MINISTRY OF FOREIGN AFFAIRS
OF DENMARK

PEACE AND PLANET
AN ANALYTICAL AND PROGRAMMING FRAMEWORK FOR CLIMATE, PEACE AND SECURITY

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ACRONYMS

AMOC	Atlantic Meridional Overturning Circulation
CBAM	Carbon Border Adjustment Mechanism
CPS	Climate Peace and Security
GHG	Greenhouse Gas
HDP	Humanitarian Development Peace
HRBA	Human Rights Based Approach
IPCC	Intergovernmental Panel on Climate Change
FCAC	Fragile and Conflict Affected Contexts
MFA	Ministry of Foreign affairs
MoD	Ministry of Defence
MoJ	Ministry of Justice
NBS	Nature Based Solutions
NSAG	Non-State Armed Group
PSF	Peace and Stabilisation Fund
UN	United Nations
UNSC	United Nations Security Council
ToC	Theory of Change

EXECUTIVE SUMMARY

Climate action is a high priority for Danish development co-operation. The Danish Ministry of Foreign Affairs commissioned this Analytical and Programming Framework on Climate, Peace and Security (CPS) in recognition of the need for strategic climate-oriented and peace-supportive action in fragile and conflict-affected contexts (FCACs).

The purpose of the Framework is to:

- take stock of the CPS agenda and its best practices;
- provide an integrated view of the challenges the CPS agenda should seek to address for planetary security;
- shape strategic objectives for the future of climate action in fragile and conflict-affected contexts;
- guide progress in the CPS field through providing updated conceptual frameworks and programmatic toolkits to support the design and delivery of effective and integrated interventions addressing the connections between climate, peace and security.

Definitions, scope and objectives

- CPS is an analytical, programming and policy framework aiming to identify and address the mutually-reinforcing direct, indirect and structural risks that climate and ecological change pose for human, societal, planetary and international peace and security systems at all levels. It also seeks to identify how fragility, conflict and security drivers produce risks to climate change responses in and for FCACs with regards to the energy, economic and ecological transitions required to protect planetary security.

- CPS objectives should therefore respond to climate-induced stressors and ecological drivers of fragility across the Humanitarian-Development-Peace (HDP) nexus. These responses include rebuilding ecological security and hydrological cycling capacity to address scarcity and the environmental root causes of fragility and conflict; and contributing to climate adaptation, mitigation and a just transition which benefit FCACs.

The strategic risk context

- Fragile and conflict-affected contexts (FCACs) are at the forefront of climate, ecological and transition risks. FCACs register high level of exposure and low structural capacity to adapt.

- On current trajectories, the 1.5°C global warming threshold will be crossed in the matter of a year or so. In FCACs, this will affect the intensity and frequency of climate-related shocks and the scarcity and geographic distribution of natural resources, through both direct climate and ecological pressures affecting sub-national, national and regional resilience, but also as a result of increasing geopolitical competition, which will impact FCAC natural and material resource management.

- Climate change is one of many planetary crises. Addressing adjunct planetary crises helps to identify programmatic levers of action to address climate and ecological risks in an integrated manner. Beyond local benefits, addressing climate and ecological drivers of insecurity in FCACs is essential for planetary security. Yet, while FCACs have crucial roles to play in the fight against climate and ecological change, they remain chronically underfunded and most CPS action remains focused at subnational rather than regional levels.

- Environmental crime and illicit nature-based financial flows have become the largest financial drivers of conflict. Environmental crime is a direct driver of biodiversity loss, deforestation, desertification, green water crises and water insecurity. It is an anthropogenic driver of ecological change, which also increases the vulnerability of certain areas in FCACs to climate-induced hazards.

- The supply chains that support climate mitigation take root in countries of the Global South, including FCACs. Competition related to resources that represent the backbone of energy transition supply chains heightens geopolitical and ecological risks in relation to FCACs.

- Major economies' policies to transition towards a net zero paradigm are likely to create additional risks for countries in the Global South, including for some FCACs. If and when this occurs, CPS practitioners and aid actors need to provide policy feedback so as to prevent negative effects on peace, security and climate adaptation.

A systemic analytical framework

> Context matters to understand the appropriate mix of CPS responses and for effective stakeholder engagement. But understanding patterns of wider climate, ecological and economic risks and how they interact with context is crucial to anticipate if and when shocks, scarcity and movement of natural resources may lead to structural fragility, destabilization, or violence.

> Climate and ecological change contribute to fragility and violence through multi-level pathways. In reverse, violence and fragility can contribute to climate and ecological change. These pathways operate at sub-national, national, regional and global levels:

- Sub-national pathways include food security; inflationary pressures; natural resource competition (including in areas of relative abundance); displacement and migration; environmental plundering and nature-based conflict economies; the impact of extractive industries. These factors can be exacerbated by low levels of trust in state legitimacy and credibility and the combined climate and conflict sensitivity of CPS interventions.
- National-level pathways include climate and societal factors such as demography; economic stability, resilience and growth; and institutional credibility and legitimacy.
- Regional pathways include resource-related conflicts between neighbours and associated non-state armed groups; disputes over shared trans-boundary resources; and misaligned mitigation and adaptation plans.

> A systemic analytical outlook on all these pathways is essential for effective CPS programming, since it guides reflections on what sectors CPS practitioners and related stabilization practitioners need to rely upon in order to respond to stressors. CPS needs to be both reactive (risk pre-emption and preparedness) and proactive (in addressing drivers of climate vulnerability, ecological change and drivers of planetary insecurity). As such, CPS is an agenda that comprises of different action pillars multi-sector responses. On the reactive side, it can include disaster risk reduction, food and agriculture security, WASH, infrastructure development. On the proactive side, it needs to develop multi-scale approaches towards complex regeneration, environmental crime, and adaptation planning. Any activity implemented to tackle climate and ecological change impacts and drivers needs to be designed with peace and stabilization dimensions from the start so as to avoid doing harm and, most of all, so as to build sustainable peace and security. The programmatic mix of sectors will be determined by context-specific, multi-layered analysis of ecological and resource management, fragility and conflict drivers, stakeholder engagement and how to respond to shocks and pro-actively support regeneration, and transition efforts.

Integrated programmatic logic

- From an operational and programmatic perspective, CPS entails undertaking a range of new types of analysis: historical and future-oriented, reactive and pro-active, fragility drivers and violence dynamics analysis, as well as terrain and stakeholder scanning, and developing a mix of responses that address risks and drivers related to climate and ecological change in a contextual manner. These analytical streams should form the backbone of collective planning between donors, UN agencies, NGOs, civil society and state actors to inform the range of potential CPS responses along the

  Pre-empt → Regenerate → Protect → Adapt → Transition spectrum.

Programmatic principles

- The literature identifies the benefits of adopting integrated and inclusive approaches to programming in the CPS field. The former builds on activities addressing immediate community needs to consider environmental or climate-related drivers of conflict alongside wider drivers of vulnerability, such as land tenure, poor governance, intracommunal tensions, lack of sustainable dispute resolution, inequality and social exclusion. The latter uses inequity in access to and management of natural resources as entry points to address, for example, gender-based discrimination and vulnerabilities. Programmes have deployed "positive peacebuilding" to advance women's active participation in community natural resource management or climate change adaptation activities, which can in turn facilitate greater engagement with women on a wider range of peacebuilding and stabilisation issues.

- Given the differentiated impacts of climate change across a country or region, effective CPS programming requires detailed understanding of often very local-level climate-conflict contexts, which are themselves shaped by larger dynamics. This includes the spatial distribution of climate-security risks across different ecosystems, natural resource and livelihood groups, and understanding the perspectives and experiences of affected communities themselves, with a focus on women, youth and other marginalised groups. CPS analysis should not be separate from existing political economy or conflict sensitivity analyses but should be carried out alongside and incorporated into them to inform programme design.

- In addition to identifying risks and vulnerabilities, CPS analysis should highlight opportunities to build on existing structures, processes and relationships that are contributing to communities' resilience and adaptive capacity, and which can be leveraged to build community support and buy-in for programme activities.

- Based on the findings of the analytical streams identified above, project design should adopt a 'do no harm' approach to all peacebuilding and stabilisation activities that have an impact on, or are impacted by, the environment. Activity designs should mitigate the risks of maladaptation through both minimising negative impacts on the environment and affected communities, and future-proofing them against the impacts of climate change and environmental degradation.

- Programme teams should identify what impact looks like and how it will be measured. Theories of Change (ToCs) should articulate the linkages between climate change and security risks identified through the CPS analysis; how activities address these linkages and risks; and how the intervention contributes to the desired outcomes of building resilience, preventing conflict and promoting peace. Based on CPS analyses, ToCs should identify activities that build resilience by linking climate change adaptation and peacebuilding to achieve higher-level outcomes. Responses to climate-security risks and the resilience they build are multidimensional, and therefore require indicators to track progress across different dimensions. Results and monitoring, evaluation and learning frameworks should therefore include indicators tailored to the programme and context and able to identify the interactions between climate and conflict.

1 — INTRODUCTION

Climate action is a high priority for Danish development co-operation, backed by new legislation and policies. The 2020 global climate action strategy, entitled A Green and Sustainable World: The Danish Government's Long-term Strategy for Global Climate Action, envisages Denmark as a global, green front runner while increasing the focus of its development co-operation on adaptation and resilience.[1]

Equally, the Danish Government recognized clearly in its 2020 and 2021 development cooperation priorities the need to strengthen work on climate action, especially in relation to fragility and climate, and peace and security. Climate initiatives and the green agenda featured prominently in these new priorities, with additional funding allocated.

Denmark takes the clear position that the Climate, Peace and Security (CPS) agenda is of paramount importance for planetary and international security – for planet and for peace. Climate, ecological, conflict, transition, illicit financial and criminal fault lines all converge in and towards fragile and conflict-affected contexts (FCACs). The latter are not just recipients of enormous climate-induced risks, they also have an active role to play in tackling drivers or planetary and international security risks, and need to be strategically supported in doing so.

Danish ambitions have become even more important in political and policy terms following Denmark's election to the UN Security Council as a non-permanent council member for the period 2025- 2026. The Danish Government has established key priorities for its council mandate, which include: Standing up for international law and addressing the effects of climate change on peace and security.[2]

It is against this political and policy background that the Ministry of Foreign Affairs of Denmark has commissioned this Analytical and Programming Framework on Climate, Peace and Security for Peace and Planet so as to support:

> A comprehensive understanding of the ways in which climate, ecological and climate-related transition risks interact with conflict systems and fragility fault lines at planetary levels;

> Integrated and dynamic approaches between analysis, programmatic design and delivery, and policy feedback loops regarding climate security;

[1] www.um.dk/en/foreign-policy/new-climate-action-strategy
[2] www.dk4unsc.dk/

> Programmatic staff in identifying the analytical framework and the programming options available to them in the field to tackle climate, peace and security issues systemically. Since climate impacts are growing in scope and depth, peace and stabilization as well as climate actors should be equipped with updated conceptual frameworks and programmatic toolkits that help to take stock of best practices, and shape progress and objectives in the CPS field.

The CPS agenda marks the juncture between actors working for peace and stabilization, climate action, regeneration and ecology, and against nature-based environmental crime, illicit financial flows, and predatory supply chains. This analytical and programming framework is therefore intended for actors that work in these sectors within civil society, government, and international institutions. It provides a common language, a common strategic framework to plan and coordinate collective action in a systemic manner. Time has come to elevate analysis, planning, action implementation and strategic implementation to a level that matches the severity of the stakes facing international security.

As such, the analytical and programming framework aims to capture the planetary and international security issues at hand which produce mutually destabilizing dynamics and to provide the integrated analysis and programming needed to tackle them at field level. It is divided into a framing paper and a technical programming annex. It is designed to provide a comprehensive view of the CPS's evolving scope and what it leads to in terms of programming action and principles. It is intended to meet the needs of those in the field who wish to understand what CPS efforts should aim to do and how to think about programming and coordinate with other actors. The framework complements Danish Guidance Notes on Climate Adaptation, Nature and Environment as well on Women, Peace and Security; on Peacebuilding and Stabilisation; and on the Humanitarian Development and Peace Nexus.[3]

The framework has been prepared at a historical juncture of our planetary and international history, as the 1.5°C degree threshold is entering into overshoot territory. It is written with an understanding that this marks a shift in security paradigms. The framework will therefore mix background analytics on the role of the CPS field for the future of security and explore how it should shape the programmatic delivery of CPS and in policy design. It is the hope that it will be useful in influencing the necessary discussions about the future of security and climate action – including within the European Union and the United Nations system.

[3] www.amg.um.dk/policies-and-strategies/how-to-notes-for-implementation-of-the-danish-strategy-for-development-cooperation

In light of the above, the analytical and programming framework is structured around the following sections:

Section 1: Provides framing definitions for CPS and related concepts;

Section 2: Provides a wide lens analysis on the climate, ecological and transition related risks that converge in FCACs, and why the CPS agenda is a vital aspect of climate action and international peace and security systems.

Section 3: Provides analytical guidance to underpin CPS programming;

Section 4: Provides sector guidance on CPS;

Technical Annex: Provides programming guidance and technical tools for CPS programming.

2 — DEFINITIONS, SCOPE AND OBJECTIVES

The climate, peace and security agenda has never found an easy definition. Research has shown that interactions between climate change and fragility/or conflict are seldom ever direct and causal. Instead, climate change has been termed a "threat" or "risk" multiplier in contexts with pre-existing conflict drivers and fragility fault lines. This terminology is helpful insofar it emphasises that contextual analysis is key. It leads us to ask questions like: "who benefits and who loses from climate-related shocks and ecological change, and how does that increase the risk of violence, the drivers of fragility and the opportunities for peace?"

The terminology is however less helpful in giving an actual raison d'être to the CPS agenda. If climate change only acts as a risk multiplier, it can be interpreted as everything and nothing at the same time, leading people developing CPS programming and projects to act on piecemeal forms of actions. While FCACs have a much smaller responsibility in the climate crisis, they do have a critical role to play in countering the more insidious forms of ecological plundering that play out in those contexts, and how they impact planetary stability and security. And the key is this: one cannot tackle these drivers of ecological vulnerability without understanding and tackling conflict dynamics. In reverse, stabilizing and building peace will not work without addressing the ways in which climate change and ecological plundering play into conflict drivers and dynamics.

The CPS agenda is founded on the understanding therefore that conflict and climate sensitivity are mutually reinforcing. It has long been believed that this double-lens perspective should be applied to all programming in FCACs. However, in addition, it is also necessary to upgrade the CPS agenda to a strategic position. As the next section illustrates, the world is racing past the 1.5°C degree threshold that climate scientists have warned against for decades. This means a systemic security paradigm shift is on the way. Climate security is not just context-specific anymore, it is structural.

