The Hague Centre
for Strategic Studies

Climate Security in Global Hotspots

Policy Options for The Netherlands

Authors: Dorith Kool, Laura Birkman

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Objective **of the report**

This report is a starting point for a more coherent and strategic interpretation of Dutch climate security policy in an international context. It analyses from a Dutch perspective where the most relevant and feasible opportunities for international cooperation on climate-related security lie. This was done by (1) developing an overview of existing international, EU, regional, and Dutch policy and instruments; (2) undertaking a data-driven assessment of hotspot countries of risk; and (3) designing a policy game to explore hands-on programming and collaboration opportunities for the Netherlands that can be adapted to different regional and contextual realities. These three steps provide Dutch policy and decision makers with a composite framework to support their efforts to manage, mainstream, and monitor Dutch-funded climate security programs and initiatives, taking into account vital security interests of the Kingdom of the Netherlands (including the Dutch Caribbean).

Executive Summary

Historically, the security policy landscape was reserved for policies focused on protecting and enhancing national security, such as defense and border control. Post-Cold War, new security dynamics evolved that underscored the need to look beyond national boundaries. Today, security risks are not limited to traditional 'nation state' concerns but also include 'people' concerns: i.e., the social, economic, political, and environmental aspects of human life. By extension, traditional security threat definitions focused on national security have come to include risks to people's livelihoods.[1]

The global climate crisis has brought an unprecedented push to the non-traditional realm of security. The US Council for Foreign Relations, for example, already recognized in 2007 that climate-related security risks have "far-reaching implications for the way the world manages peace and security", and that "climate actions to *adapt* and *mitigate* impacts can also have a negative effect on human security if mishandled."[2] It is now broadly acknowledged that climate change has a direct and indirect role in the onset of social unrest, political disputes, and violent conflicts. Efforts to respond, mitigate, and adapt to climate change should therefore take security concerns into account. Actions to combat climate-related security challenges require an integrated approach by a diverse group of actors that can address different aspects of the climate security nexus, including (international) diplomacy, development, defense, and disaster management.[3]

Definitions of the term 'climate security' vary. For purposes of this study, HCSS defines climate security as "interactions between change in global, regional, or local climate patterns and political, military, economic, and social risks/stresses to peace, security, and stability".[4] The term 'climate security' is sometimes referred to as 'climate-related security risks', 'climate-driven hazards', 'the security implications of climate change'. In this study, these and similar phrases are assumed to refer to the same thing: namely, the way in which climate change induces additional or new security risks.

In 2018, the Dutch parliament, responding to the recommendations developed by the Planetary Security Initiative (PSI),[5] recognized that integrating Dutch climate, development and security policies can better contribute to combatting the root causes of instability directly in countries at risk, and – indirectly – the impacts of broader instability on our national security.[6] Earlier that year, the parliament adopted the policy memorandum 'Investing in Global Prospects' recommending that more synergy in efforts should be made between Dutch-funded climate adaptation

1 Tobias van Lossow et al., 'Towards a Better Understanding of Climate Security Practices' (The Hague, Netherlands: Clingendael Institute, April 2021), 1.

2 Joshua Busby, 'Climate Change and National Security', no. Council on Foreign Relations (2007).

3 The integrated approach is often referred to in academic and policy circles as the '3D': Diplomacy, Defense, and Development. Disaster management was added as a fourth 'D' to take into account the increasing severity and complexity of climate-driven disasters.

4 Wyatt Scott, 'Climate Security: Building a Community of Practice', New America, 26 May 2021. While the term 'climate security' still invokes some semantic discussion among academics and policy makers, increasing attempts are being made to provide a mainstream definition. The definition used by HCSS is taken from the US think tank New America, who proposed a new definition in May 2021 based on existing definitions developed by the UN, NATO, EU, SIPRI, Adelphi, Clingendael, and Mercy Corps.

5 Planetary Security Initiative, 'About Us | Planetary Security Initiative', Planetary Security Initiative, 2015. The Planetary Security Initiative was launched in 2015 and sets out best practice, strategic entry points and new approaches to reducing climate-related risks to conflict and stability, thus promoting sustainable peace in a changing climate.

6 Tweede Kamer der Staten-Generaal, 'Motie van Lid van Ojik (Kamerstuk 35000 V, Nr. 23)' (Tweede Kamer der Staten-Generaal, 15 November 2018).

programs and conflict prevention activities, and translating these into action in countries of risk, specifically focusing on ongoing Dutch efforts in Mali.[7] To support this in the longer term, the Dutch government also committed itself to structurally take into account climate resilience and conflict sensitivity in both Dutch development cooperation policy and security policy.

The above efforts provide an important first step for a more integrated Dutch climate security policy. However, translating them into action requires more. Many Dutch development objectives, for example, are not yet linked up with Dutch security policy and defense mandates. Similarly, while much work has been done to align sustainability with development objectives, development programs and initiatives relevant for climate security action tend to focus on specific challenges.

The climate security policy landscape

To identify priorities and possible opportunities for Dutch engagement on climate security issues, we provide an overview of international, EU, and Dutch policy and instruments addressing, directly or indirectly, the ecological, social, and economic impacts of climate change. As dealing with the security implications of climate change requires an integrated and whole-of-government approach that addresses the different types and stages of climate-security impacts, the study team has looked at current policy and practice in the field of disaster response and management, mitigation, adaptation (including development), and security.

Based on the overview, we derived the following key takeaways on the current state of climate security policy and practice at international, EU and Dutch levels:

1. There is a growing ambition to better understand and address climate security risks at the international, EU, regional levels and in the Netherlands. However, the translation of this ambition into concrete action is lacking at all levels.

2. States are scaling up financing to support developing countries that lack the social, lack the social, infrastructural, and financial capacity to manage climate shocks and/or are forced to prioritize ad-hoc, short-term challenges. However, financing remains insufficient and a stumbling block to effective climate (security) action.

3. Increased concerns with the security dimension of climate change has led to a greater focus on the role of the defense sector and the military in better understanding and mitigating climate-induced insecurity, including through research, decision-making, and action.

4. Given the cross-border impact of climate-related security risks, regional cooperation and partnerships are increasingly relevant. While there is clear regional-level ambition, there are also impediments to coordination and cooperation including tensions between member states national interests and regional interests.

5. The Netherlands is committed to addressing climate-related security risks to its vital security interests, as underlined in its policies on development cooperation, climate change, and security. The integration across policy fields relevant to the climate-security nexus remains inadequate within Dutch policy, however, and climate-security is not an explicit field with dedicated policy, budget, and activities.

7 Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects' (Netherlands Ministry of Foreign Affairs, May 2018); Tweede Kamer der Staten-Generaal, 'Investeren in Perspectief – Goed Voor de Wereld, Goed Voor Nederland (34 952, Nr. 1)' (Tweede Kamer der Staten-Generaal, 18 May 2018).

Data-driven assessment: **Identifying hotspot countries and regions of risk**

The data-driven risk assessment uses quantitative data to assess and rank countries based on **potential impact** and **feasibility** for collaboration**.** Potential impact comprises two aspects. First, a country's risk of experiencing climate-related insecurity. And second, how that insecurity may negatively affect Dutch vital security interests. Feasibility is characterized by international opportunities for collaboration and socio-economic development opportunities to counter or mitigate the climate-related security risks and their consequences. Countries identified as 'relevant countries of risk' include countries that face medium to high climate-related security risks that have an effect on the vital security interests of the Kingdom of the Netherlands, and with whom collaboration is feasible based on existing relations and practice.

The resulting ranking of hotspot countries enables policy makers to identify which countries can be feasibly supported via ongoing Dutch-funded programs focusing on achieving the sustainable development goals and other areas relevant for addressing climate change and related security risks. The plotting graph below provides the results of the data assessment at a country-level.

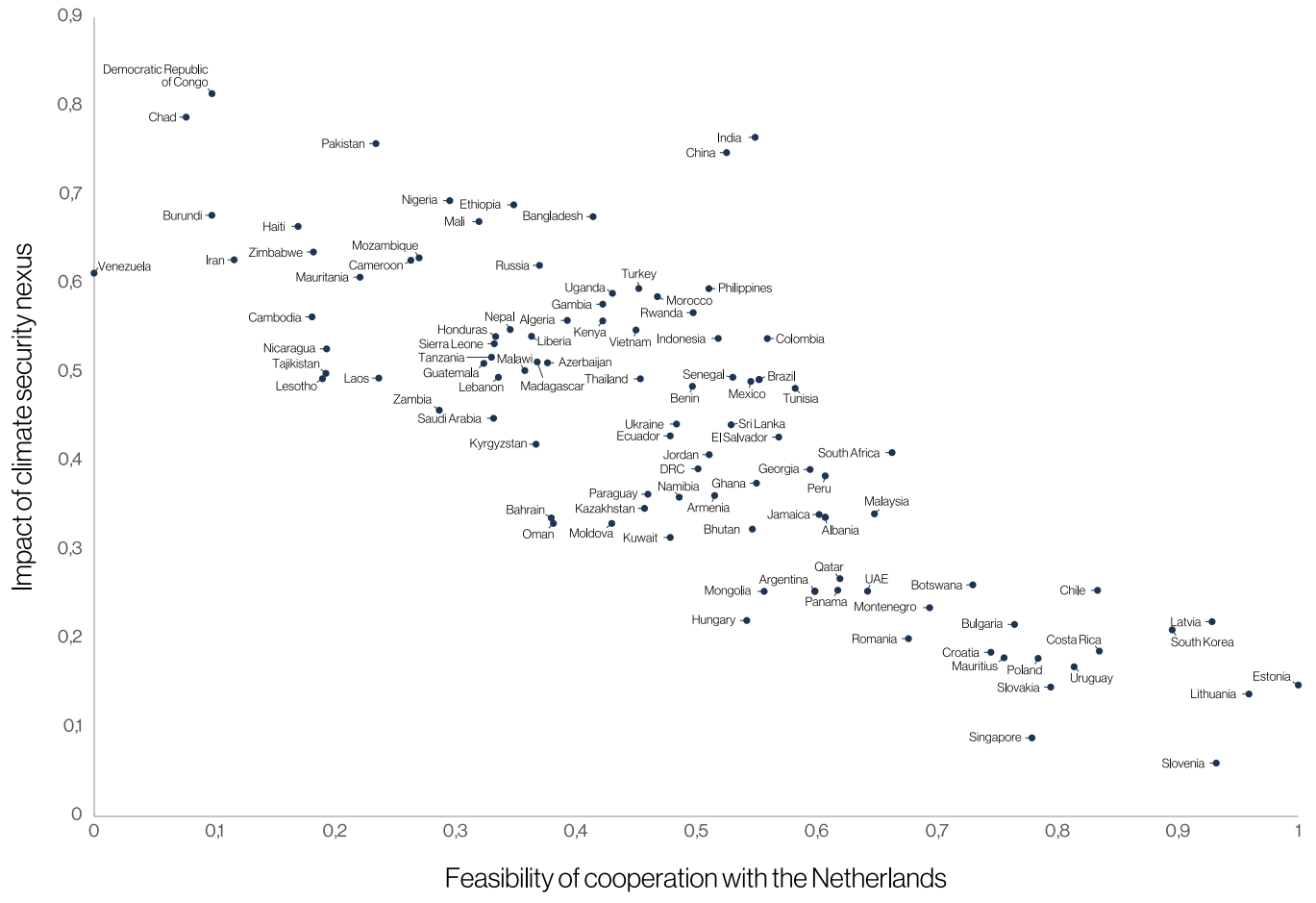

Figure 1: Potential for cooperation with the Netherlands. Source: HCSS

Using the initial ranking of 'hotspot' countries of risk, the study team mapped broader clusters of countries in regions that are both at high risk of climate insecurity and feasible for the Kingdom of the Netherlands to work with, taking into account current policy and programming priorities. The resulting seven clusters are illustrated below. Given the context-specific nature of climate-related security challenges, this regional overview provides a useful initial reference point for broader Dutch cooperation efforts, including ongoing EU and UN initiatives, and NATO missions.

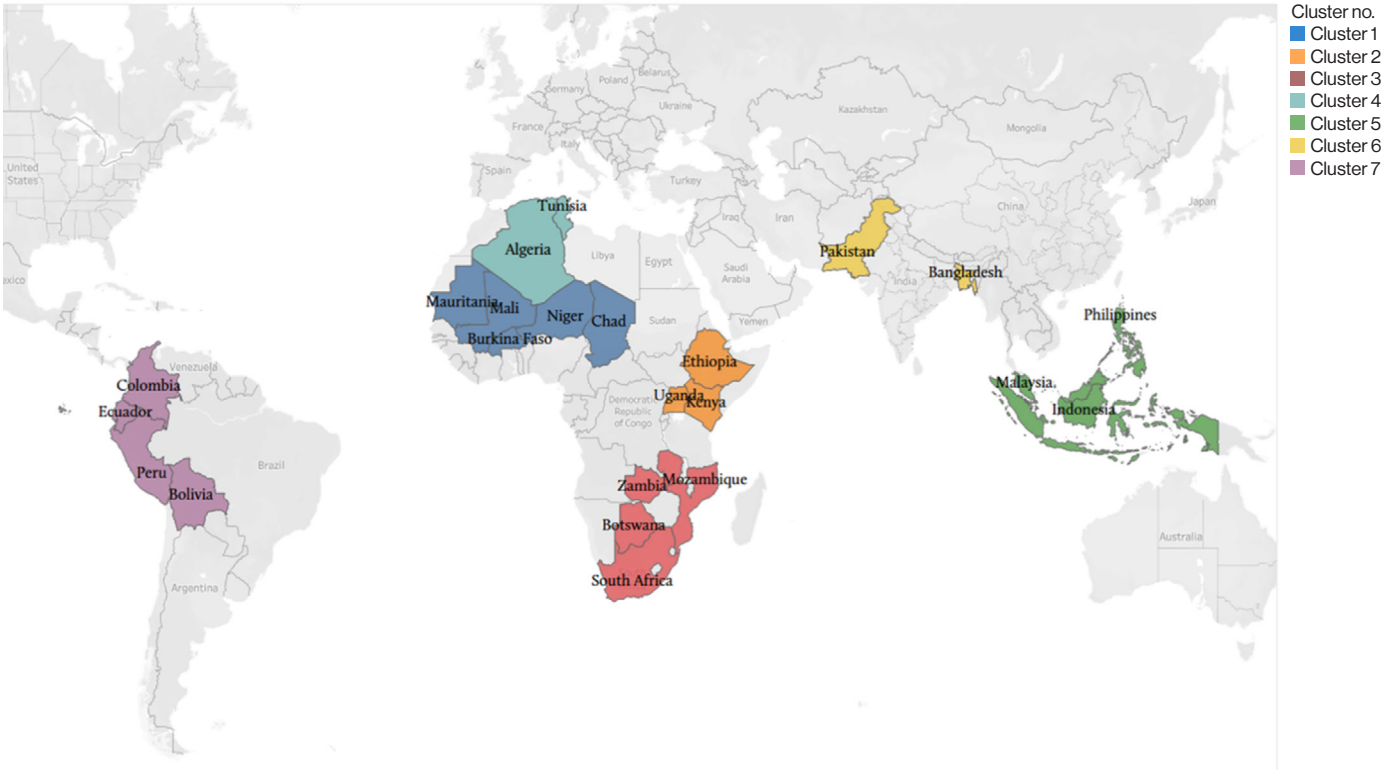

Figure 2: Mapping of country clusters. Source: HCSS

Case study:
Developing insights from the G5 Sahel

Based on the country cluster mapping, the G5 Sahel cluster comprised of ***Mali, Chad, Mauritania, Niger, Burkina Faso*** (Cluster 1) was selected as a case study to get a better understanding of concrete activities that the Netherlands could undertake to address the climate-related security risks in the Sahel region, and inform and support the design of the game-driven analysis. It provides a starting point for the identification of gaps in current engagement, opportunities for the Netherlands to strengthen and expand its climate security policy and step-up relevant action with (potential) local and international partners. While the case study focuses on the Sahel context, it serves to provide broader insights about Dutch climate-security action and generic conclusions and recommendations that are relevant beyond the Sahel context. The Figure below provides a summary overview of the four key observations coming out of the case study analysis and our corresponding recommendations.

Observation 1 The framework of development and security initiatives is fragmented.	• The NL can apply its expertise in inter-agency coooperation, and stakeholder involvement to foster dialogue between different parties
Observation 2 EU and international initiatives are too focused on state capacity building.	• The NL can contribute to reinforcing the local capacity building of existing intiatives with its expertise in social capabilities
Observation 3 Broader macrotrends as urbanization and population growth are confounding factors for climate security risks and require specific capabilities.	• The NL can contribute to eliminating these risks by investing in capabilities that remain currently underexplored in the Sahel, such as Urban resilience, or Building of Infrastructures: Dams
Observation 4 Military security intiatives are mainly focused on short-term hard-security goals, and inadequately consider long-term climate security risks in practice.	• The NL can stimulate awareness of climate trends on security issues in defense initiatives, and lobby for an inclusive mandate of (future) missions • Through its military initiatives the NL can contribute to further climate adaptation, by taking climatic trends into account in their work on innovation, civil resilience and capacity building.

Figure 3: Case study Sahel: observations and recommendations. Source: HCSS

Game-driven analysis:
Designing smarter programs for increased impact

In a third and final phase, the study developed a game-driven analysis designed to identify concrete opportunities for strengthening ongoing Dutch-funded programs and activities in 'hotspot' countries of risk, and explore possible cooperation options for prioritized climate security mitigation capabilities. Mali was selected as a country of focus based on the outcome of the data-driven assessment and ongoing Dutch development priorities, vital security interests, and ongoing defense commitments.

To initialize this work, three preparatory steps were taken. First, the game's analytical framework was developed based on the climate-related, context-specific challenges - hazards and their effects - of the region. Second, the study team made an inventory of Dutch-funded programs and initiatives defined during the Rutte III administration (2017-2021). Third, a set of 'climate security capabilities' was selected that capture the Netherlands abilities to support and/or otherwise collaborate on climate security challenges in Mali.

Based on these preparations, HCSS organized two trial runs to validate and align the game's analytical framework with policy experts from the Ministries of Foreign Affairs and Defense. Specifically, players were asked to select, map, and prioritize Dutch 'capabilities'; and introduce new 'capabilities' if any were deemed missing. The trial runs were followed by a 'real' game with a broader group of policy makers to test the game's broader added value for defining climate security policy and practice. This was done with experts from the Netherlands Ministries of Foreign Affairs and Defense.

Four key takeaways of the game-driven analysis are summarized below:

1. The **pre-game inventory** of ongoing Dutch-funded programs shows that several relevant climate security capabilities are currently being addressed by the Dutch government in its programming efforts. This includes gender inclusiveness and conflict sensitivity. Other capabilities frequently addressed by Dutch programs include agricultural planning, public support / communication and information campaigns, inter-agency, and multilevel cooperation. Capabilities that are supported less often across programs include (re)forestation and urban resilience.

2. The **mapping and prioritizing of Dutch climate security mitigation capabilities** provides insights into the alignment (and divergence) of ongoing programs in Mali. The game participants placed a priority on capabilities that only partially overlap with those used in existing programs. This means that some capabilities that were addressed frequently were also considered priority areas by participants, other frequently addressed capabilities were not considered a priority, and/or capabilities considered priorities were not addressed frequently.

3. **Some 'capabilities' lend themselves better to defining cooperation options than others**. For example, the capability 'food security' offered several cooperation options for the Netherlands including in the areas of research, development & innovation, education & training, legal and regulatory support, planning monitoring & operations, and finance and resources. Identifying the various cooperation options also gave insights into possible

opportunities for creating and strengthening synergies between programs. It also provided guidance as to how and where different stakeholders can work together to achieve shared objectives.

4. **Different types of actors can be involved**. There is no cookie-cutter approach to cooperation. Cooperation opportunities depend on the specific climate-security risk, the required capability, and specific cooperation options. Some cooperation options focus more on government entities such as the Netherlands and potential partner countries' Ministries of Foreign Affairs and Defense or the EU, while others focus more on non-governmental or public-private stakeholders.

Conclusions and Recommendations

This study is a first step towards a more coherent and strategic interpretation of Dutch climate security policy in an international context. It analyses from a Dutch perspective where the most relevant and feasible opportunities for international cooperation on climate-related security lie. The analysis in this report is intended to support Dutch efforts to define more concrete actions and cooperation opportunities to address international climate security challenges.

Following the study's composite approach comprised of a policy overview, data-driven risk assessment and game-driven analysis, the study arrived at the following **conclusions**:

1. There is a **lack of conceptual clarity** on the definition of climate-related security. Few policy documents explicitly outline the pathways by which climate change can have security implications, such as poverty and injustice. Climate-related security falls in the gaps between the responsibilities, mandates and capabilities of different ministries and institutions, who tackle some aspects of the climate-security nexus, but not all.

2. Efforts within climate change mitigation, disaster risk reduction, adaptation, and sustainable development apply **siloed approaches** to climate security action, whereby each field applies different approaches and funding and operates within separate communities of practice. The step to turn policies into action and structurally integrate climate considerations into existing security practice has also fallen short.

3. While there is strong political momentum, the international and European policy community has been more focused on achieving its internal climate objectives than on integrating climate security into its foreign policy and practice. There is a growing effort in this regard, yet there is **little consensus on what and how concrete measures can be enacted.**

4. The **defense community has focused on (relatively) narrow climate-security objectives** such as greening its forces and strengthening disaster response. The tide is changing, however, and the defense community is beginning to integrate climate security factors more structurally and systematically into its military operations.

5. Dutch-funded **development programs and defense missions do not adequately take into account climate-related security challenges**. Fragile states in particular would benefit from a climate-proof development approach, as climate related shocks and extreme weather patterns put further pressures on its social and economic systems leading to further poverty and potentially protracting and exacerbating existing and emerging conflict.

6. Data-driven risk assessments and game-driven exercises are **useful supporting tools to achieve national and international climate security objectives**. Climate risk assessment methodologies provide an objective lens to identify countries and/or regions where the Netherlands should focus its resources. Game-driven foresight exercises facilitate the definition of existing and required capabilities to tackle climate-related security challenges. They also help with the identification of regional and international partners that could support the Netherlands in achieving broader impact.

Building on the study's general conclusions, the following recommendations provide a booster for Dutch policy and decision-makers to strengthen the Netherlands' contribution to climate security policy and practice. They are grouped into three levels: (1) pre-engagement; (2) engagement; and (3) monitoring and evaluation.

Pre-Engagement

- **Develop and strengthen a needs-based policy and programming approach** by coupling data-driven climate security assessments with existing Dutch policies, programs, and capacities to determine immediate added value of (possible) Dutch intervention. The underlying variables and indicators should be updated on a yearly basis, so that focus areas can be re-assessed regularly, considering fast-changing global, EU, and regional trends and developments.

- **Integrate climate security concerns into Foreign and Defense policies.** Integrate climate security considerations across foreign policy and long-term strategic engagements and move beyond the focus on the short-term response to the climate crisis. The military should incorporate more climate-related factors into its risk assessments, operational planning, and engagements in fragile and conflict-prone regions to enhance early warning capabilities and the prevention of conflicts.

- **Develop a comprehensive ecological security strategy** that integrates the Dutch National Security Strategy, Defense vision 2035, and Integral Migration Agenda with existing Dutch policy focused on addressing both the 'national' (state-level) and 'human' security impacts of climate change as well as emerging climate-related security risks, including climate-induced migration. This requires a broader inter-departmental collaboration effort.

- **Understand the complex role of governance.** Develop a better understanding of the role of governance in climate-security challenges and continue to invest in locally supported efforts. Militaries often engage directly with government security actors with poor governance and human rights records that may exacerbate climate-related security risks. At the same time, defense could play a key role in enhancing climate security efforts in highly fragile countries, regions that are currently underserved because it is too dangerous for humanitarian organizations to operate.

Engagement

- **Strengthen European Cooperation**. Climate change and its security impacts is a challenge that crosses borders and impacts EU member states unequally but requires a collective response to be effective. This requires that the EU have a shared definition of the climate-security nexus and develop synergies to address the siloed policy & action across the 4D Community (diplomacy, development, defense, disaster management).

- **Strengthen cooperation with at-risk 'hotspot' countries.** Countries at high risk of climate insecurity are often fragile and lack the necessary resources and capabilities required to mitigate and adapt to climate change. To prevent climate change from becoming a security issue with cross-border implications requires supporting these countries in their ability to respond effectively and prevent climate change from becoming a security threat.

- **Support regional efforts.** Many 'hotspot' areas already have policy instruments in place to implement climate security action at a regional level. Climate-related security risks do not stop at country borders and often have spillover effects to bordering countries and in the broader region. To prevent, or at least minimize these spillovers, requires a joint climate security approach. The Netherlands should support these regional initiatives and strengthen countries' resilience and ability to respond to climate-security challenges without being dependent on foreign interventions.

- **Develop further inter-sector partnerships** with business, civil society, and knowledge institutes to support Dutch capability development across the climate security nexus focused on prevention, preparedness, and response. Encourage a 'whole of society' resilience building approach towards climate security challenges moving forward.

Monitoring & Evaluation

- Monitor progress of ongoing programs and projects with country coordinators and thematic experts of the relevant Ministries on an annual basis via a **more informal and more flexible evaluation mechanism** such as the HCSS gamified analysis adopted in this study. The Embassy network of the Netherlands Ministry of Foreign Affairs could play a more active role in this regard as well.

- **Build on the best practice model** developed recently by Clingendael[8] in at-risk regions and explore opportunities for expanding the inventory in other thematic areas relevant to addressing the climate security nexus. Use the inventory to scale successes based on at-risk country needs, the feasibility of cooperation and Dutch capabilities.

- Use the HCSS game-driven analysis framework to **support policy makers efforts to translate climate security objectives to action**. This can be done by mapping and integrating ongoing Dutch-funded social, economic, and ecological development initiatives and programs, and identifying gaps and opportunities for addressing climate security challenges.

- **Foster coherence in Dutch policy, programs, and initiatives** that touch upon the climate security nexus. The game-driven analysis could be used to link and/or integrate the programs being implemented under the current Theories of Change developed by DGIS. Use the analytical framework of the policy game developed in the study to identify synergies across Theories of Change.

8 van Lossow et al., 'Towards a Better Understanding of Climate Security Practices'.

1 Introduction

Historically, the security landscape was reserved for policies focused on safeguarding national security, such as defense and border control. After the Cold War, new security dynamics evolved that underlined the importance of looking beyond national boundaries. Today, security risks are not confined to traditional concerns over the 'nation state' and include 'people' concerns: i.e., the social, economic, political, and environmental aspects of human life. Traditional definitions of security threats that focused on national security now also include risks to people's livelihoods.[9]

The global climate crisis has brought an unprecedented push to the non-traditional realm of security. The US Council for Foreign Relations, for example, already warned in 2007 that climate-related security risks have "far-reaching implications for the way the world manages peace and security", and that "climate actions to *adapt* and *mitigate* impacts can also have a negative effect on human security if mishandled."[10] It is now broadly recognized that climate change has a direct and indirect impact on the onset of social unrest, political disputes, and violent conflicts, and that efforts to respond, mitigate, and adapt to climate change must consider these security concerns.

Definitions of the term 'climate security' vary. For purposes of this study, climate security is defined as "interactions between change in global, regional, or local climate patterns and political, military, economic, and social risks/stresses to peace, security, and stability".[4] The term 'climate security' is sometimes referred to as 'climate-related security risks', 'climate-driven hazards', 'the security implications of climate change'. In this study, these and similar phrases are assumed to refer to the same thing: namely, the way in which climate change induces additional or new security risks.

Although environmental factors are seldom the direct cause of violent conflict, it is broadly accepted that climate change acts as a threat multiplier by heightening existing pressures and underlying drivers of instability that can trigger the onset of violence both within and between states. Research shows that climate change is linked to an increased likelihood of conflict, particularly in conflict-ridden and ethnically fractionalized countries. Between 1980-2010, about 23% of conflict outbreaks in ethnically highly fractionalized countries coincided with the effects of climatic changes (e.g., droughts, heat waves).[11] The impact of these developments is not limited to country borders or regions. Climatic change may also act as a stressor in more stable regions if climate-related social and economic vulnerabilities remain unaddressed. The proliferation of transboundary climate migration pressures stemming from increased internal migration, for example, is a serious concern of the European Union.[12] Developing an appropriate response and more importantly, helping vulnerable societies prevent, mitigate, and adapt to climate change related pressures is essential.

9 Tobias van Lossow et al., 'Towards a Better Understanding of Climate Security Practices' (The Hague, Netherlands: Clingendael Institute, Planetary Security Initiative, April 2021).

10 Joshua Busby, 'Climate Change and National Security' (New York, United States: Council on Foreign Relations, 2007).

11 Carl-Friedrich Schleussner et al., 'Armed-Conflict Risks Enhanced by Climate-Related Disasters in Ethnically Fractionalized Countries', *Proceedings of the National Academy of Sciences* 113, no. 33 (2016): 1.

12 European Commission, 'Overview of Natural and Man-Made Disaster Risks the European Union May Face' (European Commission, 22 March 2021).

In 2018, the Dutch parliament, responding to the recommendations developed by the Planetary Security Initiative (PSI),[13] recognized that integrating Dutch climate, development and security policies can better contribute to directly combatting the root causes of instability in countries at risk, and – indirectly – the impacts of broader instability on our national security.[14] Earlier that year, the parliament adopted the policy memorandum 'Investing in Global Prospects', recommending that more synergy in efforts should be made between Dutch-funded climate adaptation programs and conflict prevention activities, and translating these into action in countries of risk, specifically focusing on ongoing Dutch efforts in Mali.[15] To support this in the longer term, the Dutch government also committed itself to structurally take into account climate resilience and conflict sensitivity in both Dutch development cooperation policy and security policy.

The above efforts provide an important starting point for a more integrated Dutch climate security policy. However, translating them into action requires more. Many Dutch development objectives, for example, are not yet linked up with Dutch security policy and defense mandates. Similarly, while much work has been done to align sustainability with development objectives, development programs and initiatives relevant for climate security action tend to focus on specific challenges (e.g., theories of change[16]).

This study is a first step towards a more coherent and strategic interpretation of Dutch climate security policy in an international context. It analyses from a Dutch perspective where the most relevant and feasible opportunities for international cooperation on climate-related security lie. This was done by (1) developing an overview of existing international, EU, regional, and Dutch policy and instruments; (2) undertaking a data-driven assessment of hotspot countries of risk; and (3) designing a policy game to explore hands-on programming and collaboration opportunities for the Netherlands that can be adapted to different regional and contextual realities. These three steps provide Dutch policy and decision makers with a framework to support their efforts to manage, mainstream, and monitor Dutch-funded climate security programs and initiatives, taking into account vital security interests of the Kingdom of the Netherlands (including the Dutch Caribbean).

The report is structured as follows. In chapter 2 we present the study objectives and research design. Chapter 3 presents an overview of existing international, EU, regional, and Dutch policies pertinent to address climate security challenges. Chapter 4 details the data-driven risk assessment and the resulting rankings of countries that have a high climate security risk and offer a good cooperation opportunity for the Netherlands. To provide a more contextual understanding of the required capabilities in regions at risk, Chapter 5 zooms in on the climate security situation in the G5 Sahel. In Chapter 6, a game-driven analysis is presented to map Dutch-funded programs and initiatives relevant for addressing climate security in

13 Planetary Security Initiative, 'About Us | Planetary Security Initiative', Planetary Security Initiative, 2015. The Planetary Security Initiative was launched in 2015 and sets out best practice, strategic entry points and new approaches to reducing climate-related risks to conflict and stability, thus promoting sustainable peace in a changing climate.

14 Tweede Kamer der Staten-Generaal, 'Motie van Lid van Ojik (Kamerstuk 35000 V, Nr. 23)' (Tweede Kamer der Staten-Generaal, 15 November 2018).

15 Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects' (Netherlands Ministry of Foreign Affairs, May 2018); Tweede Kamer der Staten-Generaal, 'Investeren in Perspectief – Goed Voor de Wereld, Goed Voor Nederland (34 952, Nr. 1)' (Tweede Kamer der Staten-Generaal, 18 May 2018).

16 Ministerie van Algemene Zaken, 'Theory of Change Ontwikkelingssamenwerking', Rijksoverheid (Ministerie van Algemene Zaken, 8 November 2018). The Netherlands has adopted theory of change development programs focused on, inter alia, integrated water management, food security, societal resilience, gender inclusiveness, and economic development. While all of these topics are relevant for climate action, they are not integrated to achieve climate security objectives.

