacting agri-food systems in third countries. First, the EU and partners should increase climate adaptation finance in support of agri-food systems in partner countries. They can provide direct support to agri-food systems (e.g., promoting adapted seeds, greater water use efficiency in the agricultural sector, early warning systems, climate insurance, nature-based adaptation etc.) and indirect support by targeting enabling conditions for adaptation, such as legal structures that facilitate adaptation, access to resources for vulnerable groups, north-south cooperation on research, capacity building, and knowledge transfer. Furthermore, they can make use of innovative financing solutions, such as blending mechanisms, also to mobilise private capital for climate adaptation. It is also recommended that European partners augment the share of adaptation finance going to fragile countries and build additional capacities for climate- and conflict-sensitive programming in those contexts and for climate-related disaster risk financing. This can help make climate adaptation a more effective tool to address the security implications of climate impacts on food systems and agriculture.

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For many years, the EU has moved to incorporate climate policy goals at the heart of its external action. Compared to other policy areas, the EU's international climate diplomacy has been one of the most proactive and forward-looking aspects of the EU's global presence. The EU's influence has been strongest as a negotiator and agenda-shaper, rather than through the EU being able to externalise its climate ambitions and endeavours to other countries, including EU member states. The EU's climate budget, including for adaptation purposes, is sizable. But, focusing on its own emission targets, as set by the EU Green Deal in 2019, the EU has started to push for critical minerals required for low-carbon

[43] Globally, estimated annual adaptation needs are $160-340 billion by 2030 and $315-565 billion by mid-century. Currently, international adaptation finance 5 to 10 times below the estimated needs (UNEP 2022).

[44] See: https://aid-atlas.org/.

batteries and other technologies, even though this type of mining could create even more environmental damage. This is emblematic of the EU's inability - or, in some cases, reluctance - to take a comprehensive approach to climate geopolitics. This report discussed how the EU largely lacks a similar type of comprehensive approach needed for system-wide resilience in the face of cascading and cross-border climate impacts. The suggested pathways and recommendations presented in this report are an effort to guide the EU in developing a comprehensive strategy for the wider geopolitical impacts of climate change - a challenge that may come to dwarf all other international dilemmas in future years.

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