The CPS agenda is focused on Global South and FCAC countries where systemic risks converge. It cannot adopt a piecemeal approach to these risks. The CPS agenda is a key pillar of the fight against the breakdown of the global climate regime. Since multi-dimensional climate, ecological and conflict/fragility risks converge in FCACs, it is clear that the fight against climate change and the responses to global security challenges go hand in hand and need to be mutually reinforcing at systemic levels.

As such, the CPS agenda needs to go beyond a risk mitigating and reactive agenda (anticipating and responding to climate induced risks and hazards within fragile and conflict systems) and move towards a pro-active one which identifies how FCACs can be supported in the fight against climate change and against systemic fragility (reduce climate vulnerability, enhance climate adaptation, tackle nature-based conflict economies and protect ecosystems). This requires integrated approaches between analysis, programming and policy.

In order to reflect such an agenda, the chosen definition of CPS is as follows:

Climate, Peace and Security is an analytical, programming and policy framework aiming to identify and address the mutually-reinforcing direct, indirect and structural risks that climate and ecological change materialize for human, societal, international and planetary peace and security systems at all levels; and in reverse, how fragility, conflict and security drivers produce risks to climate change responses in and for FCACs with regards to the energy, economic and ecological transitions required to protect planetary security.

The next section will show why this definition will likely need to evolve in the next few years in light of:

- Climate change being *dynamic and exponential:* the scope, depth and width of climate change interactions with multi-dimensional security risks will evolve over time;

- Climate change propelling humanity into *unknown territory* from a planetary perspective with regard to the way in which bio-physical, geo-chemical and ecological interdependencies change. The risks and security phenomena that the CPS agenda seeks to identify, and address will therefore evolve. This entails that CPS practitioners should remain actively involved in research, programmatic design and adjustments, and coherent policy design and development with regards to the nature and scope of climate and security change.

CPS objectives should therefore be as follows:

Pre-Empt
Identify, analyse and programme for risk management strategies for climate-induced stressors on fragility across the Humanitarian-Development-Peace (HDP) nexus;

Regenerate
- Rebuild ecological security to address environmental root causes of fragility and conflict, buffer against climate shocks, stressors and scarcity impacts and prevent escalation of risks and violence;
- Contribute to hydrological cycling stabilization with regeneration at scale so as to prevent violent offshoots of scarcity and regional breakdown of ecological carrying capacity as well as to contribute to climate adaptation and mitigation

Protect
Neutralize conflict economies and criminal flows that rely on environmental goods, and which accelerate climate vulnerability;

Adapt
Develop conflict and climate sensitive stabilization, development, adaptation and transition plans;

Transition
Use global transition (industrial supply chains) and mitigation efforts (climate policies) which directly take root and/or impact FCACs to support a just, peaceful and safe transition.

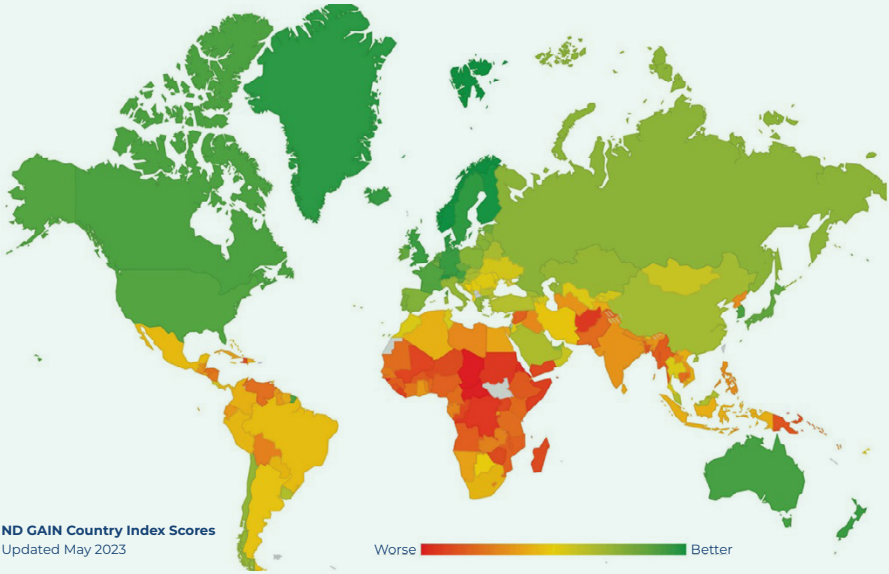
3 — STRATEGIC RISK CONVERGENCE

This section provides analysis on the raison d'être of the CPS agenda and the reasons why it is an essential climate action pillar. Indeed, climate action should not be understood as a programmatic add-on in stabilization and peace programming in FCACs. Not only is it essential to combine climate action to support effective stabilisation and peace programming, and vice versa; it is also essential to understand that risk patterns concentrate in FCACs in a way that threatens global climate action and international security.

3.1 Climate vulnerability is more acute in FCACs

FCACs are at the forefront of climate and ecological change, suffering the brunt of their impact deeper and quicker due to their high level of exposure and their low structural capacity to adapt. The Notre Dame (ND) Gain Map below demonstrates the geographical distribution of climate vulnerability and adaptation capacity.

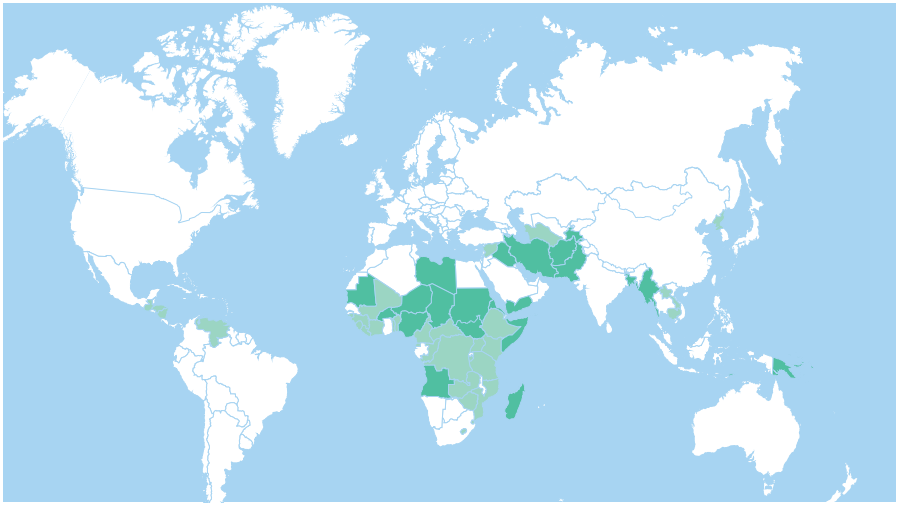
Map 1: **ND GAIN Climate Vulnerability and Adaptability Ranking**[4]



It correlates strongly with the OECD environmental fragility map from the 2022 States of Fragility Report.

[4] www.gain.nd.edu/our-work/country-index/

Map 2: **OECD Environmental Fragility Ranking**[5]



Fragile Extremely fragile

As the two maps illustrate, the countries that record the highest level of exposure to climate security risks are also amongst the most fragile and violent in the world. Not only do they get more exposed to climatic risks; their ability to cope with this exposure is extremely low. Early warning systems are often lacking, and preparedness is often devolved to humanitarian actors. In addition, governance is often weak, contested, and corrupt, creating fundamental obstacles to the necessity to adapt. This is the reason why stabilization, conflict resolution, development and climate action go together in FCACs. Climate action cannot therefore sit separately from the context in which it takes place. Understanding contextual fragility, conflict drivers and dynamics, actors' dynamics over contested governance, territories, economies is the very first step in making sure that climate-related and ecological drivers of fragility can be tackled.

[5] www.oecd.org/en/publications/states-of-fragility-2022_c7fedf5e-en.html. Shades of green differentiate between fragile and extremely fragile contexts in the OECD methodology. The environmental and climate fragility assessment is based on a composite index between several databases including ND Gain, the international disaster database, the gender climate tracker, CO^2 emission assessments.

The CPS agenda recognizes that building peace in FCACs and climate vulnerable contexts requires:

- Understanding how climate change may magnify or create specific fragility risks in FCACs, and how fragility risks create more vulnerability to climate change;
- How climate action requires conflict sensitivity to deliver effectiveness, scale and sustainable impact in contexts where resources, territory, state legitimacy can be contested and societal relationships can be subject to stress;
- How conflict action requires climate sensitivity to deliver effectiveness, scale and sustainable impact in contexts where climate and ecological change can heighten vulnerability, maladaptation and widen pre-existing rifts.

The CPS agenda is focused on FCACs. It has worked on creating reinforcing links between climate, stabilization and peacebuilding. Its context-specific focus is critical to ensure that action leads to impact.

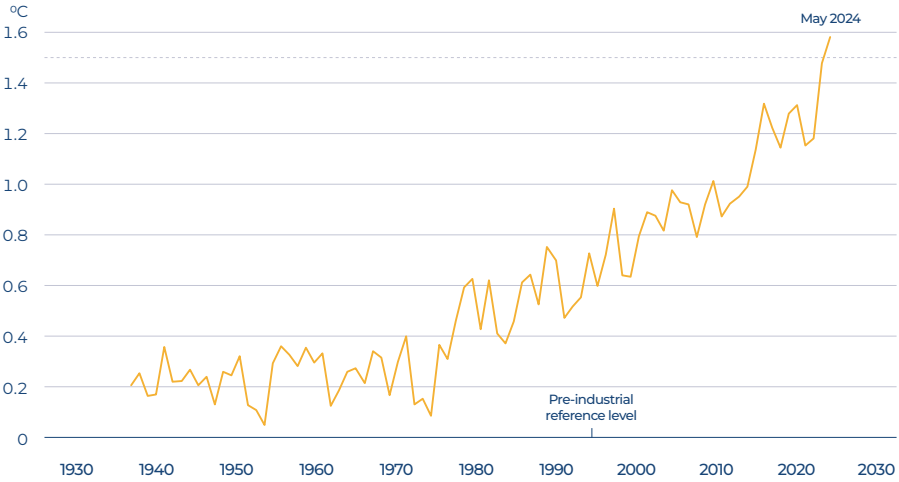
Yet, while context is important, it is also crucial to understand the increasingly structural patterns of risks which shape fragility and conflict drivers in FCACs. These patterns concern the pace and scope of change within the climate system. They also include ecological predation which contributes to climate change and context-specific climate vulnerability. The latter takes place in FCACs precisely because they are fragile and conflict-affected, leading to governance over ecological services and natural resources to be weaker and contested. Taken on an aggregate level between different FCACs, drivers of ecological plundering represent a planetary security threat. For this reason, it is essential to flesh out CPS as an agenda that goes beyond pre-empting and responding to contextual risks so as to avoid risk multiplication. It is an agenda that is vital for the future for planetary security and that needs to pro-actively tackle drivers of ecological predation.

3.2 Exponential climate risks involved in exceeding the 1.5°C threshold

Key Message 1

The **bio-physical 1.5°C threshold is on its way to being crossed**, indicating a paradigm shift in planetary conditions that underpin international peace and security frameworks.

Graph 1: **Global surface temperature records 2023-2024 by Copernicus Agency**[6]



2023-2024 recorded a global average temperature increase at about 1.63°C above pre-industrial levels. This does not officially mean that the 1.5°C threshold is fully crossed, as this needs to happen for several years in a row. This is, however, the first time in recorded history that the 1.5°C threshold has been crossed for 12 consecutive months, indicating that the planet is well on its way towards bio-physical limits that scientists have warned not to cross for decades. This will have several implications.

Firstly, shocks. The CPS agenda has historically focused on sudden- and slow-onset disasters such as floods, hydrological storms or sandstorms, pests, fires on the one hand, and droughts or sea level rise on the other. These will continue to intensify as global average temperatures continue rising, and as past, present and future greenhouse gases (GHG) continue to "arm" climate-induced disruptions. Shocks will likely intensify in pace, in scope and in repetition. The Intergovernmental Panel on Climate Change (IPCC)[7] warns in addition that the effects of GHG will not be linear. There will be "jumps" or breaking impact points induced by climate change. These will be impossible to predict, and it is unclear if and how they will re-shape geographies, and therefore, political economies of governance within any given territory.

[6] www.climate.copernicus.eu/copernicus-global-temperature-record-streak-continues-april-2024-was-hottest-record
[7] www.ipcc.ch/working-group/wg2/

For now, what is clear is that additional and repetitive shocks will make it more difficult for FCACs to stabilize and develop, to adapt sustainably, and from a macro-economic perspective, to come out of debt traps if current financial conditions stay the same.

Secondly, in addition to shocks, climate change is going to have much deeper forms of impacts, starting with scarcity. The UN predicts that global freshwater demand will outstrip supply by 40% as soon as 2030.[8] Regions that already experience water stress today, such as the Middle East and North Africa (MENA), the Horn of Africa, the Sahel and Europe will grow increasingly brittle at their base. Wetter regions and tropical areas will experience advanced levels of drought and changes in rainfall patterns if forests and biomass are actively cut down. For arid and semi-arid regions, the dangers of maladaptation loom large in the face of scarcity, especially when they lead to ecologically unsound infrastructure development, technological interventions and climate interventions which generate more environmental impacts over time. The types of risk differ with regards to pathways towards violence and/or fragility from one context to another, and mostly, from one level to another. Tools such as the World Resource Institute's Water Risk Atlas[9], combined with the Water, Peace and Security maps[10], along with the Ecological Threat Report[11] provide different entry points to explore the interplay between scarcity, resource and fragility at different levels.

Exploring these different levels and pathways matters now that the 1.5°C is on its way to being crossed, as it says something about the shift in security paradigm the world is experiencing. For example, in countries with pre-existing fragility such as Yemen or Syria, scarcity of water has directly played into the hands of non-state armed groups who have sought to weaponize and control water sources as a way to fight in armed conflict, but also as a way to legitimize themselves as service and justice providers. As such, climate change can be seen as a risk multiplier – amplifying risks and behaviours and cementing violent dynamics between actors.

In Mexico, water shortages are strengthening contestation towards the national government and the United States due to a treaty that binds Mexico and the US into a shared water use and distributional relationship.[12] In 2020, Mexican farmers tried to stop water flowing to the US and the demonstrations

[8] www.theguardian.com/environment/2023/mar/17/global-fresh-water-demand-outstrip-supply-by-2030
[9] www.wri.org/applications/aqueduct/water-risk-atlas/#/?advanced=false&basemap=hydro&indicator=w_awr_def_tot_cat&lat=31.353636941500987&lng=-55.89843750000001&mapMode=view&month=1&opacity=0.5&ponderation=DEF&predefined=false&projection=absolute&scenario=optimistic&scope=baseline&threshold&timeScale=annual&year=baseline&zoom=2
[10] www.waterpeacesecurity.org/map
[11] www.visionofhumanity.org/maps/ecological-threat-report/#/
[12] www.nytimes.com/2024/05/18/world/americas/mexico-city-water.html

degenerated into violence. Presently, Mexico and key southern American states are in negotiations to revise water infrastructure and distributional practices, but hydrological conditions, drought and hard-hitting climate change create tensions between the USA and Mexico and between different water-dependent sectors across the border.[13]

Between riparian countries along the Nile[14], the Euphrates[15], the Helmand[16] River, tensions are also present, contributing to constraints on development and economic growth. While cooperation mechanisms are sought after, they tend to orient negotiations towards divisions of ever-shrinking resource bases, rather than cooperation towards regeneration of these resources, effectively turning regional cooperation mechanisms into an active nature-based fight against climate change, rather than into resource distribution agreement serving different national needs. The results of the latter can be de facto a long-term course towards ever growing tensions since climate change is a force that undermines the ecological carrying capacity of regions.