Mali and derive general insights. The final Chapter 7 presents the broader study results and the concluding recommendations. The study has four annexes: a methodological note of the data-driven assessment (Annex A), a mapping of the policy underlying the policy overview (Annex B), an elaborated case study of climate-related security risks in the G5 Sahel region (Annex C), and a list of capabilities defined for the game-driven analysis (Annex D).

2 Study Objectives and Research Design

The overarching aim of this study is to provide a structured approach and methodology to inform the policy-making process and manage, mainstream, and monitor Dutch programs and initiatives that support climate security objectives in countries of risk. In consultation with the policy staff involved from the Ministry of Foreign Affairs and Defense, the study team defined the following study objectives:

- Identify 'hotspot' countries of risk especially vulnerable to climate-related security risks, in particular if those risks may negatively affect the vital security interests of the (Kingdom of) the Netherlands (including the Dutch Caribbean).
- Develop a method to assess the feasibility of Dutch cooperation with these 'hotspot' countries.
- Identify clusters of 'hotspot' countries, and countries in their region, that offer the most opportunity for cooperation on climate-related security risks.
- Explore opportunities for cooperation in a selected country cluster (as test use case) across thematic areas relevant to address climate-related security challenges.
- Provide further insights into Dutch programming activities in a 'hotspot' country (as an example) and identify opportunities for strengthening current activities and/or identifying new ones.
- Deliver general recommendations for Dutch engagement and cooperation on climate-related security risks in relevant hotspot countries.

This study follows three steps. Firstly, developing an overview of existing international, EU, regional, and Dutch policy, and instruments; secondly, undertaking a data-driven assessment to identify hotspot countries of risk; and thirdly, designing a policy game to explore concrete programming and cooperation opportunities for the Netherlands that can be adapted to fit different contexts. The approach is summarized in Figure 4 below.

Policy Overview
The Climate Security Landscape

Overview of international, EU, regional, and the Netherlands policy and instruments relevant to the climate-security nexus

→ Across the field's disaster response and management, mitigation, adaptation (including development), and security

→ **Output:** Key takeaways on the current state of climate security policy and practice at the international, EU, regional, and Netherlands' levels

Data-driven Assessment
Identifying Hotspot Countries and Regions of Risk

Country climate-related security risk and threat to the vital security interests of the (Kingdom of) the Netherlands (Impact)

→ Visibility of cooperation with the Netherlands

→ Level of opportunity for a cooperation

→ **Output:** Ranking of countries of risk and clustering of highest potential countries

Game-driven Analysis
Designing Smarter Programs for Increased Impact

Selection of case study

→ Mapping the Netherlands capabilities across climate-security nexus themes

→ Prioritising capabilities

→ Identification of cooperation opportunities

→ **Output:** General recommendations for cooperation on climate-related security risks

Figure 4: Three-Step Approach.

3 The Climate Security Policy Landscape

This chapter provides an overview of international, EU, regional and Dutch policy and instruments addressing, directly or indirectly, the climate security nexus. It serves to support the identification of current and potential policy priorities on climate-related security challenges. As combating the security implications of climate change requires an integrated and whole-of-government approach[17], climate-related policies and instruments are included from across the fields of disaster response and management[18], mitigation[19], adaptation (including development),[20] and security and the associated stakeholder community from the international diplomacy, development, defense, and humanitarian sector.[21] A mapping of relevant policy and instruments can be found in Annex B.

3.1 International & EU Policy and Instruments

This section addresses multilateral (especially UN) and EU policy and instruments relevant for addressing challenges related to the climate security nexus. These policies and instruments provide an important reference and baseline for the development of Dutch policy and identifies potential cooperation and intervention opportunities for the Netherlands in countries of risk.

17 van Lossow et al., 'Towards a Better Understanding of Climate Security Practices', 1.

18 United Nations Office for Disaster Risk Reduction, 'Disaster Risk Management', United Nations Office for Disaster Risk Reduction, 2020. "Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses."

19 United Nations Environment Programme, 'Mitigation', United Nations Environment Programme, 14 September 2017. "Climate Change Mitigation refers to efforts to reduce or prevent emission of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior. It can be as complex as a plan for a new city, or as a simple as improvements to a cook stove design. Efforts underway around the world range from high-tech subway systems to bicycling paths and walkways."

20 United Nations Framework Convention on Climate Change, 'What Do Adaptation to Climate Change and Climate Resilience Mean?', United Nations Framework Convention on Climate Change, 2021. "Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change. In simple terms, countries and communities need to develop adaptation solution and implement action to respond to the impacts of climate change that are already happening, as well as prepare for future impacts." In this report, we consider development a key component of adaptation.

21 Disaster-management was added because civil-military collaboration in the field of climate-related risk is still mainly seen in response efforts to natural disasters or emergencies.

International and EU institutions have become increasingly concerned about climate change and related security risks.[22] To mitigate these risks the international and European community have doubled down on efforts to reduce greenhouse gas emissions and enable a sustainable transition to green energies and industry, in line with ambitions outlined in the Paris Agreement of 2015 and the 2019 European Green Deal.[23] Part of this mitigation effort is the increased engagement in international climate diplomacy to encourage partnerships between like-minded multilateral organizations and European governments to support the green transition and climate-neutral states.[24] The European Commission has even proposed a European Climate Law to write EU Green Deal objectives in law to make achieving the target of net-zero greenhouse gas emissions by 2050 legally binding. While the defense sector remains exempt from environmental oversight, it increasingly views energy efficiency and sustainability as a necessary and strategic priority. International military institutions such as NATO also invest in 'greening' forces to make operations more energy-efficient and in 2021 pledged to 'assess the feasibility' of reaching net-zero emissions by 2050.[25] The EU also supports the greening of the military through (among others) the 'Military Green' and 'Energy and Environment Program' initiatives of the European Defense Agency (EDA). [26]

As mitigating further emissions of greenhouse gases will not reverse the climatic changes already in place and related extreme climate events, disaster-response, and management remain necessary. These efforts and the importance of reducing hazard exposure and vulnerability and increasing resilience by strengthening preparedness for response and recovery are underlined in the Sendai Framework for Disaster-risk Reduction (2015-2030), the UN Office for Disaster Risk Reduction (UNDRR) and the World Bank's Global Forum for Disaster Risk Reduction (GFDRR). The EU has set up its own Civil Protection Mechanism and the Emergency Response Coordination Centre (ERCC) enabling EU member states and participating countries to exchange information on disaster risks, conduct joint exercises, and pool rescue teams and equipment for quick mobilization in case of a disaster.[27] Other efforts aim to 'Build Back Better' (BBB) and use the onset of disasters as an opportunity to integrate disaster risk reduction measures into the restoration of physical infrastructure and social systems. By strengthening countries' adaptive capacity and resilience, they become less vulnerable to the negative impacts of climate change.[28] Adaptation; adapting to expected future climate, is a key pillar of the Paris Agreement[29] and further underlined in the Adaptation

22 Katie Peters et al., 'Climate Change, Conflict and Fragility', *Odi Reports*, 2020, 10–11.

23 Camilla Born, 'A Resolution for a Peaceful Climate: Opportunities for the UN Security Council' (Solna, Sweden: Stockholm International Peace Research Institute, January 2017), 2; European Commission, 'Communication from the Commission to the European Parliament The Council, the European Economic and Social Committee and the Committee of the Regions' (European Commission, 24 February 2021).

24 Born, 'A Resolution for a Peaceful Climate: Opportunities for the UN Security Council', 2; University of Cambridge, 'Green Growth Partnership', University of Cambridge, 24 September 2019.

25 Stuart Parkinson and Lindsey Cottrell, 'Under the Radar, The Carbon Footprint of Europe's Military Sectors' (Lancaster, United Kingdom: Conflict and Environment Observatory (CEOBS), February 2021); European Defence Agency (EDA), 'Sustaining Europe's Armed Forces', European Defence Agency (EDA), 2021; BBC, 'NATO and Climate Change: How Big Is the Problem?', BBC, 14 June 2021.

26 Parkinson and Cottrell, 'Under the Radar, The Carbon Footprint of Europe's Military Sectors'; European Defence Agency (EDA), 'Sustaining Europe's Armed Forces'.

27 European Commission, 'European Disaster Risk Management', European Commission - European Civil Protection and Humanitarian Aid Operations, 1 August 2021; European Commission, 'Emergency Response Coordination Centre (ERCC)', European Civil Protection and Humanitarian Aid Operations - European Commission, 26 November 2018.

28 Build Back Better, 'What Is "Building Back Better"?', Build Back Better, 2021; United Nations Office for Disaster Risk Reduction, 'About UNDRR', UNDRR, 2020; United Nations Office for Disaster Risk Reduction, 'About the Global Platform for Disaster Risk Reduction', UN Office for Disaster Risk Reduction, 2019.

29 United Nations Framework Convention on Climate Change, 'What Do Adaptation to Climate Change and Climate Resilience Mean?'

Action Agenda 2021 of the Climate Adaptation Summit[30] and the EU Climate Adaptation Strategy in February 2021.[31]

Achieving ambitions in mitigation, disaster management and adaptation is disproportionally challenging for countries that lack the social, infrastructural, and financial capacity to manage climate shocks and require additional support. The Intergovernmental Panel on Climate Change estimates that mitigating further global warming to 1.5°C will require annual investments between US$1.6 and US$3.8 trillion in energy systems between 2016 and 2050. Adapting to the impacts of climate change will require another US$180 billion annually between 2020 and 2040, according to the Global Commission on Adaptation.[32] While these amounts are staggering, investments in adaptation often outweigh the costs of potential climate-related damage. The Global Commission on Adaptation (2019) estimates that a US$1.8 trillion investment in early warning systems, improved dryland agriculture, global mangrove protection, climate-resilient infrastructure and resilient water resources could result in US$7.1 trillion of benefits.[33] To enable less developed and vulnerable countries to enhance their adaptive capacities, the international community and the EU are committed to scaling up financial support to these countries.[34] This is critical as climate financing has thus far been insufficient, presenting a major stumbling block to effective climate action. The UNFCCC recognizes that countries' responsibility to address climate change is relative to their capabilities (that tend to be higher for developed countries), as underlined in the principle 'Common But Differentiated Responsibilities (CBDR).'[35] The EU's 2021 Adaptation Strategy clearly underlines the EU's intention to increase financing on climate adaptation to support vulnerable countries and 'leave no one behind.'[36] Yet, global climate financing has remained domestically focused with more than 76% of tracked climate financing in 2017-2018 being raised and spent in the same country. This has resulted in deficits in countries where public sectors have fewer resources and private actors refrain from investing due to the poor and instable investment climate, further increasing the security impacts of climate change in these countries that are already often the most vulnerable and hardest hit by climate change.[37] Spending has prioritized mitigation efforts, further delaying critically needed action on adaptation. In 2018, 48% of spending went to climate change mitigation activities while only 25% was spent on adaptation and 27% on projects that address both mitigation and adaption.[38]

While there remains relatively lower efforts and financial support to enable countries to adapt to climatic changes, it is increasingly recognized that climate change acts as a 'threat multiplier' that aggravates existing vulnerabilities and undermines national, regional, and

30 'Delivering an Adaptation Agenda' (Climate Adaptation Summit 2021, 2021). The Summit was hosted by the Netherlands.

31 'DG CLIMA - DG for Climate Action', European Commission, accessed 4 May 2021; European Commission, 'International Partnerships', European Commission, 26 June 2019; European Commission, 'EU Adaptation Strategy', Climate Action - European Commission, 2021.

32 Sinead Dwyer, Zoe Johnson, and Raimund Zuhr, 'Financing for the Future: Climate Finance and the Role of ODA', Donor Tracker, accessed 25 May 2021; Mustafa Babiker et al., 'Special Report Global Warming of 1.5°C' (Intergovernmental Panel on Climate Change (IPCC), 2018), 321.

33 United Nations Environmental Programme, World Adaptation Science Programme, and UNEP DTU Partnership, 'Adaptation Gap Report 2020' (Nairobi, Kenya: United Nations Environmental Program, 2021), 24.

34 European Commission, 'EU Adaptation Strategy', 18.

35 'Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)', Climate Nexus, 30 July 2015.

36 Carmen Núñez-Borja, Emmanuel Baudelet, and Timothée Picarello, 'Policy Coherence for Development' (Brussels, Belgium: European Commission, July 2018); Mariella Di Ciommo and Pamella Eunice Ahairwe, 'The EU Budget and External Climate Financing: The State of Play' (Maastricht, The Netherlands: European Centre for Development Policy Management, May 2021), 14; European Commission, 'EU Adaptation Strategy', 18.

37 Dwyer, Johnson, and Zuhr, 'Financing for the Future'.

38 European Commission, 'EU Adaptation Strategy', 20.

international stability and security. In an independent report entitled 'A New Climate for Peace' released in 2015, the G7 identifies several climate-fragility risks including local resource competition, volatile food prices, livelihood insecurity, and transboundary water management.[39] In its recommendations, it underlines the need to make climate fragility a foreign policy priority using integrated approaches to address compounded risk.[40] This security concern has led to a greater focus on the role of the defense sector and the military in supporting prevention, mitigation and resilience building efforts to reduce climate-induced insecurity.[41] The military is increasingly involved in relevant climate research, decision-making, and action.[42] While some actors are skeptical of military involvement in climate action, in many cases military involvement is inevitable due to their substantial resources, capabilities, and experience in dealing with instable contexts.[43] This narrative is also taken up by international institutions. The UN has established the Climate Security Mechanism (CSM)[44] to address climate security risks[45] and included assessment of climate risk within UN Missions, primarily in the Sahel and Horn of Africa.[46] NATO has also expressed the ambition to increase the Allies' awareness of climate security risks and to develop appropriate mitigation and adaptation measures while upholding operational effectiveness.[47] The International Military Council on Climate and Security (IMCCS) supports these efforts by raising awareness about climate change and its security risks within (and outside of) the international defense community, and provides recommendations for action in its annual World Climate Security Reports[48] to the international policy community writ-large. The Global Military Advisory Council on Climate Change (GMACCC),[49] also highlights the security implications of climate change and advocates for action. The EU has also integrated environmental issues and climate change into its Common Security and Defense Policy (CSDP) and adopted an EU Climate Change and Defense Roadmap that identifies concrete actions for the EU to prepare for

39 Oli Brown et al., 'A New Climate for Peace' (Adelphi, International Alert, Woodrow Wilson International Center for Scholars, European Union Institute for Security Studies, 2015).

40 Brown et al.

41 Daria Mokhnacheva, 'Conference: The Implications of Climate Change for Defence | Environmental Migration Portal', Environmental Migration, 2015.; Francesco Femia and Caitlin Werrell, 'Climate Security: A Tale of Two Defense Hearings', Council on Strategic Risks, 3 June 2021; Shirley Scott and Shahedul Khan, 'The Implications of Climate Change for the Military and for Conflict Prevention Including through Peace Missions', *Air & Space Power Journal Africa & Francophonie* 7, no. 3 (2016): 82.

42 Dhanasree Jayaram and Marie Claire Brisbois, 'Aiding or Undermining? The Military as an Emergent Actor in Global Climate Governance', *Earth System Governance* 9 (2021): 7.

43 Jayaram and Brisbois, 2.

44 United Nations Development Programme (UNDP), 'Climate Security Mechanism: Progress in Strengthening the United Nations' Capacity to Address Climate-Related Security Risks' (United Nations Development Programme (UNDP), May 2021).

45 António Guterres, 'Remarks to Security Council on the Maintenance of International Peace and Security: The Root Causes of Conflict – The Role of Natural Resources', United Nations Secretary-General, 16 October 2018.

46 Dan Smith et al., 'Climate Security Making It #doable' (The Hague, Netherlands: Clingendael Institute, SIPRI, February 2019), 12; United Nations Security Council, 'Resolution 2349 (2017)' (United Nations Security Council, 31 March 2017); United Nations Security Council, 'Statement by the President of the Security Council' (United Nations Security Council, 30 January 2018); United Nations Security Council, 'Resolution 2423 (2018)' (United Nations Security Council, 28 June 2018); United Nations Security Council, 'Resolution 2429 (2018)' (United Nations Security Council, 13 July 2018); United Nations Security Council, 'Resolution 2408 (2018)' (United Nations Security Council, 27 March 2018); United Nations Security Council, 'Resolution 2431 (2018)' (United Nations Security Council, 30 July 2018).

47 NATO, 'NATO Climate Change and Security Action Plan', NATO, 14 June 2021; Erin Silkorsky and Sherri Goodman, 'A Climate Security Plan for NATO: Collective Defence for the 21st Century', Policy Exchange, 13 April 2021; 'NATO 2030: United for a New Era' (NATO Secretary General, 25 November 2020), 14.

48 Steve Brock et al., 'The World Climate and Security Report 2020' (Expert Group of the International Military Council on Climate and Security (IMCCS), February 2020); Steve Brock et al., 'The World Climate and Security Report 2021' (Expert Group of the International Military Council on Climate and Security (IMCCS), June 2021).

49 Global Military Advisory Council on Climate Change (GMACCC), 'About', Global Military Advisory Council on Climate Change (GMACCC), 2021.

climate change and its emerging security challenges.[50] To support decision-makers to better analyze long-term risks of insecurity and prioritize resources, the EU established a Conflict Early Warning System (EWS) that was tested in several Sahel and Central Asian countries.[51] These developments provide an important step to better understand the impact of climate change on security and respond in a timely manner. Currently, these institutional shifts are not equally evident at the national level. Only a few of the in 2020 updated National Determined Contributions (NDCs) under the Paris agreement[52] explicitly include climate change as a security risk to societal stability or the functioning of the state.[53]

Analysis of the policy landscape demonstrates states' increasing awareness and ambition to address climate change and its security implications. While disaster-response remains as relevant as ever with the increasing frequency and severity of natural hazards, there is a notable shift from ad hoc and reactive responses towards efforts to establish longer-term and more sustainable solutions. This includes on the one hand efforts to mitigate further climate change and on the other hand efforts to strengthen resilience and adaptive capacity of vulnerable states to enable them to cope with changing climatic conditions.

3.2 Regional Policies and Instruments

The impacts of climate change are not bound to country borders and often affect larger geographical regions simultaneously, creating new challenges for regional organizations and, at the same time, making them more relevant.[54] Countries in the same region often share climate-related security risks and have established partnerships and institutional structures that provide a key starting point for jointly addressing climate security risks. Regional institutions can share expertise and combine resources to reduce risks, strengthen resilience and ensure solutions are sustainable and not dependent on interventions from outside the region. Mapping the policies and programs across Asia & Oceania, Americas, West & Central Africa (East/South), and the Middle East & North Africa regions give several concrete insights on current practice and future opportunities for regional cooperation on climate security (with Europe and the Netherlands). These insights are briefly outlined below.[55]

There is a **clear regional-level ambition** to address climate-related challenges and its (possible) security implications, with regional institutions and alliances seeking leadership roles. The type and level of commitment to climate security action varies between regions depending on the type of climate-related risks, the level of vulnerability, the adaptive capacity of the countries involved, and the broader security context. For example, in South-East Asia, regional alliances including the Association of Southeast Asian Nations (ASEAN) and South Asian Association for Regional Cooperation (SAARC) strongly emphasize disaster response

50 Tom Mitchell and Padma Narsey Lal, 'National Systems for Managing the Risks from Climate Extremes and Disasters' (Cambridge, United Kingdom: Intergovernmental Panel on Climate Change (IPCC), 2012); Climate-ADAPT, 'Establishment of Early Warning Systems', Climate-ADAPT, 2019.

51 Susanne Wolfmaier and Janani Vivekananda, 'Progress on Implementing the Hague Declaration on Climate and Security' (Clingendael, Planetary Security Initiative, February 2019), 2–3.

52 United Nations Framework Convention on Climate Change, 'Nationally Determined Contributions (NDCs)', UNFCCC, 2021. The NDC's outline countries' efforts to reduce national greenhouse emissions and adapt to the impacts of climate change.

53 Elise Remling and Amar Causevic, 'Climate-Related Security Risks in the 2020 Updated Nationally Determined Contributions' (Solna, Sweden: Stockholm International Peace Research Institute, January 2021), 9, 16, 17.

54 Vane Aminga, 'Policy Responses to Climate-Related Security Risks: The African Union', SIPRI Background Paper (Stockholm International Peace Research Institute, May 2020), 1.

55 van Lossow et al., 'Towards a Better Understanding of Climate Security Practices', 1.

and management. This stems from the fact that member states are geographically located in areas highly exposed to natural climate hazards, including flooding and landslides.[56] In Africa, regional efforts often focus on development that represents a key vulnerability and increases the risk of climate change becoming a security issue, through organizations such as the Intergovernmental Authority on Development (IGAD) and the Economic Community of West African States (ECOWAS). While there is a clear ambition for strengthening disaster management, mitigation and adaptation to climate change, fragile regions vulnerable to climate change are often forced to prioritize ad-hoc and short-term decisions in response to immediate security challenges that affect stability, including the proliferation of violent extremism, terrorism, and irregular migration. While there is often a link between these developments and climate change,[57] there is still limited effort at the regional level within the **defense and hard security** community to implement climate security into policies and practice.[58] The defense and hard security community could have added value to enable climate security action even in fragile and conflict contexts, where climate action is often urgent, by creating an enabling environment (safer environment) for development workers, humanitarian organizations (and others), to do their work effectively.

There are also **impediments to regional coordination and cooperation** including tensions between member states' national interests and regional interests, as well as (geo)political dynamics in the region. Policy design and implementation does not occur in a vacuum and interacts with broader regional political and institutional dynamics.[59] Regional hegemons may prioritize national interests that may be at odds with shared regional interests, which smaller and less powerful states may be unable to influence. For example, Nigeria has deliberately slowed the ability of the Economic Community of West-Africa States' (ECOWAS) to coordinate effective regional responses to issues that Nigeria perceives as a challenge to its state sovereignty, such as the Niger Delta conflict or Boko Haram insurgency.[60] In Asia, tensions over state sovereignty and regional power complicate regional development and implementation of climate change and security policy, including efforts by ASEAN and the SAARC.[61] For example, India's position as a regional power with military supremacy is met with distrust by SAARC member states including Pakistan, undermining regional cooperation towards shared gains.[62] Further impediments to action concern the fact that regional capacities often still

56 Florian Krampe, Roberta Scasse, and Giovanni Mitrotta, 'Responses to Climate-Related Security Risk: Regional Organizations in Asia and Africa' (Stockholm, Sweden: SIPRI, 2018), 17; IMCCS, 'Climate and Security in the Indo-Asia Pacific' (International Military Council on Climate and Security, July 2020); Raman Letchumanan, 'Climate Change: Is Southeast Asia up to the Challenge? Is There an ASEAN Policy on Climate Change?' (ASEAN Secratariat, 2010).

57 Oli Brown, Anne Hammill, and Robert Mcleman, 'Climate Change as the "New" Security Threat: Implications for Africa', *International Affairs* 83, no. 6 (November 2007): 1141–54; Amal Kandeel, 'Wars Distracting Middle East from Serious Climate Change Threats', Middle East Institute, October 2017; Mark Willacy, 'Rising Sea-Levels Could Mean Conflict in the Indo-Pacific, Warns Defence', ABC News, 14 July 2019; Chad Michael Briggs, 'Climate Security, Risk Assessment and Military Planning', *International Affairs* 88, no. 5 (2012): 1049–64; Catherine Wong, 'The Climate Security Nexus and the Prevention of Violent Extremism: Working at the Intersection of Major Development Challenges' (New York, United States: United Nations Development Programme (UNDP), 2020), 3.

58 Rene Heise, 'NATO Review - NATO Is Responding to New Challenges Posed by Climate Change', NATO Review, 1 April 2021; Parkinson and Cottrell, 'Under the Radar, The Carbon Footprint of Europe's Military Sectors'.

59 Krampe, Scasse, and Mitrotta, 'Responses to Climate-Related Security Risk: Regional Organizations in Asia and Africa', 9; Amandine Gnanguênon, 'Mapping African Regional Cooperation: How to Navigate Africa's Institutional Landscape – European Council on Foreign Relations', ECFR, 29 October 2020.

60 Krampe, Scasse, and Mitrotta, 'Responses to Climate-Related Security Risk: Regional Organizations in Asia and Africa', 13.

61 Krampe, Scasse, and Mitrotta, 9.

62 Prasnata Sahoo, 'Borders: The Main Barrier to South Asian Integration', *World Affairs: The Journal of International Issues* 21, no. 3 (2017): 80; Smruti S. Pattanaik, 'Making Sense of Regional Cooperation: SAARC at Twenty', *Strategic Analysis* 30, no. 1 (2006): 139.

depend in large part on international financing (from outside the region), especially in the least developed countries. For example, the implementation of the Intergovernmental Authority on Development (IGAD) programs in Africa has been made possible due to external financing with only 5-10 percent of the funding coming from member states, with the rest coming from external funds.[63] This underlines the importance of climate financing as a key pillar of further cooperation and as a factor determining to what extent policies can be translated to practice.

3.3 Dutch Policy and Instruments

The global attention to climate change and its security impacts is also reflected in Dutch policy and practice.[64] Climate security gained traction in 2015 when the Netherlands Ministry of Foreign Affairs launched the Planetary Security Initiative (PSI).[65]about us The PSI provides a platform for strengthening the knowledge-policy interface and consolidating a global, cross-sectoral, and interdisciplinary community of experts and practitioners to support the development of policies and good practices. It catalyzed Dutch political interest and involvement in climate security and facilitated the establishment of international cooperation on the subject. Gradually, more attention was paid towards making plans actionable,[66] culminating in 2017 in The Hague Declaration on Planetary Security that includes an action agenda to translate analysis to action in terms of defining concrete action plans and priorities.[67] In line with the Dutch focus regions for development cooperation, West African Sahel, the Horn of Africa, and the Middle East and North Africa,[68] the Declaration[69] of 2017 recommends the Dutch government to focus on three vulnerable countries/regions: Mali, the Lake Chad Region, and Iraq. It calls for the Netherlands to strengthen climate and conflict-sensitive development that takes an integrated approach and considers the link between stability, security, migration, climate change, natural resource management and good governance. This link is also underlined in the Letter to Parliament "Dutch contribution to the UN Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), in 2019 and security efforts in the Sahel 2019 to 2021" (Parliamentary Paper 29 521, no. 368), and embedded in ongoing programs such as the Strategic Partnership "Partners for Resilience" (Wetlands International, Red Cross and CARE), and the Netherlands-backed Water, Peace and Security partnership (WPS).[70] The Netherlands' potential to contribute to climate security action should be understood within the context of its policies on development cooperation, climate change, and security. While there is an increasing focus on taking an integrated approach to policy development and practice, the different policy priorities, and communities of practice have made cross-department cooperation and joint action more difficult.

63 Krampe, Scasse, and Mitrotta, 'Responses to Climate-Related Security Risk: Regional Organizations in Asia and Africa', 15.

64 Ministerie van Buitenlandse Zaken, 'De Buitenlandstrategie die ons veilig houdt - Geïntegreerde Buitenland- en Veiligheidsstrategie - De Veiligheidsdiplomaat', Rijksoverheid Magazine (Ministerie van Buitenlandse Zaken, October 2019).

65 Planetary Security Initiative, 'About Us | Planetary Security Initiative'.

66 Ministerie van Buitenlandse Zaken, 'Er worden eindelijk stappen gezet op het gebied van klimaatveiligheid', Rijksoverheid (Ministerie van Algemene Zaken, 19 February 2019).

67 Ministerie van Buitenlandse Zaken.

68 Ministry of Foreign Affairs, 'Countries and Regions - Development Cooperation', Government of the Netherlands, 2021.

69 Planetary Security Initiative, 'The Hague Declaration on Planetary Security: Agenda for Action', 2017.

70 The Dutch-backed WPS program focuses on reducing water-driven security risks in both Mali and Iraq, as well as East Africa and Afghanistan. Broader WPS work carried out for the German Federal Development Agency (GIZ) looks at the Lake Chad Basin (Niger, Chad).

The Dutch government considers development cooperation an integral part of its foreign policy agenda[71] and emphasizes that prosperity and safety in the Netherlands are closely linked to the wellbeing of other countries and their citizens. Based on this understanding of the connection between global, national and human security, Dutch development cooperation focuses on preventing conflict and instability, reducing poverty and social inequality, promoting sustainable inclusive growth and climate action worldwide, improving gender equality (while strengthening the position of women and girls), and strengthening the international earning capacity of the Netherlands.[72] The 17 Sustainable Development Goals (SDGs) for 2030 provide the guiding principle for the Netherlands' development cooperation and similarly work towards the prevention of conflict and instability worldwide. To enhance the effectiveness of its efforts, the Dutch government tailors activities to fit countries' national plans and collaborates closely with (local) civil society, business and knowledge institutions.[73] Currently, the Dutch government maintains development cooperation partnerships with 27 countries for which it has drawn up Multiannual Strategic Plans,[74] and directly cooperates with these countries' governments.[75] Several of these so-called 'focus' countries for Dutch development cooperation, such as Mali and Burkina Faso, also have preferential trade agreements with the EU including the Generalized System of Preferences (GSP) and/or the Everything But Arms (EBA) agreement. These agreements seek to alleviate poverty and create jobs based on internationally recognized principles, including human rights and good labor conditions.[76] In a few countries, the Netherlands exerts special effort to integrate climate actions into development cooperation policies and activities captured in 'Climate Change Profiles.'[77] The government currently has Climate Change Profiles for 16 countries/regions (several are 'focus' countries)[78] that provide deeper insights on the impacts of climate change, the countries' climate-related policies, priorities and commitments, and the key climate-related activities that are supported and financed by the Netherlands and the international community. In Mali, for example, the Netherlands supports projects to optimize the sustainable use of water resources, increase the resilience of vulnerable pastoralists, farmers, and fishermen to floods and droughts, and promote diversification of crops to enable people to adapt to climate change.[79]

To test policy, adjust interventions, and make development policy implementation as effective as possible, in 2015 the Dutch government developed nine Theories of Change (TOC) across the priority themes for the Netherlands development cooperation outlined in 'Investing in

71 Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 'Organisatiebesluit Buitenlandse Zaken 2019', Overheid Wettenbank, 4 April 2019; Ministerie van Algemene Zaken, 'Directeur-generaal Internationale Samenwerking (DGIS + PlvDGIS)', Rijksoverheid (Ministerie van Algemene Zaken, 29 November 2018); European Commission, 'Impact of Climate Change and Environment on Poverty', Knowledge for Policy, 2021.

72 Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects'; Ministerie van Buitenlandse Zaken, 'Wereldwijd Voor Een Veilig Nederland, Geintegreede Buitenland-En-Veiligheidsstrategie 2018-2022' (Ministerie van Buitenlandse Zaken, 2018).

73 Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects'.

74 Ministry of Foreign Affairs, 'Countries and Regions - Development Cooperation', 2021.

75 Ministerie van Buitenlandse Zaken, 'Landen en regio's - Ontwikkelingssamenwerking', Rijksoverheid (Ministerie van Algemene Zaken, 2021); Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects'.

76 In this report we consider three preferential schemes: the Generalized Scheme of Preferences (GSP), GSP+ and Everything But Arms agreements.

77 Ministry of Foreign Affairs, 'Climate Change Profiles', Government of the Netherlands (Ministerie van Algemene Zaken, 5 February 2019).

78 The countries/regions for which the Dutch government has developed a Climate Change Profile are: Bangladesh, Benin, Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Ghana, East African Great Lakes and Ruzizi Plain, Greater Horn of Africa, Indonesia, Iraq, Jordan, Kenya, Lebanon, Mali, Mozambique, Palestinian Territories, Rwanda, South Sudan, Uganda, West African Sahel, Yemen.