In the face of such challenges, decisions that amount to maladaptation are sometimes taken, including with regards to unilateral constructions of dams, or desalination plants, and in some cases, weather interventions such as cloud seeding. Infrastructure and technology-based adaptive measures can backfire on the medium and long term, since they create environmental impacts that compound the problem, and in some cases highlight problems of inequity at national[17] or regional levels[18] which can transform into hard security problems over time.

From a global perspective, scarcity is fundamentally changing the inter-dependency economic fabrics that underpin architectures of peace and security. Indeed, climate change is also leading to scarcity that affects trade connectivity via the drying up of marine-based trade routes like rivers or canals. It also has direct and indirect impacts on inflationary pressures, either due to dampened productions, or disruptions in complex supply chains. Inflationary pressures can have direct feedback loop on economically fragile populations in FCACs, and on debt reimbursement due to hikes in interest rates. Scarcity therefore leads to direct costs, as well as more systemic forms of fragility at the heart of the global economic system, upon which all countries rely for economic gains.

[13] www.tpr.org/environment/2024-05-16/we-need-each-other-mexicos-president-responds-to-texas-legislators-threats-on-water-crisis
[14] www.tandfonline.com/doi/full/10.1080/14678802.2023.2257137
[15] www.climate-diplomacy.org/case-studies/turkey-syria-and-iraq-conflict-over-euphrates-tigris
[16] www.atlanticcouncil.org/blogs/iransource/iran-afghanistan-taliban-water-helmand/
[17] www.carnegieendowment.org/research/2023/12/meeting-egypts-environmental-challenges?lang=en
[18] www.carnegieendowment.org/research/2023/05/disruptions-and-dynamism-in-the-arab-world#climate-change-in-the-arab-world-requires-more-holistic-reforms

Drawing this portrait of systemic climate impacts is critical today to upgrade the CPS lens to a systemic analytical tool that contributes to programming in situations of complex fragility. Highlighting interrelated pathways between climate and ecological change as well security needs a nested level approach that enables analysis from the ground-up and from the top-down to account for risks, and to lead towards adequate approaches that respond pro-actively to risks. Historically, the CPS agenda has focused on context in order to understand climate-induced pathways to risks, fragility and violence. This approach is still valid, but it needs to be complemented by a pattern-informed analysis regarding global, multi-level and systemic climate-related disruptions.

This point is becoming more apparent in other areas of climate-related research on global economic risks. Recent research focusing on the aggregate and systemic costs of climate change indicate that economic costs are much more extensive when looked at from a global perspective rather than a geography- or context-specific lens. For example, a recent study by the U.S.-based National Bureau of Economic Research demonstrated that each 1°C rise in global average temperature leads to a macro-economic contraction of the global economy by at least 12%.[19] The analytical method is unique due its global and systemic nature, as opposed to inferring context-specific impacts. From a methodological perspective, this study may provide grounds for inspiration for other fields, including CPS, which has tended to look at context-specific risks to infer action pathways.

Thirdly, beyond shocks and structural scarcity, climate change leads to changes in distributional patterns of natural resources, species and climate niches. To illustrate, some fish populations are already on the move from Equatorial waters to colder waters up north and down south.[20] This has direct impact on fisheries-reliant livelihoods, either at traditional livelihoods level, or on industrial fisheries. The collapse of fisheries in FCACs has direct and gender-differentiated impacts. For young men involved in fisheries, who struggle to find alternative forms of employment, there may be a resort to piracy.[21] Women who sell fish at the market tend to suffer more poverty and need to find coping mechanisms, including negative ones.[22] From an industrial perspective, trawling is increasingly compounding anthropogenic pressures on the oceans, and creating tensions around maritime movements.[23]

[19] www.nber.org/system/files/working_papers/w32450/w32450.pdf?utm_campaign=PANTHEON_STRIPPED&amp%3Butm_medium=PANTHEON_STRIPPED&amp%3Butm_source=PANTHEON_STRIPPED
[20] www.nature.com/articles/s41559-024-02350-7
[21] www.democracyinafrica.org/climate-change-may-be-fuelling-a-resurgence-of-piracy-across-africa/
[22] www.theconversation.com/west-africas-fisher-women-are-experts-at-coping-with-job-insecurity-but-policymakers-are-using-their-resilience-against-them-188027
[23] www.worldbank.org/en/news/feature/2023/03/03/fisheries-under-pressure-from-ghana-to-the-caribbean

Terrestrial species are also on the move, albeit at a reduced pace.[24] Their movement indicates that natural resources and climate niches are now shifting distributional patterns across the world. The combined effects of climate and anthropogenic changes are creating unsafe zones for human living. At this rate of warming, certain regions are becoming challenging for human health "only" for certain days of the year, particularly in areas where the wet bulb effect is growing – a combination of heat and atmospheric moisture retention which challenges human physiology[25] – such as northern India, Pakistan, China, the Sahel, and the Gulf region. This effect goes beyond human health impacts. There are also impacts on social welfare institutions (educational and health systems), labour conditions and economic conditions. In some areas where the legitimacy and the credibility of government actors is already contested, this may create further societal tensions, especially as climate change will increase the time associated to wet bulb effects, eventually questioning the habitability of certain regions in the world.

All these growing phenomena point to the fact that climate niches are on the move and that adaptation may depend on relatively cooler and more stable regions in northern and southern hemispheres. This will have grave implications for the future of human mobility and forced displacement, and plausibly, on competition for natural resources at a macro level. While this prospect may seem distant into the future, and beyond the remit of the CPS agenda, the reality is that low-level signals are already pointing to the unfolding of such trends. The war in Ukraine has demonstrated how Russia has attempted to build power on the back of comparative advantages over agriculture and grain deals, and cement relationships with other countries over grain distribution which serve its strategic interests. This is a behaviour that may be an early indicator of a pattern to come for a country that will benefit from a relative perspective from climate change compared to other regions in the world.

The combination of shocks, exposure to scarcity and changes in natural resource and species distribution patterns across the global point to a larger set of security problems slowly taking root because of climate change. The ecological base upon which economic and political constructions are built is experiencing foundational change and structural stress. This generates risks and rifts that the international peace and security system is struggling to resolve. For FCACs, over the next decades, shocks are going to be felt as a result of direct climate and ecological pressures affecting sub-national, national and regional resilience, but also as a result of mounting competitive streams within geopolitics which will impact natural and material resource management in and around FCACs.

[24] www.blog.ucsusa.org/adam-markham/species-on-the-move-how-climate-change-is-re-making-ecosystems/
[25] www.economist.com/the-economist-explains/2022/05/13/the-increasing-frequency-of-fatal-wet-bulb-temperatures?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=5&gclid=EAIaIQobChMIza7Okt3WhgMVu5iDBx2_YgBNEAAYASAAEgJ6bPD_BwE&gclsrc=aw.ds

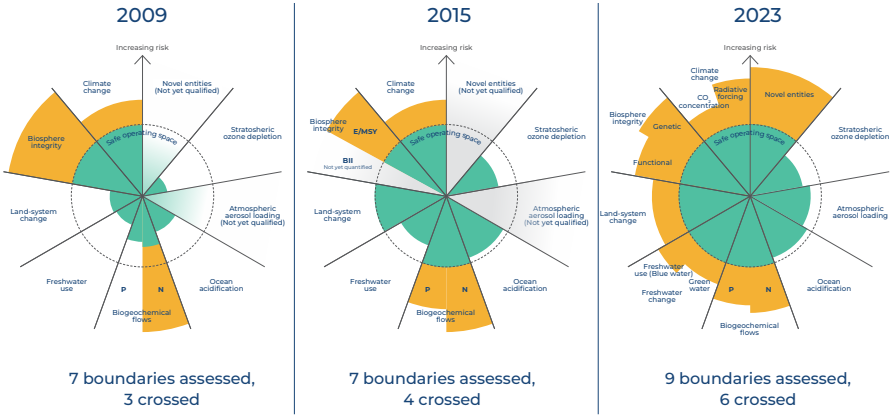
3.3 Addressing climate risks requires action on other drivers of planetary crises, especially in FCACs

Key Message 2

Climate change is one of several planetary and ecological crises. Considering the inter-dependencies between climate change and other planetary crises provide ground for sobering analysis on climate security, as well as levers for action. In particular, ecological regeneration and ecosystems protection in FCACs is key to produce integrated results to tackle climate, biodiversity, soil, and hydrological crises.

Climate change is a hyper-crisis of its own. But it is also a product and symptom of other planetary crises, including the biodiversity, soil, hydrological and pollution crises – and an accelerator of these other crises too. This is what the Planetary Boundary Framework below aims to demonstrate. The planet is in a state of ecological overshoot. Acting on climate change is not just about addressing greenhouse emissions; it is also about restoring natural systems to a state of health and ecological function as much as possible in spite of the fundamental shifts at play in the planet right now.

Graph 2: **Evolution of Planetary Boundary Framework and Estimated Overshoot**[26]

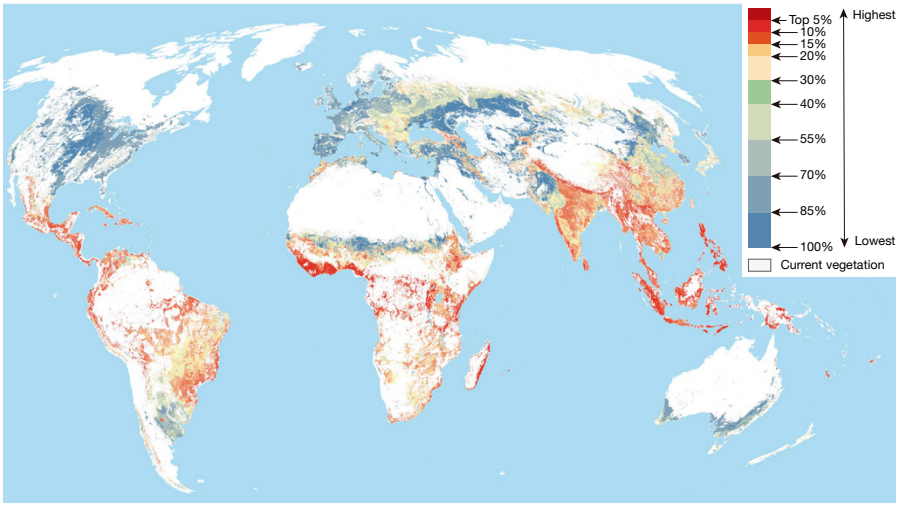


The CPS agenda focuses primarily on climate-induced risks to security. This has meant that it has analysed the climate crisis as an atmospheric problem that impacted FCACs. In that view, drivers of climate crises are primarily found in energy and technology-intensive countries, mostly in the Global North. In turn, impacts are more acutely felt in countries of the Global South, as mentioned before. But this is a view that results from a "carbon tunnel vision". As the planetary boundary framework demonstrates analysing, preventing and acting upon climate-induced risks entails looking more systemically at other types of crises in marine and terrestrial environments too.

The primary implication of looking at climate-induced risks from a planetary boundary framework perspective is that FCACs are not just recipients of risks; they also have an active role in responding to climate and ecological change. In particular, they have an important role to play in the protection of global regeneration priority areas, which, as the map below demonstrates, almost exactly overlap with climate vulnerable and FCAC contexts.

[26] www.stockholmresilience.org/research/planetary-boundaries.html: The Planetary Boundary framework registers all known planetary crises in terms of their overshoot assessment and creates a visual narrative of interdependency between crises. Research on planetary boundaries is recent. States of overshoot and possible remediation are still being assessed. Each planetary boundary assessment in the last 15 years has revealed more extensive levels of overshoot than previously anticipated.

Map 4: **Global Regeneration Priority Areas, Strassburg et al**[27]



The ecosystems in orange and red above have a particular set of functions for planetary security. They host surface level biodiversity hotspots. They are also critical for global hydrological functions. Rainforests for example do not just produce their own rain. They also water other parts of the world. The Amazon sends moisture via atmospheric rivers to southern, central and north America, and all the way up to Europe seasonally. Were those ecosystems to be ploughed down, it would have four consequences:

- It would precipitate the loss of carbon sinks;
- It would heighten local, national and regional forms of climate insecurity;
- It would deregulate even further global hydrological cycling, which would itself have feedback loop effects on economic fabrics worldwide – from agricultural and industrial outputs to trade and finance;
- It would accelerate regime shifts of key ecosystems (from rainforest to savannah) and undermine planetary stability from the ground up.

[27] www.nature.com/articles/s41586-020-2784-9.epdf?sharing_token=UNsWpkG2HQKGOw7nzfCErtRgN0jAjWel9jnR3ZoTv0O-LQbPFf5E56f7ybAlUXkb1L-z8Kd4n4dc-mn9UB_YlzQ7iq4Jjw2bFs85xwl92S92463LXrOZLWvh04BZTMZT7jGfl4cX2oiA5FLi9FfgKgNlZgwhkytH52v4OU-cOqk%3D

Beyond protecting and helping to regenerate critical ecosystems in various regions of the world, hydrological cycling also needs to be restored in areas that are particularly soil-challenged, arid and semi-arid, like the MENA region and the Horn of Africa. In these areas, where rebuilding water security, rebooting ecological services and organising better systems of natural resource management is a critical aspect, complex regeneration is key. It entails more than tree planting for carbon sequestration. It requires the rebooting of ecological services from the ground up via a combination of ecological, industrial and community level work, terraforming methods, which leads to the regeneration of ecosystems that allow to "replant" water. At the moment, climate and anthropogenic change contribute to the global hydrological crisis in the form of exponential water evaporation and water vapour build-up within the atmosphere. It is imperative to recreate water-retention landscape that help to stabilize water flows, rebuild water security from the ground up, fight increasing scarcity effects, and rebuild ecological services that are essential for adaptation.

Yet, while FCACs have crucial roles to play in the fight against climate and ecological change, they are chronically underfunded. Indeed, the more fragile a country is, the less climate finance it gets; and the least support it gets for ambitious climate action, including for regeneration at scale.[28] This is one of the reasons why CPS action has been confined to sub-national forms of action, even though the scale of climate-induced impacts, and the scale of climate action needed in FCACs requires upscaled levels of action, including at regional levels.