79 Ministry of Foreign Affairs, 'Climate Change Profile: Mali' (Ministry of Foreign Affairs, April 2018), 9.

Global Prospects.' [80] TOCs have been developed for the themes humanitarian assistance, climate, migration, private sector development, sexual and reproductive health and rights, law and order, food security, women's rights and gender equality, and water. While the TOCs provide clear insight into the government's policy objectives and interventions on the individual themes, the thematic approach also means there is limited and variable attention to the complex relationship between themes, including those relevant to tackle climate security challenges. For example, the TOC on Climate and the TOC on Security do not explicitly address the climate security nexus: the former does not explicitly refer to security, while the latter does not mention climate. The TOC on Water, however, does address the climate security link by setting out how an increased level of water scarcity can contribute to disruption in fragile societies. The climate and security nexus is complex and touches on many of the thematic areas addressed in the TOC's such as water and migration. Linking the different themes by aligning TOC objectives and outcomes provides a possible starting point for better understanding the pathways between climate and security that, in turn, contributes to the development of a more coherent and effective climate security policy and practice.[81]

The third cabinet of Dutch Prime Minister Mark Rutte (October 2017 to January 2021) has included integrated climate action as one of the four key issues in the 2017-2021 Coalition Agreement.[82] The government pays increasing attention to strengthening existing policies and developing new policies, within the context of international and EU commitments. In terms of direct climate action, the Netherlands has predominantly focused on crisis management in response to the climate-driven disasters in the Caribbean part of the Kingdom of the Netherlands.[83] In the event of disasters and crises resulting from natural climate hazards, the Netherlands MoD and military often acts as a first responder. It is the military's third task to provide assistance in the event of disasters and crises including floods and hurricanes, in large part because the military has the necessary capabilities to provide immediate humanitarian assistance and disaster relief (HADR) including air and sea transport, communications systems, reconnaissance and intelligence, and expertise in relevant areas such as engineering and medical support.[84] As extreme weather events become more frequent and intense, it will put additional pressure on the Dutch armed forces that are likely to be called for support of emergency relief operations, even outside the regular hurricane season. This may require expanding the Netherlands' permanent maritime support capacity and support for search and rescue missions and deployment of the Royal Netherlands Marechaussee for border surveillance.[85]

While disaster response and management will remain necessary, the Netherlands also recognizes the importance of mitigating further climate change and its negative impacts.[86] The

80 Ministerie van Algemene Zaken, 'Theory of Change Ontwikkelingssamenwerking'; Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects'.

81 Ministerie van Algemene Zaken, 'Theory of Change Ontwikkelingssamenwerking'.

82 Paul Hofhuis, 'Are the Dutch Really Going Green?', Clingendael spectator, 25 September 2019; Rijksoverheid, 'Vertrouwen in de Toekomst, Regeerakkoord 2017-2021' (Rijksoverheid, 10 October 2017), 1.

83 Ministerie van Justitie en Veiligheid, 'Handboek crisisbeheersing voor de Caribische delen van het Koninkrijk', Nationaal Coördinator Terrorismebestrijding en Veiligheid (NCTV) (Ministerie van Justitie en Veiligheid, 2 December 2020); Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 'Handboek Crisisbeheersing Voor de Caribische Delen van Het Koninkrijk' (Het ministerie van Binnenlandse Zaken en Koninkrijkrelaties, June 2020).

84 Ministerie van Defensie, 'Wat doet Defensie?' (Ministerie van Defensie, 29 March 2019); Louise Schaik et al., 'Ready for Take-off? Military Responses to Climate Change' (The Hague, Netherlands: Clingendael Institute, Planetary Security Initiative, March 2020), 25.

85 Adviesraad Internationale Vraagstukken, 'Veiligheid En Rechtsorde in Het Caribisch Gebied' (Den Haag, Nederland: Adviesraad Internationale Vraagstukken, 10 September 2020), 22.

86 Dutch elections took place from 15-17 March 2021 and at the time of writing this report, the main political parties are still in talks to form a new coalition government.

Dutch government underlines its deep commitment to climate and energy policy and seeks to be a frontrunner in Europe.[87] While the results of the Rutte III administration have been mixed,[88] it has pushed to enhance the EU ambition to reduce greenhouse gas emissions to 55 percent in 2030, above the 49 percent set in the Paris Agreement. The government has also translated these ambitions into tangible policies as set out in the 2018 Climate Law and the 2019 Climate Agreement, against the background of the 2013 Energy Agreement. The Dutch Climate law holds that the Netherlands should decrease its greenhouse gas emissions by 49% by 2030 and by 95% by 2050 compared to 1990. Responsible ministries include the Ministry of Economic Affairs and Climate, the Ministry of Internal Affairs, the Ministry of Infrastructure and Water and the Ministry of Agriculture, Nature and Food Quality.[89] In addition to the requirements in the Climate law, the Dutch state was also required to emit at least 25% less greenhouse gases by the end of 2020 compared to 1990, as determined by a judge in 2015 in the climate case of Urgenda. In 2020 there was a decline in the emission of greenhouse gases, reaching 25.4 percent lower than in 1990, meaning that the government just barely met the requirement set in the Urgenda judgment.[90] This is in part due to the Covid-19 pandemic starting in 2019 that resulted in a sharp decrease in CO2 emissions, due to a decline in road traffic, airline flights, and industrial activity. According to the Dutch Urgenda Foundation, the government is taking inadequate structural measures to comply with the Urgenda judgment.[91] In September 2021, the cabinet announced to spend an extra 6.8 billion euros on climate measures, including the reduction of Co2 emissions and subsidies for sustainable energy and infrastructure.[92] The Dutch government has also increased its commitment to climate diplomacy[93] to increase global efforts to achieve the goals of the Paris Agreement including both climate mitigation to limit global warming to 1.5°C and climate adaptation to increase countries' resilience to climate change. While these efforts are important, the Netherlands' diplomatic lobbying power is weakened by the Netherlands' own shortcomings in the field of enhancing energy efficiency and the use of renewable energy.[94]

As the military contributes to the emission of greenhouse gases,[95] the Dutch Ministry of Defense (MoD) has started to think more closely about how the military can translate national and international energy policy towards a defense-specific policy to reduce greenhouse gas emissions in the Netherlands and during missions abroad. The Defense Energy and Environmental Strategy 2019-2022 has the two-fold objective to increase the operational independence, effectiveness, and resilience of the armed forces by limiting energy consumption on the one hand and transitioning to other forms of energy on the other.[96] This includes

87 van Schaik Louise and Paul Hofhuis, 'Climate Debate Heating up in the Netherlands', Clingendael Spectator, 23 January 2019.

88 The Rutte III government nearly fell over a dispute with the agricultural sector about nitrogen emission targets.

89 Ministerie van Infrastructuur en Waterstaat, 'Klimaatbeleid', Rijksoverheid (Ministerie van Algemene Zaken, 3 October 2013).

90 Dylan van Bekkum, 'Overheid voldoet mogelijk ternauwernood aan Urgenda-vonnis', de Volkskrant, 3 September 2021; Rolf Schuttenhelm, 'Niet-halen "Urgenda-doel" brengt Nederlandse rechtsstaat op onbekend terrein', NU, 23 March 2021; Agro&Chemie, 'Urgendadoelen in 2020 waarschijnlijk gehaald', Agro&Chemie, 9 March 2021.

91 Bekkum, 'Overheid voldoet mogelijk ternauwernood aan Urgenda-vonnis'; Schuttenhelm, 'Niet-halen "Urgenda-doel" brengt Nederlandse rechtsstaat op onbekend terrein'.

92 Ministerie van Algemene Zaken, 'Plannen voor het klimaat - Prinsjesdag: Miljoenennota en Rijksbegroting', Rijksoverheid (Ministerie van Algemene Zaken, 21 September 2021).

93 Ministerie van Buitenlandse Zaken, 'Kamerbrief Voortgang Klimaatdiplomatie' (Ministerie van Buitenlandse Zaken, 28 May 2021).

94 Paul Hofhuis, 'Are the Dutch Really Going Green? Climate Politics in the Low Lands (Part Two)' (The Hague, Netherlands: Clingendael, September 2019), 6.

95 Parkinson and Cottrell, 'Under the Radar, The Carbon Footprint of Europe's Military Sectors', 5.

96 Ministerie van Defensie, 'Defensie Energie En Omgeving Strategie 2019-2022' (Ministerie van Defensie, 27 September 2019).

integrating energy ambitions in the criteria for procurement of equipment and real estate so that sustainability becomes part of regular acquisition processes. Novel rules on sustainability lead to higher initial costs but are likely to be cost-effective in the longer term, especially as energy independence can increase security (also during missions) and can have operational benefits. The cost of fuel, for example, is subject to fluctuations due to scarcity and the global increasing need for energy in combination with declining stocks. This makes dependence on fuel risky and the reduction of consumption of fossil fuel increasingly important for the effectiveness of the readiness and deployment of units. To secure its operations, the government invests in various innovative projects, including biofuel or zero-emission options as hydrogen or electricity.

The impacts of climate change are already evident today, urging the Netherlands to take steps to adapt and prepare for the consequences of the changing climate and its diverse impacts on health, vital infrastructure, agriculture, industry, and nature. In the 2016 National Climate Adaptation Strategy (NAS),[97] the Netherlands sets the ambition to be climate-proof by 2050. To achieve this ambition, increased effort is being invested to better understand both the potential opportunities and bottlenecks of integrating climate adaptation in the current and future development of urban areas and major sectors including the agricultural sector.[98] The translation of this ambition into concrete action is lacking, however, as climate adaptation and a climate-proof development of public spaces are not yet common practice.[99] The Netherlands also encourages countries to share knowledge internationally[100] to accelerate global action on adaptation to achieve global resilience by 2030.[101] In line with the Netherlands growing ambition to climate action, the Dutch government has provided more financial support to developing countries to assist them in adopting necessary mitigation and adaptation measures.[102] In 2019, a total of EUR 1.43 billion was spent on climate financing with the expectation that climate financing within the development budget will increase to €480 million by the end of 2021.[103] In 2019, most of the Netherlands ODA funding was bilateral, constituting 64.8% of total ODA funding, including funding through multilateral organizations (earmarked contributions).[104] Civil society organizations received 27.3% of the bilateral ODA in 2019, as promoted in the 'Dialogue and Dissent' policy framework for 2020-2024.[105] The Netherlands encourages multilateral banks to align the portfolios with the Paris goals and in 2019 sought to revise the energy policy of the European Investment Bank (EIB) to stop financing new unabated fossil projects. While climate has been increasingly integrated into the Netherlands policy and budget allocations, the climate security nexus is not yet an explicit field with dedicated policy, budget, and activities. Several policies and initiatives in the field

97 Ministerie van Infrastructuur en Waterstaat, 'Nederland voorbereiden op klimaatverandering', Rijksoverheid (Ministerie van Algemene Zaken, 11 September 2020).

98 Ministerie van Infrastructuur en Waterstaat, 'Deltaplan Ruimtelijke Adaptatie', Delta Programma (Ministerie van Infrastructuur en Waterstaat, 28 August 2020); Klimaatadaptatie Nederland, 'Samen Klimaatbestendig', Klimaatadaptatie Nederland, 2021.

99 Planbureau voor de Leefomgeving, 'Burger in Zicht, Overheid Aan Zet. Balans van de Leefomgeving, 2020.' (The Hague, Netherlands: Planbureau voor de leefomgeving, 2020), 33.

100 Global Center on Adaptation, 'The Global Commission on Adaptation', Global Center on Adaptation, 2021; Planetary Security Initiative, 'New Climate Committee in the Netherlands Lead by Ban Ki-Moon', Planetary Security Initiative, 12 September 2018.

101 Government of the United Kingdom, 'Adaptation Action Coalition: An Overview', Gov.uk, 24 May 2021.

102 United Nations Framework Convention on Climate Change, 'Introduction to Climate Finance', United Nations Framework Convention on Climate Change, 2021.

103 Donor Tracker, 'Netherlands ODA Funding Trends', Donor Tracker, October 2021.

104 Organisation for Economic Development (OECD), 'Development Co-Operation Profiles: Netherlands', Organisation for Economic Development (OECD), 3 July 2019.

105 Organisation for Economic Development (OECD); Donor Tracker, 'Netherlands ODA Funding Trends'; Ministry of Foreign Affairs, 'Dialogue and Dissent: Stories of Change' (Ministry of Foreign Affairs, 31 December 2020), 2.

of climate and climate change do implicitly integrate climate and security into their work. However, only a few explicitly integrate these two fields.[106]

The political attention devoted to climate change is also driven by a recognition of its potential negative impacts on stability and security around the Netherlands and Europe, as outlined in Netherlands Integrated International Security Strategy (IISS) for 2018-2022.[107] The first pillar of this strategy, prevention, focuses on strengthening information and intelligence capacities to identify (early warning) and prevent (early action) security threats and tackle the root causes of conflict before violence breaks out and further escalates. It explicitly refers to climate change as one of the root causes of conflict that needs to be addressed, for example, by including the impact of climate change in joint strategic foresight studies.[108] The Netherlands National Security Strategy 2019 follows this narrative and mentions climate events such as warming temperatures and sea-level rise as potential security threats[109] and the prevention and control of natural disasters as a key focus area to protect national security and prevent new risks or old ones from erupting again. The Dutch MoD has also become increasingly concerned about the security implications of climate change. Former Chief of Defense General Tom Middendorp already stated in 2016 that "climate change has a security dimension." [110] The climate security challenge is especially relevant for defense operations, as several countries where the Netherlands engages in military missions are vulnerable to climate-related security risks including Mali, Iraq, and Syria where these risks are already manifest to a great extent. While the 2018 defense white paper does not mention climate change as a security threat with implications for the national armed forces, in the Defense Vision 2035 climate change is considered a key trend that provides new opportunities but also presents new risks and threats, alongside technical trends, geopolitical power shifts, and demographic developments, including population growth.[111] Climate change also has direct implications for military operations and logistics, and the military's ability to operate safely. Extreme climate events including rising temperatures and flooding put an additional burden on military forces' ability to act and damage military assets, shortening their lifetime and the need for expensive renewal and repair. Despite these developments, the impact of climate-related security risks has not been integrated into defense policy and planning including operational concepts, strategies, and modus operandi in a structural manner.[112]

The Netherlands policy clearly reflects its ambition to better understand and address climate change and its security implications. Notable shifts are underway both within the MFA and the MoD, yet the focus remains on policy development with less attention being devoted to translating policies into concrete action. While Dutch policy has provided a boost to our knowledge and understanding of the climate security nexus, the links between them, and the need to

106 van Lossow et al., 'Towards a Better Understanding of Climate Security Practices', 2.

107 Ministry of Foreign Affairs, 'Working Worldwide for the Security of the Netherlands, An Integrated International Security Strategy 2018-2022' (Ministry of Foreign Affairs, 14 May 2018).

108 Raaphorst Hayo and Thierry van der Horst, 'Pionieren op Early Warning: Samenwerking Essentieel!', Rijksoverheid Magazine (Ministerie van Buitenlandse Zaken, July 2020); Ministerie van Buitenlandse Zaken, 'Early warning, Early Action', Rijksoverheid (Ministerie van Algemene Zaken, 15 August 2019); Ministry of Foreign Affairs, 'Policy Theme Departments', Government of the Netherlands (Ministerie van Algemene Zaken, 18 October 2011); Ministerie van Defensie, 'Nieuw team conflictpreventie: Defensie meer dan een vuist', nieuwsbericht, Defensie (Ministerie van Defensie, 10 October 2019).

109 National Coordinator for Security and Counterterrorism, 'National Security Strategy 2019' (The Hague, Netherlands: Ministry of Justice and Security, 2019), 5.

110 van Reedt Dortland Maartje et al., 'Climate Change and Degradation of Natural Resources: Implications for the Military' (The Hague, Netherlands: Clingendael, Planetary Security Initiative, July 2019), 3.

111 Ministry of Defence, '2018 Defence White Paper Investing in Our People, Capabilities, and Visibility' (Ministry of Defence, 26 March 2018), 7.

112 Schaik et al., 'Ready for Take-off? Military Responses to Climate Change', 25.

translate them into action via the PSI, there are still limited national mechanisms in place to support a consistent, coherent and integrated implementation of Dutch-funded programs and initiatives in countries of risk.[113] If this were to be facilitated, the current momentum and engagement on the topic within the international policy and defense communities, including the EU, UN and NATO, could provide an opportunity to scale national efforts into broader engagements.

3.4 Conclusions Policy Overview

Despite clear ambition to address climate security challenges at the international, EU, regional and the Netherlands' levels, concrete action falls short. This is not due to a lack of awareness or understanding of the climate-related security issues. It is more a challenge of defining the practical policy implications that account for the complex interaction between climate change and the existing social, political, economic, and demographic landscape that results in insecurity. The entry point in existing practices is often unclear because climate security risks are not the responsibility and priority of a single department but stretch across several thematic areas closely linked to foreign and security policy. It concerns both short-term issues such as resource shortages (e.g., food, water), and long-term issues such as development and countries' levels of resilience. Then there is the additional complexity that challenges at the local and national level can have regional and international implications and become threat multipliers of other existing challenges across borders.

The fragmentation of the political scene at the international, EU, regional and the Netherlands' levels on the issue of climate change and security poses additional obstacles. Populist parties deny the existence of human-caused climate change and its potential security impacts, while others co-opt the environmental and ecological crisis to enforce protectionism and deter migration. The serious policy measures that are required may spur resistance as citizens become fearful about having to bear the costs. At the same time, the growing recognition of climate changes' potential security impacts and existing policy and instruments means there is substantial potential to promote and strengthen concrete and preventative action on climate security if the necessary resources and capacities are made available.[114]

113 Planetary Security Initiative, 'About Us | Planetary Security Initiative'.

114 Anniek Barnhoorn, 'A Reassessment of the European Union's Response to Climate-Related Security Risks' (Solna, Sweden: Stockholm International Peace Research Institute, 2021), 17.

Key take-aways

- There is a growing ambition to better understand and address climate security risks at the international, EU, regional levels and in the Netherlands. However, the translation of this ambition into concrete action is lacking at the international/EU, regional, level and in the Netherlands.

- States are scaling up financing to support developing countries that lack the social, lack the social, infrastructural, and financial capacity to manage climate shocks and/or are forced to prioritize ad-hoc, short-term challenges. However, financing remains insufficient and a stumbling block to effective climate (security) action.

- The security concern has led to a greater focus on the role of the defense sector and the military in better understanding and mitigating climate-induced insecurity, including through research, decision-making, and action.

- Given the cross-border impact of climate-related security risks, regional cooperation and partnerships are increasingly relevant. While there is clear regional-level ambition, there are also impediments to coordination and cooperation including tensions between member states national interests and regional interests.

- The Netherlands is committed to addressing climate-related security risks to its vital security interests, as underlined in its policies on development cooperation, climate change, and security. The integration across policy fields relevant to the climate-security nexus remains inadequate within Dutch policy, however, and climate-security is still not an explicit field with dedicated policy, budget, and activities.

4 Data-Driven Assessment: Identifying Hotspot Countries and Regions of Risk

With the playing field and relevant climate-security policy and instruments set out in the previous chapter, this chapter aims to identify hotspot countries of risk that can be feasibly supported via ongoing Dutch-funded programs focusing on achieving the sustainable development goals and other areas relevant for addressing climate change and related security risks.

The data-driven risk assessment uses quantitative data to assess and rank countries based on variables related to **potential impact** and **feasibility** (see Figure 5). Potential impact comprises two aspects: first, a country's risk of experiencing climate-related insecurity; and second, how that insecurity may negatively affect the vital security interests of the (Kingdom of) the Netherlands. Feasibility is characterized by international opportunities for cooperation and socio-economic development opportunities to counter or mitigate the climate-related security risks and their consequences.

The data-driven risk assessment thus considers two key research questions:

1. **Potential Impact**: To what extent is a country at risk of experiencing climate insecurity? (Direct potential impact); and to what extent does a country's risk of experiencing climate insecurity transpose into a threat to the vital security interests of (the Kingdom of) the Netherlands? (Consequential potential impact)
2. **Feasibility:** To what extent does a country at risk of climate insecurity offer opportunities for effective cooperation?

The variables 'potential impact' and 'feasibility' were selected based on an extensive literature review of climate security, international cooperation, and Dutch policy priorities. Since the existence of climate-related security risks in a country does not automatically present a threat to the (Kingdom of) the Netherlands, the focus in this report is mainly those countries where the risk has a *potential impact* on the vital security interests of the (Kingdom of) the Netherlands (e.g. country's proximity to Europe and/or the Caribbean part of the Kingdom, in the case of a high risk of irregular, cross-border migration). Feasibility, in turn, is important to determine the likelihood of successful cooperation, either via the government and/or regional or local organizations on the ground. The variables and their underlying indicators are subject to critical review based on their relevance for measuring phenomena of interest (how 'direct'

the indicator proxies for the phenomenon of interest), geographical coverage and quality of the datasets (reliability). For a review of the limitations of the methodology see Annex A.

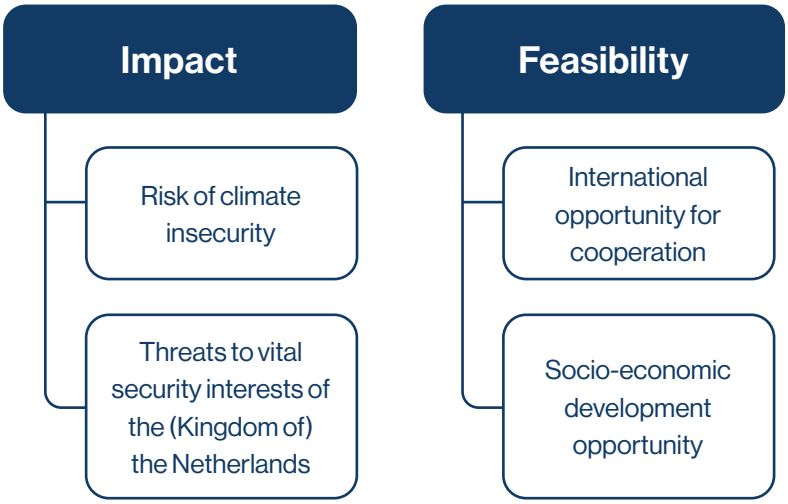

Figure 5: Data-Driven Risk Analysis

4.1 Measuring Potential Impact

Potential impact in the context of this study is defined as the degree to which a country is at risk of climate insecurity and the potential (negative) impact this has on vital security interests of the (Kingdom of) the Netherlands. The research questions and sources underlying these variables are explained below and outlined further in Table 1.

Climate-related Security Risks

Climate-related security risks comprise elements such as territorial integrity, ecological security, economic security, physical security, human security, and social and political stability.[115] Taking both national security *and* human security into account is important, as national security is a fundamental condition for protecting human lives and advancing human security, including human rights. In the risk assessment, relevant hazards include natural events or trends that are directly influenced by climate change. These include: 1) Flooding: coastal and riverine floods; 2) Tropical storms: cyclones, hurricanes, typhoons; 3) Landslides; 4) Droughts; 5) Heat waves; and 6) Wildfires.[116] Countries' risks of climate-related insecurity is a function of their levels of fragility and ability to cope with external pressures. As countries that are more fragile and have lower levels of human development tend to be more vulnerable to climate-related challenges becoming security issues, this study includes assessments of countries' levels of fragility and human development. The HCSS Climate Security Risk Assessment methodology[117] provides a useful framework to start identifying hotspot countries of risk for this analysis. This is because the methodology delineates both the probability

115 Femke Remmits, Elisabeth Dick, and Michel Rademaker, 'Climate Security Assessment: A Methodology and Assessment of the Nexus between Climate Hazards and Security of Nations and Regions' (The Hague, Netherlands: The Hague Centre for Strategic Studies, December 2020), 18.

116 Remmits, Dick, and Rademaker, 18.

117 Remmits, Dick, and Rademaker, 18. This methodology is developed within the framework of the International Military Council on Climate and Security (IMCCS) for the 2021 World Report on Climate Security.

that a climate-related disaster occurs and the potential impact of its occurrence in the form of the loss, damage, and adverse effects to people, livelihoods, ecosystems, infrastructures, societies, economies, institutions, that could become or aggravate drivers of instability and insecurity in a given society.[118]

Vital security interests of The (Kingdom of) the Netherlands and/or the EU

Within the context of this study, vital security interests of the (Kingdom of) the Netherlands and/or the EU are defined by the level of social-political stability in hotspot risk countries and the (potential) spillover effects to the (Kingdom of) the Netherlands, including the Dutch Caribbean, and/or the EU. An example of how climate-related insecurity in a hotspot area may spill over into a security threat to the (Kingdom of) the Netherlands and the EU presented itself in the aftermath of the Arab Spring. Instability and violence in Syria leading up to the Arab Spring in 2011 were in part influenced (and exacerbated by) by the combination of drought and food insecurity and government response to protests (including human rights violations).[119] This resulted in large numbers of refugees coming to the Netherlands and Europe more broadly.[120] Refugees from Syria numbered 378,000 in 2015, accounting for 29% of all of Europe's 1.3 million asylum-seekers that year – the highest share of any nation.[121] The 2015 peak in migration to Europe also led to social and political unrest in the Netherlands, leading to a downward spiral in citizens' trust in the Dutch government to adequately manage the situation.[122] The recent projections by the World Bank that in a 'business as usual scenario', internal climate-related migration by 2050 will likely peak to 9 million in North Africa alone, will likely lead to a dramatic increase in migratory flows to Europe. Even if a fraction of that number ends up migrating to the Netherlands, this will put unprecedented pressure on the Dutch and EU asylum regimes.[123] Better understanding and anticipation of where climate-related risks for internal displacement and migration will be the highest, will be a critical step to reducing external migration flows and reducing those pressures. In this report, the security risk for the (Kingdom of) the Netherlands and the EU is measured based on an assessment of the following conditions in hotspot risk countries: 1) levels of engagement in interstate conflict; 2) human rights record; 3) the number of asylum requests by persons from the country to the Netherlands.

118 Remmits, Dick, and Rademaker, 27.

119 Francesco Femia, Anne-Marie Slaughter, and Caitlin Werrell, 'The Arab Spring and Climate Change' (Washington, D.C., United States: The Centre for Climate and Security, February 2013), 23.

120 Centraal Bureau voor de Statistiek, 'Hoeveel asielzoekers komen naar Nederland?', Centraal Bureau voor de Statistiek, 2021; United Nations High Commissioner for Refugees, 'UNHCR Viewpoint: "Refugee" or "Migrant" – Which Is Right?', UNHCR, 11 July 2016; Romana Abels, 'Populisten bepalen de grenzen in Europa', Trouw, 23 June 2018.

121 Phillip Connor, 'Record 1.3 Million Sought Asylum in Europe in 2015' (Washington, D.C., United States: Pew Research Center, 2 August 2016), 9.

122 Toon Kuppens et al., 'Ongenoegen, Migratie, Gastvrijheid En Maatschappelijke Onrust' (Groningen: Onderzoek Rijksuniversiteit Groningen, 2019), 2.

123 Kuppens et al., 2. According to a 2019 study by the Rijksuniversiteit Groningen commissioned by the Dutch Scientific Research and Documentation Centre (WODC), public opinion of the Dutch reception policy for asylum seekers has gone down dramatically, with 38% expressing their negative opinion of the Dutch asylum regime in 2017 to 63% in 2019. From the perspective of national security, 30% of the Dutch public thinks the government performs so badly that the entire asylum system should be overhauled altogether, and 21% thinks the Dutch government should be seriously dealt with on this matter and is prepared to use violence. Interestingly, emotions regarding asylum seekers have remained stable and positive, with the majority of Dutch expressing feelings of empathy.

Variable	Research Question	Source
Risk of climate-related insecurity	To what degree is the country at risk of the following climate hazards: coastal and riverine floods, cyclones, hurricanes, typhoons, landslides, droughts, heatwaves, and wildfires?	HCSS climate risk assessment
	To what degree do the pressures in the country outweigh the countries' ability to manage these pressures?	Fragile States Index (FSI)
	To what degree does the country achieve key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living?	Human Development Index (HDI)
Threat to vital security interests of NL/Carib/EU	Has the country eroded the international framework underpinning state sovereignty by engaging in intense forms of interstate and intrastate conflict?	Heidelberg Institute for International Conflict Research
	Is the country a champion or underminer of human rights?	Freedom house
	To what degree is the country in a state of peace?	Global peace index
	To what extent is the country a source of migration to the (Dutch part of) the Netherlands based on the number of requests?	CBS (Netherlands Bureau of Statistics)
	To what extent is the state a source or transit point for migrants traveling to Europe?	Frontex

Table 1: Potential impact criteria. Source: HCSS

4.2 Measuring Feasibility

This study defines feasibility as the degree to which cooperation is likely to be successful based on opportunities for cooperation and social-economic development opportunities. Countries at high risk of climate-related insecurity with risk to the (Kingdom of) the Netherlands do not always offer opportunities for effective cooperation. High levels of instability, lack of political and institutional will, and/or capacity for such engagement can complicate the Netherlands' ability to cooperate with countries facing climate-related security risks. It is therefore important to assess countries' levels of both climate-related security risks and the likelihood that Dutch engagement will be successful. The feasibility criterion provides more insight into the possibilities for engagement and the likely outcome of cooperation – the 'feasibility' of engagement. Feasibility refers to the level of socio-economic development opportunities, as well as to factors that influence whether countries 'get along' with one another and whether they are willing and able to cooperate in joint efforts to address climate-related security risks. While the assessment of feasibility requires a much broader and longer-term decision-making process, the variables selected for this study provide a good starting point for identifying which countries are likely to offer opportunities for cooperation with the Netherlands. The research questions and sources underlying these variables are explained and outlined further in Table 2 below.

Opportunities for International Cooperation.

This criterion gauges the feasibility of Dutch engagement with a given country. Engagement with countries with which the Netherlands does not have a standing relationship, and in which potential partners do not share values with the Dutch government, are likely to be less impactful than if the opposite were true. In this regard, it is important to consider alignment with existing policies directly related to climate change and/or the environment as well as climate security nexus 'themes', or factors that may influence the pathway from a climate-related risk to instability, such as women's rights and gender equality. These climate security

nexus themes also influence the kinds of engagement and programs a country is willing to cooperate on and their subsequent success. It is therefore important to assess: 1) to what degree the Netherlands and the hotspot risk country are compatible as defined by the extent to which the country shares similar values to the Netherlands in several domains, including energy and environment, political, democracy and human rights, economic and military[124]; and 2) the degree to which the hotspot risk country is willing to cooperate to address climate security challenges, based on its commitment to mitigating climate (in)security.

Socio-Economic Development Opportunities.

The Netherlands also seeks opportunities to engage with and support risk countries beyond climate-related engagements, including in the field of economic development. Every year, the Dutch government exerts substantial effort to promote sustainable economic growth in developing countries.[125] As such, hotspot risk countries that offer such broader opportunities for cooperation (for the Netherlands government, private sector, social entrepreneurs, knowledge institutions, and NGOs) are especially interesting for the Netherlands to cooperate with in the field of climate security. Because effectively undertaking existing opportunities also requires that the country offers a lucrative environment for stakeholders to work in, an assessment is included of countries' regulatory environments, and to what extent these are conducive to starting and operating businesses. These criteria provide a good starting point for assessing possible socio-economic development opportunities that can be complemented by further context-specific analysis in later stages of policy and decision-making processes.

Variable	Research Question	Source
International opportunity for cooperation	To what degree are the Netherlands and the hotspot risk country compatible?	HCSS Dutch Foreign Relations Index (DFRI)
	What is the scope of relevant hotspot risk countries' commitment to addressing (prevention, mitigation, adaptation) climate (in) security?	Bertelsmann Stiftung Transformation Index (Criteria: 'market economy: sustainability: environmental policy')[126]
Socio-economic development opportunity	To what degree is the country governed according to agreed rules and principles in a way that ensures the security of its people and the country?	Bertelsmann Stiftung Transformation Index (Criteria Governance: Consensus Building)[127]
	To what degree does the country make positive use of international assistance in its development agenda?	Bertelsmann Stiftung Transformation Index (Criteria Governance: International Cooperation)[128]
	To what degree is the country able to compete fairly and successfully in markets for internationally traded goods and services that allow for rising standards of living over time?	Global Competitiveness Index[129]

Table 2: Criteria feasibility. Source: HCSS

124 Tim Sweijs et al., 'Dutch Foreign Relations Index', Dutch Foreign Relations Index, 2017.

125 Ministerie van Algemene Zaken, 'Directeur-generaal Internationale Samenwerking (DGIS + PlvDGIS)'.

126 Sabine Donner et al., 'Transformation Index of the Bertelsmann Stiftung 2020', 2020, 35.

127 Klaus Schwab, 'The Global Competitiveness Report 2019', Insight Report (World Economic Forum, 2019).

128 Schwab.

129 Klaus Schwab and Xavier Sala-i-Martin, 'Global Competitiveness Index 2017 2018', Global Competitiveness Index 2017-2018, 2017.

4.3 Four-Step Methodology to Identify Relevant Countries of Risk

To assess countries' level of risk and potential for cooperation this research methodology takes **four steps**. **First**, countries are scored across on the (individual) criteria potential impact and feasibility (as defined in the sections above). **Second**, countries' scores on the potential impact and feasibility criterion are labeled to provide an assessment of countries' relative performance, with labels ranging from high, medium-high, medium, medium-low, low (see Box 1 for more detail on the methodology to assign performance labels). **Third**, countries' potential for cooperation is assessed based on countries' combined scores across the two criteria potential impact and feasibility with potential for cooperation ranging from low potential, medium potential, and high potential. **Fourth**, countries in the medium potential and high potential categories are subject to additional criteria to cluster countries that are especially interesting for cooperation.