3.4 Nature-based conflict economies and illicit financial flows drive climate and ecological risks in FCACs

Key Message 3

Environmental crime and nature-based illicit financial flows have become the largest financial driver of conflict. Environmental crime is a direct driver of biodiversity loss, deforestation, desertification, green water crises and as such, water insecurity. It is an anthropogenic driver of ecological change, which also contributes to making certain areas in FCACs more vulnerable to climate-induced hazards.

[28] www.climatecentre.org/9953/the-hague-round-table-the-more-fragile-a-country-is-the-less-climate-finance-it-gets/

Environmental crime takes root in FCACs and connects them to the rest of the world via complex and illicit supply chains. In 2018, "environmental crime was estimated to be equivalent to US$110–281 billion annually, an approximately 14% (9%–20%) increase from the previous official estimate in 2016 and 44% higher (32%–57%) than the first estimate in 2014, disregarding inflation."[29] Today, environmental crime ranks higher than profits accrued from drug and human trafficking. It includes timber, charcoal, vegetal and animal biodiversity, minerals, oil, fisheries.

The growth in environmental crime revenues is expected to continue as long as anthropogenic and climate pressures induce growing scarcity, which raises the value profile of certain commodities, especially biodiverse ones. If this trend continues, it will have three inter-connected effects:

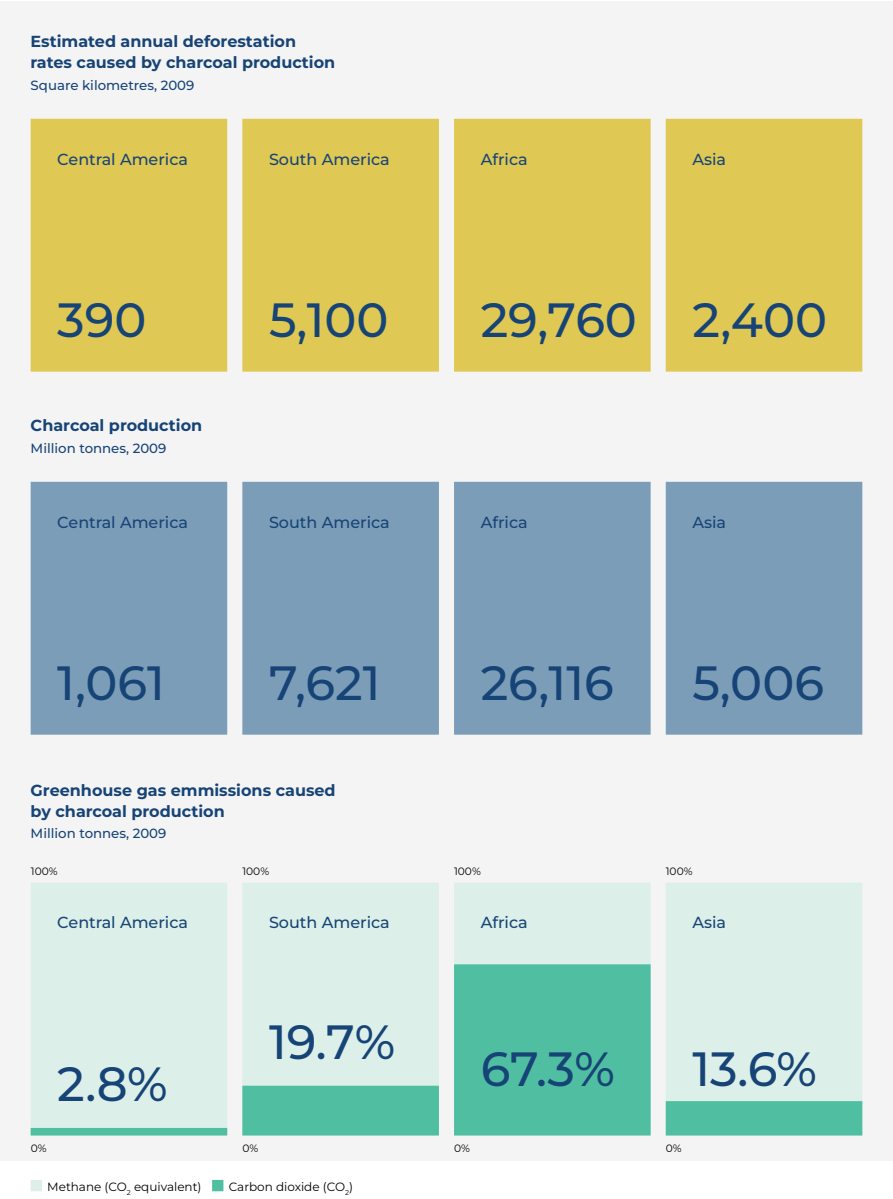
- Nature-based political economies of conflict sustain armed group incomes. Charcoal trade for example represents 1% of the income of the largest armed groups such as Al-Shabaab or the Forces Démocratiques de Libération du Rwanda (FDLR). Over time, environmental plundering creates ecological fragmentation, loss of ecological services and it can lead to livelihoods insecurity. In turn, this can lead to human, household and community insecurity which creates more recruitment ground for armed groups, and more divisions between communities who need to share resources in their direct environment;

- Nature-based political economies contribute to local forms of climate change, and to global greenhouse gas emissions, as represented in the illustration below . Deforestation and charcoal production in tropical areas is of particular concern over time due to the importance of pan-tropical basins for carbon and hydrological cycling;

- Ecological fragmentation and loss of ecological resilience dampens buffering against climate extremes. It makes certain areas more vulnerable to climate hazards and stressed over time.

[29] www.globalinitiative.net/wp-content/uploads/2018/09/Atlas-Illicit-Flows-FINAL-WEB-VERSION.pdf

Illustration 1: **Charcoal production and GHG impacts**[30]



[30] Idem

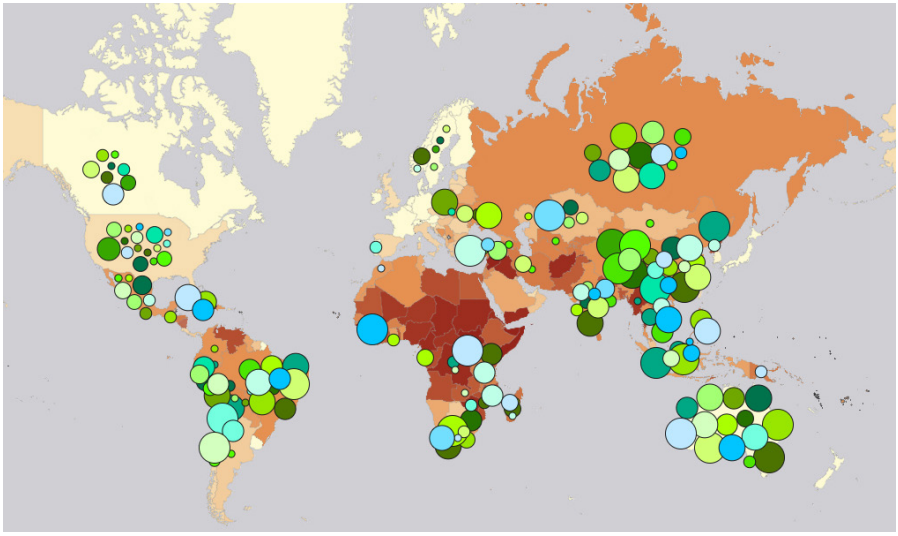
3.5 Climate and ecological risks combine with transition risks in FCACs

Key Message 4

The supply chains that support climate mitigation take root in countries of the Global South, including in FCACs. Competition related to resources that represent the backbone of energy transition supply chains heighten geopolitical and ecological risks in relation to FCACs.

The energy transition is an overwhelmingly important response to the climate crisis. It requires shifting away from a fossil energy base to a clean technology energy infrastructure, which itself relies on mineral supply chains. Outside of China, Australia, Canada and the United States, a critical bulk of mineral provisions for the clean tech infrastructure will increasingly come from climate-vulnerable countries, including from FCACs,[31] as map 5 below illustrates.

Map 5: **Critical Mineral Reserves correlated with fragility and corruption indices (2018 mapping)[32]**



[31] www.carnegieendowment.org/research/2021/07/the-eu-and-climate-security-toward-ecological-diplomacy#the-need-for-an-eu-ecological-diplomacy
[32] www.iisd.org/publications/report/green-conflict-minerals-fuels-conflict-transition-low-carbon-economy

Mineral extraction in FCACs can generate fragility risks, starting with ecological impacts of extraction, which may include water consumption, deforestation, and pollution. In addition, societal impacts may include population displacement, competition with nature-reliant livelihoods, and political competition over economic and development resources. In some cases, including in countries like the Democratic Republic of Congo, or the Central African Republic, extraction can be directly connected to conflict economies, corruption, violence, and political economic predation. Decades of research and experience regarding the role of extractives in FCACs can inform new reflections regarding how to prevent extraction-related risks with regards to political, economic and societal fragility. In addition to previous research, it is equally essential now to prevent ecological costs of extraction, and to use transition-related extractive supply chains are integrated within the larger just transition framework and financial redistribution systems.

Key Message 5

The policies which major economies put into place to transition their economic base towards a net zero -paradigm are likely to create additional economic stresses for countries with heavy industry in the Global South, including for some FCACs.

In addition to the physical of transition-related extraction, global mitigation efforts can have unintended consequences for FCACs from a policy perspective. Those unintended consequences should inform the (re)design or sequencing of mitigation policies as much as possible, so as to avoid diversion of crucial financial resources for policy-induced risks; additional fragility risks which states cannot prevent, and which may contribute to further societal-state stresses; breakdown of trust between climate vulnerable and energy-intensive countries at an international level.

For example, the European Union has adopted several measures as part of the Green Deal which directly affect FCACs. The Carbon Border Adjustment Mechanism (CBAM) impacts key industrial sectors (e.g., steel production) in countries like Mozambique[33], which are essential for economic export revenues, economic performance and for employment.

[33] www.carnegieendowment.org/research/2023/05/a-political-economy-perspective-on-the-eus-carbon-border-tax?lang=en&center=europe

The EU's deforestation law directly impacts political economic stability in countries such as Ghana and the Ivory Coast, without having worked on supporting the political economic transition away from sectors that lead to deforestation in these countries. Notwithstanding their climate ambitions, the EU's climate policies with external application lack a view on FCACs, their importance in the climate fight, and in the geopolitical transitions at play on the back of industrial transitions. Climate policies can and should be a bridge towards the redesigning of collective security in a climate-disrupted world. The CPS agenda advocates for climate, conflict and fragility sensitivity as a programming principle. This principle can and should be applied to climate policy design. This is the first step in ensuring a just and safe transition for all countries, including FCACs.

3.6 Concluding observations

FCACs are more fragile in the face of climate change. Their adaptive capacities are low, and their exposure is high. Because climate-related risks are on an exponential curve, the recurrence, frequency and depth of direct and indirect climate-related hazards, shocks and effects will keep widening fragility and violence fault lines and threaten stabilization and peace efforts. This is precisely why stabilization and peace efforts are the prism through which climate adaptation efforts should be implemented.

Nature-based conflict economies and financial flows are highly prevalent in FCACs precisely because they are fragile, and precisely because governance, territory and economies are contested. Nature-based conflict economies and illicit financial flows pave the ground for more contextual climate vulnerability and ecological scarcity. They also provide a driver for planetary destabilization since they dent the ecosystems, resources and ecological services that help keep the planet into balance. Seen from that lens, the climate and fragility issues emanating from FCACs present a paramount collective security problem.

We are entering a period of high-risk and volatility. Climate risks are multiplying exponentially. They combine with ecological plundering and hold the potential to aggravate power dynamics between geopolitical competitors and resource-endowed, but fragile and climate vulnerable countries. CPS analysis, programming and policy therefore needs to reflect the width and dimension of issues that concentrate in FCACs and threaten collective security.

4 — A SYSTEMIC ANALYTICAL FRAMEWORK

4.1 Making sense of systemic interaction

The previous section demonstrated that climate, ecological and transition-related risks converge in FCACs. This section aims to give a broad view of the different factors that are typically taken into account in CPS analysis and how they can help inform CPS programming.

4.1.1 Analytical foundations

CPS requires a systems-lens analysis. There are several reasons for this:

- Slow- and sudden-onset climate-related risks can be direct (e.g., a climate-induced hazard), indirect (e.g., inflationary pressures stemming from agricultural shocks, including in countries outside the programming context), and/or structural (e.g., debt or governance traps which lead to structural maladaptation).

- They combine with ecological risk factors (e.g., poor management of natural resources, nature-based conflict economies of illicit financial flows) which create heightened climate vulnerability and contribute to anthropogenic forms of climate change.

- These factors impact several sectors: agri-food and water resources; displacement; livelihoods; infrastructure; in active-conflict contexts, they can also impact means of competition or violence between actors (economic resources, territory etc.)

- In turn these factors play within actors' dynamics, their coping capacities, their livelihoods, their balance of power, their perception of state versus non-state actors, their economic prospects and calculations, their incentives to engage in violence and/or stabilization and peace processes.

- Impacts are complex and multi-dimensional. This implies that responses cannot be linear and uni-sector.

CPS analysis starts by understanding how these factors combine in ways that may lead to:
– Violent dynamics[34];
– Drivers of fragility and conflict;
  Conditions that undermine stabilization and peace efforts, or conversely reinforce them (and at what level) as well as undermine adaptation, or conversely reinforce it.

4.1.2 Systems diagram

Diagram 1 below aims to capture the complexity of factors playing into the interactions between climate and ecological change, security, peace and adaptation potential. For programming purposes though, the sub-national, national and regional layers of action are most often the ones that can be leveraged. The "global" layer is indicative of pressures that may trickle down to regional, national and sub-national layers, but which actors supporting CPS programming should be aware of for the following purposes:

> Understanding what factors impact the effectiveness of CPS programming in FCACs for monitoring and evaluation purposes;

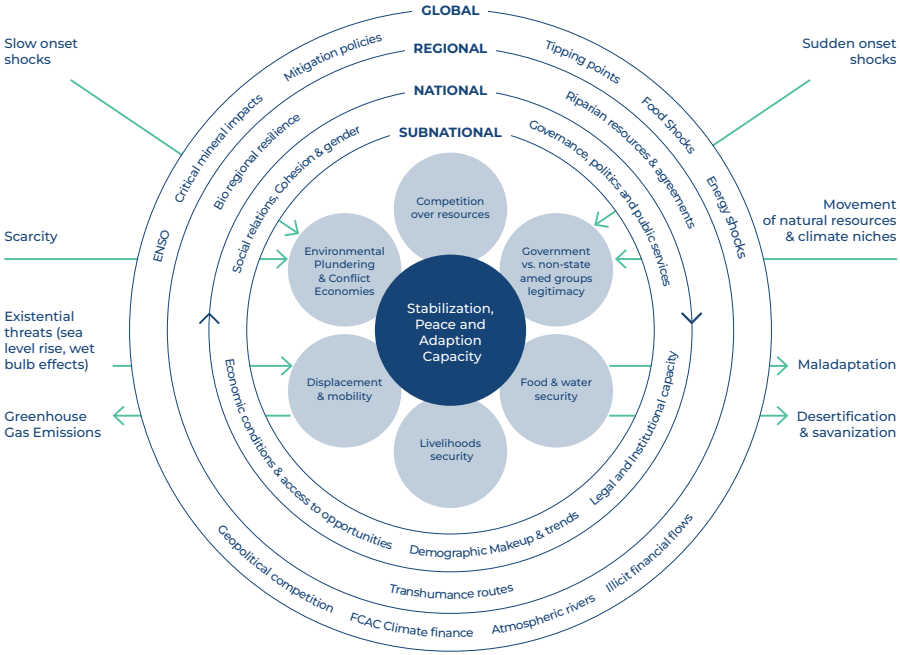
> Acting as information nodes between programming and policy levels, especially when it comes to the ways in which climate-related policies in a country like Denmark or within the EU impact security, peace and climate adaptation in FCACs.

The diagram builds upon an original CPS diagram which Adelphi developed as part of the Weathering Risk project, which includes a climate security toolkit.[35] In the diagram,
– Blue Arrows indicate climate-related stresses that impact FCACs at sub-national, national and regional contexts.
– Green arrows indicate the ways in which nature-based predation contribute to climate vulnerability and anthropogenic activities contributing to planetary crises.
– Each layer is inter-related to others and contain climate-related, ecological or resource-related, economic, political and governance factors that play into shape contextual fragility/conflicts and climate vulnerability.
– ENSO: the oscillation system between El Niño and La Niña, which tends to magnify droughts and floods, as well as temperature hikes in certain parts of the world.

[34] It should be highlighted that research demonstrates that climate stresses seldom cause direct routes towards conflict and violence. This is why climate change has been identified as a "threat" or "risk multiplier". That being said, the IPCC working group II warns that climate effects are non-linear and non-proportional. A small event could lead to big politico-economic and social regime shifts and/or violence, while a big event changes little. There is a high level of unpredictability.
[35] www.adelphi.de/en/publications/weathering-risk-climate-security-risk-assessment-methodology-guide-and-tools

– Atmospheric Rivers: atmospheric rivers are growing as a result of evaporation and water vapour build up in the atmosphere. Their movement is predictive of massive flood and flash flood risks. On the flip side, their presence also indicates great potential for ecosystem regeneration at scale
– Tipping points connect the poles to the Atlantic meridional overturning circulation (AMOC) system and other key ecosystems around the world. Their stability is fundamental to maintain our planet in balance. If any of these ecosystems fail or shift regimes, planetary instability and domino effects across different regions would ensue.[36]

Diagram 1: **Systems Analysis Framework for Climate, Peace and Security**



[36] www.global-tipping-points.org

4.1.3 Vulnerability at sub-national levels

At sub-national levels, CPS analysis needs to keep close watch over certain trends and dynamics, namely:

- The more communities or entire economies are agriculture-dependent, the more fragile they are to direct slow and sudden onset shocks, as this will affect their food security, and overall, their economic resilience at household and community levels. What coping mechanisms are available to households and communities matters to determine the level of poverty and/or fragility they fall into;

- If breadbasket failures happen simultaneously in different regions of the world, inflationary pressures will surge on agri-food markets, and impact fragile countries heavily. This will happen either by direct impacts on consumers, which will reduce purchasing power and economic resilience at household levels; or via macro-economic risks related to state budget and debt servicing if the state subsidizes staple goods. In these circumstances which are more subtle than outright shocks, it is vital to understand how households react to economic stress with a gender and inter-generational lens;

- Competition over natural resources is likely to happen when scarcity undermines the carrying capacity of ecosystems, usually as the combined result of climate and anthropogenic change. When violence does erupt, it is likely to do so in areas of relative abundance, where water resources and ecological services remain and therefore attract more concentrated human and economic activities, which can create competing demands. This is exemplified in areas such as Central Mali, where the Bourgoutières ecosystem has kept shrinking in the last two decades, and where conflict has gradually grown and protracted. The protraction of transhumance conflicts can also be attributed to the changing patterns and length of routes necessary to support cattle in areas growing more extensively arid.

- Shocks and scarcity can also lead to short term and long-term displacement and/or migration. Climate or violence induced displacement does not automatically lead to violence. It is rather after 12 to 18 months that relationships between host and displaced communities often start becoming brittle if reconciliation is too distant of a prospect.

- Environmental plundering and nature-based conflict economies (timber, minerals, biodiversity, land, water) are prevalent in in FCACs. They are often driven by a mix of economic opportunism, and poverty-driven fragility. Environmental economies are often the area that reveal how FCACs are embedded in global economic flows, which have an impact in the effectiveness of stabilization efforts.

- At the heart of fragility dynamics lies the relationship between state and people, trust and legitimacy. Where a government fails to capably invest into and deliver on the social contract that enables communities to live together in a safe and just space, credibility and legitimacy fault lines endure and generate contestation by non-state actors, including armed ones. Failing to address climate drivers, shocks and impacts tends to widen mistrust between people and state actors, as well as add to perceptions or realities of injustice. In some cases, non-state armed groups can easily build upon injustice, and gain in legitimacy if they provide services on the back of environmental competition, or stresses. This legitimacy often comes at the price of capturing communities' loyalties, and weaponizing natural resources if necessary to maintain control. By contrast though, when a government (and international actors) is able to respond to climate shocks and long-term stressors, trust can be rebuilt.

- In some contexts, the impact of extractive industries, particularly related to critical minerals, will also be of importance. CPS analysts will need to control for the type of ecological damage that comes from extraction, which may accelerate climate vulnerability. They will also need to analyse the political economy of power organized around extractive ventures, and whether or not it contributes to conflict economies, or to transparent and climate-adaptive development planning.

- Finally, pathways connecting climate and security come down to the combined climate and conflict sensitivity outlook of any HDP, climate adaptation and transition planning. One of the fundamental values of the CPS field is to recognize that climate responses can only be effective if they are designed with specific conflict and fragility considerations in mind, including around engagement strategy; and vice-versa, that any stabilization effort needs to take into account climate and ecological considerations.

4.1.4 Vulnerability at national levels

The sub-national level does not exist in a vacuum. It is partially shaped by climate impacts, but also by wider societal factors, including demography (which impact natural resource demand and gender-differentiated roles); economic stability, resilience and growth (which impact debt, investments, private sector ability and public sector effectiveness); institutional credibility and legitimacy, including around separation of powers, judicial effectiveness, as well as identity rapports to institutional effectiveness and impartiality; and governance effectiveness and integrity. All of these different factors combine to enable or disable peaceful and productive societal relations between groups.

4.1.5 Vulnerability at regional levels

In turn, national factors are also shaped by regional and global trends. Regional factors matter for a few different reasons particularly related to natural resources:

- If material resources generate conflict and fragility, regional involvement can protract conflicts within borders and complicate stabilisation efforts substantially, especially when regional involvement is denied. An illustrative case in point is the relationship between Rwanda and the DRC, the role that minerals have played historically in their relationship (leading to foreign non-state armed groups being part of a larger illicit and violent supply chain). In addition to minerals, FDLR troops which originated decades ago from Rwanda have been particularly active in timber plundering and charcoal production, contributing actively to deforestation and biodiversity plundering in eastern DRC.

- If regional neighbours share transboundary resources together – either river basins, aquifers, ecosystems, transhumance routes – and if cooperation agreements either do not exist, manifest unfairness, or do not represent the stakes and realities of today's world; then regional relationships are likely to be fraught with tensions. The Egypt and Ethiopia tensions attest to this. So do conflicts and tensions over riparian systems in the Gulf and Central Asia.

- If regional neighbours do not align their mitigation, adaptation and economic plans together, they will likely co-create ecological insecurity for one another. The future of economic security depends on ecological security, regeneration at bio-regional scales, and on economic transitions that create collective incentives for natural resource stewardship. If one country decides to build a dam upstream, or develop forms of intensive agriculture or industrial activities that have diffuse ecological effects, or use climate interventions such as geo-engineering, tensions will protract over time.

4.2 Operationalising analysis

While diagram 1 provides a presentation of the complex systems factors in which climate, ecological, conflict and fragility intersect, one needs to operationalise analysis with various data sets and information flows. There is, as yet, no systematic data centre or dashboard methodology available to deploy at field level for integrated CPS analysis. The technical annex to this framework, however, provides guidance on the sequence of questions and data set samples to refer to. In some circumstances though, CPS analysis and programming will require bringing in expertise and competencies within your programming team or other donor/international institutional system that will help:

- Identify exposure type to sudden onset disasters every 6 months and in line with cyclical events (ENSO cycle, monsoons etc).
  - What for? Humanitarian preparedness for potential disaster risk reduction, food security, displacement support, support to government preparedness (and credibility).

- Assess slow onset trends for scarcity via soil moisture, deforestation and riverine system monitoring (satellite imagery and ground controls).
  - What for? Livelihoods support, regeneration planning, terraforming.

- Retrace historical conflict dynamics against the background of environmental and land use or marine use change.
  - What for? Understand trends that have led to heightened competition over resources, anthropogenic scarcity, inter-generational divides, migratory patterns, and loss of trust towards state apparatus and policy; and identify how patterns of conflict driven directly or indirectly by environmental issues have spread geographically.

- Analyse political economy of environmental plundering.
  - What for? Understand various actors along supply chain and the incentives that drives them into the supply chain (energy poverty? Armed group conflict economy?). Analyse who benefits economically and politically. Analyse where environmental commodities are sold and where/how pressuring demand levers can work. This work will inform engagement strategy and spoiler neutralisation strategy.

- Analyse how to regenerate water-retention, hazard buffering and productive landscapes at scale.
  - What for? Ecological regeneration is essential to reboot ecological services, protect against climate extremes and livelihoods insecurity. Complex regeneration needs to happen at various scales following ecosystems continuity and hazard pattern.

- Analyse state adaptive and para-state adaptive capacity.
  - What for? Adaptation will make the difference between complete breakdown and resilience of ecological and governance services. For the state, it hinges on long-term strategic investments, reactive capacities, communication capacity between state and citizens, providing access to justice and enabling creative adaptive for citizens. Equally, NSAGs capacity to support adaptation should be analysed so as to understand if and how they can assert power.

> Analyse corruption patterns.
  – What for? Effectiveness and impact materialization. If state actors exercise corruption, CPS practitioners should identify who to work with to reach maximum impact.

These analytical streams should form the backbone of continuous and adaptive strategic planning for CPS practitioners. Ideally, they should form the backbone of collective planning between donors, the UN system, NGOs, civil society and state actors. They enable historical and future-oriented, reactive and pro-active analysis, fragility drivers and violent dynamics analysis, as well as terrain and stakeholder scanning all at once. The responses that CPS practitioners will develop in any context will need to flow from this analysis. Responses will naturally need to span the HDP nexus, and to constantly be informed by a climate sensitive and conflict-sensitive approach.

5 – INTEGRATED PROGRAMMATIC LOGIC

CPS responses should follow from analysis, and should aim to meet risk-management objectives while addressing the ecological drivers of insecurity and climate vulnerability and support energy and economic transformation efforts. The CPS agenda holds the following objectives:

- Pre-Empt: Identify, analyse and programme for risk management strategies for climate-induced stressors on fragility across the HDP nexus;

- Regenerate:
  - Rebuild ecological security to address environmental root causes of fragility and conflict, buffer against climate shocks, stressors and scarcity impacts and prevent escalation of risks and violence;
  - Contribute to hydrological cycling stabilization with regeneration at scale so as to prevent violent offshoots of scarcity and regional breakdown of ecological carrying capacity as well as to contribute to climate adaptation and mitigation

- Protect: Neutralize conflict economies and criminal flows that rely on environmental goods, and which accelerate climate vulnerability;

- Adapt: Develop conflict and climate sensitive stabilization, development, adaptation and transition plans;

- Transition: Use global transition (industrial supply chains) and mitigation efforts (climate policies) which directly take root and/or impact FCACs to support a just, peaceful and safe transition.

Funding agencies should be aware that CPS programming needs to be:

- Long term oriented: short term programming can be helpful to respond to specific forms of crises, but CPS requires long-haul work on climate adaptation, stabilization and peace. Short term programming will be inefficient overtime;

- Multi-scale: some territories or communities may be more fragile as a result of ecological or climate-related factors, and required more targeted forms of programming. But building up matching the scale of the challenges that climate and ecological change bring into FCACs require multi-local, national and regional types of action;

- Conflict- and climate-sensitive: peace and security programming requires climate and ecological action in order to succeed, and vice versa.

- Mainstreamed across the HDP Nexus: the CPS agenda needs to undergird activities in FCACs in a way that support dignified human security, rebuilds ecological security and supports political-economic transformations in which climate adaptation, peace and security are mutually reinforcing.

5.1 CPS responses: Pre-empt – Regenerate – Protect – Adapt – Transition

The following 'baskets of action' reflect responses to stresses, shocks and interactions between fragility/conflict and climate/ecology within the sub-national, national and regional concentric circles identified in Diagram 1 above:

- Pre-empting is about understanding the patterns of climate- and ecology-induced stresses and shocks that will impact contexts, as well as the ways in which it will interact with productive capacities, conflict parties' and communities' dynamics, and political economies of natural resources;

- Regenerating aims to address drivers undergirding scarcity, natural resource competition, and livelihoods insecurity

- Protecting aims to tackle nature-based conflict economies and illicit financial flows, which themselves contribute to greenhouse gas emissions, climate vulnerability and planetary insecurity;

- Adapting and Transition are central to the future of peace and security in any given context. Striving in their direction requires departing from peace and security analysis, process design and stabilization.

5.1.1 Pre-empt

Pre-emptive response capacity is essential in an era of climate disruption in any context. Climate-induced disasters are become more frequent, deeper and greater in impact. They are partially predictable depending on seasons and cyclical phenomenon within the climate and weather systems. Understanding the patterns of climate-induced events in any context is essential to prepare for the moments when disasters hit, as well as understanding what communities, livelihoods and political-economic dynamics they may affect. On the basis of this analysis, CPS programming on pre-empting disasters and insecurity may include a mix of responses around:

- Government communication strategies with citizens and preparedness;
- Capacity building at governance and civil society level;
- Disaster risk reduction (within humanitarian system and with government or other legitimate actors);

- Food and agricultural/fisheries security;
- WASH and health security;
- Infrastructure (re)construction;
- Displacement preparedness;
- Pre-emptive terraforming[37] capacities to collect storm and flood waters.

Pre-emptive capacity is not just disaster-oriented but based on prior analysis of political-economic and community contexts that inform if and how different actors compete for natural resources, control certain key areas and/or natural resources. In that sense, pre-empting disasters means working on continuous political-economic analysis, as well as dialogues at regional, national and sub-national levels that help to cultivate mechanisms for information sharing, cooperation and coordination. In other words, pre-empting is both a matter of relational and operational capacity. The two need to go together to ensure that operational relief and programming, capacity building navigates complex relational fabrics at the heart of FCACs and ensures do no harm.