Box 1.
Methodology to Assign Performance Labels for Potential Impact and Feasibility

Performance labels for potential impact and feasibility were applied according to similar – but not identical – methodologies. The cut-off points for low, medium-low, medium, medium-high, and high performance labels within the feasibility variable are designed to be more stringent than they are in the potential impact variable. This means that it is relatively easier for a country to attain a score of low or medium-low within feasibility than it is within potential impact. The cut-off points for potential impact are the following: 0-10% (low), 11-30% (medium-low), 31-50% (medium), 51-80% (medium-high), 81-100% (high). This means that countries only obtain a low or high label if they fall below the 10th percentile or above the 80th percentile within the potential impact variable. The cut-off point for feasibility are the following: 0-20% (low), 21-50% (medium-low), 51-70% (medium), 71-90% (medium-high), 91-100% (high). This means that countries only obtain a low or high label if they fall below the 20% percentile or above the 90% percentile within the feasibility variable. The cut-off points have been arranged in this way to reflect the different types of measurements. Potential impact measures the real-world situation at the country level, providing a clear overview of the degree to which individual countries have climate-related security risks with potential impact on the vital security interests of the (Kingdom of) the Netherlands. These scores correspond to a real-world reality: countries which are assigned a "low" performance label are, objectively speaking, in worse shape than countries which are assigned "medium-low," or "medium" performance labels. The feasibility measurement is subject to relatively higher margins or error. Because feasibility is likely to play an important role in informing the allocation of resources, the research team attached high value to ensuring it did not yield recommendations which did not align with reality. For this reason, it has been relatively more difficult for countries to receive "medium," "medium-high," or "high" performance labels within this variable.

The labels assigned for potential impact and feasibility (shown in Table 3 and Table 4 below), are based on the combined score across the components underlying each variable. For example, a score of high on potential impact means a country scores high across both risk of climate insecurity and poses a threat to the vital security interests of the (Kingdom of) the Netherlands, and a score of low means a country scores low on both risk of climate insecurity and risk to the (Kingdom of) the Netherlands. The same accounts for feasibility. This approach is taken because it provides the most intuitive assessment and categorization of a countries potential risk and feasibility that allows for meaningful comparison between countries.

Potential Impact	
Label	**Definition**
High	The country experiences a high risk of climate insecurity and presents a high security risk for the (Kingdom of) the Netherlands (and EU).
Medium-high	The country experiences a considerable risk of climate insecurity and presents a considerable security risk for the (Kingdom of) the Netherlands (and EU).
Medium	The country experiences a moderate risk of climate insecurity and presents a moderate security risk for the (Kingdom of) the Netherlands (and EU).
Medium-low	The country experiences limited risk of climate insecurity and presents a limited security risk for (the Kingdom of) the Netherlands (and EU).
Low	The country experiences a low risk of climate insecurity and presents a low security risk for the (Kingdom of) the Netherlands (and EU).

Table 3: Definition performance labels potential impact

Feasibility	
Label	**Definition**
High	The country offers great opportunity for cooperation on the climate-security nexus.
Medium-high	The country offers good opportunity for cooperation on the climate-security nexus.
Medium	The country offers some opportunity for cooperation on the climate-security nexus.
Medium-low	The country offers limited opportunity for cooperation on the climate-security nexus.
Low	The country offers low opportunity for cooperation on the climate-security nexus.

Table 4: Definition performance labels feasibility

Countries score on potential for cooperation based on the combination of scores on potential impact and feasibility. Use of performance labels based on the combined potential impact and feasibility score allows for the identification of countries where climate insecurity poses a risk, where intervention or cooperation is more or less likely to be successful, and – in more generic terms – what the risks and opportunities are of engagement. It also provides policymakers with an intuitive assessment to inform decision-making and facilitates the intuitive communication of study results. The performance labels for potential for cooperation are sorted based on the definitions in Table 5 below.

Country Cluster	Definition
Low Potential	The low potential countries have either low feasibility or low impact. Low impact means these are at no or limited risk of climate insecurity and not priority countries for the Netherlands, or Europe more broadly. Low feasibility means that the country has low levels of compatibility with the Netherlands and has low socio-economic development opportunities including governance and economic competitiveness. Due to these combined factors, cooperation is a challenge and unlikely to lead to the intended result of mitigating climate insecurity. Even in the case of countries with high impact embarking on partnerships is unlikely to lead to positive outcomes. Addressing climate insecurity in these countries may be more effective by developing partnerships with countries in the region that may also be at risk and where stability can benefit the wider region.
Medium Potential	The countries that fall within the medium potential countries have either medium-low feasibility or impact. Medium-low impact means that countries are at risk of climate-related risk but tend to be less fragile and better able to mitigate these risks. Medium-low feasibility means that the countries are at least partially compatible with the Netherlands and have sufficient socio-economic opportunity including governance and competitiveness to enable successful partnerships. There may be challenges to establishing such partnerships, however, they need to be considered and assessed.
High Potential	The high potential countries have at least medium impact and medium feasibility. This means that the potential impact is large enough to be a potential risk, including to the Netherlands. In terms of feasibility, the medium to high score means that there is potential for fruitful cooperation and partnership. While there may be some challenges the countries are generally aligned (enough) to be able to cooperate effectively.

Table 5: Definition of country labels based on potential for cooperation. Source: HCSS

4.4 Additional Criteria of Interest

To come to a final clustering of countries with the highest potential for cooperation, the countries that have the highest combined score on the risk of climate-related insecurity (impact) and feasibility are subject to additional criteria (see Table 6). These criteria include, the specific climate hazard in countries, the existence of bordering countries of risk, the geographical distance to the Kingdom of the Netherlands, and Dutch expertise based on the Netherlands' existing policy and instruments. The country clusters provide a useful initial reference point for broader Dutch cooperation efforts, including ongoing EU and UN initiatives, and NATO missions. It also supports the bundling of unilateral (country-specific) activities to create a stronger and more coherent approach to addressing climate security.

Additional Criteria		
Bordering Countries	To what extent is the bordering country vulnerable to instability, or offers a potential partner to mitigate the impact of climate-related security risks?	HCSS Climate Risk Assessment Fragile States Index Human Development Index
Geographical Distance	What is the geographical distance between the hotspot risk country and the Netherlands/Dutch Caribbean/EU?	Open-source Data
Hazard specific climate risk	What is the type of climate hazard to which the country is most at risk: coastal and riverine floods, cyclones, hurricanes, typhoons, landslides, droughts, heatwaves, and wildfires?	HCSS Climate Risk Assessment
Netherlands' expertise & capabilities	To what degree can the Netherlands provide added value in the hotspot country of risk?	Policy documents

Table 6: Additional criteria to cluster countries. Source: HCSS

4.5 Results: Mapping Countries of Risk

The data-driven analysis provides a ranking of countries level of risk and relevance for the Netherlands based on scores on potential impact and feasibility that has been mapped in Figure 6. In the scatterplot, the x-axis represents the countries' scores on potential impact and the y-axis represents the countries' scores on feasibility for cooperation. The point where the county is placed in the scatterplot therefore corresponds to its combined score across the criteria of potential impact and feasibility. Countries on the upper left of the scatterplot score high on feasibility but score low on potential impact. Countries in the lower right corner score low on the feasibility of cooperation but high on potential impact.

Some countries like Estonia, Lithuania, and Slovenia score very low on impact of climate security risks, but among the highest on feasibility of collaboration with the Netherlands. Other countries including Chad, Democratic Republic of Congo and Burundi score very high on impact of climate security risks, yet among the lowest in terms of feasibility.

The most interesting countries for this study are those that score high on the combination of impact and feasibility, such that there is risk of climate insecurity, and offer at least some opportunity for cooperation. This includes for instance Tunisia, Bangladesh, Colombia, Mauritania, and Uganda.

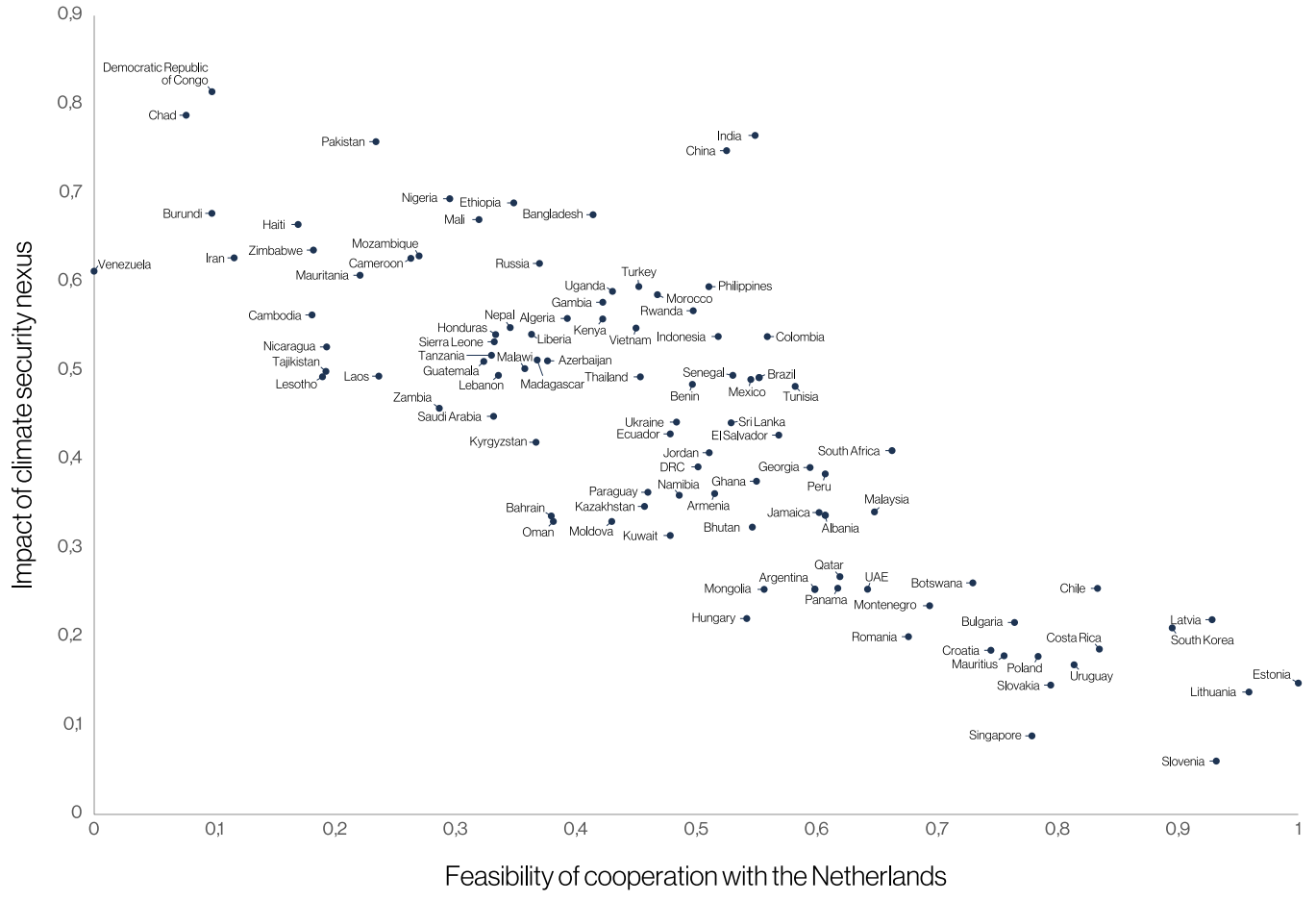

Figure 6: Potential for cooperation with the Netherlands. Source: HCSS

4.6 Country Clusters of Interest & Selection Case Study

To ensure climate-action is most effective and considers the broader regional context and potential for regional action, we have identified seven country clusters of interest (Figure 7). These country clusters include the countries with the highest combined score on impact and feasibility sorted based on the additional criteria (see Table 6). These criteria include countries specific climate hazards, whether bordering countries are also at risk or a potential partner to mitigate the impact of climate-related security risks, the Netherlands' expertise based on the Netherlands existing engagement with the country, and the geographical distance to the (Kingdom of) the Netherlands. Considering these criteria to cluster countries of interest is especially relevant because neighboring countries in the region often share climate-related risks, are in a better geographical position to provide support based on proximity and have an incentive to prevent internal stability in neighboring states from spilling over. Countries in the same region often also have pre-existing institutional frameworks for cooperation that can be used to engage in climate security action. From the seven identified country clusters of interest, the first cluster including Mali, Chad, Mauritania, Niger, and Burkina Faso was selected as a case study for further analysis, as input for the game-driven analysis.

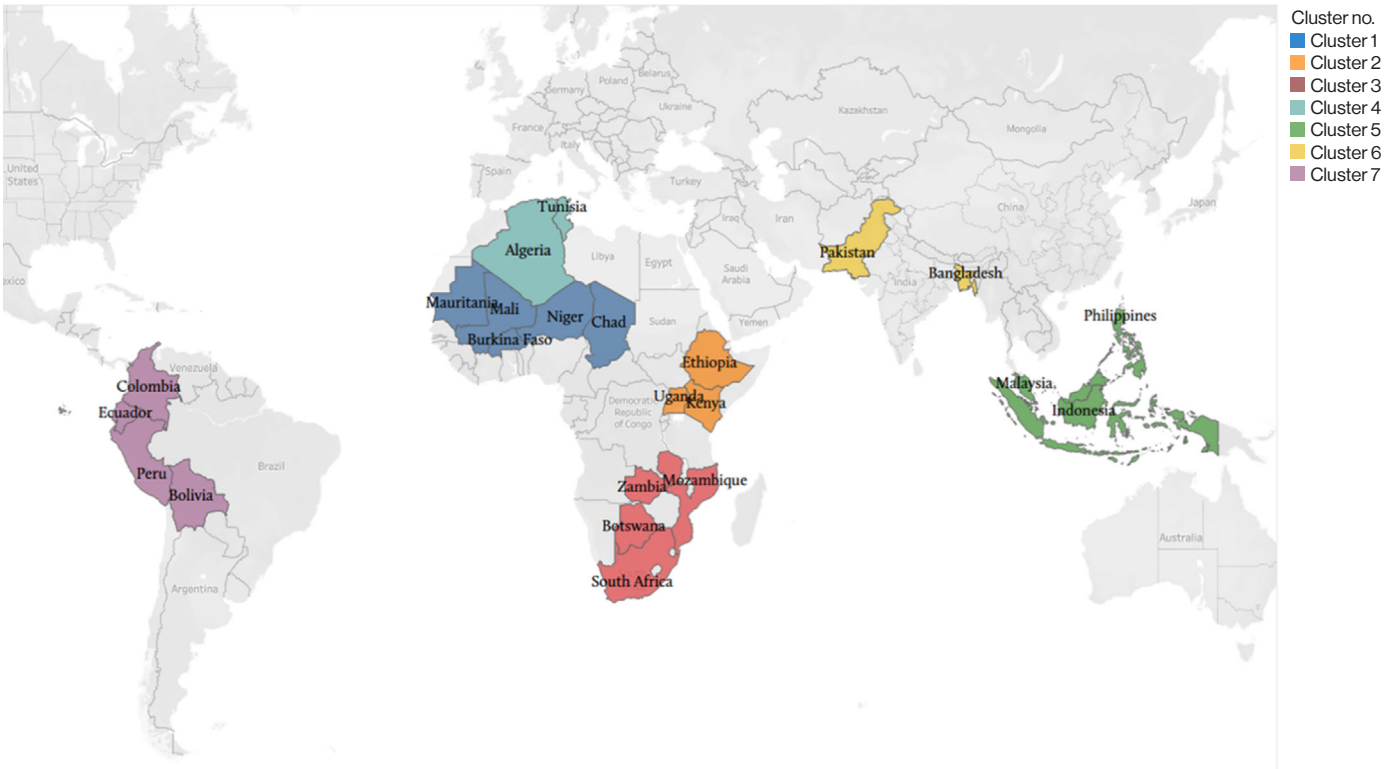

Figure 7: Mapping of country clusters. Source: HCSS

4.6.1 Zoom-in: Africa

Cluster 1: **Mali, Chad, Mauritania, Niger, Burkina Faso.**

The Sahel region including Mali, Chad, Mauritania, Niger, Burkina Faso is at high risk of climate insecurity, due to the shared vulnerability to climate hazards such as drought and desertification, and existing state fragility and instability.[130] While feasibility for engagement is limited in many of these countries, there are nonetheless opportunities for the Netherlands to build on existing initiatives, especially within the context of EU policy in the Sahel, including the EU's Integrated Strategy in the Sahel approved in April 2021.[131] This G5 Sahel strategy puts more emphasis on engagement at the political level and governance to ensure long-term sustainable environmental, social, and economic development in addition to cooperation on direct security issues.[132] The Netherlands already engages in Mali in the field of development cooperation, including on security and the rule of law, sexual and reproductive health and rights,[133] and provides support for climate-focused projects in the field of food security, renewable energy, and disaster risk reduction.[134] The Netherlands also provided support to the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), including reconnaissance and intelligence, and training of the Malian police force.[135] The EU also includes Mali among the countries that receive preferential trade agreements to support the countries' development.[136] Recent events in Mali, and the second military coup in May 2021 in particular, have brought additional instability to this already fragile country. It has led to increasingly complex relations between Mali and the remaining G5 countries, and a suspension from both ECOWAS and the African Union. Yet, since Mali has similar climate risks, remains integrated into broader international and regional cooperation initiatives, is key to Dutch defense efforts in the region, and vital for stability in the region, it is included in the cluster.[137]

The Netherlands has less established relations with the other countries, Chad, Mauritania, and Niger, but scaling activities to these countries could yield benefits in terms of regional stability. The Sahel region is also a focus area of the Water, Peace, and Security Partnership, supported by the Netherlands government. The existing partnership between these countries as members of the G5 Sahel (that also includes Burkina Faso), and the Economic Community for West-African States (ECOWAS) provides an institutional framework to facilitate and strengthen coordination to regional challenges including regional cooperation on climate security.[138] The EU has been working together with ECOWAS on a range of political and security issues. The Sahel Alliance launched in 2017 by France, Germany, and the EU, for example, already supports the G5 Sahel on development issues, for which climate change is a key component.

130 Ministry of Foreign Affairs, 'Climate Change Profile: West African Sahel' (Ministry of Foreign Affairs, April 2018).

131 Eric Pichon and Mathilde Betant-Rasmussen, 'New EU Strategic Priorities for the Sahel, Addressing Regional Challenges through Better Governance' (European Parliament, July 2021); Council of the European Union, 'The European Union's Integrated Strategy in the Sahel - Council Conclusions' (Council of the European Union, 16 April 2021), 4.

132 Pichon and Betant-Rasmussen, 'New EU Strategic Priorities for the Sahel, Addressing Regional Challenges through Better Governance'.

133 Ministerie van Buitenlandse Zaken, 'Wat doen wij in Mali?', Nederland Wereldwijd (Ministerie van Buitenlandse Zaken, 2021).

134 Ministry of Foreign Affairs, 'Climate Change Profile: Mali'. Climate Change Profiles are considered a separate form of engagement because it indicates concrete collaboration between the Netherlands and the selected country in the field of climate change. In Mali, for example, the Netherlands supports climate-relevant projects in the field of food security, renewable energy, and disaster-risk reduction.

135 Ministerie van Defensie, 'Nederlandse Bijdrage in Mali', Defensie, 1 May 2019.

136 European Commission, 'List of GSP Beneficiary Countries' (European Commission, 1 January 2019).

137 Al-Jazeera, 'Mali Suspended from African Union, Threatened with Sanctions', Al-Jazeera, 2 June 2021.

138 Al-Jazeera, 'ECOWAS Suspends Mali over Second Coup in Nine Months', Al-Jazeera, 31 May 2021.

Cluster 2: **Ethiopia, Kenya, Uganda**

In the Eastern part of Africa, the bordering countries Ethiopia, Kenya, Uganda have been challenged by climate hazards with risk of climate insecurity (and potential impact on the security of the Netherlands). The major risks in these countries are increasing drought, rainfall variability, and riverine floods that put pressure on the population's ability to secure their livelihoods.[139] The countries also struggle economically due to similarly high levels of dependence on unsustainable agriculture and large-scale deforestation.[140] While there are challenges to cooperation with these countries due to the security, political, and economic environment, there are existing partnerships that provide a starting point for further cooperation on climate action. Uganda, Kenya and Ethiopia are already working together with the EU Emergency Trust Fund For Africa (EUTF for Africa) on the issue of Strengthening Resilience of Pastoralism.

The Netherlands also has direct partnerships with Uganda, Ethiopia, and Kenya. In Uganda, the Netherlands organizes activities related to various UN Sustainable Development Goals (SDGs)[141] with a focus on improving stability and democracy,[142] and supports climate-relevant projects in the fields of food security, renewable energy and DRR including the strengthening the capacities of small farmers to cope with the effects of climate change.[143] Uganda also plays a role in peacekeeping missions and in mediating political stability in South Sudan and Burundi and is the largest refugee-hosting country in Africa due to its open-door policy for refugees mainly coming from South Sudan and DRC.[144] In Ethiopia, the Netherlands supports the achievement of the SDG goals with a focus on reforms on safety, human rights, and women's rights,[145] supports climate-relevant projects on food security and renewable energy,[146] and has in the past contributed to the United Nations Mission in Ethiopia and Eritrea (UNMEE) (2000-2008).[147] In Kenya, the Netherlands supports efforts to increase safety and stability as well as climate-action in the area of food security/sustainable value chains, renewable energy, water management, and disaster risk reduction.[148] All three countries are also receivers of EU preferential trade agreements.[149] The Netherlands cooperates and assists this cluster by leading the EU Regional Development and Protection Programme (RDPP) in the Horn of Africa, as well as through the Water, Peace and Security Partnership in Ethiopia and Kenya. While some tensions exist between the latter two countries around water resource management, they cooperate through the East Africa Community on various regional issues in the political, economic, and social domains.[150] Moreover, the three countries are part of the Intergovernmental Authority on Development (IGAD) that aims to achieve peace, prosperity, and regional integration, thereby also including climate risks and objectives.[151] The EU, among others through the EUTF for Africa, has provided assistance and financing to IGAD for developing its peace and security strategy in the region.

139 Ministry of Foreign Affairs, 'Climate Change Profiles'.

140 Ministry of Foreign Affairs.

141 Ministry of Foreign Affairs, 'Countries and Regions - Development Cooperation', Government of the Netherlands, 2021.

142 Government of the Netherlands, 'The Netherlands and Uganda', Government of the Netherlands, 13 August 2019.

143 Ministry of Foreign Affairs, 'Climate Change Profile: Uganda' (Ministry of Foreign Affairs, April 2018), 9.

144 Ministry of Foreign Affairs, 'The Netherlands in Uganda Multi-Annual Country Strategy 2019 - 2022' (Ministry of Foreign Affairs, 2019), 1.

145 Government of the Netherlands, 'The Netherlands and Ethiopia', Government of the Netherlands, 13 August 2019.

146 Ministry of Foreign Affairs, 'Climate Change Profile: Ethiopia' (Ministry of Foreign Affairs, April 2018), 12.

147 Ministry of Defence, 'The Dutch Contribution to United Nations Mission in Ethiopia and Eritrea (UNMEE) - Historical Missions', Ministry of Defence, 8 September 2017.

148 Ministry of Foreign Affairs, 'Climate Change Profile Kenya' (Ministry of Foreign Affairs, April 2018), 9.

149 European Commission, 'List of GSP Beneficiary Countries'.

150 East Africa Community, 'Overview of EAC', East Africa Community, 2021.

151 Intergovernmental Authority on Development, 'IGAD - OUR STRATEGY', June 2021.

Cluster 3: **Zambia, Botswana, Mozambique, South Africa**

Zambia, Botswana, Mozambique, and South Africa share the climate risk of increasing temperatures and decreasing precipitation, resulting in a higher frequency of droughts as well as desertification.[152] Mozambique and South Africa face an increased risk of coastal floods due to the rising sea levels and heavy rainfall. This was the case in Mozambique in January 2021, which killed more than a dozen people, and left 17.000 houses damaged.[153] The risk for climate hazards coupled with social-economic and political fragility and (at least some) compatibility with the Netherlands means that Zambia, Botswana, and Mozambique offer some potential for cooperation, with the Netherlands already providing support to climate-relevant projects in Mozambique in the fields of food and nutrition security, integrated water management, and renewable energy.[154] The four countries are already engaged in partnerships and work together on the issue of climate change under the Southern African Development Community (SADC), which established the Southern Africa Sub-Regional Framework of Climate Change Programs. This strategic framework sets out the sub-regional adaptation and mitigation actions, and the measures of implementation. The elaborate institutional framework of the SADC provides a basis for future cooperation, also through the well-established multilateral relations that exist between the SADC and the EU. Development Cooperation between the EU and the SADC and specifically with Botswana is firm. South Africa, Zambia, Botswana, Mozambique, are all part of the Commonwealth of Nations, despite Mozambique not being a former colony under the British Empire.

Cluster 4: **Tunisia, Algeria**

Tunisia and Algeria share a vulnerability to heatwaves and droughts and function as transit countries for migrants traveling from the Middle East and North Africa towards Europe.[155] Rising sea levels put the Tunisian and Algerian coastal areas at risk. Both Algeria and Tunisia struggle with diversifying energy consumption and production away from fossil fuels to sources of renewable energy, such as solar energy.[156] While there is some tension between Tunisia and Algeria, especially over the Western Sahara with Morocco, both are a member of the African Union, the Arab League, and Union for the Mediterranean. Tunisia and Algeria are both included in the EU Neighborhood Policy and hold bilateral Association Agreements in exchange for the country's commitments to political, economic, trade, or human rights reform. Tunisia and Algeria are also included in the EUROMED Migration V program funded by the EU that runs from 2020-2023 to establish a comprehensive dialogue and co-operation framework on migration.[157] Well-established relations between the EU and Algeria and Tunisia are pivotal for all parties. The EU is the largest trading partner for both countries, while on the other hand Algeria and Tunisia are vital partners for dealing with migration.[158] The Netherlands is already working together with Tunisia on the promotion of the SDGs and has developed a three-year strategy (2019-2022), to promote and stimulate further development.[159] In bilateral

152 Southern African Development Community, 'Southern African Sub-Regional Framework of Climate Change Programmes', June 2010.

153 NASA Earth Observatory, 'Eloise Floods Mozambique' (NASA Earth Observatory, 2 February 2021).

154 Ministry of Foreign Affairs, 'Climate Change Profile: Mozambique' (Ministry of Foreign Affairs, April 2018), 9.

155 Tasnim Abderrahim, 'Pushing the Boundaries: How to Create More Effective Migration Cooperation across the Mediterranean – European Council on Foreign Relations', European Council for Foreign Relations, 15 January 2019.

156 Ministry of Foreign Affairs, 'Climate Change Profiles'.

157 International Centre for Migration Policy Development, '"EUROMED Migration V (EMM5)",' ICMPD, December 2020.

158 European Commission, 'Countries and Regions: Tunisia', European Commission, 9 June 2021.

159 Ministerie van Buitenlandse Zaken, 'Nederland En Tunesië' (Ministerie van Buitenlandse Zaken, June 2019).

talks in 2016, former foreign minister Bert Koenders, and his Algerian counterpart agreed on working closer together, as well as establishing a partnership agreement between the Energy Research Centre of the Netherlands and its Algerian equivalent, which functions as a basis for further knowledge exchange in the realm of sustainable development.[160]

4.6.2 Zoom-in: Asia

Cluster 5: **Indonesia, Philippines, Malaysia**

The neighboring countries in Asia, Indonesia, the Philippines, and Malaysia are all at risk of coastal flooding, riverine floods, and landslides. The three countries have an extensive coastal area, which forms the center of economic activity, and a home to most of the population, therefore posing a major challenge in the wake of future sea-level rise.[161] There is also potential for cooperation with the Netherlands based on existing partnerships, especially with Indonesia, where the Netherlands supports climate-relevant programs with a focus on food security, water resources management and renewable energy.[162] Indonesia and the Philippines also receive preferential trade agreements and also enjoy a cordial bilateral relationship in the spirit of kinship[163] and all three countries have joint forces in the Trilateral Cooperative Arrangement, to address marine security issues. Moreover, the countries reunited in a joint defense action against the terrorist group Daesh.[164] There are some tensions between the Philippines and Malaysia, but the countries nevertheless enjoy regional diplomatic relations as members of the East ASEAN Growth Triangle together with Brunei in the BIMP-EAGA. The Netherlands partners with Indonesia, the Philippines and Malaysia on a variety of economic, social, and political issues. Climate-related security issues in the region offer opportunities for further cooperation but may also present challenges for the Netherlands' presence, making addressing these issues even more relevant.[165]

Cluster 6: **Bangladesh, Pakistan**

In the Southern part of Asia, Bangladesh and Pakistan are especially prone to flooding and heatwaves. Erratic rainfall threatens food and water security in these countries and has the potential to cause massive displacement of the population.[166] Pakistan and Bangladesh are in transition from an agribusiness-based economy to an urban-based industrial economy and face the particular challenges of climate change that this entails.[167] The Netherlands already collaborates with Bangladesh in the field of development[168] including specific climate-relevant projects with a focus on integrated water management, WASH and food security,[169]

160 Government of the Netherlands, 'The Netherlands Strengthens Ties with Algeria', Government of the Netherlands, 9 March 2016.

161 D. Y. Bin Nordin, 'Towards Sustainable Coastal Planning and Policies from a Malaysian Perspective', *WIT Trans. Ecol. Environ* 88 (2006): 45–54.

162 Ministry of Foreign Affairs, 'Climate Change Profile Indonesia' (Ministry of Foreign Affairs, April 2018), 9.

163 European Commission, 'List of GSP Beneficiary Countries'.

164 Andrea Passeri, 'The Enemy Within: Indonesia and Malaysia's Fight against Daesh', Italian Institute for International Political Studies, 5 December 2018.

165 European Commission, 'Overview of Natural and Man-Made Disaster Risks the European Union May Face'.

166 Ministry of Foreign Affairs, 'Climate Change Profiles'.

167 Muhammad Azam and Abdul Qayyum Khan, 'Urbanization and Environmental Degradation: Evidence from Four SAARC Countries—Bangladesh, India, Pakistan, and Sri Lanka', *Environmental Progress & Sustainable Energy* 35, no. 3 (2016): 823–32.

168 Ministry of Foreign Affairs, 'Countries and Regions - Development Cooperation', 2021.

169 Ministry of Foreign Affairs, 'Climate Change Profile Bangladesh' (The Hague, Netherlands: Ministry of Foreign Affairs, April 2018), 13.

and both countries receive preferential trade agreements.[170] Both have Muslim-majority populations, are geographically proximate and share borders with India where climate insecurity could have spill-over effects in the region. These countries have established diplomatic relations since the 1970s and while some tensions remain both countries recognize opportunities for cooperation through multiple bilateral agreements. Bangladesh and Pakistan are founding members of SAARC, members of the Developing 8 Countries, the OIC and the Commonwealth of Nations, and both are classified as Next Eleven emerging economies. The Netherlands already works closely together with Bangladesh on a range of climate-relevant projects, such as the Bangladesh Delta Plan 2100, the WASH programs, Integrated water management programs, Sustainable agriculture programs and the Geodata for Agriculture and Water (G4AW) program. The Netherlands and Pakistan have well-established trade relations, through bilateral agreements such as the Agreement on Economic Cooperation and Protection of Investments. These well-established bilateral relations would form a basis for development cooperation in the future.[171]

4.6.3 Zoom-in: South America

Cluster 7: **Colombia, Peru, Ecuador, Bolivia**

South America is at risk of climate hazards and insecurity and is especially vulnerable to landslides, forest fires, extreme storms, and droughts.[172] Colombia, Peru, and Ecuador are bordering countries with a similar abundance in natural biodiversity and ecosystems. These countries are furthermore of interest due to the risk instability in the region poses to the Caribbean part of the Kingdom (Aruba, Curacao, St Maarten, Bonaire, St Eustatius, Saba). While Venezuela is not included in the cluster due to its low feasibility, it is at risk of climate insecurity and as a bordering country to Aruba, Bonaire, and Curacao, is relevant to consider. Bolivia is also a bordering country that is vulnerable to the spill-over effects of instability in the region, which has been excluded from the cluster due to a lack of data. All are Andean countries involved in SICE trade agreement with the EU (including cooperation on competitiveness and innovation).[173] Climate change is an important issue in the relations between the EU and Latin America and the Caribbean (LAC), featured among others the summits between the EU and the Community of Latin American and Caribbean States (CELAC) and in bilateral trade agreements with Colombia and Peru.[174] EUROCLIMA, and its successor programs, and the Latin America Investment Facility (LAIF), in which the countries partake are regional flagship programs providing a basis for future development cooperation.