5.1.2 Regenerate

Regeneration is about rebuilding ecological security from the ground up, and therefore addressing deep ecological drivers of fragility, climate vulnerability and environmental-induced insecurity. It is a critical necessity in a climate disrupted world to:

- Reboot ecological services from the ground up so as to support climate-induced extreme buffering;
- "Replant water" so as to fight ecological scarcity effects. Replanting water consists in recreating water-retention/catchment landscapes that help to reboot ecological services from the ground up, rebuild water security and enhance the productivity and carbon sequestration of soils.[38]
- Incentivize cooperation and violence de-escalation (at sub-national levels, national and regional levels) on the basis of regrowing natural resource base;
- Prevent present or future weaponisation of resources, food and water insecurity;
- Upgrade resource management cooperation frameworks on the basis of regeneration rather than management of access and use (at all levels, from the sub-national to the regional).

[37] Terraforming is a form of earthworks that is designed to help with disaster buffering and water retention landscapes. In places that are particularly vulnerable to storms, flooding and flashfloods, forms of terraforming can help to direct water to catchment areas.

[38] www.youtube.com/watch?v=NHWivNMUW_s Replanting water" is a saying Natalie Topa, who currently works at the World Food Programme, illustratively coined. She has pioneered community-led landscaping and terra-forming work for water retention in FCACs. Her experimental work requires multi-scale approach from the local to the regional in order to yield ecological benefits at scale

Pre-empt

> Use predictive analysis for pre-emptive coordinated strategies amongst donors, UN agencies and state actors
> Work on early warning systems and early action response (humanitarian preparedness, communication between government and communities, government support etc)
> Prepare regenerative displacement management

Regenerate

> Multi-scale Environmental Peacebuilding based on complex regeneration
  – Local
  – Displaced communities
  – National
  – Bio-regional/Ecosystems
  – Regional Negotiations for Regeneration and Natural Resoucre Management (Water, Transhumance)

Protect

> Understand supply dynamics for various commodities (poverty, lack of energy access, livelihoods, forced labour)
> Contribute to energy substitution where necessary to avoid deforestation
> Assess possibility to build transparent and effective environmental police
> If possible, tackle supply and demand dynamics, including from geopolitical actors

Adapt

> Support conflict sensitive adaptation planning
> Support access to justice and security institutions

Transition

> Assess transition related risks with regards to extraction and Global North policies on economics and trade in FCAC
> Support conflict sensitive transition planning into carbon-neutral and regenerative, circular economic systems (inclusive dialogues)
> Technical support for change in certain sectors

In FCACs, regeneration is starting to emerge as a potentially game changing set of measures. To be clear, regeneration is not about planting trees for the sake of carbon sequestration. Rather, it is about applying ecological methods such as soil microbial reactivation, terraforming, native planting, soil-specific agricultural transformation that help to reboot ecological services, including soil productivity, water cycling, disaster buffering, temperature regulation as well as cultural ecological services (mental health). It often starts with soil stewardship, terraforming for water-retention, and interventions which recover ecological productivity.

Due to the scale of the climate challenges, and the level of disruption in the hydrological cycle[39], especially in arid and semi-arid zones, regeneration needs to be undertaken at various scales in order to rebuilding ecological services and connectivity. It is best combined with:

- Environmental peacebuilding at community levels;
- Capacity building for displaced communities: it helps to empower communities to work with landscapes to build their own resilience, including for food and livelihoods security (illustration by the Danish Refugee Council about community-led regeneration for food security below).[40] In particular, the work done by the Danish Refugee Council[41], by IOM and the WFP as well is significant in terms of transforming displacement into a story of hope, resilience and ecological stewardship (illustration of regenerative displacement programming below).[42]
- Political mediation at national and regional levels so as to work on ecosystems and watershed regeneration. Tentative projects are ongoing at the moment. The great green wall in Africa is one of them. It is designed a lot more as a terraforming and development project.[43] In other areas where conflicts and tensions are rife, complex regeneration at scale can be turned into a vessel for dialogue, negotiation and revision of cooperation structures. Experimental projects are currently being tested in the Persian Gulf area.

Depending on the scale of the regenerative approach to peace and security, the technical competencies require would include: regeneration practitioners, dialogue facilitators, hydrologists, ecological engineers and conservationists.

Complex Regeneration builds upon previous lessons in the CPS space regarding the use of climate-related risks to spur dialogue and community resilience building. Indeed, since climate change is often seen as an “external threat” experienced by all groups, it has been used as a framework within

[39] www.noaa.gov/education/resource-collections/freshwater/water-cycle
[40] www.youtube.com/watch?v=7MLLNcXASq4
[41] www.youtube.com/watch?v=Sh3rKLrll9E
[42] www.youtube.com/watch?v=Y3FMOWtK3lE
[43] https://www.youtube.com/watch?v=WCli0gyNwL0

which to design peacebuilding activities which seek to address communities' immediate material needs in a way that is often seen as less politicised.[44]

Interventions aimed at improving natural resource access and management, promoting climate-resilient and sustainable livelihoods and peace-positive climate change adaptation[45] can build the resilience and adaptive capacity which are the foundations of peacebuilding in climate-fragile contexts.

An entry point in fragile and conflict affected contexts: Natural resource management in Sudan[46]

Climate change adaptation and resilience-building interventions can be used as a platform for dialogue and relationship building between conflicting groups. In UNEP's Building Resilience to Climate-Related Security Risks in North Darfur, Sudan project, natural resource management and livelihood activities brought farmers and pastoralists together to develop mutually beneficial solutions to joint environmental challenges. This facilitated more meaningful and regular exchanges between groups and laid the foundation for more inclusive and equitable natural resource governance. Bottom-up, solution-oriented processes helped to reframe climate and environmental challenges as opportunities for collaboration. A detailed understanding of local conflict dynamics and an inclusive, participatory approach to project design and implementation were deemed key factors in the project's success.

Participatory and inclusive dialogues about climate-induced challenges and/or climate-adaptive opportunities can be used as a foundation for interethnic or interclan dialogue about conflict issues.[46] This approach can also facilitate access to working on issues that may otherwise have been challenging due to conflict dynamics or social norms, for example relating to the role of women or other marginalised groups.[47, 48]

[44] See Evaluation of the project "Water for Peace in Yemen: Strengthening the role of women in water conflict resolution"; 2022; FAO; here; Evaluation of the project "Strengthening the role of women in peacebuilding through natural resources management at the community level in the rural areas of the governorates of Sana'a and Lahaj in Yemen" (UNJP/YEM/038/PBF); FAO, 2021; here.

[45] Weathering Risk Climate Security Risk Assessment Methodology - Guide and Tools; Weathering Risk; 2023; p16; here.

[46] While the literature indicates that community-based dispute resolution activities were generally viewed as contributing to conflict mitigation, resolution, and lower levels of violence, quantifying their impact and promoting sustainability were challenging; United Nations Peacebuilding Fund Climate-Security and Peacebuilding: Thematic Review (PBF Thematic Review), p47.

[47] See the independent evaluations of the PBF CPS projects, Deuxième décennie pour la paix in Mali (PBF/IRF-260) and Promotion d'une transhumance pacifique dans la région du Liptako Gourma in Burkina Faso-Niger-Mali (PBF/IRF-353-354-355); referenced in PBF CPS TR; p30.

[48] Briefing Note: Building Resilience to Climate-Related Security Risks in North Darfur, Sudan; UNEP; p10; here

By contrast to risk-management based environmental peacebuilding, complex regeneration-based programming seeks to address the factors that contribute to climate change and ecological vulnerability, rather than just their consequences. IOM's environmental peacebuilding approach currently being developed in Somalia draws on a long empirical basis.[49] This represents a conceptual shift from a reactive to a proactive stance, addressing the factors that contribute to climate and environmental change and variability and their role as conflict drivers, rather than just their consequences. IOM's approach has included piloting attempts to reduce environmentally induced conflict and displacement in Somalia through delivering "integrated regenerative packages" to proactively address related elements of the environment, the economy and governance through land and ecosystem regeneration, sustainable supply chains and social cohesion. The approach seeks to create sustainable solutions that build the climate adaptive capacity of communities to restore degraded lands, including nature-based solutions (NBS),[50] thereby enhancing their resilience to environmental pressures and reducing the risk of natural resource-related conflicts.[51]

The proactive approach can be extended to address issues such as restoring water security by regenerating local and regional hydrological cycles. By working on complex regeneration, ecological services can be rebooted from the grounds-up via methodologies involving either community-based approaches to terraforming water-retention landscapes, and/or involving ecological and industrial level activities at scale. The choice depends on levels of engagement and on ability to develop industrial activities in fragile zones. The point of regeneration is to create water-retention landscapes that will help to buffer against extremes, "replant" water into the ground, reboot soil functions, and eventually recreate biomass and complex ecosystems.

[49] For an overview of the development of the concept, see "Sustaining peace through better resource governance: Three potential mechanisms for environmental peacebuilding"; Florian Krampe et al; World Development 144 (2021) 105508; p5; here. Krampe defines environmental peacebuilding, "In its broadest sense....as the sustainable management of natural resources before, during or after conflict, emphasizing the potential for environmental governance—especially cooperative governance between conflict actors—to support peace and stability"; ibid.; p2.

[50] IOM's Community Stabilisation Unit in Somalia has defined NBS as "sustainable actions to protect, manage, and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits;" Peace and Stabilisation Engagement Document for the project: Forging a Greener Peace in the Hirshabelle State of Somalia, Annex to the Implementing Partner Agreement between the Royal Danish Embassy Somalia and IOM, the Berghof Foundation, and UNEP; shared with the authors.

[51] SIPRI identify the "qualitative leap forward" that could be achieved by fostering actions that are preventative rather than reactive to climate-related security risks in the short to medium term; Climate, Peace and Security in a Changing Geopolitical Context: Next Steps for the European Union; SIPRI; 2023; p2; here. Early learnings captured from the Danish-funded Change, Conflict, Displacement and Irregular Migration Programme in the Sahel (CCDMP) show that the most active component of the programme, the SNV Pro-ARIDES component, involves proactive initiatives to strengthen natural resource management These include "climate-smart agriculture" and strengthening farmer-managed natural regeneration and active regreening, such as measures to combat water erosion and runoff. These activities are showing encouraging results in terms of improvements to the landscape and local microclimates; Learning report 1: Natural Resource Management in fragile and conflict- affected settings in the Sahel: Lessons and good practices from relevant CCDMP interventions; NIRAS; 2024; available from TANA; p12.

While complex regeneration can be useful as an environmental peacebuilding activity at sub-national and local ecosystems level; climate and stabilisation dividends will mostly come from deploying complex regeneration at scale at regional ecosystems and watershed levels. This is the only level that will help to regenerate natural resources at scale, and to reboot ecological interdependencies that can help to hold the planet into relative balance.[52]

5.1.3 Protect

Since environmental plundering often supports conflict economies, leads to ecological insecurity and contributes to GHG emissions, biodiversity and green waters crises, it is essential to tackle it.

Tackling environmental plundering can lead to different types of programming packages depending on the context. If households rely on deforestation and charcoal for energy and cooking, energy substitution initiatives coupled with regeneration can be put into place.

If and when environmental plundering feeds into conflict political economies within the sub-national context, and feeds into global supply chains, then environmental intelligence and potential policing initiatives should be put into place. First and foremost, it requires developing intelligence capacity between CPS practitioners and programmers and others to understand who benefits at what level, and how to tackle criminal environmental activities.

Cooperation with relevant experts is also useful to understand how supply chains connect FCACs to other regions of the world, and to determine how to do integrated programming for nature-based illicit financial flows and conflict economies.

5.1.4 Adapt

Climate adaptation is essential for the future of security and peace in any given FCAC. Peace and security are essential for sustainable and effective climate adaptation. As a result, any climate adaptation planning needs to depart from conflict and fragility and political economic analysis to ensure that

- Adaptation planning is done via a participatory, inclusive and if possible, a decentralised approach;
- Planning is done with a do no harm approach;
- Infrastructure, economic transformation and territorial planning leaves no one behind and supports conflict resolution via inclusive dialogues, governance deliberation, capacity building, and decentralisation of responsibility wherever possible.

[52] IOM Somalia Environmental Peacebuilding PPT; 2023; shared with the authors.

Adaptive development remains largely contextual, as well as a theme upon which much more action-research is needed to inform good policy design and lesson transferability. It will depend on bio-regional conditions (natural resource endowment, energy endowment, ability to create regional exchange around circular economies, locally available resources). Energy efficiency on the basis of renewable resources and circular economic models are two fundamental pillars of adaptive development going forward. On the latter, IOM is already testing micro-level approaches with displaced communities in their programmatic roll-out.

Proactive approach: Environmental peacebuilding in Somalia[53]

IOM is seeking to achieve a 'green peace' in Somalia by addressing the root causes of resource conflicts. Integrated regenerative packages deliver activities under three environmental peacebuilding pillars: green environment, green governance and green economy. A holistic approach rather than isolated interventions fosters synergies between activities and actors, enhancing collective peacebuilding impact.

- **Green environment:** delivers regenerative, sustainable, innovative and low-tech approaches, including sustainable agriculture, range-land management, afforestation, regenerative earthworks, renewable energy, water capture.
- **Green governance:** strengthens structures for managing environmental resources through community-based mediation and integrated natural resource management including management of irrigation canals and rangelands).
- **Green economy:** fosters economic interdependence and collaboration to address environmental challenges through matching grants, circular economy, Public Private Partnerships.

[53] IOM Somalia Environmental Peacebuilding Powerpoint; 2023; shared with the authors.

Over time, the logic of circular economies will need to be extrapolated from sub-national to national and regional levels. This is likely to be a growing priority in case climate change disrupts trade to the point of undermining just-in-time and hyper-integrated globalisation, which will likely lead towards more regional forms of economic integration. Already now, CPS practitioners can pre-empt incoming challenges by working with research communities on research-action regarding the future of bio-regional economics, aka, the necessity to anchor economic sectors in ecologically-regenerative activities, particularly vis-à-vis agri-food and infrastructure systems.

A particularly important aspect of adaptive development in FCACs is that access to justice and environmental security needs to be strengthened. Often, in FCACs, non-state armed groups can build credibility and legitimacy on the basis of natural resource management and environmental security compared to state institutions. This creates pockets of governance competition on the back of natural resource competition. Wherever possible, stabilization, peace and CPS actors can support central and decentralised governments, and/or civil society actors in:

- regenerating natural resources;
- incentivizing dialogues and cooperation on the back of complex regeneration and regenerative natural resource management;
- incentivizing the build-up of governance institutions and justice provision on the back of regenerative agreements between communities or within sub-national levels.

This way, they support integrated results in dialogue, peacebuilding, reconciliation, regeneration and governance build up within adaptation planning.