170 European Commission, 'List of GSP Beneficiary Countries'.

171 the Government of the Islamic Republic of Pakistan and the Government of the Kingdom of the Netherlands, 'Agreement on Economic Cooperation and Protection of Investments between the Kingdom of the Netherlands and the Islamic Republic of Pakistan', 1988, 8.

172 K Miner, 'Climate Environmental Security Risks in South America', *Climate Change Institute* (blog), 29 October 2019.

173 Foreign Trade Information System, 'SICE: Trade Agreements', Foreign Trade Information System, 2021.

174 Thierry Cabuzel, 'Latin America and the Caribbean', European Commission, 23 June 2017.

Key take-aways Data-driven Assessment

- To identify hotspot countries of risk, this study has developed a data-driven risk assessment that uses quantitative data to assess and rank countries based on potential impact and feasibility.
- Potential impact comprises two aspects: first, a country's risk of experiencing climate-related insecurity; and second, how that insecurity may negatively affect the vital security interests of the (Kingdom of) the Netherlands.
- Feasibility is characterized by international opportunities for cooperation and socio-economic development opportunities to counter or mitigate the climate-related security risks and their consequences.
- Hotspot countries of risk are organized in clusters based on; countries' specific climate hazards, whether bordering countries are also at risk or offers a potential partner to mitigate the impact of climate-related security risks, the Netherlands' expertise based on the Netherlands existing engagement with the country, and the geographical distance to the Kingdom of the Netherlands.
- Seven country clusters of interest were identified:
    - For Africa four clusters were identified. First, Mali, Chad, Mauritania, Niger, Burkina Faso, second, Ethiopia, Kenya, Uganda, third, Zambia, Botswana, Mozambique, South Africa and fourth, Tunisia, Algeria.
    - For Asia, two clusters were identified. First, Indonesia, Philippines, Malaysia, second, Bangladesh, Pakistan.
    - For South America one cluster was identified: Colombia, Peru, Ecuador, Bolivia.

5 Case Study: Developing Insights from the G5 Sahel

From the seven identified clusters, the first cluster including Mali, Chad, Mauritania, Niger, Burkina Faso, was chosen to get a better contextual understanding of the climate-security nexus and programs and initiatives currently being undertaken by the international community, with a focus on the Netherlands. This chapter outlines the objective of the case study, the rationale for selecting the Sahel region, the research approach, and the key observations and recommendations, that serve as the starting point for the game-driven analysis. The full case study description can be found in Annex C.

Objective

The objective of the case study is to understand the Netherlands' current programming and initiatives in the Sahel region relevant to the field of climate security and inform and support the design of a game-driven analysis. It provided the starting point for the identification of gaps in current engagement, opportunities for the Netherlands to strengthen and expand its climate security policy and step-up relevant action with (potential) local and international partners. While the case study focuses on the Sahel region, it serves to provide broader insights about Dutch climate-security action and generic conclusions and recommendations that are relevant beyond the Sahel context.

Rationale for Selecting the Sahel Region

The Sahel region is an interesting starting point to reflect on the current state of Dutch climate security policy and action for several reasons. The region is among the key hotspot regions for climate-related insecurity due to its exposure to climate hazards such as drought and desertification, existing state fragility and instability and vulnerability to further onset and escalation of conflict.[175] Stability in the Sahel is also important for the Netherlands and Europe due to the region's strategic geographic location connecting East, Central and West Africa to the EU, and the pathway it forms for illicit smuggling in drugs, weapons, and people.[176] While most of the migration is intraregional, a lucrative irregular migration sector to Europe has also developed.[177] This has put European borders under increasing pressure. As Sahel coun-

175 Ministry of Foreign Affairs, 'Climate Change Profile: West African Sahel'.

176 Ank Bijleveld-Schouten and Stef Blok, 'Jaarlijkse Voortgangsrapportage Kleine Missiebijdragen 2020' (Tweede Kamer der Staten-Generaal, Mei 2021), 14.

177 United Nations Office on Drugs and Crime, 'The Role of Organized Crime in the Smuggling of Migrants from West Africa to the European Union' (Vienna, Austria: United Nations Office on Drugs and Crime, 2011), 1.

tries undertake efforts to curb illicit trafficking routes, the geography of these routes shifts, highlighting the importance of a regional approach. Moreover, the region is home to a variety of armed groups affiliated with the Islamic State (IS) and Al-Qaida, creating a further security concern for Europe. While international efforts, such as MINUSMA are undertaken to bring stability to the region, armed groups remain intact, and have even enlarged their outreach in Central Mali.[178] The Netherlands has existing bilateral and multilateral partnerships with the countries in the Sahel that are addressing climate change and security,[179] involving members of the 4D community (diplomacy, development, disaster-response, defense). There are major challenges for effective climate-security action in the region including ongoing conflict, political unrest, a faltering economy, and fragile institutions. At the same time, there are also opportunities to strengthen current involvement, based on existing engagement and international efforts in the region. For example, military and security actors can play a bigger role in providing safe passage for development and humanitarian organizations to implement climate-related action. These and similar efforts should be integrated into current programming to effectively address climate-related security risks by optimizing synergies between programs, reducing redundancy, and strengthening coherence.

Research Approach

To get a holistic understanding of current programs and initiatives addressing the climate-security nexus, we looked at three climate-security nexus themes (see Table 7); natural resources, society, and economy. This provided a strong baseline to develop and fill in the game-driven analysis and identify gaps and opportunities in current engagement, linking current engagement to the specific capabilities that could be strengthened in the region. While the game-driven analysis zooms in on Mali, it is important to first understand the broader regional context, to support regional initiatives and programming. Failure to consider the broader region can threaten to undermine the effectiveness of programming, due to possible spill-over effects of conflict and instability.

Theme	Scope	Definition
Natural Resources	Water, Food, and Ecosystems	Efficient, equitable, and sustainable use of natural resources such as water, food, and ecosystems. Ensuring equal access to water, monitoring systems for water (re)use and the quality of aquatic habitats. Organize the ownership, modification, and cultivation of land in order to provide in food demand for both human consumption and animal feed that ensures a reliable, fair and balanced distribution. Restoring and protecting biodiversity, preferably through nature-based solutions and ecosystem services that boost societal resilience and stimulate innovations.
Society	Human wellbeing and community infrastructure	Ensuring equal access to healthcare and well-functioning social infrastructure, such as schools, libraries, shelters, parks, social protection systems and housing, and safe and reliable access to transport, energy, and other basic services, to make societies more resilient and better prepared to cope with climate-driven insecurity, environmental and human-made risks and shocks.
Economy	Economic development and sustainable livelihoods	Sustainable creation of wealth from which the entire community benefits and that ensures access to resources (capacities) to sustain basic needs, including food, shelter, clothing, cultural values, and social relationships. Provision of viable livelihoods for rural communities in areas affected by climate change.

Table 7: Climate security themes. Source: HCSS

178 Katherine Pye, 'The Sahel: Europe's Forever War?' (Centre for European Reform, March 2021).

179 Bijleveld-Schouten and Blok, 'Jaarlijkse Voortgangsrapportage Kleine Missiebijdragen 2020'. Examples of security initiatives that the Netherlands is active in are EUCAP Sahel in Mali and Niger, the European Union Training Mission to Mali, and the United Nations Multidimensional Integrated Stabilization Mission in Mali.

Observations and recommendations

The Sahel case study of climate-security risks, required capabilities and Dutch policy, yields several relevant observations, that provide a first impetus of the gaps and possible opportunities for climate-action in the region. These observations and recommendations serve to inform the game-driven analysis in chapter **Error! Reference source not found.** and provide a starting point to identify concrete opportunities for strengthening ongoing Dutch-funded activities in a 'hotspot' country of risk.

Observation 1:
The framework of development and security initiatives is fragmented.

The Sahel region has a high variety of actors and initiatives at play on a range of thematic issues, which makes truly integrated action difficult but also highly important.[180] To improve collective action, and achieve sustainable long-term and peaceful development, an integrated approach is required, including knowledge and information exchange, specifically to establish early warning and prevention mechanisms, and to improve planning integrated actions on climate and security risks.[181] Also at the national level, initiatives are dispersed across different themes. Integration between these thematic areas could be improved.

Recommendation: The question arises: how can the Netherlands be of added value and not increase this fragmentation? The Netherlands should, in its strategy to the Sahel pick up on the existing expertise and the initiatives undertaken by other countries within the region. While the Netherlands is part of the Sahel Alliance which streamlines international aid initiatives to the region, it still conducts a substantial part of the cooperation bilaterally. Countries such as France and Switzerland, with a long history of cooperation with the Sahel countries, have both different expertise as well as linguistic capability, that the Netherlands could benefit from. This also works the other way around, as the Netherlands' expertise could increase the impact of international and European initiatives in among others Gender and Conflict sensitivity. Gender and Conflict sensitivity are important capabilities that require mainstreaming, and by undertaking action and sharing expertise with the existing initiatives, the Netherlands can improve the impact of policies in the Sahel without increasing fragmentation. An overview of potential partners for the Netherlands can be found in Table 11.

Observation 2:
EU and international initiatives are too focused on state capacity building.

International and especially EU initiatives have been too narrowly focused on state capacity building, while neglecting the strength of the social contract between the authorities and the population. As the August 2020 Report of the Expert Group of the Security Council highlights, state capacity-building in Mali has led to provisioning technical and financial means to a government not representing its population and increasingly using force against its

180 Damien Helly et al., 'Sahel Strategies: Why Coordination Is Imperative', *Institute for Security Studies*, March 2015, 12.

181 Stockholm International Peace Research Insitute (SIPRI) and Norwegian Institute of International Affairs, 'Climate, Peace and Security Fact Sheet: Sahel', April 2021.

own inhabitants.[182] The focus on the capacity building of centralized governments in power, while neglecting the social contract between these elites and the rural population, has led to an overall worsening of instability in the region. Taken together with the fact that conflict in the Sahel often originates locally, because of tensions between ethnic-militant groups and climate events, this shows the need for a move away from state capacity building to local capacity building and resilience, public involvement, and a focus on strengthening the social contract between regional governments and the population. The EU Council Conclusions, setting out the guidelines for a renewed version of the 2014-2020 Sahel Strategy, emphasize the need to move away from this narrow focus on state capacity building. [183]

Recommendation: The Netherlands already contributes to the shift away from mere state capacity building to more local capacity building. Our capabilities analysis shows the added value the Netherlands has brought to enacting local capacity building (capability 16), specifically within Mali. For example, the Women's Peace and Humanitarian Fund, and the Decentralization Budget, all focus on local capacity building and training, and improving the resilience of the population. The Programme de Gouvernance Locale Redevable (PGLR), initiated by the Netherlands Development Organization (SNV) and empowering democratic institutions across 180 municipalities in Mali, is a good example of how the Netherlands can have an exemplary role, for international initiatives in empowering local democratic institutions and enacting local capacity building.[184] The Netherlands has been pushing for a focus on good governance in the new Sahel Strategy coined by the EU Council Conclusions. Yet, good governance, and reinforcing the social contract in the Sahelian states is complex due to the weak institutional capacity of the Sahel governments.[185] Thus, this focus on good governance alone is not sufficient. Therefore, Netherlands should further invest in projects improving the coping capacity of local, vulnerable groups. Projects improving resilience of local groups - such as the SNV STAMP+ project that seeks to improve resilience of pastoralist and transhumant groups - should receive priority.[186]

Observation 3:
Broader macro trends as urbanization and population growth are confounding factors for climate-related security risks and require the application of additional capabilities, such as urban resilience and family planning.

Recommendation: The Netherlands can respond to broader macro-trends in the Sahel influencing climate security through capabilities that it has expertise in, yet has not yet frequently invested in. A macro-trend that increasingly creates climate-security vulnerability, is urbanization. The expansion of cities, coupled with a rise in frequency and intensity of heatwaves and flooding, puts the population at risk, such as in Nouakchott, the capital of Mauritania.[187] To prevent climate events from destructing livelihoods and causing migration and thereby following a pathway to conflict, urban resilience is required. However, our analysis of Dutch

182 United Nations Security Council, 'Final Report of the Panel of Experts Established Pursuant to Security Council Resolution 2374 (2017) on Mali and Renewed Pursuant to Resolution 2484 (2019)' (United Nations Security Council, 13 August 2020).

183 Council of the European Union, 'The European Union's Integrated Strategy in the Sahel - Council Conclusions'.

184 SNV, 'Programme de Gouvernance Locale Redevable (PGLR)', SNV, 2021.

185 For example, the number of civil servants is fairly limited: in comparison, in France there are 89 civil servants per 1,000 inhabitants, in Burkina Faso there are only 8 civil servants per 1,000 inhabitants. In Mali this number is 6 and in Niger, this number is only 3. Alex Thurston, 'The Hollowness of "Governance Talk" in and about the Sahel' (Istituto Per Gli Studi Di Politica Internationale, 12 April 2021).

186 SNV World, 'STAMP+: Building on Success', accessed 14 July 2021.

187 Nathalie Abu-Ata, 'Mauritania's Race against the Rising Sea', World Bank Blogs, 27 October 2015.

capabilities shows that the Netherlands has not invested in urban resilience in Mauritania, and only limitedly in other Sahel countries. Yet, the Netherlands has applied this capability elsewhere, for example in Beira, Mozambique, where it invested in a masterplan for urban resilience after a devasting flood. In response to sea-level rise in Mauritania, the Netherlands can also assert its capability for Building of Infrastructures: Dams. The Netherlands has already worked with Mauritania on water management in the case of the Senegal river and could extend its water management expertise to coastal areas, to improve the climate security situation in Mauritania.

Observation 4:
International and European military security initiatives are mainly focused on short-term hard security, and inadequately take climate-security risks into account in practice.

While on the international and regional stage increasing recognition for the importance of the link between climate change and security risks that are increasingly considered in strategic foresight and Early Warning, this has not translated to practical action to the same degree. There is still a large focus on counterterrorism.

Recommendation: The hard security and counterterrorism focus of the initiatives in the Sahel, should move towards a more peacebuilding approach, in which there is attention for the root causes of conflict including climate change and ethnic marginalization. A conflict-sensitive risk assessment is highly important. The Netherlands already includes climate indicators in the process of generating its strategic foresight. For example, through the research program Progress, which produces annually a Strategic Monitor. [188] In this framework, long-term themes and tools are being explored which could improve the early warning mechanism. This kind of research is pivotal for integrating climate considerations into the hard defense sector, and therefore should receive additional attention. A second step that the MoD could undertake to promote climate security in (future) missions, is to get involved in the discussion of the mandate, of the missions that the Netherlands partakes in. The Netherlands could push for more attention to the root causes of conflict, within the mandate of these missions.

Based on NATO's recent Agenda on Climate Change and Security, similar recommendations can be made for the Netherlands defense sector, to incorporate long-term climate security into its way of operating. First, increased awareness of the impact of climate change on the hard-security dimension within the defense sector and incorporating climate trends into risk assessments. Secondly, the military should work to include climate concerns into its work on among others civil resilience, capacity building, and innovation, and thereby stimulate adaptation. This means on the one hand integrating climate security into current operations and on the other hand allowing climate-security risks assessments to have a greater role in decision-making processes on whether, and how, to engage military operations. A more practical recommendation integrating climate-security risks of the region into initiatives is to adjust missions to the climate conditions in the region. For example, military bases in the Sahara should consider the problem of water scarcity in the region, and adjust the water use and ecological footprint accordingly.

Figure 8 provides a summary overview of the four key observations coming out of the use case analysis and our corresponding recommendations.

188 Klimaatadaptatie Nederland, 'Veiligheid', Klimaatadaptatie Nederland, 2019, 31.

Observation 1 The framework of development and security initiatives is fragmented.	• The NL can apply its expertise in inter-agency coooperation, and stakeholder involvement to foster dialogue between different parties
Observation 2 EU and international initiatives are too focused on state capacity building.	• The NL can contribute to reinforcing the local capacity building of existing intiatives with its expertise in social capabilities
Observation 3 Broader macrotrends as urbanization and population growth are confounding factors for climate security risks and require specific capabilities.	• The NL can contribute to eliminating these risks by investing in capabilities that remain currently underexplored in the Sahel, such as Urban resilience, or Building of Infrastructures: Dams
Observation 4 Military security intiatives are mainly focused on short-term hard-security goals, and inadequately consider long-term climate security risks in practice.	• The NL can stimulate awareness of climate trends on security issues in defense initiatives, and lobby for an inclusive mandate of (future) missions • Through its military initiatives the NL can contribute to further climate adaptation, by taking climatic trends into account in their work on innovation, civil resilience and capacity building.

Figure 8: Case study Sahel: observations and recommendations

6 Game-Driven Analysis: Designing Smarter Programs for Increased Impact

In the final phase of the study, the study group designed a game-driven analysis to identify concrete opportunities for strengthening ongoing Dutch-funded activities in a hotspot country of risk and possible cooperation options.[189] Mali was selected as a country of focus given past and ongoing Dutch development priorities and vital security interests. To conduct the game-driven analysis, an analytical framework was developed on the basis of the specific climate security challenges (hazards and their effects) of the region and a mapping of ongoing Dutch programs, initiatives, and missions that touch upon the climate-security nexus in Mali. To develop this mapping, the team zoomed in on policy and programs defined during the Rutte III administration (2017-2021). The team organized two trial runs to validate and align the framework with existing policy and practice that were followed by a 'real' game to test the game's broader added value for defining climate security policy and practice. This was done with experts from the Netherlands Ministries of Foreign Affairs and Defense.

The game-driven analysis serves to achieve several broader objectives, that are relevant beyond the specific use case of Mali:

- Conduct country-specific and/or regional mappings of Dutch programs, initiatives, and capabilities in the field of climate change and security in a structured way to create an overview of the current state of play.
- Facilitate strategic discussions between Dutch policy experts and other relevant stakeholders on climate-security policies, programs, initiatives, and capabilities.
- Identify opportunities to strengthen synergies and coherence between the Netherlands' current programs, initiatives and capabilities in a given country or region that is relevant to address the climate-security nexus and underlying thematic areas (society, economy, natural resources).
- Provide a starting point to identify cooperation options for the Dutch government and ministries, hotspot countries or regions of risk and potential partners.

189 Michel Rademaker et al., 'Climate & Security Strategic Capability Game Takeaways' (Planetary Security Initiative, July 2019). The game is based on a *serious gaming* methodology and took as its starting point the game that was developed in the context of the Planetary Security Initiative (PSI) and adjusted to fit the objectives of this research.

The game-driven analysis includes three interlinked steps:

- Step 1: **Pre-game contextual analysis & inventory** of Dutch programs and context-specific capabilities.
- Step 2: **Mapping and prioritizing capabilities** to identify priorities, gaps, and opportunities.
- Step 3: **Identifying cooperation options** to support specific prioritized capabilities and optimize current practice.

The next sections explain the three steps of the game-driven analysis in more detail, zooming in on the key elements, processes, and objectives of each step.

6.1 Step 1: Pre-Game: Contextual Analysis & Inventory of Dutch Programs & Capabilities

Prior to playing the game, the research team conducted an in-depth contextual analysis of climate-security risks in the broader Sahel region and made an inventory of the Dutch programs and initiatives that have been carried out in the Sahel, with a zoom-in analysis on programming in Mali in the period 2017-2021 (Rutte III).

Both the contextual analysis and mapping provided the necessary groundwork for playing the game. The preconditions include:

- **Ensure the inclusion of context-specific capabilities.** The contextual analysis and the mapping of current programming serve to inform and verify the pre-selection of relevant capability cards that are context-specific and fit for purpose. The starting point for the game is a set of climate security mitigation capabilities defined as 'the ability to [do something] with an intended [effect]' set up in the context of the PSI initiative.[190] It includes 46 capabilities that cover climate-security risks across different climate contexts from drought scenarios to melting icecaps in the arctic. Based on analysis of context-specific climate-security risks and the Netherlands current programs in the Sahel (and specifically in Mali) this project has used a sub-set of 36 capabilities out of the original set of 46 capabilities that are specifically relevant to the climate-security risks in Mali (see the full list of the capabilities in Annex D).
- **Create situational awareness & understanding.** To assess the Netherlands' current policies and identify and prioritize capabilities and cooperation options in Mali, it is imperative to have a clear overview of the Netherlands' current programs and capabilities in the field of climate security in Mali. The mapping of current programs and capabilities is the first step to facilitate discussion on the coherence of current programs, possible synergies, and possible new cooperation options**.**
- **Provide a level playing field for game participants (of the current state of play).** To facilitate a structural discussion, it is important that participants share an understanding of the Netherlands' current programming in the country/region and can assess policy and discuss cooperation options (in steps 2 and 3 of the game) based on this shared understanding.

190 Rademaker et al.

Based on the inventory of Dutch programs and initiatives in Mali, program cards were filled in with details about the program, involved stakeholders, and relevant capabilities to provide participants with more information on the Netherlands' current efforts in Mali (shown in Figure 9 and Figure 10). provides a sample capability card (participating in international agreements) used to assess the climate security capabilities that the Netherlands' current programs support and that are relevant to address country- and/or regional challenges (e.g., in Mali).

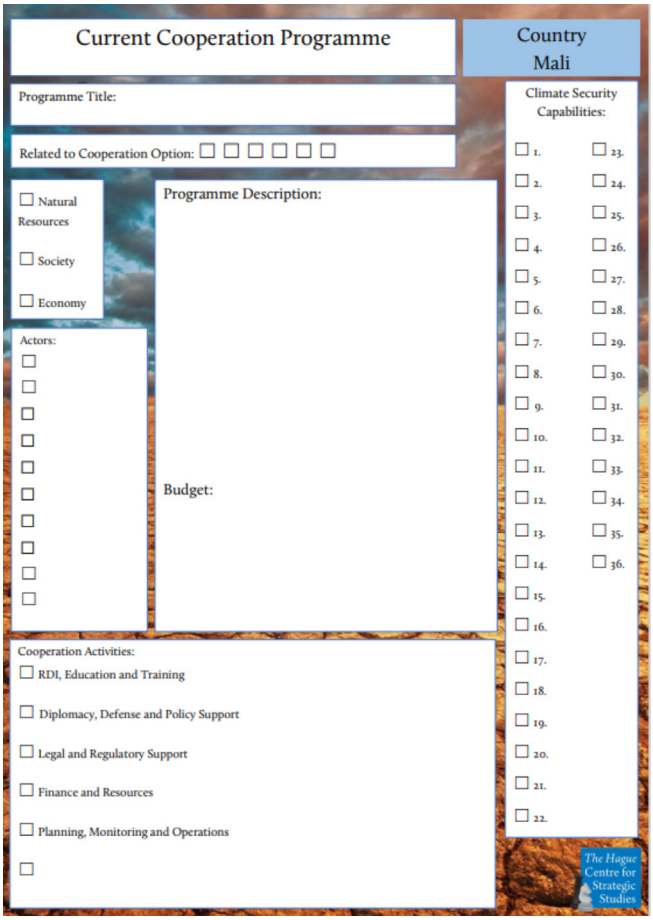

Figure 9: Example Program Card

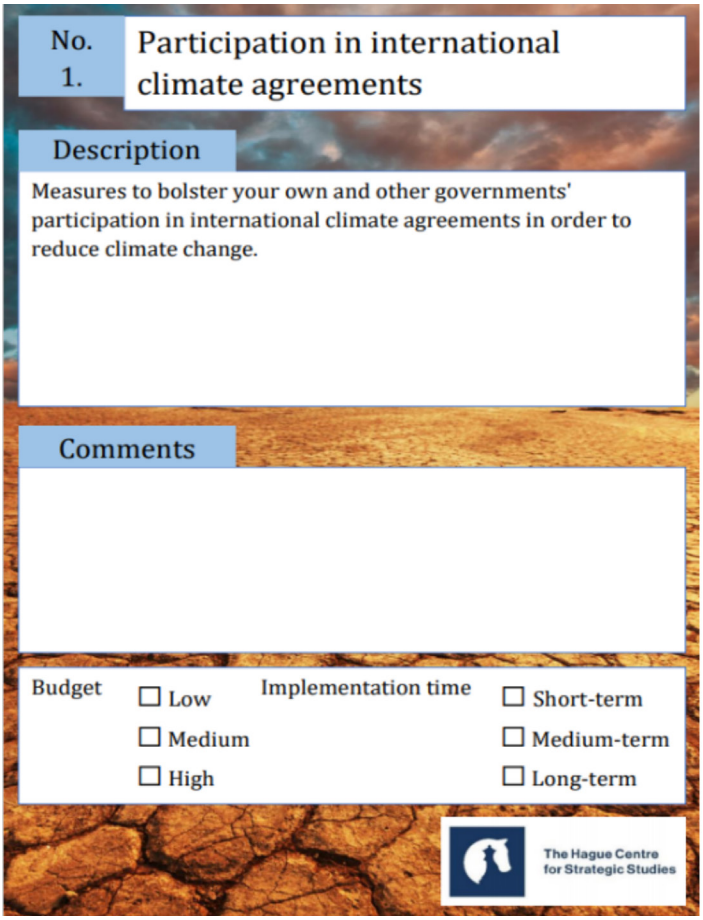

Figure 10: Example Climate-Security Mitigation Capability Card

6.2 **Step 2:** Mapping and prioritizing capabilities

Using the outputs of the pre-game research, several experts were identified by the Ministries of Foreign Affairs and Defense to participate in the actual game. During the game, participants were invited to jointly prioritize 8 to 10 capabilities (from the total set of 36 relevant capabilities identified in step 1) in order to explore cooperation opportunities. Cooperation opportunities may involve strengthening efforts to support the chosen capability based on existing programs (by expanding and/or creating synergies between existing programs) or by developing new programs.

The objectives of the first round of the game are:

- **To provide a clear overview of required climate security mitigation capabilities & set priorities.** Placing the capabilities within the framework enables participants to better oversee the total set of capabilities and prioritize the capabilities.
- **To facilitate discussion of differences of priorities.** Provides an easier way for participants to simultaneously see the capabilities that others prioritize and to ask questions about why these choices are made. It also enables participants to see the relations between their priorities and where they align and misalign more easily, creating more constructive, effective, and targeted discussions.
- **To spot opportunities for cooperation.** Laying out the capabilities and priorities on the table better enables participants to identify gaps, or areas that are prioritized to a lesser degree, that may provide opportunities for program revisions and/or cooperation.

Following the (joint) identification of capabilities of interest, players mapped the capabilities on a general analytical framework (see Figure 11) covering 1) strategic functions on the y-axis; and 2) functional areas on the x-axis. The strategic functions span the preparatory, response, and aftercare phases for addressing climate-security risks. The functional areas consist of diplomatic, information, military, and economic (DIME) considerations. They are explained in more detail in Box 2 below.

Box 2.
Definition Strategic Functions and Functional Areas

Strategic Functions: The x-axis consists of four strategic functions that were selected using the DIME approach, which categorizes potential impacts into Diplomatic, Informational, Military and Economic domains. Diplomatic capabilities encompass international relations, diplomacy, dialogue, and negotiations, including the creation of international treaties, policies, and law. Informational capabilities encompass the dissemination and collection of information and education in the broad sense of the word, facilitate learning processes and the gathering of knowledge, skills, or habits. Military capabilities are particular to (personnel working for) the armed forces and national defense agencies. Economic capabilities encompass capabilities in the realm of economics, such as trade policies, tariffs, subsidies, capital & infrastructure investments, and (financial) assistance.

Functional Areas: The y-axis consists of three functional areas across which the capabilities are played, these are: the preparatory, response and/or after-care phase of planning. Preparatory phase encompasses capabilities aimed at enhancing resilience, planning, and preparing for the consequences of climate change. Response phase encompasses capabilities aimed at limiting the direct impacts of a changing environment, natural disasters related to climate change, as well as the magnitude of long-term climate change. The after-care phase comprises capabilities aimed at establishing long-term solutions to climate change impacts and supports the recovery process of disaster-affected communities. Each capability is described using the same syntax: A mitigation capability is “the ability to do [something] with an [intended effect].”

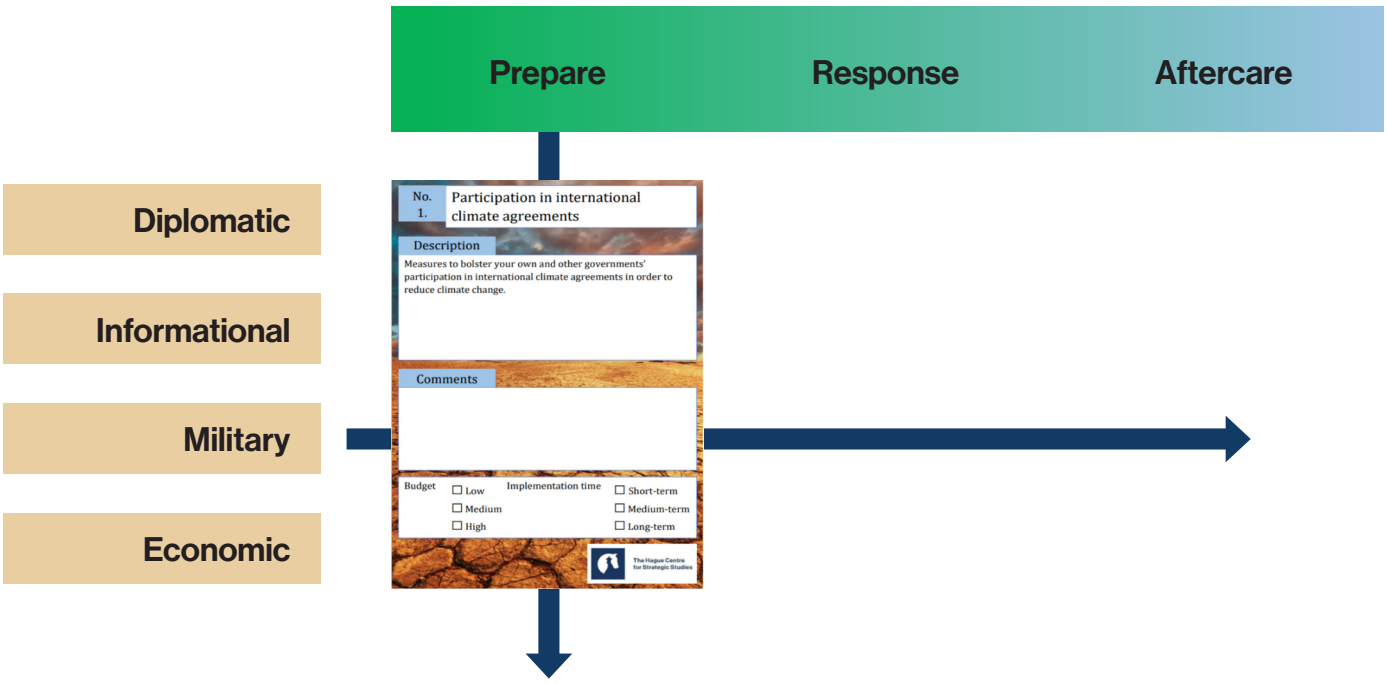

Figure 11: General analytical framework

After prioritizing capabilities and mapping them on the game's analytical framework, participants can opt to enter the next round of the game: identifying cooperation options.

6.3 **Step 3:** Identifying Cooperation Options

This round of the game focuses on defining cooperation options for supporting the development of the prioritized capabilities. For example, for the capability 'food security' (capability #14) in a given country, participants may opt to strengthen their support for equal distribution, availability, and access to (emergency) food.

For this round of the game, a new analytical framework - the Cooperation Analytical Framework - was designed. It includes **cooperation areas** (i.e., the type of cooperation on climate-security) and **cooperation themes** (i.e., the thematic area targeted in the cooperation) (see Figure 12). These two elements were included based on extensive research on climate-related security risks and the requirements to support and strengthen mitigation, adaptation and resilience to climate change and its security implications and explained in more detail below.

The Cooperation Game serves three objectives:

- **Identify & discuss different cooperation options.** Each capability can be supported in several ways, from research and education to financial and legal support. Choosing how to cooperate and with who a challenging task. Placing the options in the cooperation framework allows participants to have an overview of cooperation options and discuss these choices across experts from the 4-D community, supporting the development of an integrated and inter-disciplinary approach.

- **Create synergies and strengthen coherence between policy & programs.** The cooperation game enables participants not only to discuss differences but also to identify synergies and strengthen coherence between existing programs, and potentially develop new cooperation options.
- **Set priorities across cooperation options.** The Netherlands may be unable to support the various cooperation options across the prioritized capabilities and be required to make choices in terms of what cooperation option(s) to support, and in what order. Placing these options next to each other in the framework helps to identify linkages between cooperation options to determine priorities and interdependencies.

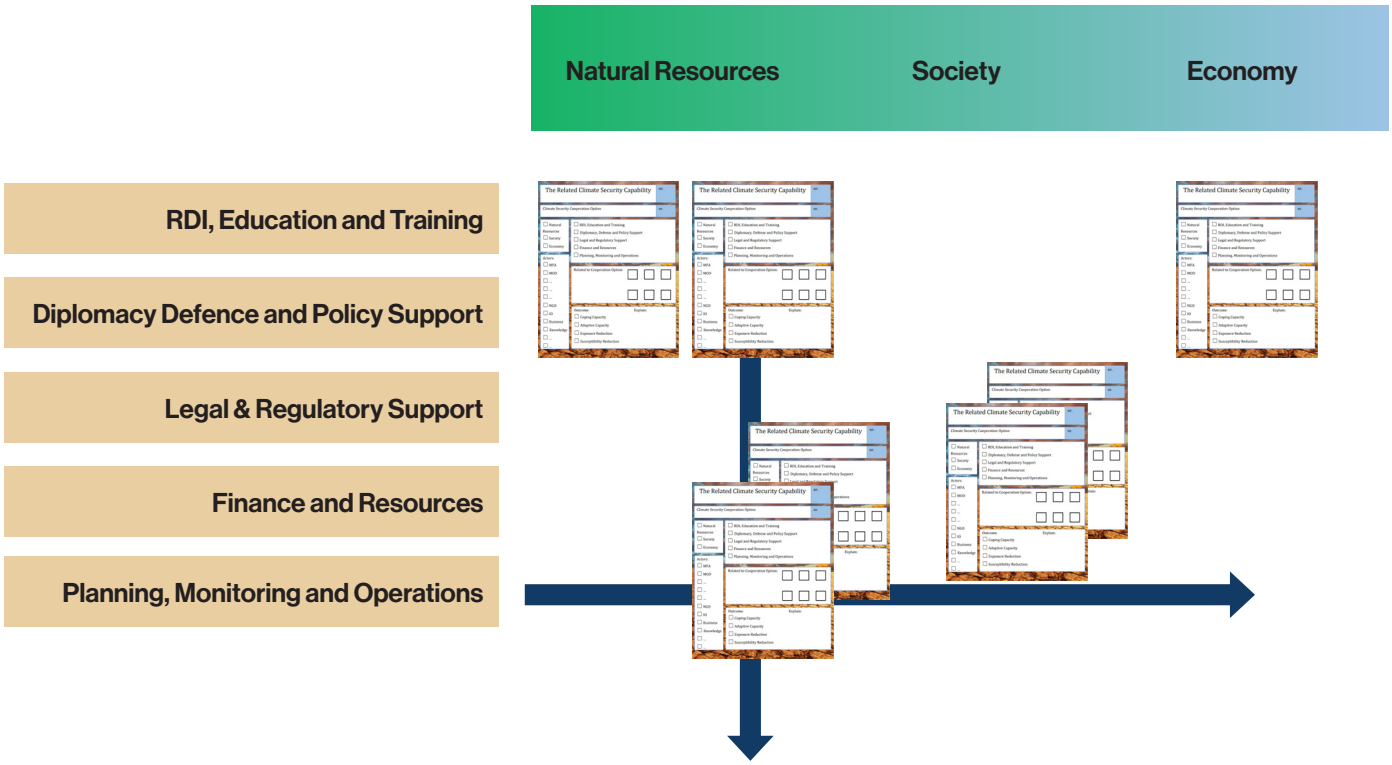

Figure 12: Analytical cooperation framework

Five **cooperation areas** were identified and included in the framework that represents different ways in which the Netherlands government can provide support. This ranges from increasing awareness and understanding of climate-security risks to the formulation of policies, strengthening of institutions, financial support, and the implementation of programs and missions. The kind of support that is required depends on the specific climate-security risks, governance system, and broader socio-economic situation in a country or region. Support may be required in specific areas, across several areas equally, or with emphasis on specific areas that may be more or less important.

The following definitions have been based on the most common cycles of cooperation in the realm of development cooperation.[191] Building upon these elements, we have created a set of five elements of cooperation that fits cooperation in the realm of climate security. They are described in more detail in Box 3.

191 The World Bank, 'World Bank Project Cycle', World Bank, 2021; European Commission, 'Aid Delivery Methods: Project Cycle Management Guidelines' (European Commission, March 2004), 16.

Box 3. Definitions Cooperation Areas

RDI, Education and Training: Support research and development programs aim at fostering innovation in approaches to climate change. Education schemes and training modules to support new methods and approaches.

Diplomacy, Defense and Policy: Supporting policy implementation through climate-related diplomacy efforts and/or complementary defense efforts.

Legal and Regulatory Support. Supporting law-making and implementation processes to strengthen regional, national, and local institutions and governance.

Planning, Monitoring and Operations. Support planning processes for the design, implementation and knowledge transfer of engineering systems, machines, and structures. Provide assistance to climate security-related military and non-military operations, from planning, implementation, to evaluation. Ensure that monitoring processes adhere to existing laws and regulations.

Finance and Resources. The supporting of projects through funding either through loans, grants, gifts, or credit insurance. Provision of other in-kind resources that may support specific climate security objectives.

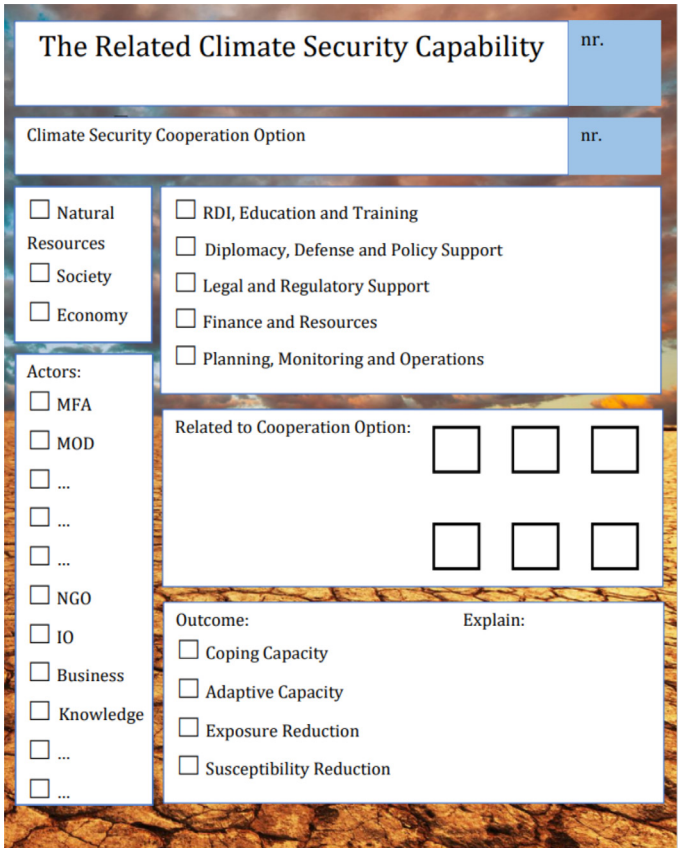

Figure 13: Cooperation option card

A total of **three thematic areas** were identified as relevant to address the climate-security nexus: natural resources, society, economy. The rationale for using these themes, their definitions and their scope is explained in the case study on the Sahel (see Annex C). The cards placed on the analytical framework for cooperation are referred to as cooperation option cards that describe each cooperation option (see Figure 13). The cooperation option cards include the cooperation area and thematic area described above in addition to the actors involved (e.g., MFA, MoD, business, civil society), and the intended outcome.

The intended **outcome** includes four possibilities: coping capacity enhancement, adaptive capacity enhancement, exposure reduction, and susceptibility reduction.[327] These outcomes are derived from the Climate Security Risk Methodology based on which vulnerability to climate insecurity and the risk that a natural hazard may turn into a natural disaster is determined by countries' exposure to climate hazards, susceptibility levels, coping capacity, and resilience (or adaptive capacity). To decrease this vulnerability, this game therefore includes the reduction of exposure and susceptibility and enhancement of coping and adaptive capacity, as the outcome of cooperation. The definitions of the outcome options are summarized in Box 4.

Box 4. Definitions Cooperation Areas

Coping Capacity Enhancement: the ability to cope with or recover from the physical shocks of a (natural) disaster in a timely and efficient way, including the protection, rebuilding or enhancement of its fundamental assets, structures, and functions in the short to medium term.

Adaptive Capacity Enhancement: the ability to adapt to climate-related security risks and anticipate potential natural hazards, which contributes to the mitigation or even prevention of future disaster risk.

Exposure Reduction: the ability to reduce the influence of the physical impact to human and natural systems. Exposure essentially refers to the presence of vital elements – including people, ecosystems, resources, livelihoods, infrastructures, and services – in locations that could be adversely affected by the impacts of a potential hazard.

Susceptibility Reduction: the ability to reduce the propensity of exposed elements to suffer negative consequences in terms of losses, damages, and adverse effects as a result of the impacts of climate-related hazards. Susceptibility essentially incorporates a socially constructed propensity to be negatively affected and is a key component of disaster risk.

The full game process covering the three-step approach is captured in Figure 14. It shows how the three steps of the game are connected and the input and output of each step, and how each step serves to achieve the overall objective to identify potential cooperation options related to selected capabilities.

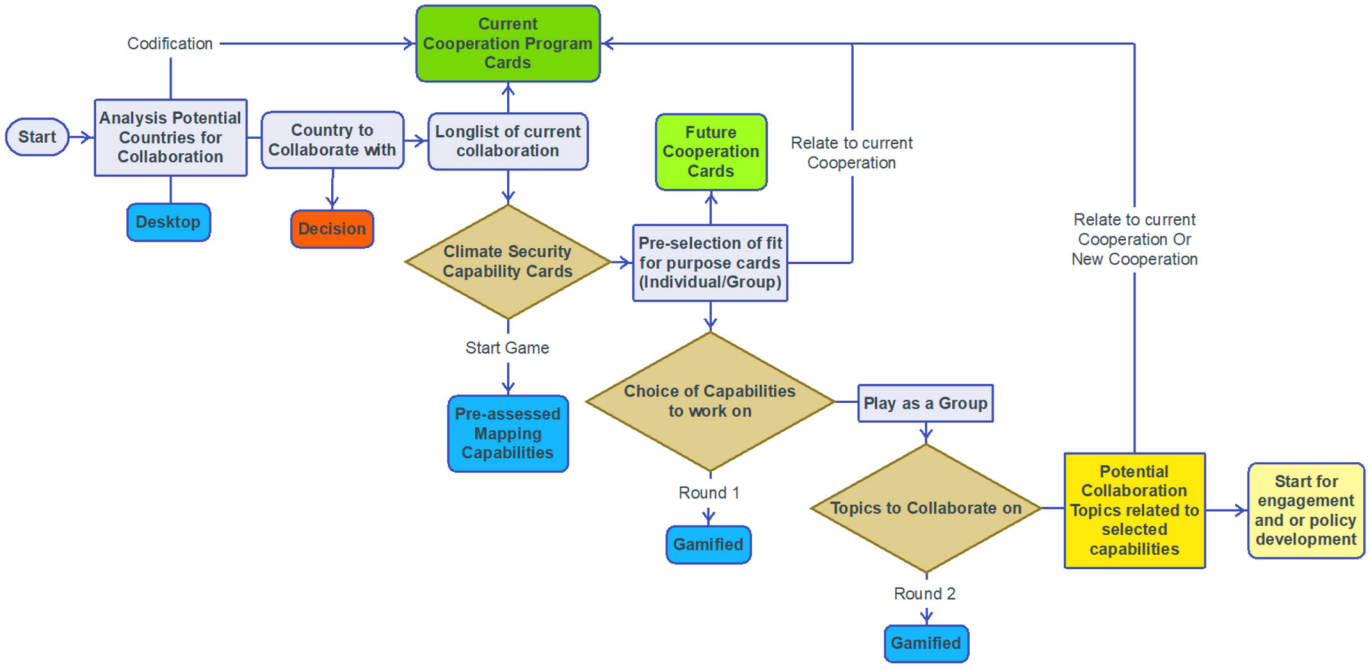

Figure 14: Overview of the Game Process

6.4 Results: Game-driven analysis

The game-driven analysis applied to Mali resulted in several interesting observations that provide more general insights that can be applied to other countries and/or regions. Recall that the purpose of the game was to test the feasibility of a gaming approach to 1) assess, strengthen, and develop Dutch programming relevant for addressing the climate security nexus, and 2) explore cooperation options, where applicable.

The **pre-game inventory of current/ongoing Dutch programs & capabilities** shows that several relevant climate security capabilities are being addressed by the Dutch government in its programming efforts. This includes several capabilities that are important in Dutch policy, such as gender inclusiveness and conflict sensitivity. Other capabilities frequently addressed by Dutch programs include agricultural planning, public support/ communication & information campaigns, inter-agency, and multilevel cooperation. Capabilities that are supported less often across programs include (re)forestation and urban resilience.

The **mapping and prioritizing of capabilities** provide insights into the alignment (and divergence) of ongoing programs in Mali with the priorities set by game participants to test the game methodology (not to reflect the validity of actual policies). The results showed that participants' priority capabilities partly overlap with priorities in ongoing programs in Mali. This means that some capabilities that are addressed frequently across the Netherlands programming were also considered priority areas by participants while other frequently addressed capabilities were not considered a priority or capabilities considered priorities were not addressed frequently.

In addition, results show that **some capabilities lend themselves better to the identification of cooperation options than others**. This underscores the observation that climate-security challenges require an integrated approach, that addresses both technical and governance challenges. For example, for the capability food security, offered several cooperation options including in the areas of RDI, education & training, legal and regulatory support, planning monitoring & operations, and finance and resources. Identifying the various cooperation options also gave insights into the possible opportunities for creating and strengthening synergies across various cooperation options, and a joint assessment of how different stakeholders can provide support to achieve shared objectives.

Lastly, the results show that **different types of actors can be involved** and that that there is no cookie-cutter approach to cooperation. Cooperation opportunities depend on the specific climate-security risk, the required capability, and specific cooperation options. Some cooperation options focus more on government stakeholders such as the Netherlands and potential partner countries' Ministries of Foreign Affairs and Defense, while others focus more on non-governmental stakeholders.

Error! Reference source not found. presents ongoing Dutch-funded programs and initiatives in Mali and the capabilities they support that provided the starting point for the game-driven analysis to test the utility of this reports' approach and methodology for assessing, strengthening, and developing Dutch programming relevant for addressing the climate security nexus.

Figure 15: Overview Existing Programs and Foreseen Capabilities Mali

6.5 Observations and takeaways

The game-driven analysis yields six general observations that are relevant beyond the specific application of the game on Mali. These observations demonstrate the added value of the game-driven analysis as a supporting tool to inform and facilitate decision-making throughout the policy-making cycle.

- **Providing insights into policy and programs.** The pre-game research on ongoing programs & initiatives provided a useful analytical framework to structure current programming in selected countries or regions of interest. The game's analytical framework enabled participants to map and assess ongoing programs and capabilities, and subsequently determine and prioritize cooperation options.
- **Facilitate interdisciplinary and interdepartmental discussions.** Climate security presented a complex challenge that requires the participation of the 4D community (diplomacy, disaster management, development, defense). The game-driven analysis facilitated and structured dialogue and discussion between stakeholders in a constructive and focused manner towards shared objectives.
- **Identify gaps & opportunities.** Based on identified priority capabilities, the game laid out the various cooperation options and supported the identification of gaps and possible opportunities that could be capitalized on.
- **Prioritize efforts on climate security.** The three steps of the game-driven analysis helped policymakers to structure their thoughts and prioritize capabilities. It created a shared ground for discussion and decision making, because it encouraged stakeholders to focus and prioritize cooperation options. Thus, the game provided a useful way to achieve a shared objective, regardless of individual priorities that may not always align.
- **Optimize efforts (strengthen synergies & reduce redundancy).** In addition to prioritizing efforts, the game also supported the *optimization* of synergies and cooperation. It allowed stakeholders to better understand the links between their efforts, where (and how) to engage in collaborative efforts to optimize their respective work, and finally reduce redundancy of efforts. This can be further expanded to include assessment of synergies with programs of other international stakeholders and potential partners with similar policy on climate security.
- **Monitoring & Evaluation**. The game-driven analysis offers a dynamic framework that can be applied recurringly to facilitate discussion and assess current policy and programs, and possible future policymaking and programming. This includes an assessment of where adjustments are needed in terms of strengthening, expanding, and developing new programs to ensure that efforts are exerted in an efficient and (cost)effective way.

7 Conclusions and Recommendations

This study is a first step towards a more coherent and strategic interpretation of Dutch climate security policy in an international context. It analyses from a Dutch perspective where the most relevant and feasible opportunities for international cooperation on climate-related security lie. Following the policy overview, data-driven risk assessment and game-driven analysis, the study arrived at the following general conclusions:

1. There is a **lack of conceptual clarity on the definition** of climate-related security. Few policy documents explicitly outline the pathways by which climate change can have security implications, such as poverty and injustice. Climate-related security falls in the gaps between the responsibilities, mandates and capabilities of different ministries and institutions, who tackle some aspects of the climate-security nexus, but not all.
2. Efforts within climate change mitigation, disaster risk reduction, adaptation, and sustainable development apply **siloed approaches to climate security action**, whereby each field applies different approaches and funding and operates within separate communities of practice. The step to turn policies into action and structurally integrate climate considerations into existing security practice has also fallen short.
3. While there is strong political momentum, the international and European policy community has been more focused on achieving its internal climate objectives than on integrating climate security into its foreign policy and practice. There is a growing effort in this regard, yet there is **little consensus on what and how concrete measures can be enacted.**
4. The defense community has **focused on (relatively) narrow climate-security objectives** such as greening its forces and strengthening disaster response. The tide is changing, however, and the defense community is beginning to integrate climate security factors more structurally and systematically into its military operations.
5. Dutch-funded **development programs and defense missions do not adequately take into account climate-related security challenges**. Fragile states in particular would benefit from a climate-proof approach, as climate related shocks and extreme weather patterns put further pressures on its social and economic systems leading to further poverty and potentially protracting and exacerbating existing and emerging conflict.
6. Data-driven risk assessments and game-driven exercises are **useful supporting tools to achieve national and international climate security objectives**. Climate risk assessment methodologies provide an objective lens to identify countries and/or regions where the Netherlands should focus its resources. Game-driven foresight exercises facilitate the definition of existing and required capabilities to tackle climate-related security challenges. They also help with the identification of regional and international partners that could support the Netherlands in delivering broader impact.

Based on the above conclusions, the study puts forwards the following recommendations for Dutch policy and decision-makers in their efforts to bolster their climate security efforts in hotspot areas. They are grouped into three levels: (1) pre-engagement; (2) engagement; and (3) monitoring and evaluation.

Pre-Engagement

- **Develop and strengthen needs-driven policy and programming** by coupling data-driven climate security assessments with existing Dutch policies, programs, and capacities to determine immediate added value. The underlying variables and indicators should be updated on a yearly basis, so that focus areas can be re-assessed regularly, taking into account fast-changing global, EU, and regional trends and developments.
- **Foster coherence in Dutch policy, programs, and initiatives** relevant to the climate security nexus. This study focused on key themes that comprise the climate-security nexus in the Dutch Ministries of Foreign Affairs and Defense, but to develop a more comprehensive Dutch approach, other themes need to be included, such as migration. A starting point for policy could be to look at identifying relevant linkages in existing policy instruments, such as the Theory of Change policies, now enacted in Dutch sustainable development policy across nine themes relevant to the climate security nexus.
- **Integrate climate security concerns into Foreign Policy and engagement.** The Netherlands should integrate climate security considerations across its foreign policies and long-term strategic engagements and move beyond the focus on short-term response to climate crisis.[192] While policies on climate security have expanded over the past few years, a transition from concepts to implementation remains sparse and will be urgently needed to mitigate and prevent climate-related security risks.
- **Broaden military engagement in Climate Security**. The Netherlands Ministry of Defense and the Dutch military should, in a joint effort with European partners, come to a better understanding of how defense requirements are connected to the effects of climate change and engage with a broader range of climate-related challenges.[193] This may require expanding the CSDP mandate to incorporate climate-related security action as a core responsibility. The military can play a key role in providing security for humanitarian, development, and others to enable them to implement climate-action in fragile and instable countries, where climate-security action is often most urgent. Moreover, the Netherlands military should incorporate more climate-related factors into its risk assessments, operational planning, and engagements in fragile and conflict-prone regions to enhance early warning capabilities and the prevention of conflicts. This work should aim in the first instance to identify the different pathways by which climate change impacts in another country may become a security risk for the Kingdom of the Netherlands and the EU.[194]
- **Establish an Institutional 'Home' for coordinating Dutch climate security actions.** Climate security is a cross-cutting issue that requires a comprehensive 4D approach and a high level of inter-agency coordination and cooperation. While the need for this has been expressed in Dutch policy papers, to coordinate these efforts and prevent siloed approaches requires an institutional home that is explicitly tasked to support coherent climate security action. Rather than becoming another silo, it should function to establish a 'whole of government' approach capable of responding to the complexity of climate security challenges. The need for an institutional home was already emphasized in The Hague Declaration on Planetary Security (2017) and reinforced by this study.
- **Develop a comprehensive ecological security strategy** that integrates the Dutch National Security Strategy, Defense vision 2035, and Integral Migration Agenda more fundamentally to existing Dutch policy focused on climate and security shaped by the BHOS and GVBS. The GVBS focuses on man-made threats, while the BHOS mainly targets those

192 Richard Youngs, 'Climate Change and EU Security Policy' (Washington, United States: Carnegie Endowment for International Peace, May 2014), 2.

193 Jayaram and Brisbois, 'Aiding or Undermining?', 2.

194 Barnhoorn, 'A Reassessment of the European Union's Response to Climate-Related Security Risks', 17.

elements that directly impact human security (water, food). Mitigating ecological threats such as the regeneration of ecosystems or biodiversity should be an essential component in peacebuilding missions in countries at risk.

- **Understand the complex role of governance.** Develop a better understanding of the role of governance in climate-security challenges and invest in locally supported efforts. Militaries often engage directly with government security actors with poor governance and human rights records that may exacerbate climate-related security risks.[195] This requires more focus on local climate-security risks and dynamics and opportunities to support local capacity building and conflict prevention and mitigation efforts, taking into account existing policy focused on gender inclusiveness and conflict sensitivity.
- **Adopt a forward-looking response to climate migration**. To ensure climate security actions in countries of risk support EU and national security objectives, the Netherlands in cooperation with its European partners, needs to mainstream the risk of climate-induced migration in its climate security policies and programs in a way that anticipates migratory flows and potential risks to security. While most of the climate-related displacement takes place within countries at risk or their neighboring countries, as climate change continues to impact vulnerable countries in Europe's vicinity, the number of climate migrants to Europe is likely to increase. [196] Tackling root causes in vulnerable regions is key to developing long-term and sustainable solutions. [197]

Engagement

- **Strengthen European Cooperation**. Climate change and its security impacts is a challenge that crosses borders and impacts EU member states unequally but requires a collective response to be effective. This requires that the EU have a shared definition of the climate-security nexus and develop synergies to address the siloed policy & action across the 4D Community (diplomacy, development, defense, disaster management).
- **Strengthen cooperation with at-risk countries.** Countries at risk of climate insecurity are often fragile and lack the necessary resources and capabilities requires to mitigate and adapt to climate change. To prevent climate change from becoming a security issue with cross-border implications requires supporting these countries in their ability to respond effectively and prevent climate change from becoming a security threat.
- **Support regional efforts.** Many regions already have policy instruments in place to implement climate security action at a regional level. Climate-related security risks do not stop at country borders and often have spillover effects to bordering countries and in the broader region. To prevent, and at least minimize, the spill-over effects requires that bordering countries jointly address challenges and seek to build resilience. The Netherlands should support these regional initiatives and strengthen countries' resilience and ability to respond to climate-security challenges without being dependent on foreign interventions.
- **Develop further partnerships** with business, civil society, and knowledge institutes to support Dutch capability development across the climate security nexus and encourage a 'whole of society' approach towards climate security challenges moving forward.

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195 Olivia Lazard and Richard Youngs, 'The EU and Climate Security: Toward Ecological Diplomacy' (Washington, D.C., United States: Carnegie Endowment for International Peace, 2021), 9.

196 Migration Data Portal, 'Migration Data in Europe', Migration Data Portal, 14 June 2021.

197 Migration Data Portal; John Podesta, 'The Climate Crisis, Migration, and Refugees' (Washington, D.C., United States: Brookings, 25 July 2019); International Organization for Migration (IOM), 'Migration and Climate Change' (Geneva, Switzerland: International Organization for Migration (IOM), 2008), 41.

Monitoring & Evaluation

- Monitor progress of ongoing programs and projects with country coordinators and thematic experts of the relevant Ministries on an annual basis via a **more informal and more flexible evaluation mechanism** such as the HCSS game-driven analysis adopted in this study. The Embassy network of the Netherlands Ministry of Foreign Affairs could play a more active role in this regard as well.
- **Build on the best practice model** developed recently by Clingendael in at-risk regions and explore opportunities for expanding the inventory in other thematic areas relevant to addressing the climate security nexus. Use the inventory to scale successes based on at-risk country needs, the feasibility of cooperation and Dutch capabilities. [198]
- Use the HCSS analytical framework (game-driven analysis) to support and **integrate the Theories of Change (TOCs) and other Dutch Policy instruments** that address themes relevant for reducing the security implications of climate change. The game-driven analysis, in particular, could be used to link the programs being implemented under the current TOCs and develop more specific outcome options for Dutch climate security policy objectives.
- The **intervention options identified in the TOCs can be mapped on the game's analytical framework**, across both (1) the thematic areas (natural resources, society, economy); and (2) type of interventions (e.g., education, legal and regulatory support), whereby the 'cooperation option cards' give more details on the intervention and its intended outcome. This mapping of Theories of Change across thematic areas provides an instrument to better identify gaps, opportunities, and options for creating synergies and strengthening the coherence of objectives across TOCs.

198 van Lossow et al., 'Towards a Better Understanding of Climate Security Practices'.

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Annex A: Limitations Data-driven Analysis

The methodology applied in this report serves its intended function and provides the reader with an overview of countries' risk of climate (in)security, the risk to the Netherlands and the feasibility of cooperation relative to one another. It also provides a clustering of countries that offer the highest opportunity for partnership based on additional criteria. It is nevertheless important to note that the methodology applied in this report, and, by extension, the results it presents, are subject to several shortcomings and/or caveats. These caveats and their implications for the study's overall integrity and results are briefly outlined in the sections below.

Data availability is patchy. Despite improvements in data availability, several of the variables included in the assessment have limited geographical coverage that has resulted in several countries being removed from the assessment. The countries for which data was not available across any (or multiple) of the datasets were removed from the assessment. This includes (among others) Egypt, Aruba, Puerto Rico, and Turkmenistan. Excluding these countries from the analysis increases the accuracy of the results as only countries with full data coverage are included but limits the scope of the study. Some countries that may be relevant to the analysis are not included which provides a more limited overview of the relative position of countries. Because results are relative and not absolute and data coverage tends to be better in more developed countries, the generally lower scoring countries may receive scores that are lower than what they might have achieved had more lower-scoring countries been included in the study.

Variables included provide 'proxy' measurements. This study relies on variables that provide proxy measurements of the phenomenon which it seeks to measure and does not provide an exact measure. This is because there is no data-set available to measure exactly the components included in this research, such as the risk of climate (in)security in a country to the Kingdom of the Netherlands and feasibility of cooperation on climate security. For example, while it is possible to determine the number of migrants in the Netherlands coming from a certain country, there is no data on the cause of their migration and the impact of climate-security risks on the decision to migrate. These phenomena are complex and dependent on a wide range of factors that have indirect impacts on the onset and development of climate-related security risks and cannot be measured directly. The proxy measurements are included because conducting this research is not possible without them. This notwithstanding it is important to remember that the degree to which measurements describe a variable differs per measurement.

Limited scope of the research. The choice of variables is based on an extensive literature review and careful selection (that also considers data availability, reliability, and relevance). The limited scope of the research means that the variables are not exhaustive or comprehensive. While HCSS is confident in the utility of the research methodology and results, it is

important to emphasize that this research is intended as a first indication and does not claim to be exhaustive. In addition, while efforts have been made to remove 'blind spots' and cover the most important components to measure each variable, it may be that some components have been omitted.

Data is subject to time lag. The data available for each variable differs per country. Some variables include recent data that is updated frequently across the countries in the dataset while others are updated more infrequently and may include data from different years per country. This means that some variables and countries' scores are more up to date than others and better reflect the current situation. However, the data included is considered recent enough to ensure that it does not provide an inaccurate or skewed representation of the current reality.

Annex B: Policy Mapping

Policy Type	International	EU
Disaster Response	• Sendai Framework for Disaster-Risk Reduction (2015-2030) • UN Office for Disaster Risk Reduction (UNDRR) (1999) • Global Platform for Disaster Risk Reduction (2007)	• Civil Protection Mechanism + Emergency Response Coordination Centre (ERCC) (2001)
Climate Change Mitigation	• Paris Agreement (2015) • UN Framework Convention on Climate Change (UNFCCC) 1992	• EU Green Deal 2019 • European Climate Law (2020) • Green Growth Partnership (2019)
Adaptation & Resilience	• Sustainable Development Goals (SDGs) (2015) • Paris Agreement (2015) • Climate Adaptation Summit (2021) • Adaptation Action Agenda (2021)	• EU Climate Adaptation Strategy (2021) • Climate-ADAPT platform (2012)
Climate Financing	• Global Environmental Facility (1991) • Green Climate Fund (2010) • The Adaptation Fund (2001)	• The EU External Investment Plan (EIP) (2016) • EU Solidarity Fund (2002) • European Fund for Sustainable Development Plus (EFSD+) (2017) • LIFE Programme (1992) • Recovery and Resilience Facility (2020) • EU Member States' Official Development Assistance (ODA)
Defense / Hard Security	• UN Security Council Resolutions • UN Climate-Security Mechanism (2018) • NATO Climate Change and Security Action Plan (2021)	• EU 2016 Global Strategy on Foreign and Security Policy • Common Security and Defense Policy (CSDP) • EU Climate and Defense Roadmap 2021

Table 8: International and EU climate-related policies and instruments

Policy Type	Asia & Oceania	Americas	West & Central Africa	Middle East & North Africa (MENA)
Disaster Response & Management	• South Asian Association for Regional Cooperation (SAARC) sub regional group • Agreement on Disaster Management and Emergency Response (AADMER)	• Andean Disaster Risk Management Strategy • Caribbean Disaster Emergency Management Agency (CDEMA)	• AU's Peace and Security Council • Intergovernmental Authority on Development (IGAD) • Permanent Interstate Committee for Drought Control in the Sahel (CILSS)	• Arab Ministers Responsible for Environment (CAMRE) • Arab Strategy for Disaster Risk Reduction (ASDRR; 2020) • The Cooperation Council for the Arab States of the Persian Gulf (GCC) • Arab Water Council: Action Plan (2019-2021) • Arab Water Security Strategy (2010-2030) • Arab Ministerial Water Council (AMWC).
Climate Change Mitigation	• Pacific Island Forum (PIF) • Association of South East Asian Nations (ASEAN), specifically, the Kuala Lumpur Declaration on ASEAN 2025: Forging Ahead Together' • Tripartite Environment Ministers Meeting (TEMM)	• Caribbean Community (CARICOM)	• African Union (AU) • African Union Southern African Regional Office • AU's Peace and Security Council	• Arab Framework Action Plan on Climate Change (AFAP-CC; 2010-2020) • Arab Water Council: Action Plan (2019-2021) • Arab Water Security Strategy (2010-2030) • Arab Ministerial Water Council (AMWC).
Adaptation & Resilience	• Association of South East Asian Nations (ASEAN) • East Asia Summit framework	• Caribbean Development Bank (CDB) – Climate Resilience Strategy	• ECOWAS (Economic Community of West African States) • UNOWAS (UN's Office for West Africa and the Sahel) • G5 Sahel • Lake Chad Basin Commission (LCBC) • AU's Peace and Security Council • The African Peace and Security Architecture 2016-2020	• Arab Ministers Responsible for Environment (CAMRE) • Arab Strategic Framework for Sustainable Development (ASFSD)
Climate Financing	• Asian Development Bank • Southeast Asia Policy Dialogue on Sustainable Finance • South- East Asia Forum on Implementation of the Sustainable Development Goals	• SIDS Accelerated Modalities of Action • (SAMOA) Pathway • Caribbean Development Bank (CDB)	• African Development Bank • Africa Climate Change Fund	• Arab Water Council (AWC) • WEGO-UN Climate Change Regional Cooperation Centre, Dubai
Defence / Hard Security	• South Pacific Defense Ministers Meeting (SPDMM) • ASEAN Defense Ministers Meeting Plus (ADMM Plus) • Joint Task Force for Humanitarian Assistance (JTF-HADR) ASEAN Defense Coordinating Centre on Humanitarian Assistance (AHA Centre)	• AIDA (InterAmerican Association for Environmental Defense)	• Intergovernmental Authority on Development (IGAD) • G5 Sahel • Lake Chad Basin Commission (LCBC) • Multinational Joint Task Force (MNJTF) • Liptako-Gourma Authority (LGA)	• Middle East Strategic Alliance (MESA)

Table 9: Regional climate-related policies and instruments

Annex C: Case Study Sahel

1. Introduction

The link between climate-related risk and instability plays out differently in different regions. The reason for this is because the impacts of climate change in a country are partly a function of a state's resilience or ability to absorb the shocks of those impacts. Based on the cluster analysis laid out in Chapter 5, the G5 Sahel region comprised of Mali, Chad, Mauritania, Niger, Burkina Faso (Cluster 1) was selected by the Dutch Ministries of Foreign Affairs and Defense for further analysis because both Ministries are actively engaged in Mali (MoD with active military operation and Foreign Affairs with development cooperation). The Sahel hotspot has been selected as an example to apply the methodology developed by HCSS. This chapter sets out how the methodology introduced in the report may support Dutch efforts to mitigate the negative security impacts, directly and indirectly, resulting from climate change and extreme weather events in the Sahel and develop a coherent and effective climate security policy for the region.