5.1.5 Transition

International partners have two roles with regards to transition issues in FCACs:

- To ensure that extractives related to the global energy transition do not contribute to ecological, political-economic and societal fragility nor human rights abuses in FCACs.
- To support FCACs themselves in their own energy and socio-economic transition processes.

Preventing/mitigating extractive impacts

Some FCACs may find themselves at the heart of a new global competition for mineral resources key to the energy transition. Such is the case for contexts like the DRC for example. Handling the societal, economic, ecological and conflict risks associated with greater extractive activities in FCACs is an

important programmatic topic in and of itself. It requires careful planning with private sector, state, civil society and UN actors at large. New and/or expanded mining projects must be avoided in ecologically critical areas and water-stressed or flood-vulnerable areas at all cost since extraction may cause ecological damage that may hasten climate vulnerability and/or ecological insecurity. If and when extractive projects are allowed in the pipeline, they should be connected to larger development and adaptation plans, human rights protection, due diligence and transparent supply chain programmes.

In addition, since critical mineral supply chains are becoming a new form of relationship between energy-intensive and mineral-endowed countries, they provide new opportunities for integrated approaches to industrial, research and development policies, which should themselves be anchored in conflict and climate sensitivity. It therefore connects policy and programmatic levels closely. This represents an opportunity to revisit modalities of ODA-supported economic development with new thinking developed under current circumstances of profound climate and ecological challenges.

Transition processes

FCACs require energy and economic transition process support. This can be closely connected to adaptation planning and policy support. Considering governance difficulties in FCACs, adaptation and transition planning can be framed within national dialogues and/or negotiations between different territories, communities, and competing governance actors. Dialogues would need to be continuous, and depart from other forms of confidence building measures in order to ensure effectiveness of transition roll-out.

Transition policy feedback

In addition, in the event some transition policy formulated in the Global North impacts FCACs in a disproportionate manner, peace and stabilization as well as CPS actors active in the field should report back to political capitals to provide feedback that helps to tailor policies. One example is useful in that respect. The EU's Carbon Border Adjustment Mechanism impacts Mozambique's aluminium production, which accounts for 25% of the country's export earnings.[54] While the EU's imports from Mozambique are negligeable, Mozambique's exports to the EU are important for its political-economic stability[55]. Without much needed accompaniment to transform its aluminium production, and exceptional CBAM cushioning conditions, the EU-formulated policy could create negative results for Mozambique in terms of peace, stabilisation and capacity for climate adaption due to indirect loss of revenue.

[54] www.furtherafrica.com/2022/11/11/eu-carbon-border-adjustment-mechanism-friend-or-foe-for-mozambique-aluminium-exports/

[55] www.carnegieendowment.org/research/2023/05/a-political-economy-perspective-on-the-eus-carbon-border-tax?lang=en&center=europe

May 2015, in North Kivu, DRC. Photo: Olivia Lazard

TECHNICAL ANNEX - CLIMATE, PEACE AND SECURITY PROGRAMMATIC APPROACHES AND TOOLS

1. CPS programmatic principles

The following principles should underpin programmatic responses falling within the 'baskets of action' outlined on pages 33-34 to address the stresses, shocks and interactions between fragility/conflict and climate/ecology at sub-national, national and regional levels identified in Diagram 1 on p30.

1.1 Conflict x climate sensitivity

Mutually reinforcing conflict and climate sensitivity is the backbone of CPS programming and implementation. There can be no peace and security without climate adaptation and multi-dimensional transitions (energy, economic, technological). Equally, there can be no climate adaptation and transition without peace and security. Climate and peace are both directions to strive for, and mutually reinforcing steps to take when working in FCACs. This is why the CPS agenda is both a strategic matter and an underpinning methodological principle.

If climate action is implemented without taking peace and security analysis as a starting point, or without working through stabilisation actions, then it will be ineffective at best, and/or harmful at worst. If peace, security and stabilization programming take place without taking climate and political ecology analysis into consideration, and without working towards climate adaptation and transition, the same will happen.

In some contexts, a CPS practitioner is able to bridge the gap between stabilisation and climate actors. But this is not a given. Staff working in FCACs should therefore become proficient in CPS analysis and support projects with integrated methodologies and objectives, as outlined in this document.

1.2 Integrated approach

The literature identifies the benefits of adopting an 'integrated approach' to programming in the climate-security and peacebuilding field.[56]

[56] PBF Thematic Review p43; Pathways to Peace: Addressing Conflict and Strengthening Stability in a Changing Climate; Lessons Learned from Resilience and Peacebuilding Programs in the Horn of Africa; USAID; 2020; p14; here.

This approach builds on activities addressing immediate community needs to consider environmental or climate-related drivers of conflict alongside wider drivers of vulnerability, such as land tenure, poor governance, intracommunal tensions, lack of sustainable dispute resolution, inequality and social exclusion and poor socioeconomic indicators.[57]

Programmes have adopted a combined demand/supply and bottom-up/top-down approach, using both technical assistance to mitigate resource scarcity or other environment-related conflict drivers and support to strengthen traditional and formal governance structures and dispute resolution mechanisms, and social cohesion and dialogue.[58] Examples of the former include rehabilitating infrastructure, restoring pasture land, improving agricultural techniques, land usage and management and supporting sustainable livelihoods. Recognising that conflict is often driven by governance deficits, structural inequality and a lack of government capacity, examples of the latter include supporting community and statutory-based structures addressing natural resource management, transhumance or other collective environmental challenges and intra- or intercommunal conflicts. Integrated approaches have also sought to strengthen policy and governance frameworks, relating to peace and conflict resolution, climate change adaptation, natural resource management and peacebuilding.[59, 60]

[57] For example, addressing elite capture of land and natural resources or transhumance routes could lead to broader considerations of land tenure; issues relating to women's roles in natural resource management could lead to broader work on women's empowerment and involvement in community decision-making; issues of non-state armed group (NSAG) recruitment could expand to consider employment, skills training and youth resilience. In relation to the effect of land management on conflict dynamics, see Projet de restauration de la paix et du dialogue entre les communautés affectées par la transhumance transfrontalière in Central African Republic and Chad (CAR, Chad: IRF-268-269). There is a degree of conceptual overlap between the integrated approach, and the approaches relating to climate/environmental issues as entry points to peacebuilding and inclusion.

[58] The PBF Thematic Review identifies the importance of this approach in the Liptako-Gourma region in the Sahel and USAID programming in the Horn of Africa; Projet de restauration de la paix et du dialogue entre les communautés affectées par la transhumance transfrontaliè (CAR, Chad: IRF-268-269); PBF Thematic Review p43. See also Pathways to Peace; pp34-25.

[59] Pathways to Peace; p35.

[60] Pathways to Peace; pp13-15.

An integrated approach: 'Technical diplomacy' in Ethiopia[61]

The USAID-funded Peace Centres for Climate and Social Resilience project sought to address pastoral communities' vulnerabilities to climate change and improve their capacities for conflict prevention, mitigation and resolution in the Borana Zone of Ethiopia. Joint technical activities including rehabilitating water ponds and constructing soil bunds for water harvesting helped reframe the narrative from contestation to collaboration over resources and lead to improved relationships between groups. The tangible impact of the 'technical diplomacy' activities in agricultural productivity and water security created entry points into the wider social cohesion elements of the project. These entry points were leveraged through the social and community components of the project, including peace committees, women's peace networks and youth climate resilience clubs.

1.3 Inclusion

The literature identifies programmes that have focussed attention on issues of inequity in access to and management of natural resources and to the differentiated effects of climate change on different groups, including women and girls, for youth, or other marginalised or disadvantaged groups.[62] Linked to programmes using climate/environmental issues as an entry point to peacebuilding, the literature identifies the impact of those that use natural resource or environmental issues as entry points to address gender-based discrimination and vulnerabilities. These programmes use "positive peacebuilding"[63] to advance women's economic empowerment or inclusion in community decision-making. In some contexts, women's accepted roles in natural resource-related activities can allow their active participation in community natural resources management or climate change adaptation activities, which can in turn facilitate greater engagement with women on a wider range of peacebuilding issues. This emerging body of knowledge builds on that established through wider WPS programming and the beneficial impact women can have in peacebuilding activities and contexts.[64]

[61] Pathways to Peace: Addressing Conflict and Strengthening Stability in a Changing Climate; Lessons Learned from Resilience and Peacebuilding Programs in the Horn of Africa; USAID; 2020; pp-13-15.

[62] See Gender, Climate & Security: Sustaining inclusive peace on the frontlines of climate change; UNEP, UN Women, DPPA, UNDP; 2020; here;

[63] On concepts of 'positive peace' in environment peacebuilding, see e.g., Florian Krampe, "Ownership and inequalities: Exploring UNEP's environmental cooperation for peacebuilding program," Sustainability Science Vol 16 (2021); Florian Krampe et al., "Sustaining peace through better resource governance: Three potential mechanisms for environmental peacebuilding," World Development, Vol 144 (2021).

[64] The literature cautions against a 'bolt-on' approach, with superficial climate-security elements added to "traditional WPS style" programmes, or vice versa; rather than consideration of the linkages or mutual benefits between these issues to support stronger programming; PBF Thematic Review; p51. See also Supporting Sustainable Peace in Blue Nile State through Gender-Responsive Natural Resource Governance, Inclusive Conflict Resolution Mechanisms and Climate-Resilient Livelihoods (SDN/B-1).

However, addressing deeply entrenched social and cultural norms takes longer than programme lifespans and results are unlikely to be immediately visible. This has implications for funding cycles. Building on learning from the wider WPS agenda, measurements of women's participation should go beyond quantitative recording of attendance at activities to qualitative assessments of the nature of their participation and its impact on decision-making or other areas of programme focus.[65]

Inclusion: 'Positive peacebuilding' in Sudan

The results of UNEP's Building Resilience to Climate-Related Security Risks in North Darfur, Sudan project demonstrated that engaging women in sustainable livelihoods and climate change adaptation initiatives can lead to gains beyond women's economic empowerment, including improvements in social status and leadership within community structures. However, the project identified that addressing the intersectionality of marginalisation, especially in fragile contexts, requires GESI expertise to inform the analysis underpinning project design and implementation, and to ensure women and other marginalised groups are meaningfully engaged in conflict mediation and peacebuilding structures.

1.4 Other programmatic considerations

The results of the CPS Analysis will help identify whether a transboundary or regional dimension is technically justifiable and would add value to the project; the relevant levels of government the project should seek to engage with; and opportunities to deliver CPS capacity building support to local partners, to help incorporate sustainability from the outset. CPS project designs should align with MFA country strategies and, where relevant, wider Government of Denmark programmes and policies, as well as relevant national and subnational policy frameworks (including NDCs and NAPs).

[65] Building Resilience to Climate-Related Security Risks in North Darfur, Sudan; p11.

2. Implications for CPS programming

This Framework is intended to help programme teams apply these programmatic principles to CPS programme design, delivery and learning. The following should be read with Diagram 1 on page 30 of the Framework in mind, with the continued understanding that sub-national and national impacts will be shaped and influenced by larger climate, ecological, global and regional factors.

2.1 Understand the context and climate-security interactions

It is important that programmes take into account the effects of climate change in the process of developing conflict analyses and in the actual programming. Given the differentiated impacts of climate change across a country or region, effective CPS programming requires detailed understanding of often very local-level climate-conflict contexts, which are themselves shaped by larger dynamics. This requires an analytical approach that identifies the spatial distribution of climate-related security risks across different ecosystems, natural resource and livelihood groups. It also requires understanding the perspectives and experiences of affected communities themselves, with a focus on women, youth and other marginalised groups, from the outset, to build a clear and shared understanding of the context and intervention objectives.[66]

Analysis to action:
understanding the context in USAID and PBF CPS programming[66]

USAID's peacebuilding programmes in the Horn of Africa showed that context is important and should always be the starting point when examining the climate–conflict linkage to support improved programming. This requires participatory, inclusive and community-based methodologies to identify and respond to community needs, engage in trust building and secure local buy-in.

The UN PBF CPS TR identified earlier CPS programmes which had replicated "existing strategies with an environmental or climate-related add-on." Projects featured climate-security issues in conflict analyses but failed to integrate them into the TOC, the project approach, and project activities.

[66] Pathways to Peace; p28, 36; PBF Thematic Review; p64.

The CPS Analysis provides a set of themes and questions to help programme design processes identify the linkages between climate, peace and security. Using this framework programme teams can identify the likelihood of climate stressors or shocks occurring, their potential impact on communities or infrastructure, including the pathways through which climate effects can lead to or exacerbate conflict dynamics, together with possible programmatic responses. CPS risk analysis processes should involve the collection of a combination of quantitative and qualitative data. The former should be collated from open source and specialised sources and site assessments, and the latter should be collected through localised participatory climate risk and community resilience assessments through focus group discussions with community members to identify the impacts of climate change and environmental degradation in their lives.

The analysis should adopt a Human Rights-Based Approach (HRBA) that allows affected communities, particularly women, indigenous peoples and other marginalised groups,[67] to identify the vulnerabilities they experience and their own solutions to address them, while also considering issues of intergenerational equity. The data collection itself should be conducted in a conflict-sensitive way,[68] and the process should clearly identify the scope of support to manage community expectations. Given its centrality to achieving impact, programme formulations should include sufficient resources for this crucial step.

This assessment approach can build upon existing available analysis where resources do not allow for primary data collection. For example, climate impact assessments can provide climate and environmental information, and conflict analyses can identify the context factors shaping vulnerability and resilience. The framework can help to identify gaps in such existing climate or conflict analyses where additional information is needed to develop a comprehensive climate security assessment. However, community-based data collection is preferable where time and resources allow.

[67] Gender inequality, discriminatory norms and structural power dynamics influence how women and men of different ethnic and socio-economic backgrounds experience the impacts of climate change and insecurity. The analysis considers how the intersectionality of marginalisation (based on the interaction of gender, age, socio-economic status, race and ethnicity) may make some groups disproportionately vulnerable to climate-related security risks; Gender, Climate & Security; UNEP et al; The Climate-Gender-Conflict Nexus; Georgetown Institute for Women, Peace and Security; 2021; here; Gender Dimensions of Climate Insecurity; SIPRI, 2022; here.

[68] This requires additional time and resources to identify groups and individuals and create spaces and formats in which they feel comfortable sharing their perspectives, especially on sensitive, conflict-relevant issues; Weathering Risk; p9.

CPS analysis should not be separate from existing political economy or conflict sensitivity analyses but should be carried out alongside and incorporated into them to inform programme design. It should be refreshed along with those wider contextual analyses on a regular basis to inform programming, including identification of risks and suitable adaptations. This will ensure programmes develop and maintain a clear understanding of climate and environmental conflict drivers, and how they relate to wider conflict drivers and political economies in programme locations.

The CPS Analysis tool is provided below:

The results of sections 1-6 of the CPS Analysis tool will inform the programmatic considerations identified in section 7 of the framework. These are addressed briefly below.