First, the main climate-security risks in the region were identified and the climate-security mitigation capabilities required to deal with these risks with a climate-security mitigation capability defined as 'the ability to [do something] with an intended [effect].'[199] These capabilities are key to effectively address (and mitigate) climate-security risks and include, for example, the capability 'food security' defined as 'measures to provide emergency food aid, improve storage technologies, and monitor food prices to avoid food shortages (and possible food riots) in the event of natural disasters (See Annex D for the full set of capabilities).

Second, existing international, regional, and European initiatives in the Sahel were mapped within three key climate-security nexus themes relevant for addressing the climate security nexus: Natural Resources, Society and Economy (see Table 10).[200] The overview of programs and initiatives provides a first indication of focus points and gaps in international, regional, and European policies.

Third, Dutch ongoing programs were identified and mapped based on the capabilities it supports across the G5 Sahel countries in the period 2017-2021 (Rutte III). This was done using the Dutch online database (Netherlands Ontwikkelingssamenwerking data portal)[201] that covers programs categorized as Official Development Assistance (ODA) programs), and the Netherlands official government policy documents to determine military missions that the Netherlands contributes in international (UN) and European context. This mapping gives

199 Rademaker et al., 'Climate & Security Strategic Capability Game Takeaways'.

200 While the climate-security risks are subdivided according to these three themes, this distinction is not always as black-and-white: the impacts often bridge different themes

201 Ministerie van Buitenlandse Zaken, 'Portaal Voor Ontwikkelingssamenwerking', NL Ontwikkelingssamenwerking, 2021.

a first indication of the scope and nature of the Dutch government's current programming to identify possible gaps and opportunities, in the game-driven analysis (in Chapter **Error! Reference source not found.**).

Based on the chapter's findings, a set of preliminary recommendations are provided of the possible actions the Netherlands can undertake to increase the impact of existing national and international climate-security programs and initiatives in the Sahel.

Theme	Scope	Definition
Natural Resources	Water, Food, and Ecosystems	Efficient, equitable, and sustainable use of natural resources such as water, food, and ecosystems. Ensuring equal access to water, monitoring systems for water (re)use and the quality of aquatic habitats. Organize the ownership, modification, and cultivation of land in order to provide in food demand for both human consumption and animal feed that ensures a reliable, fair and balanced distribution. Restoring and protecting biodiversity, preferably through nature-based solutions and ecosystem services that boost societal resilience and stimulate innovations.
Society	Human wellbeing and community infrastructure	Ensuring equal access to healthcare and well-functioning social infrastructure, such as schools, libraries, shelters, parks, social protection systems and housing, and safe and reliable access to transport, energy, and other basic services, to make societies more resilient and better prepared to cope with climate-driven insecurity, environmental and human-made risks and shocks.
Economy	Economic development and sustainable livelihoods	Sustainable creation of wealth from which the entire community benefits and that ensures access to resources (capacities) to sustain basic needs, including food, shelter, clothing, cultural values, and social relationships. Provision of viable livelihoods for rural communities in areas affected by climate change.

Table 10: Climate security nexus themes. Source: HCSS

The G5 Sahel region was used as an example to test this reports' methodology. The Sahel is characterized by a high risk of climate insecurity, due to the shared vulnerability to climate hazards such as drought and desertification, and existing state fragility and instability.[202] Stability in the Sahel is important for the Netherlands and the EU due to the region's important strategic geographic location connecting East, Central and West Africa to the EU, and forms a pathway for illicit smuggling in drugs, weapons, and migrants.[203] While most of the migration in West Africa is intraregional, a lucrative irregular migration sector to Europe has also developed. This has put European borders under pressure. As Sahel countries undertake efforts to curb illicit trafficking routes, the geography of these routes shifts, highlighting the importance of a regional approach. The region is home to a variety of armed groups affiliated with the Islamic State (IS) and Al-Qaida, creating a further security concern for Europe. While international efforts, such as MINUSMA are undertaken to bring stability to the region, armed groups remain intact, and have even enlarged their outreach in Central Mali.[204] While there are several challenges, there are also opportunities (including the already existing partnerships) for cooperation. Through existing bilateral and multilateral partnerships, the Netherlands already engages with the countries in the Sahel on a variety of issues, including climate change, and security.[205]

202 Ministry of Foreign Affairs, 'Climate Change Profile: West African Sahel'.

203 Bijleveld-Schouten and Blok, 'Jaarlijkse Voortgangsrapportage Kleine Missiebijdragen 2020', 14.

204 Pye, 'The Sahel: Europe's Forever War?'

205 Bijleveld-Schouten and Blok, 'Jaarlijkse Voortgangsrapportage Kleine Missiebijdragen 2020'. Examples of security initiatives that the Netherlands is active in are EUCAP Sahel in Mali and Niger, the European Union Training Mission to Mali, and the United Nations Multidimensional Integrated Stabilization Mission in Mali.

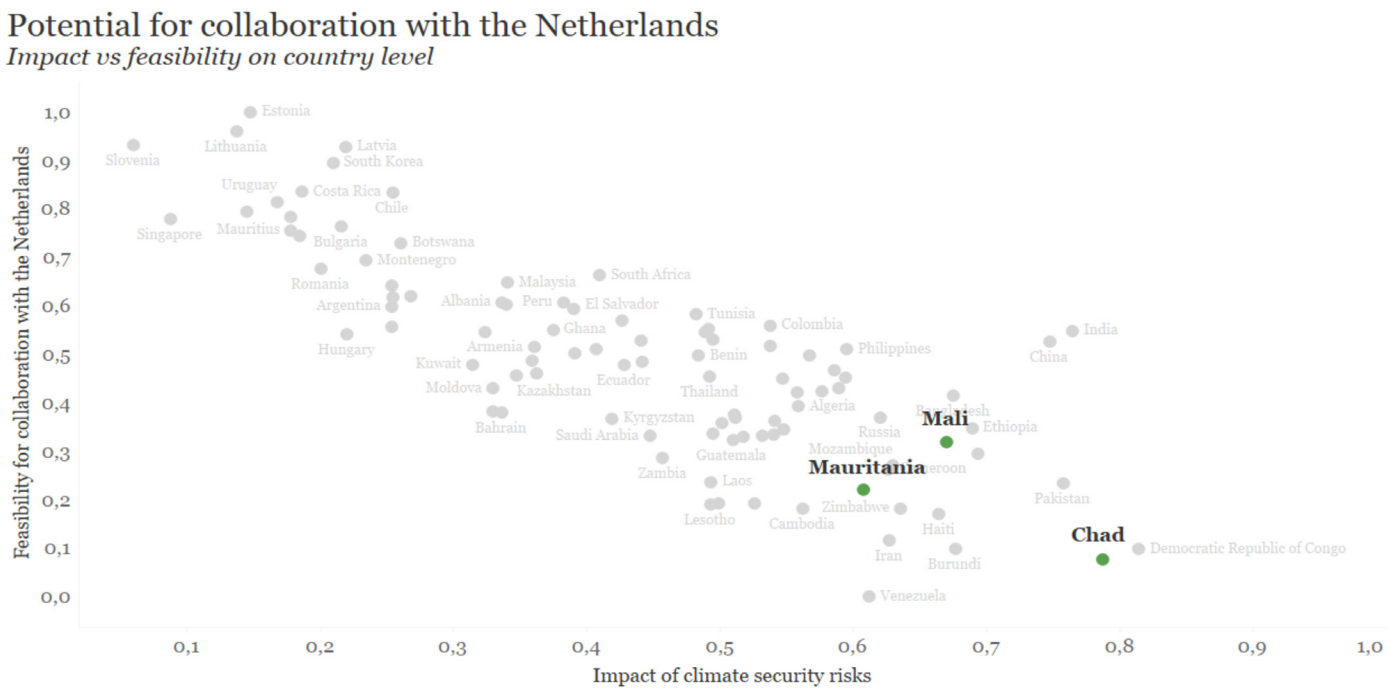

Figure 16: Potential for cooperation with the netherlands (ZOOM-IN)

2. Climate-Related Risks, Required Capabilities & Netherlands Contributions

The G5 Sahel region is one of the world's most vulnerable to climate change.[206] This stems not only from rising temperatures and decreasing precipitation but also from the region's poverty, rapid population growth, gender inequality and political instability.[207] Except for Mauritania, the countries are landlocked, and drought is the major environmental concern of the region. Temperatures have increased by 0.6-0.8 degrees Celsius during the past 50 years which is higher than the global average, and there has been a loss of cumulative precipitation, lengthening of the dry season and reduction in colder days.[208] Yet, cases of extreme rainfall increase, and in line with the current predicted sea-level rise of 18-59 cm by 2100, Mauritania is at risk for coastal and riverine floods.[209] Moreover, sea-level rise is likely to trigger coastal erosion and create saline intrusion which in turn affects groundwater, infrastructure, and ecosystems along the coast.[210] The main climate hazards affecting the G5 Sahel include:

- **Droughts** pose the highest climate-related security risk in the Sahel region, leading to water shortages and land degradation.
- **Heatwaves** are increasing in intensity and frequency in the G5 countries as a result of the significant temperature increase in the Sahel.
- **Coastal and riverine floods** form a risk in the Niger river, and in Mauritania, caused by heavy rainfall and sea-level rise, leading to damage and destruction of land behind coastal and riverine defense systems.

The next sections map out the specific climate-related security risks facing the G5 Sahel countries, the specific climate-security capabilities that are required to mitigate these risks and the existing international, regional, European, and Dutch policies and programs that are currently implemented in the Sahel. The analysis is structured along the three thematic areas that may drive climate-related security risks: (1) natural resources, (2) society, and (3) economy. The categorization of the climate-security risks along these three themes is explained further in the Chapter Policy Overview.

2.1 Natural Resources: Water, Food and Ecosystems

The equitable and sustainable use of natural resources such as water, food, and ecosystems are important pre-conditions for national and human security. The availability of natural resources can mitigate the impacts of climate-related events and avoid the negative

206 University of Notre Dame, 'Notre Dame Global Adaptation Initiative Rankings', Notre Dame Global Adaptation Initiative, 2021.

207 Ministry of Foreign Affairs, 'Climate Change Profile: West African Sahel'.

208 Stefan Norrgård, 'Changes in Precipitation Over West Africa During Recent Centuries', Oxford Research Encyclopedia of Climate Science, 26 April 2017; Ministry of Foreign Affairs, 'Climate Change Profile: West African Sahel'.

209 Ministry of Foreign Affairs, 'Climate Change Profile: West African Sahel'.

210 R. K. Pachauri, Leo Mayer, and Intergovernmental Panel on Climate Change, eds., *Climate Change 2014: Synthesis Report* (Geneva, Switzerland: Intergovernmental Panel on Climate Change, 2015).

pathways that link climate risk to conflict. For this study, the following elements are considered especially relevant for achieving equitable and sustainable use of natural resources:

- Equal access to water, monitoring systems for water (re)use and the quality of aquatic habitats.
- The organization of the ownership, modification, and cultivation of land to provide in food demand for both human consumption and animal feed that ensures a reliable, fair, and balanced distribution.
- Restoring and protecting biodiversity, through nature-based solutions and ecosystem services that boost societal resilience is also included in the theme of natural resources.

This section explores the situation in the G5 Sahel in terms of climate-driven risks to natural resources, and the capabilities that are required to deal with those risks. Moreover, it offers an exploratory analysis of the ongoing initiatives that provide these capabilities.

Climate-Security Risks

When it comes to natural resources, the Sahel is at risk of major water scarcity and food insecurity, due to an increase in temperature and decrease in precipitation, coupled with high population growth and poor resource management. While transhumance[211] and pastoralist groups in the Sahel historically follow routes based on seasonality and precipitation; failing harvests, and changed precipitation patterns following climate change, forces farmers to seek livelihoods elsewhere, often forcing pastoralists to alter their traditional routes. These changed migration patterns bring together previously separate groups, and incite existing or create new tensions and conflicts, as migrants and host communities compete over an increasingly scarce stock of water and food resources.[212] Changing temperature and precipitation impacts food production, increasing the volatility of food prices and provisioning. Volatile food supply and prices in turn come with the risk of competition over food sources and are associated with increased protests, rioting and domestic instability.[213] A second climatic trend posing security risks is the increased risk of river and coastal floods, such as in Mauritania in September 2020.[214] Rising sea levels are associated with an increased likelihood of conflict, as they threaten the economic and physical subsistence of low-lying areas.[215] Floods may cause large-scale destruction of infrastructure such as roads, bridges, protective dikes, markets, water supply sources and destruction of large parts of family food stocks. The resulting loss of shelter, livelihoods, and basic needs, could lead to internal displacement, functioning as an amplifier of conflict.

211 Transhumance is defined as the seasonal migration of livestock to suitable grazing grounds. See: The Free Dictionary, 'Transhumance', The Free Dictionary, 2021.

212 Tor A. Benjaminsen et al., 'Does Climate Change Drive Land-Use Conflicts in the Sahel?', *Journal of Peace Research* 49, no. 1 (2012): 97–111; Oli Brown and Climate-Security Expert Network, 'Climate-Fragility Risk Brief: North Africa & Sahel' (Climate Diplomacy, April 2020); Rafael Reuveny, 'Climate Change-Induced Migration and Violent Conflict', *Political Geography*, Climate Change and Conflict, 26, no. 6 (1 August 2007): 656–73.

213 The link between food insecurity, food prices and domestic instability is clearly represented in the environmental security research, See for example: Benjamin T. Jones, Eleonora Mattiacci, and Bear F. Braumoeller, 'Food Scarcity and State Vulnerability: Unpacking the Link between Climate Variability and Violent Unrest', *Journal of Peace Research* 54, no. 3 (2017): 335–50; Ruixue Jia, 'Weather Shocks, Sweet Potatoes and Peasant Revolts in Historical China', *The Economic Journal* 124, no. 575 (1 March 2014): 92–118; Babak Rezaeedaryakenari, Steven T. Landis, and Cameron G. Thies, 'Food Price Volatilities and Civilian Victimization in Africa', *Conflict Management and Peace Science* 37, no. 2 (1 March 2020): 193–214; Clionadh Raleigh, Hyun Jin Choi, and Dominic Kniveton, 'The Devil Is in the Details: An Investigation of the Relationships between Conflict, Food Price and Climate across Africa', *Global Environmental Change* 32 (2015): 187–99; Lukas Ruttinger et al., 'A New Climate for Peace: Taking Action on Climate and Fragility Risks' (Adelphi, International Alert, Woodrow Wilson International Center for Scholars, European Union Institute for Security Studies, 2015), 42.

214 International Federation of Red Cross and Red Crescent Societies, 'Emergency Plan of Action (EPoA) Mauritania/Bassiknou: Floods', 17 September 2020.

215 Ruttinger et al., 'A New Climate for Peace: Taking Action on Climate and Fragility Risks', 12.

To address the interconnected climate-security risks related to natural resources in the Sahel region requires several capabilities that include food security and related capabilities (re) forestation and agricultural planning, as well as infrastructure improvement and behavioral change. These key capabilities are presented in Table 11 below.

Required Capabilities for the Climate-Security Nexus Theme: Natural Resources	
Food Security	Critical Water Infrastructure Improvement
(Re)forestation	Urban Resilience
Agricultural Planning	Public Support / Communication & Information Campaigns
Increased Resilience	Conflict Sensitivity
Integrated Water Resource Management (IWRM)	Flexible Climate Governance
Innovative Solutions	Local Capacity Building and Training
Inclusive Policies	Civil-Military Cooperation
Behavioral Change	Disaster and Emergency Responses
Building Infrastructure: Dams	Climate Proofing Critical Infrastructure
Gender Sensitivity	Critical Water Infrastructure Improvement

Table 11: Necessary capabilities for the climate-security nexus theme natural resources. Source: HCSS

Mapping of Initiatives

Potential climate-security risks related to natural resources are addressed by a variety of actors at the international, regional, EU and Netherlands national level. To identify ways in which the Netherlands can contribute to mitigating climate-security risks in the Sahel, it is first necessary to map the existing initiatives in the region, to prevent overlap, and identify gaps and opportunities. This section provides an overview of ongoing engagements at the various levels. The UN Integrated Strategy for the Sahel (UNISS)[216] forms the overarching international policy framework regarding the Sahel and is based on three pillars: governance, security, and resilience. Natural resource management falls under the resilience pillar of this strategy. A variety of UN bodies falling under the Economic and Social Council (ECOSOC) target malnutrition and food security in the region, such as the World Food Program (WFP) initiative for 'Integrated Resilience in the Sahel'.[217] Yet, the concept of 'resilience' remains undefined in the UNISS 2018-2019 progress report. Other international actors also adopt their own resilience strategy, e.g., Resilience in the Sahel Enhanced (RISE), a USAID-funded program, which also focuses on improving food and water security.[218] Thus, the capabilities of food security, critical water infrastructure Improvement and increased resilience are abundantly represented in the international policy framework for the region. Capabilities that are less represented are (re)forestation, public support/communication and information campaigns, and urban resilience.

The EU and its Member States, have a similar focus on promoting resilience, food, and water security. Approximately 500 million of the EU Emergency Trust Fund for Africa (EUTF for Africa), went into projects strengthening resilience, of which also 20 million was reserved for an emergency food program in the wake of COVID-19.[219] The Sahel Alliance, launched in 2017 by France,

216 'United Nations Integrated Strategy for the Sahel' (United Nations, 2019 2018).

217 World Food Programme, 'Scaling up for Resilient Individuals, Communities and Systems in the Sahel: Operational Reference Note 2018', 6 November 2019, 5.

218 'United Nations Integrated Strategy for the Sahel', 29.

219 European Commission, 'EU Emergency Trust Fund for Africa: 2020 Annual Report' (Brussels, Belgium: European Commission, 2021).

Germany, and the EU, is an overarching program funding more than 800 development projects in the region.[220] Yet, the EU addresses more limitedly (re)forestation, and public support campaigns. This is different at the regional level, where land degradation and desertification are targeted through the Great Green Wall Program for the Sahara and Sahel Initiative (GGWSSI), and the African Forest Landscape Restoration Initiative (AFR100) of the African Union.[221] Regional organizations promoting food and water security are the Lake Chad Basin Commission (LCBC), and the Permanent Interstate Committee for Drought Control in the Sahel (CILLS).[222]

Key Observations – Natural Resources

- Focus at the international, EU level is on improving resilience, food and water security through agricultural management, land rehabilitation, and emergency assistance.
- Focus of the regional level is on reforestation and ecosystem conservation as a nature-based solution to many of the risks posed by climate change.
- Capabilities that are less evident in current the current international program include urban resilience, innovative solutions, conflict sensitivity, flexible climate governance, behavioral change, public support information/communication, and stakeholder participation.

2.2 Society: Human Well-being and Community Infrastructure

Equal access to healthcare and well-functioning social infrastructure are important aspects of achieving societal resilience to climate change-related events. Access to education and social protection can make societies more resilient and better prepared to cope with climate-driven insecurity. For this study, the following elements are considered especially relevant for supporting human well-being and community infrastructure:

- Access to healthcare and social infrastructure such as schools, libraries, shelters, parks, social protection systems and housing
- Safe and reliable access to transport, energy, and other basic services.

This section explores the situation in the G5 Sahel in terms of climate-driven risks to society, and the capabilities that are required to deal with those risks. Moreover, it offers an exploratory analysis of the ongoing initiatives that provide these capabilities.

Climate-Security Risks

At household, community, and state levels, ecological changes impact the human well-being of particular groups in society differently, leaving women, youth and marginalized groups often

220 The Sahel Alliance, 'Results Report: 3 Years of the Sahel Alliance', 2020.

221 Great Green Wall, 'The Great Green Wall: Growing a World Wonder', Great Green Wall, 2021.

222 Comite Permanent Inter-Etats du Lutte contre la Secheresse dans le Sahel, 'Mandat Du CILSS', CILSS, 2021.

disproportionately affected.[223] Resilience strategies executed by institutions wishing to alleviate climate-security risks, encounter the very real challenges of providing equitable access to resources and assets, and therefore among others need to consider the gendered nature of climate assistance.[224] Climate effects on human well-being, lead to security risks in a variety of interrelated ways. Overall, it is well-established that climate change has a gendered impact.[225] For example, water scarcity requires women to travel further away for acquiring their water resources, which makes them vulnerable to violence and harassment. It thereby facilitates strategic deployment of sexual and gender-based violence (SGBV) by armed groups.[226] Besides, water scarcity and associated commute to water sources lead to 'time poverty' specifically for women. This time problem concerning water collection has been associated with a reduction of girl children in school to compensate, which only further increases gender inequality.[227] Recent studies have identified the importance of gender equality as a facilitator for climate action, as well as adaptive capacity and decreasing vulnerability to climate change.[228] Women empowerment increases the capacity to recover from climate disasters, as women play an active role in disaster preparedness, response and recovery.[229] Therefore, in order to stimulate lasting resilience in the Sahelian societies, it is vital to improve the position of women. Another macro trend that is highly influential in the Sahelian societies is population growth. [230] The countries have a large young population (almost half the population was under 15 years old in 2018)[231] and coupled with climate change patterns, this will create additional pressure on food and water security. Limited access to contraceptives, as well as low levels of (female) education, are factors associated with high population growth.[232] A third impact of climate change on societal well-being is through the increase in, and vulnerability to, diseases. Droughts and the resulting water scarcity, coupled with a lack of sanitary hygiene have made the Sahel's population vulnerable to waterborne diseases and epidemics.[233] Increasing vulnerability of the population worsens social cohesion and increases tensions between different societal groups.

Climate change has led to an increase in extreme weather conditions and natural disasters in the Sahel region. These climate emergencies act as a burden multiplier to already fragile governments. The inability of governments to provide people with their basic needs (water, food, shelter) leads to feelings of disenfranchisement and can lead to erosion of the often already weak social contract.[234] As distrust in governmental authorities heightens, populations may become more susceptible to recruitment by armed groups. If government mismanagement continues and instability escalates, it could lead to civil conflict or state failure. This

223 Chesney McOmber, 'Women and Climate Change in the Sahel', West African Papers (Paris, France: Organisation for Economic Development (OECD), 9 March 2020).

224 McOmber.

225 Senay Habtezion, 'Policy Brief: Overview of Linkages between Gender and Climate Change' (New York, United States: United Nations Development Programme (UNDP), 2013).

226 Temitope B. Oriola, '"Unwilling Cocoons": Boko Haram's War Against Women', *Studies in Conflict & Terrorism* 40, no. 2 (February 2017): 99–121.

227 McOmber, 'Women and Climate Change in the Sahel', 13.

228 Marina Andrijevic et al., 'Overcoming Gender Inequality for Climate Resilient Development', *Nature Communications* 11, no. 1 (2020): 6261–6261.

229 Alvina Erman et al., 'Gender Dimensions of Disaster Risk and Resilience' (Washington, D.C., United States: The World Bank Group, The Global Facility for Disaster Reduction and Recovery, 2021), 12.

230 United Nations Department of Economic and Social Affairs, 'World Population Prospects: Population Division', United Nations, 2019; Laura Torres Saavedra, 'The Demographic Explosion in the Sahel Region: Its Governance's New Challenge' (Madrid, Spain: Instituto Espanol de Estudios Estrategicos, 27 June 2019).

231 Stellah Kwasi et al., 'Prospects for the G5 Sahel Countries to 2040' (Pretoria, South Africa: Institute for Security Studies, November 2019).

232 Kwasi et al., 12.

233 Caroline Courtois, 'Water in the Sahel: Between Conflict, Drought and Skyrocketing Demography', Solidarites International, 26 April 2017.

234 Ruttinger et al., 'A New Climate for Peace: Taking Action on Climate and Fragility Risks', 36.

vicious cycle of environmental and political crises has particularly been evident in Mali, where entrenched economic and political marginalization aggravated by environmental factors, has eroded the social contract between the Malian government and Tuareg and Arab groups.[235] This shows that the root causes of conflict are not strictly separate, but a mix of socio-political and climatic factors. To mitigate these risks an integrated response is needed. Ecosystem restoration and rehabilitation, as well as the adoption of sustainable land and water management practices, are crucial to combat food and water insecurity in the future.

Based on the research of climate-security risks related to society in the Sahel region, several capabilities related to (among others) gender and equality, healthcare, and infrastructure improvement, stand out as especially important to address and mitigate these risks, presented in Table 12 below.

Required Capabilities for the Climate-Security Nexus Theme: Society
Gender Sensitivity
Inclusive Policies
Inter-Agency and Multilevel Cooperation
Increased Resilience
Public Support / Communication & Information Campaigns
Support Family-Planning Services
Conflict Sensitivity
Healthcare Expertise
Critical Water Infrastructure improvement and reparations
Stakeholder participation

Table 12 Necessary capabilities for the climate-security nexus theme society. Source: HCSS

Mapping of Initiatives

Across the international, European, and regional levels, socio-economic and political empowerment of women and youth are seen as a priority area. UNISS has identified the empowerment of women and youth as a focus point.[236] The Sahel Women's Empowerment and Demographic Dividend (SWEDD) project led by UNFPA and WAHO and financed by the World Bank IDA, has the goal to provide women and girls with access to quality education, and reproductive, child and maternal health services. At the regional level, the African Union Sahel Strategy highlighted the 'socio-economic integration of youth and women' as one of its focus points under the development-security nexus.[237] The EU Emergency Trust Fund for Africa names women as major beneficiaries of its development program, yet women still only represent 40% of the beneficiaries.[238] Moreover, the focus on gender sensitivity is less prominent than is the case in UNISS. Gender sensitivity is contained to the programs that specifically target women but is not mainstreamed across the different programs.

The Netherlands has identified 'education, work and freedom of choice for women and girls as a particular area of focus. [239] The main goals are to create better alignment between the

235 Shivit Bakrania, 'Conflict Drivers, International Responses and the Outlook for Peace in Mali: A Literature Review' (Birmingham, United Kingdom: Governance and Social Development Resource Centre, 31 January 2013), 9,10.

236 'United Nations Integrated Strategy for the Sahel'.

237 Institute for Security Studies, 'What Is the African Union's Role in the Sahel?', ISS Africa, 25 June 2018.

238 European Commission, 'EU Emergency Trust Fund for Africa: 2020 Annual Report'.

239 Ministry of Foreign Affairs, 'Dutch Efforts in the Sahel' (Government of the Netherlands, 18 November 2020), 12.

skills and the job opportunities for youngsters, and girls, to attract a higher number of girls to education, and to make family planning more widely available. The Netherlands has increased bilateral cooperation with Niger and Mali on promoting access to quality health care, family planning and preventing child marriages and violence against women. Therefore, across the different levels, socio-economic and political empowerment of women and youth is seen as a priority area, gender sensitivity is not always mainstreamed across programs that are not directly targeting these marginalized groups.

Key Observations – Society

- The socio-economic and political empowerment of women and youth are a priority that is shared across the international, regional, European and the Dutch national level
- The focus areas of intervention for the Netherlands includes gender sensitivity and inclusivity, family planning, and education.
- While there is a variety of programs working on women empowerment, there is a need for gender mainstreaming and sensitivity throughout all international development approaches. The Netherlands is a frontrunner on this issue.

2.3 Economy: Economic Development and Sustainable Livelihoods

Sustainable development of the economy is vital to provide communities with the opportunity to sustain themselves and their basic needs, also in the light of climate change. For this study, the following elements are considered especially relevant for ensuring economic development and sustainable livelihoods:

- Sustainable creation of wealth from which the entire community benefits and that ensures access to resources (capacities) to sustain basic needs.
- Provision of viable livelihoods for rural communities, in areas affected by climate change.

Climate-Security Risks

Temperature change and droughts have degraded much of the Sahel's farmland, which poses a variety of security risks. First, as mentioned in the Natural Resource section: competition over resources between migrants and host communities fosters tension and conflict. Degradation of farmlands requires pastoralist herders to change the timing and geography of their migratory patterns which aggravates the already existing tensions between farmers and herders, that are often also divided along ethnic lines (such as the Fulani and the Tuareg). The growing competition between pastoralists and farmers for land, water, infrastructure, and markets,

has steepened intra-state conflicts.[240]. Climate change in this context, aggravates the already highly complex dynamics of transhumance groups, which are often marginalized by central state authorities, by increasing their vulnerability and forming an obstacle for their traditional form of livelihood. Consequently, these obstacles to sustainable forms of livelihood, will reduce income and increase unemployment, making people look for alternative sources of income such as deforestation and the timber industry. Moreover, it facilitates the hiring process of armed groups.[241] Third, and in a more indirect manner, foreign interference as a consequence of the increase in immigrants, poses security risks too. The migratory movement between the Sahel and northern Africa has for decades formed part of the livelihood of Sahelian people. Most of this migration was irregular, however not clandestine.[242] Yet, following the increase in migrants following droughts and other socio-economic and political factors there has been an increase in international actors offering migration assistance to the region, in particular the EU. The tightening of border controls has illegalized these movements, which has resulted in them being replaced by transport options that pose higher risks for human security[243] While the EU strategy did restrict the number of migrants, it may also foster increased pressure on an already weak governance system, and ultimately lead to more conflict.[244]

Developing sustainable economies in the Sahel region requires developing and/strengthening several capabilities that are currently lacking, and where the international community (including the Netherlands) could potentially offer support. These capabilities are presented in Table 13 below.

Required Capability for the Climate-Security Nexus Theme: Economy
Conflict Sensitivity
Gender Sensitivity
Education, Innovation and Entrepreneurship
Disarmament, Demobilization and Reintegration (DDR)
Inclusive Policies
Public Support / Communication & Information Campaigns
Local Capacity Building and Training
Subsidies for livelihood diversification
Education and training for alternative livelihoods
Agricultural planning
Support for Migrants and Internally Displaced People (IDP)

Table 13: Necessary capabilities for the climate-security nexus theme: economy

240 For an in depth examination of the link between climate change, transhumant pastoralism and conflict, see: Eoin F. McGuirk and Nathan Nunn, 'Transhumant Pastoralism, Climate Change, and Conflict in Africa' (National Bureau of Economic Research, December 2020); 'Pastoralism and Conflict in the Horn of Africa and the Sahel', *Population and Development Review* 44, no. 4 (2018): 857–60.

241 'Pastoralism and Conflict in the Horn of Africa and the Sahel', 386.

242 Julien Brachet, 'Manufacturing Smugglers: From Irregular to Clandestine Mobility in the Sahara', *The ANNALS of the American Academy of Political and Social Science* 676, no. 1 (1 March 2018): 16–35.

243 Brachet, 30.

244 Morten Bøås, 'EU Migration Management in the Sahel: Unintended Consequences on the Ground in Niger?', *Third World Quarterly* 42, no. 1 (2 January 2021): 54.

Mapping of Initiatives

Across the International, regional, and European levels, a fragmented landscape of organizations is present to provide economic development assistance to the Sahel. There are two focus points: (1) the promotion of resilience among pastoralists, and (2) migration.

On the international stage, UNISS through a joint project of IOM, FAO, and WFP focusses on 'Resilient pastoralism' or 'transhumance', focusses on improving access to basic social services for pastoralists' communities, and promotes sustainable pastoralism, food security, as well as peaceful coexistence with other communities. The World Bank International Development Association (IDA) has among others provided 248 million dollars for the Regional Sahel Pastoralism Support Project (PRAPS). [245] On the issue of migration, the central framework is the Global Compact for Refugees and the UNHCR 'Protection and Solution Strategy for the Sahel'. Moreover, the IOM has established the Migration Information and Data Analysis System (MIDAS), to collect and analyze data on migration.

At the regional level, a wide variety of organizations is actively promoting sustainable economic development, yet there is less attention specifically for pastoralism or transhumance. The Priority and Investment Program (PIP), of the G5 Sahel, which features 40 development projects in the region, highlights infrastructure and human development and resilience. [246] However, no attention is paid to climate-induced security risks for these infrastructural projects. Other regional actors working on improving economic integration in the Sahel are the Economic Community for West African States (ECOWAS), the Community of Sahel-Saharan States (CEN-SAD), the West African Economic and Monetary Union (WAEMU), Conseil de l'Entente (2018-2022 Strategy)[247], African Development Bank (AfDB), the Islamic Development Bank (IDB), the Economic Community of Central African States (ECCAS), the Organization of Islamic Cooperation (OIC), and the Arab Maghreb Union (AMU). [248]

EU policy, like the international policy framework, focuses on increased resilience of economic actors. Moreover, the EU-International Organization for Migration Joint Initiative, and the Emergency Transit Mechanism (ETM), targeted migrants and refugees, resettling more than 30 000 refugees in Niger and Mali. The executing bodies are the European Commission Directorates-General for International Cooperation and Development (DG DEVCO), Humanitarian Aid (DG ECHO) and Migration and Home Affairs (DG HOME). The EU Integrated Strategy for the Sahel was implemented from 2014-2020. While the policy highlighted the importance of development for security, the EU has mostly focused its efforts on security and restoring state control and expanding state capacity[249] The strategy is, therefore, criticized for focusing on capacity building of governments, while disregarding the legitimacy and strength of the social contract between those governments and the people. Moreover, the Strategy has been criticized to be too focused on pursuing interests more vital to the EU than to the countries in the region such as irregular migration. This has caused tension between DG DEVCO, the EU External Action Services and African partners.[250]

245 The World Bank, 'Where Climate Change Is Reality: Supporting Africa's Sahel Pastoralists to Secure a Resilient Future', The World Bank, 21 September 2020.

246 G5 Sahel Permanent Secretariat, 'Priority Investment Programme: First Phase 2019-2021' (G5 Sahel Permanent Secretariat, October 2018).

247 Conseil de l'entente demain, 'Plan Strategique 2018-2022' (Conseil de l'entente demain, May 2018).

248 Helly et al., 'Sahel Strategies: Why Coordination Is Imperative'.

249 Isabelle Loannides, 'Peace and Security in 2020: Evaluating the EU Approach to Tackling the Sahel Conflicts' (European Pariamentary Research Service (EPRS), 30 September 2020).

250 Eric Pichon, 'Understanding the EU Strategy for the Sahel' (European Parliamentary Research Service, September 2020).

The 16 April 2021 Council Conclusions state the intent to carry on the 2014-2020 Strategy. The Council's conclusions highlight the need to address long-term trends, such as climate change, demographic pressure, and the increasing scarcity of natural resources. [251] Moreover, the conclusions emphasize the importance of legitimacy of the state governments and thereby move away from the initial focus on mere state capacity of the 2014-2020 Strategy. Other development and human well-being issues that the Conclusions denote are the respect for and promotion of human rights, the importance of gender equality through the UN Women, Peace and Security Agenda, the justice sector and accountability mechanisms, as well as the sustainable development of the Sahelian countries, including habitat protection, biodiversity conservation and halting desertification.

Central capabilities that are strongly represented are Increased resilience and Support for migrants and internally displaced people (IDP). On the contrary, there is little inclusive public involvement and awareness, through stakeholder participation, consultation, or information campaigns. Moreover, inter-agency and multilevel cooperation is lacking, and development cooperation is highly fragmented.

Key Observations – Economy

- A fragmented landscape of organizations, institutions and initiatives engage in efforts to stimulate the economic development of the Sahel region, focusing primarily on two points (1) the promotion of resilience among pastoralists, and (2) migration.
- There is a lack of inter-agency and multi-level cooperation: enhanced cooperation, information sharing, and planned collective action throughout the levels would improve effectiveness and efficiency
- There exists little inclusive public involvement and awareness through stakeholder participation and consultation, or public support/communication and information campaigns
- The EU's Sahel Strategy has been criticized to be too focused on pursuing interest's more vital to the EU than to the countries in the region such as illegal irregular migration.

251 Council of the European Union, 'The European Union's Integrated Strategy in the Sahel - Council Conclusions'.

3. Security Initiatives

The Sahel region has been characterized by instability over the past decade and a variety of security initiatives have been initiated to help stabilize the country, often with a focus on counterterrorism. The UN Multidimensional Integration Stabilization Mission in Mali (MINUSMA) was established in April 2013, and during the years 2013-2017, the UN Office on Drugs and Crime has been active in the region through the Sahel Program, as part of UNISS.[252] The number of UN security council resolutions that include reference to climate-security has increased, including the UN missions in the Sahel and the Horn of Africa that are mandated to assess climate risks, including MINUSMA.[253] Another prominent actor in the region is the Global Counter-Terrorism Forum (GCTF) and the United States Department of State Global Peace Operation Initiative (GPOI), which promotes counterterrorism and peacebuilding efforts in the region.[254] Regional security authorities present in the region include the Multi-National Joint Task Force (MNTJF) and the G5 Sahel Joint-Force.[255] The G5- Sahel Joint Force is a Security Council and African Union authorized counter-terrorism initiative to promote security in the Sahel region. [256] The Joint Force is assisted by the UNODC, OHCHR, the EU and MINUSMA. More locally, the Liptako-Gourma Authority has security initiatives, besides its development mandate. [257]

The EU has deployed two civilian missions (EUCAP Niger in 2012, and EUCAP Mali in 2014), and one military mission (EUTM Mali in 2013). The EUTM mission was initially mainly focused on improving the military capacity of the Mali Armed Forces, but with the extension of the mandate to 2024, the mandate is expanded to provide military assistance to all G5 Sahel countries.[258] Under the French mission 'Operation Barkhane', the Takuba Task Force was established that is endorsed and supported by 11 EU member states. In June 2021, French president Macron announced it will terminate Operation Barkhane and replace it with a more international mission.[259] In 2019, the Partnership for Security and Stability in the Sahel (P3S) was established at the Biarritz G7 Summit, led by France and Germany. The objectives of the partnership are to strengthen government services and administration, and to empower the criminal justice systems within the Sahelian countries, as well as to enhance coordination between partners in the region.[260] For the latter objective, the International Coalition for the Sahel was established in January 2020 by the Heads of State of the G5 and France. [261]

The Netherlands itself has also contributed military personnel to these security initiatives. To MINUSMA from April 2014 to May 2019, ranging from 450 soldiers in 2014 to 250 in 2018.[262] In 2020, the Netherlands contributed three staff-officers, and a maximum of ten police officers

252 United Nations Office on Drugs and Crime, 'Regional Programme for West Africa 2016-2020' (Dakar, Senegal: United Nations Office on Drugs and Crime, 19 September 2016).

253 Smith et al., 'Climate Security Making It #doable', 12; Planetary Security Initiative, 'UNSC Extends MINUSMA Mandate to Include Climate Security Aspects for the First Time', Planetary Security Initiative, July 2018.

254 IDS International, 'Global Peace Operation Initiative (GPOI) – International Peacekeeping', IDS International, 2021.

255 Multinational Joint Task Force, 'Multinational Joint Task Force', MNJTFFMM, 2020.

256 United Nations Security Council, 'Joint Force of the Group of Five for the Sahel, Report of the Secretary-General' (United Nations Security Council, 10 May 2021).

257 Institute for Security Studies, 'What Is the African Union's Role in the Sahel?'

258 European Union, 'EUTM Mali Mandates', eutmmali, 2013.

259 Rick Noack and Danielle Paquette, 'Macron Announces End of Major Military Operation in West Africa but Suggests France Will Maintain a Presence', Washington Post, 10 June 2021.

260 Ministère de l'Europe et des Affaires étrangères, 'France's Action in the Sahel', Ministère de l'Europe et des Affaires étrangères, April 2020.

261 Ministère de l'Europe et des Affaires étrangères.

262 Ministerie van Defensie, 'Missie in Mali', Ministerie van Defensie, 3 July 2018.

to MINUSMA, and will support the UN mission MINUSMA in Mali with C-130 transport aircraft, including crew and supporting personnel, from mid-November 2021 for six months.[263] The mandate of the Netherlands for the EUTM mission amounts to five military officers. [264] In 2020, the Netherlands sent four staff officers to the EUTM mission. [265] The mandate for the Netherlands' contribution to the EUCAP Sahel missions of Mali and Niger amounts to a maximum of fifteen functionaries. In 2020, the Netherlands sent a civil expert to EUCAP Mali, as well as a police functionary, who delivered training.[266] The Netherlands contributed four experts to the EUCAP mission in Niger. [267] The Netherlands also contributes to the Taskforce Takuba.[268] These missions support the development of capacities such as civil-military cooperation, military intervention and Disarmament, Demobilization and Reintegration (DDR). However, the security missions in the Sahel are generally more focused on counter-terrorist action and do not target in an integrated manner climate-related security risks. While international actors recognize the importance of 'soft' conditions for safety, this often does not translate into a change of the overall defense strategy. [269]

Key Observations – Security Initiatives

- Security actors representing several countries and institutions (e.g., France, EU, UN), are active in the region.
- Current initiatives are fragmented and present challenges for the effectiveness of the international response
- The security missions have received criticism for their focus on counter-terrorism, and state capacity building, while devoting less attention to addressing and strengthening the social contract between the supported national governments and the population.
- Few security missions (effectively) address the climate-security link.

263 Bijleveld-Schouten and Blok, 'Jaarlijkse Voortgangsrapportage Kleine Missiebijdragen 2020', 14; Ministerie van Buitenlandse Zaken, 'Betreft Artikel 100-Bijdrage Aan VN-Missie MINUSMA in Mali' (Ministerie van Buitenlandse Zaken, 20 November 2020).

264 Bijleveld-Schouten and Blok, 'Jaarlijkse Voortgangsrapportage Kleine Missiebijdragen 2020', 16.

265 Bijleveld-Schouten and Blok, 16.

266 Bijleveld-Schouten and Blok, 16.

267 Bijleveld-Schouten and Blok, 17.

268 Ministerie van Defensie, 'Nederland Draagt Bij Aan Franse Inzet in Sahel', Ministerie van Defensie, 16 March 2021.

269 Anna Schmauder, 'The "Fight against Terrorism" in the Sahel Revisited', Clingendael, 26 October 2020.

4. Stakeholders and Opportunities for Cooperation

The above sections referred to various international actors that are active in the Sahel region across the climate and security nexus. Table 14 maps the main actors and institutions from different levels across the 4D community (diplomacy, defense, disaster management and development). The final column represents a list of the European states that could be potential partners for the Netherlands in the Sahel, based on their existing actions in the region.

Dimension	International	Regional	EU	NL partner countries
Diplomacy	• UNISS Office of Special Coordinator for Development in the Sahel • UN Office for West Africa and the Sahel	• African Union • Conseil de l'entente • Lake Chad Basin Commission • Community for Sahel-Saharan States • G5 Sahel	• Coalition for the Sahel • Partnership for Security and Stability in the Sahel (P3S) • Sahel Alliance • EU Special Representative for the Sahel (EUSR)	• Germany, Belgium, Italy, Spain, France, the UK, Denmark, Norway, Luxembourg.
Defense	• UNSC (MINUSMA) • UNODC	• G5 Sahel Joint Force • Multinational Joint Task Force (LCBC) • Liptako Gourma Authority,	• EU (EUCAP Niger, EUCAP Mali, EUTM) • INTERPOL • EU Member States	• Belgium, Germany, France, Italy
Disaster management	• ECOSOC agencies	• Economic Community for West African States (ECOWAS)	• EU Emergency Trust Fund for Africa	• EU member states, Norway, Switzerland
Development	• Sahel and West Africa Club (SWAC) • ECOSOC agencies (UNHCR, FAO, IFAD, WFP, UNICEF, UNFPA)	• West African Economic and Monetary Union (WAEMU) Community for Sahel-Saharan States • G5 Sahel • African Union	• DG for International Cooperation and Development (DEVCO) • DG for Humanitarian Aid (ECHO) • DG for Migration and Home Affairs (HOME) • European Development Fund	• Austria, France, Belgium, Norway, Switzerland

Table 14: 4-D Stakeholders and potential partners in the Sahel for the Netherlands

Based on the Clingendael Strategic Monitor on Partnerships for the Netherlands, the strongest bonds are those with other western European countries. Based on their analysis, the top 5 partners for the Netherlands are Belgium, Germany, France, the United Kingdom, and Italy.[270] Looking at the engagement these countries have in the Sahel, we see that most of the presence of these countries is in the military domain. That is to say, Belgium, Germany, France and Italy support the UN peacekeeping missions in the region such as MINUSMA, as well as the European initiatives EUTM and EUCAP Niger, EUCAP Mali and INTERPOL. Should the Netherlands seek to cooperate in the military domain, these countries are thus likely partners. The Netherlands could moreover connect with countries on a diplomatic level by cooperating with countries that are part of existing initiatives, such as the Sahel Alliance. These countries are Germany, Belgium, Italy, Spain, France, the UK, Denmark, Norway, and Luxembourg. France has a relatively dominant presence in the Sahel, taking part in the Coalition for the Sahel and the Partnership for Security and Stability in the Sahel (P3S). In the

270 Willem Oosterveld and Lucie Kattenbroek, 'From "Loyal Ally" to "Frenemies": The Netherlands and Partnerships in a Multipolar World' (The Hague, Netherlands: The Hague Centre for Strategic Studies, Clingendael, 2018).

domain of disaster management, the Netherlands could contribute through programs such as the EU Emergency Trust Fund for Africa or the regional ECOWAS/ECOWAS Early Warning and Response Network (ECOWARN) program. The EU moreover has existing programs in the domain of Development, such as the Instrument contributing to Stability and Peace (IcSP), the European Development Fund (EDF) and the European Fund for Sustainable Development (EFSD). The Netherlands can then best cooperate with EU member states, or with those countries that take part in other development initiatives, such as Austria, France, Belgium, Norway, and Switzerland, that take part in the Sahel and West Africa Club (SWAC).

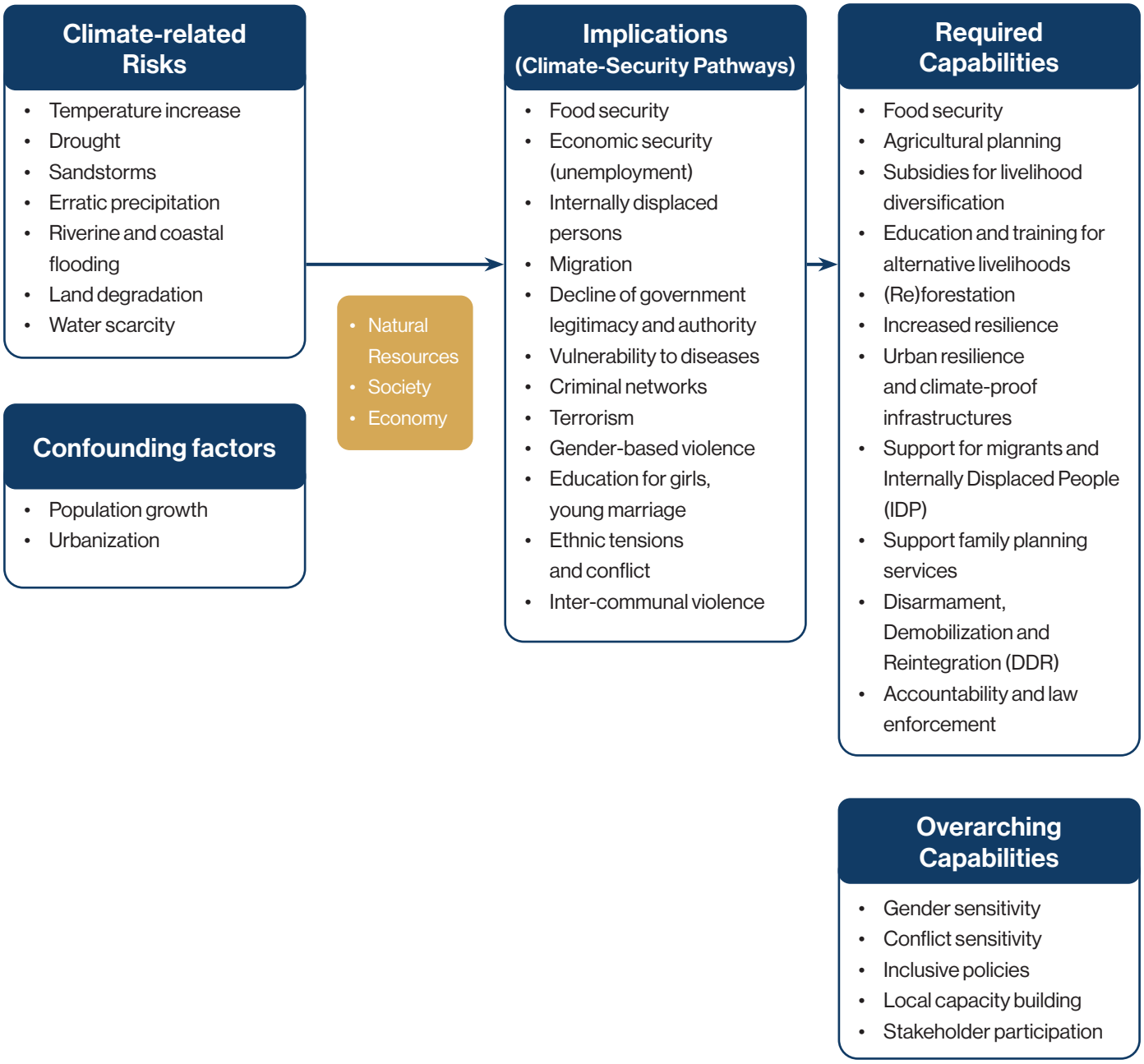

Figure 17: Overview of climate risks, their implications and required capabilities in the Sahel

5. Applying the Dutch Policy Framework & Capabilities

The previous section outlined the major climate-security risks facing Sahel countries, the capabilities needed to mitigate these risks, as well as the international policies and initiatives that address them. To draw conclusions about the specific capabilities that the Netherlands could support to strengthen climate-security policy in the Sahel region, the following section maps the Netherlands policy framework and the Netherlands' ongoing contribution to the required capabilities for addressing climate security challenges in the Sahel.

The Netherlands Policy Framework

The Netherlands policy in the Sahel is based on four policy instruments. First, the Integrated and International Security Strategy, which is based on the three pillars preventing, defending, and strengthening. The strategy aims to prevent insecurity where possible as it recognizes that national security and international security are closely related, including by addressing structural causes of migration and violent conflict in the G5 Sahel. The second policy framework in which the Dutch policy towards the G5 Sahel is integrated into the Development policy note 'Investing in Global Prospects' adopted in May 2018, that establishes the Sahel as a focus region for the Netherlands development cooperation.[271] Efforts in the region focus on tackling the root causes of poverty, terrorism, migration as well as addressing climate change. The third key policy framework underlying the Dutch policy towards the five countries of the Sahel is the Dutch Comprehensive Agenda on Migration in which Mali and Niger are identified as priority countries.[272] Both countries are important transit hubs on the Central and Western Mediterranean Routes. The fourth key policy framework is the policy document Dutch Efforts in the Sahel which sets out the reasons why the Netherlands invests in this region, where the Netherlands is active, as well as how the Netherlands engages in the Sahel.[273] The policy document sets out the priorities of the Netherlands in the Sahel region, based on three policy objectives: first, investing in global prospects (including education, work and freedom of choice for women and girls, sustainable trade and investment, food security, agricultural development, water and renewable energy), second, peace, security and the rule of law (including capacity, legitimacy, mobility and accountability of security providers, peace processes and rule of law), third, migration cooperation (including protection of migrants, detection, investigation and prosecution of smuggling and the trafficking of migrants).[274]

Netherlands' Capabilities to Address Climate Security Challenges in the Sahel

The Netherlands leads and supports a broad range of programs and initiatives in the Sahel that aim to prevent, mitigate and/or respond to climate-related security risks. These programs and initiatives typically involve members of the 4D community (diplomacy, development, disaster-response, defense), undertaken in different Sahel countries and applied across different thematic areas. To assess the scope and nature of the Netherlands' ongoing programs and initiatives, these have been analyzed and mapped based on the

271 Netherlands Ministry of Foreign Affairs, 'Investing in Global Prospects'.

272 Directorate-General for Migration, 'Comprehensive Agenda on Migration' (Ministry of Justice and Security, 18 March 2018).

273 Ministry of Foreign Affairs, 'Dutch Efforts in the Sahel'.

274 Ministry of Foreign Affairs.

climate-security mitigation capabilities it supports (see Figure 18). For example, whether it aims to support food security, gender equality, local capacity building, infrastructure building, or urban resilience. Mapping the Netherlands programming based on capabilities gives an initial indication of the kinds of capabilities that the Netherlands has experience in supporting and where it has developed expertise. This is a first step to assess and strengthen current programming by identifying gaps and opportunities to optimize synergies between programs, reduce redundancy, and strengthen coherence.

Figure 18 shows the set of 36 climate-security capabilities selected for this use case (based on contextual analysis and ongoing programming) on the x-axis and the number of times this capability is supported by the Netherlands current programming in the Sahel countries on the y-axis (see Annex D).

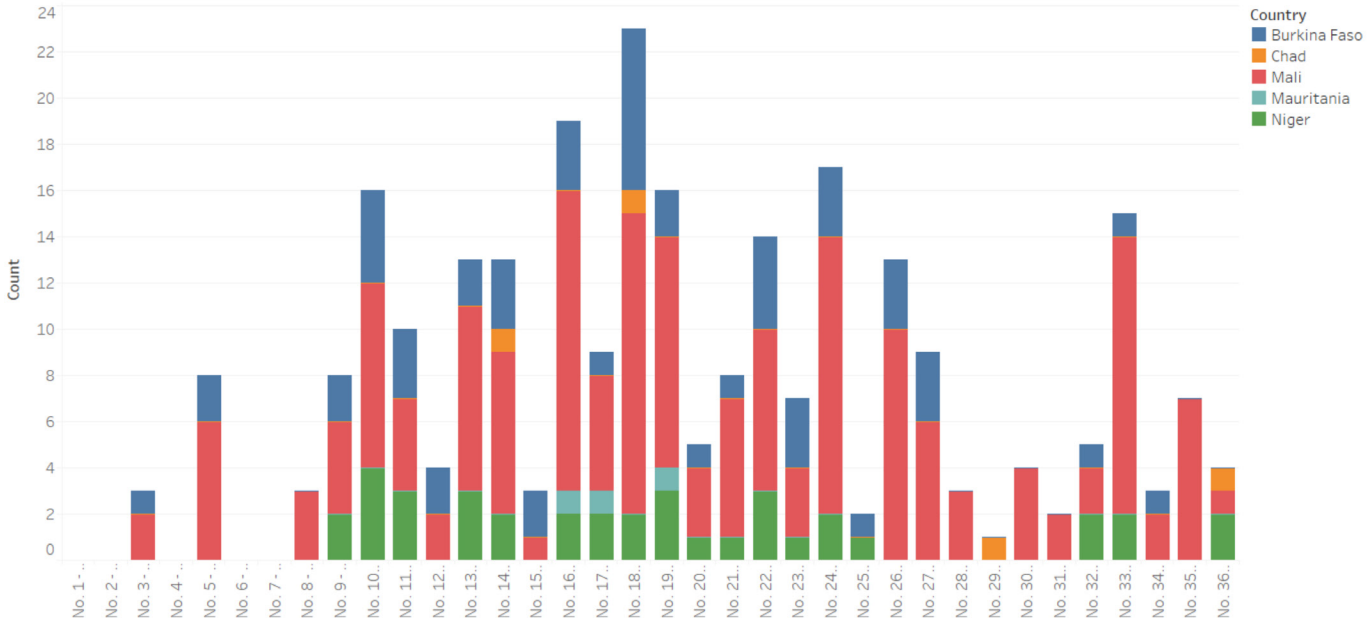

Figure 18: Overview of dutch-funded programs focused on climate-security capabilities in the Sahel. Source: HCSS

From the initial mapping of ongoing programming and capabilities shown, several preliminary observations can be made. First, within the G5 Sahel, The Netherlands is most active in Mali based on the higher number of programs it supports. The Dutch are also active in Niger and Burkina Faso, and less active in Mauritania and Chad. The mapping includes approximately 35 active programs for Mali, 10 for Burkina Faso and 8 for Niger, whereas Chad and Mauritania each had less than 3 active Dutch ODA programs.[275] This aligns with the 2020 HGIS policy paper that informs the Dutch parliament on the Netherlands' contributions in overseas development aid (ODA). It notes that the Netherlands in ODA directly allocated €47mln for Mali, €20mln for Burkina Faso, €18mln for Niger, whereas both Chad and Mauritania are not included as distinct sections in the report.[276] Second, the mapping shows that the Netherlands focuses its programming in the Sahel region to address a distinct set of capabilities. This includes, Inclusive policies (#18), Gender sensitivity (#16), Conflict Sensitivity (#26),

275 Ministerie van Buitenlandse Zaken, 'Portaal Voor Ontwikkelingssamenwerking'.

276 Stef Blok, 'Homogene Groep Internationale Samenwerking 2021 (HGIS-Nota 2020)' (Ministerie van Buitenlandse Zaken, 17 September 2019), 59.

Increased resilience (#10), Local capacity building (#19), Public support/communication & information campaigns (#24) and Inter-agency and multilevel cooperation (#33). Except for the latter, these are all social capabilities rather than focusing on the economy or natural resources. The low score of economic capabilities is the case because economic agreements and cooperation are often moderated by the EU. Capabilities that were not found to be a priority are: Participation in international climate agreements (#1), Cooperation for emissions reduction (#2), Corporate Social Responsibility (#4), Renewable Energy (#6), Building Infrastructure: Dams (#7) The capability of Disaster and emergency responses (#29) was only found once, and the capability of Urban resilience (#25), only counted twice. An interesting observation is the limited number of initiatives working on migration, while it is a priority in the Netherlands policy framework.

Annex D: Climate Security Mitigation Capabilities (Game-driven analysis)

Relevant capabilities for addressing climate-related security challenges in Mali are summarized in Table 15 below.

No.	Capability	Description
1	Participation in international climate agreements	The ability to bolster your own and other governments' participation in international climate agreements in order to reduce climate change.
2	Cooperation for emissions reduction	The ability to improve legal and institutional systems for emissions reduction (e.g., in the forestry sector) in order to reduce climate change.
3	Flexible climate governance	The ability to design flexible climate governance laws in order to make them more effective in the face of changing local contexts and climate change forecasts.
4	Corporate Social Responsibility (CSR)	The ability to engage in CSR activities in order to promote funding of sustainable development programs and environmentally friendly business strategies.
5	Behavioral change	The ability to motivate people and businesses to reduce undesired behavior that may exacerbate the negative impacts of climate change.
6	Renewable Energy	The ability to develop renewable energy projects that support climate change adaptation and mitigation goals.
7	Building Infrastructures: Dams	The ability to support or implement dam-building for flood protection and/or electricity generation and/or agricultural irrigation taking into account local and regional needs and sensitivities.
8	Climate-proofing critical infrastructure	The ability to improve and repair critical infrastructures in risk areas to decrease their vulnerability to extreme weather events.
9	Critical water infrastructure improvement and reparations	The ability to improve and repair critical water infrastructure (e.g., irrigations systems, water purification systems) to enhance the efficiency of water usage and decrease negative impacts on the quantity and quality of available water.
10	Increased resilience	The ability to set up or upscale programs in order to adapt to climate change and enhance resilience of the country, and in particular the most vulnerable regions and parts of the society, to water-related shortages and disasters, such as droughts or floods.
11	Integrated Water Resources Management (IWRM) as a working standard	The ability to establish Integrated Water Resources Management (IWRM) policies that maximize social and economic welfare through the coordinated development of water, land, and other natural resources.
12	Water diplomacy & joint management over transboundary waters	The ability to facilitate or support the negotiation of international agreements on the allocation and use of transboundary rivers and to set up joint institutions in order to reduce the risk of water conflicts and cross-boundary water shortages.
13	Agricultural planning	The ability to establish and (further) develop a cross-sectoral plan/strategy to develop sustainable agricultural industries.
14	Food security	The ability to promote the equal distribution, availability, and access to (emergency) food.
15	(Re)Forestation	The ability to implement (re)forestation policies as a means to combat soil degradation and support for (small-scale) farming.

No.	Capability	Description
16	Gender Sensitivity	The ability to understand the context of gender dynamics and to empower women and girls in pursuing their rights, needs and opportunities.
17	Support family planning services	The ability to provide educational support and appropriate facilities for family planning services (such as information points, support, and accessible healthcare institutions), in particular for women and girls.
18	Inclusive policies	The ability to support and strengthen vulnerable and marginalized groups by including them in the decision-making processes and/or implementing inclusive policies and programs.
19	Local capacity building & training	The ability to support the training of local experts to understand climate change and impacts in local contexts to increase adaptive capacities and self-reliance in the context of water shortages, the use of technology, data.
20	Education, Innovation & Entrepreneurship	The ability to drive innovation, entrepreneurship, and business such as, for example, loans for SMEs (small and medium-sized enterprises); and investments in manufacturing, (educational)services and infrastructure.
21	Healthcare expertise	The ability to improve (local) healthcare expertise in order to offer better health services, (and also to tackle water related diseases).
22	Education and training for alternative livelihoods	The ability to educate and train local populations in order to provide them with new livelihood opportunities, if needed, due to climate change impacts.
23	Subsidies for livelihood diversification	The ability to set up livelihood diversification and low-impact agriculture projects in order to adapt to changed environmental circumstances.
24	Public support/ communication & information campaigns	The ability to increase/develop public communication channels to inform/warn citizens as well as to increase public support for, for example, water sensitive policies and practices.
25	Urban resilience	The ability to strengthen the ability to adapt infrastructure (including airports) and urban development planning to the risks of climate change in order to prevent and/or minimize social and political disruption, as well as to handle people and relief goods after disruptive climate events occur.
26	Conflict Sensitivity	The ability to enhance the understanding and integration of the socio-political context and the impact of intervention in programs in order to minimize negative impacts and maximize positive impacts on stability and security.
27	Stakeholder participation	The ability to promote dialogue or participatory mechanisms for stakeholders with a vested interest in order to avoid civil conflict.
28	Anti-corruption monitoring	The ability to set up monitoring, reporting and review systems for corruption practices and anti-corruption efforts.
29	Disaster and emergency responses	The ability to support emergency relief operations after extreme weather events or natural disasters (such as planning, logistics, food provision, emergency reparations and evacuations, medical support, securing displaced persons' camps) and to prepare to future natural disasters (incl. lessons learned).
30	Civil-military cooperation	The ability to set-up and/or strengthen civil-military cooperation when assisting in rebuilding societies after extreme weather and climate events and/or incorporating climate adaptation measures in peace-building missions in order to improve disaster resilience.
31	Military intervention	The ability to ensure the security, stability, and the protection of civilians; (re)building the security sector.
32	Innovative solutions	The ability to develop and implement innovative solutions, including using modern technologies.
33	Inter-agency and multilevel cooperation	The ability to promote (international) coordination and cooperation mechanisms to facilitate coherent policies across ministries, public agencies, (local and national) levels of government and stakeholders.
34	Disarmament, Demobilization and Reintegration (DDR)	The ability to disarm the members of armed groups, reduce incentives to join and remain a member of armed groups, and to stimulate reintegration by creating income opportunities and community dialogue for a, for example.
35	Accountability and Law enforcement	The ability to strengthen the judicial system to improve and increase accountability and transparency.
36	Support for migrants and internally displaced people (IDP)	The ability to safely (re)locate and accommodate migrants and IDPs (on a long-term basis).

Table 15: Climate-security mitigation capabilities

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