2.2 Identify opportunities to establish linkages between climate adaptation and peacebuilding

The outcome of the CPS Analysis will identify context-specific, integrated and inclusive responses that seek to build resilience to identified climate and security risks. As Diagram 1 on p30 demonstrates, shocks and stresses will impact FCACs in different ways. CPS objectives in any given context will involve responding to climate and ecological stresses, tackling fundamental drivers of ecological insecurity, and mitigating their impact as conflict drivers, as identified in Diagram 1. While there is no universal set of activities that will deliver climate change adaptation, peacebuilding, and development benefits in all contexts, they will include multi-dimensional elements aiming to pre-empt, regenerate, protect, adapt and transition. The results of the CPS Analysis will determine which of the climate-security pathways a programme should target to best address the risks and vulnerabilities identified in that context.[69, 70]

[69] Weathering Risk; pp10-11; 10 Insights on Climate Impacts and Peace: What we know so far; Adelphi; here. See also UN CSM Toolbox: Conceptual Approach to Integrated Climate-Related Security Risk Assessments; p2; here.

[70] Handbook on the OECD-DAC Climate Markers (the "Rio Markers"); OECD; 2011; p4; here. According to the Rio Markers, an activity should be classified as adaptation-related if it has a "principal or significant intention to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience". This encompasses a range of activities from information and knowledge generation to capacity development, planning and the implementation of climate change adaptation actions. The Handbook provides examples of activities that qualify for a "principal" score under the climate change adaptation marker in the areas of enabling activities, policy and legislation, agriculture, coastal protection, energy, fisheries, forestry, health, transport, water and sanitation; ibid.; pp-13-14.

This could take the form of activities addressing the direct effects of climate change (e.g., reduced crop yields, resource availability, infrastructure damage or stabilisation interventions following humanitarian responses) or the indirect effects of climate stressors and shocks on socio-economic, political and demographic factors (e.g., food price inflation, migration, urbanisation, land tenure etc.). Activities could seek to strengthen climate adaptation through technical or material interventions or proactive approaches including environmental peacebuilding and NBS; reduce competition and conflict over natural resources; support sustainable livelihoods; address involuntary migration and other negative (or illegal) coping mechanisms such as joining Non State Armed Groups (NSAGs); support food security and sustainable markets; or build government capacity in land management and disaster risk management as well as basic service delivery. Strengthened environmental policing and border control and enhanced cooperation including on sanctions, should be used to address environmental plundering and illicit financial flows. Finally, in FCACs where transitional minerals are extracted, attention should be paid to the reform of mining codes and land tenure systems, cooperation between private sector and development actors, and engagement with communities. Artisanal mining should be regulated and accompanied by poverty-reduction and social service development. Crucially, extraction activities in FCACs should be accompanied by direct regeneration, biodiversity offsetting and adaptation efforts to minimize the impacts of extraction.

As noted earlier, combining technical climate change adaptation activities with interventions focused on community governance and dialogue can strengthen both climate responses and social cohesion. Similarly, supporting and linking community-based efforts to local government can strengthen resilience to climate-related risks while improving vertical trust between communities and government, increasing government capacity and legitimacy in the eyes of local populations, including in comparison with NSAGs, and boosting the prospects for the sustainability of project activities.

2.3 Working across the HDP nexus

Some peace and stabilisation projects are distinct from development or humanitarian interventions due to their focus on addressing conflict dynamics. Some humanitarian and development programmes may have positive peacebuilding and stabilising effects even when not the primary objective. Contemporary conflicts are often addressed through a combination of all types of intervention, and the link between the HDP components has become closer as a result of the inclusion of support for peaceful and inclusive societies in the definition of sustainable development under UN Sustainable Development Goal 16.

The broad technical scope of CPS programming means that interventions can theoretically occupy any part of the HDP spectrum. While the climate-conflict nexus at the heart of CPS programming means it may primarily focus on the 'P', it could also comprise 'H' and 'D' activities, including those seeking to alleviate the effects of short-term climate pressures and within the 'pre-empt' basket of action identified on pages 33-34, as well as interventions with a longer-term focus on regeneration, protection, adaptation or transition, including those contributing to the 'just transition' away from fossil fuels and carbon-based economies. Wherever an intervention falls on the nexus, it should align with relevant Danish and partner interventions and initiatives, as well as national development plans, such as NDCs and NAPs.

2.4 Identify existing structures, key actors and activities to align with

In addition to identifying risks and vulnerabilities, the CPS Analysis will highlight opportunities to build on existing structures, processes and relationships that are contributing to communities' resilience and adaptive capacity, and which can be leveraged to build community support and buy-in for programme activities. These could be existing community-level structures or organisations (such as Women's Water User Groups in Yemen[71] or farmers' cooperatives in Hirshabelle in Somalia), complementary peacebuilding or wider stabilisation interventions, local government officials, or local, regional or national policy frameworks.[72] In addition to aligning with relevant actors, activities can help make connections between them, including the community-based organizations already actively responding to climate and environmental risks in many contexts and local political and security authorities.

2.5 Ensure a 'do no harm' approach and identify maladaptation risks

Based on the findings of the combined CPS, PEA and CSA analyses, intervention and activity design should adopt a 'do no harm' approach to all peacebuilding and stabilisation activities that have an impact on, or are impacted by, the environment. Activity designs should mitigate the risks of maladaptation. This involves both minimising negative impacts on the environment (for example boreholes affecting groundwater levels) and affected communities (for example exacerbating existing grievance or conflict fault lines), and future-proofing them against the impacts of climate change and environmental degradation (for example ensuring the construction of buildings or other infrastructure considers future flooding risks).

[71] Evaluation of Water for Peace in Yemen; p3.
[72] These could range from local water user agreements or conflict resolution mechanisms to Nationally Determined Contributions and National Action Plans.

2.6 Identify what impact looks like and how it will be measured

Theories of Change (ToCs) should be developed based on the results of the CPS and other contextual analyses undertaken.[73] TOCs should articulate the linkages between climate change and security risks identified through the CPS analysis; how activities address those linkages to address those risks; and how the intervention contributes to the desired outcomes of building resilience, preventing conflict and promoting peace. Based on the CPS analysis, the TOC should identify activities that build resilience by linking climate change adaptation and peacebuilding to achieve higher-level outcomes. These could include improving relationships between different groups of water users, or promoting the re-greening of local ecosystems, which may improve peacebuilding, climate change adaptation, and sustainable livelihoods. The TOC should be updated during the project to determine if the assumptions are still valid or need to be modified.

Below is an example of a TOC for a 'traditional' climate-security project working with communities facing increasing livelihood insecurity, conflicts relating to access and availability of natural resources, and increasing degradation of forest and land resources.[74] Climate change is aggravating all of these issues. The project has three components focussing on 1) improving relationships between conflicting user groups and strengthening natural resource management institutions; 2) supporting more sustainable and climate-resilient livelihoods; and 3) addressing degradation of land and forest ecosystems.

Example CPS Theory of Change

IF the interactions within and between conflicting user groups are improved and natural resource management institutions are strengthened and made more inclusive, **IF** sustainable agricultural practices, supply chains and markets are developed and **IF** local ecosystems are helped to recover **THEN** communities' ability to build resilience and mitigate conflict will be increased, **BECAUSE** social cohesion and sustainable livelihoods and ecosystems are key components of communities' abilities to respond to and recover from climate or environmental shocks and stresses in a peaceful manner, **THEREBY** contributing to climate-sensitive localised peace and stability.

[73] In relation to one of the UNEP-UNDP-UN Women pilot initiatives in North Kordofan state which preceded the PBF 'Blue Nile' project in Sudan, while it achieved and measured significant improvements in women's inclusion and empowerment, it did not measure any effects relevant to natural resources management or climate-security. In response, the subsequent 'Blue Nile' project incorporated elements to better identify the project's environmental impacts, in addition to advances in women's empowerment and participation; PBF Thematic Review; p49.

[74] Adapted from WR and P2P example TOCs. Many CPS programmes reviewed have more basic TOCs.

These components contribute to the outcomes of strengthened community resilience and conflict mitigation and the impact of "climate-sensitive localised peace and security".

Responses to climate-security risks and the resilience they build are multidimensional, and therefore require indicators to track progress across different dimensions. Results and monitoring, evaluation and learning (MEL) frameworks should therefore include indicators tailored to the programme and context and able to identify the interactions between climate and conflict.[75] Indicators should be case-specific and not composite, and should extend beyond purely quantitative output-level measurements for example relating to participation in activities, towards qualitative assessments of the impacts of activities in terms of behavioural change and progress towards outcome level indicators.[76] Frameworks should facilitate regular data collection to inform programming and risk mitigation and enable adaptive programming. CPS programmes should allocate sufficient resources to MEL systems. Sample CPS indicators are provided below.

Measuring impact: Example CPS indicators

A project seeking to prevent conflicts and increase community resilience against climate change through better and more inclusive natural resource management and livelihood support may include indicators covering the following dimensions:

- Climate and environment: forest coverage; soil and water quality; access and availability of natural resources
- Peace and security: horizontal trust, number of conflicts resolved peacefully, meaningful participation of women and marginalised groups
- Livelihoods and development: Income level, access to sustainable markets, access to more than one livelihood
- Governance: vertical trust, capacity of traditional and formal governance institutions

[75] Weathering Risk provide a range of sample indicators across several categories including climate, conflict, governance and others; Weathering Risk; 2023; p4; and linked at Annex 3.
[76] See Evaluation of Strengthening the role of women in peacebuilding in Yemen; p15.

3. CPS Analysis tool[77]

The framework below sets out a range of indicative topics and questions that should inform CPS programme design. The topics and questions are not exhaustive.

Section	Topic	Question
1. Climate/ environmental risks	1.1 Climate pressures overview	a. Slow onset (eg reduced rainfall, increased temperatures, sea level rises, soil erosion, desertification, loss of biodiversity, environmental or ecological degradation) b. Rapid onset (eg storms, floods, droughts, heatwaves) c. Cyclical (eg el Niño, la Niña) d. Existential (rising sea levels) e. Long term scarcity f. Climate Niche and Natural Resource Redistribution g. Vulnerability of productive capacities (food production, industrial capacities) h. Infrastructure vulnerability i. Territorial vulnerability (shoreline, inland, ecosystems)
2. Climate/ environmental	2.1 Site information	a. Geology b. Topography c. Hydrological systems (aquifers, rivers, wetlands, lakes, oases etc) d. Disaster typology and exposure e. Weather and Seasonal Systems f. Atmospheric River g. Foundational natural resources (water, arable land, habitable spaces) h. Extractive resources (timber, charcoal, fossils, minerals) i. Environment-impacting Infrastructure (e.g.: dams) j. How do communities inhabit the area and how do they benefit from ecological services ? k. How has the consumption of natural resources impacted ecological services over time ? l. How often is the area hit by climate or ecological stressors? Of what kind, and with what impacts? m. What is the scope for creating water-retention/water-catchment infrastructures through community cooperation or through larger-scale terraforming?

[77] XXXXXXXXXX

Section	Topic	Question
	2.2 Regeneration	a. How have natural landscapes changed in recent decades? b. How have these changes affected relationships between communities or livelihood groups? c. Which ecosystems have communities historically shared? Are they still shared today? If not, why not?
3. Community resilience	3.1 Which communities or infrastructure are particularly vulnerable to pressures?	a. Rural/urban b. Highland/coastal c. Farmer/herder/other occupation d. Marginalised groups
	3.2 What are the impacts of these pressures on existing vulnerabilities?	a. Natural resource availability for survival, customs, livelihoods b. Food/water security c. Livelihood security d. Government capacity/legitimacy e. Marginalisation f. Enjoyment of human rights g. Psychological/social vulnerabilities
	3.3 What are the differentiated impacts of these vulnerabilities on men, women, boys and girls, the poor and marginalised groups?	
	3.4 What are the levels of community resilience and adaptive capacity to pressures?	a. National/regional/community level: i. Natural resource/environmental management mechanisms/policy frameworks ii. Conflict resolution mechanisms mechanisms/policy frameworks iii. Risk assessments/action plans b. High levels of social cohesion and strong civil society c. Complementary CPS/peacebuilding/ stabilisation activities d. Scope for locally-led development & local ownership e. Scope for intercommunal cooperation (particularly during a window following rapid onset events)

Section	Topic	Question
	3.5 What is the potential impact of adaptation activities on the local political economy?	a. Impact on economic activities b. Impact on movement patterns c. Impact on resource access/management/use d. Impact on government capacity/legitimacy
4. Climate-security pathways	4.1 How do these pressures and vulnerabilities affect conflict dynamics between communities and/or across borders?	a. Historic/ongoing intercommunal tensions b. Movement dynamics including involuntary migration, urbanisation and, where relevant, pastoralist drop-out c. Resource competition d. Food/water security e. Livelihood security f. Environmental plundering/extractive activities g. NSAG recruitment
5. Political economy	5.1 Who controls access to natural resources, ecosystems and ecological services?	
	5.2 What is the nature and method of control exercised by authority figures over communities?	
	5.3 Do local authorities provide access to justice and security services?	
	5.4 To what extent do local authorities' rents influence local political economies? Via what mechanisms and with what effects?	
	5.5 To what extent are local actors aware of climate change? Do climate and ecological impacts work for their benefit or detriment?	
	5.6 Are there national-level policies that have caused ecological degradation at the expense of security? If so, which ones and with what effects?	
	5.7 To what extent is the central government perceived as legitimate and credible?	
	5.8 How are competencies organised between central and decentralised governments and between formal and traditional power structures? What are the respective levels of funding and public trust in these structures?	
	5.9 To what extent is corruption a relevant factor in government structures and what is its impact in contributing to marginalisation and inequality?	

Section	Topic	Question
6. Extractives	6.1	What critical minerals are present in the country/region?
	6.2	Are extractive activities located in biodiverse, water-stressed or ecologically sensitive areas that require regeneration or protection?
	6.3	Is geological survey information available?
	6.4	Which geopolitical and/or private actors are interested in mineral resources?
	6.5	Does the country have an established and enforced extractive regulatory regime?
	6.6	Are transparency mechanisms in place to foster trust between government, private sector and civil society actors?
	6.7	Are extractive actors involved in development and adaptation planning?
	6.8	Do private sector extractive actors invest in HRBA, development, corporate social responsibility and transparency so as to contribute to local and national development?
	6.9	Which communities are most affected by extractive activities?
	6.10	To what extent are mining revenues reinvested in the country?
7. Programmatic considerations	7.1	Identify opportunities to establish linkages between climate adaptation/mitigation and peacebuilding, including through reactive or proactive approaches
	7.2	Identify existing structures, key actors and activities to align with
	7.3	Ensure 'do no harm' approach and identify maladaptation risks
	7.4	Identify what impact looks like and how it will be measured and how learning will be captured
	7.5	Consider transboundary/regional dimension – will it add value?
	7.6	Ensure proactive and sustained engagement with relevant levels of government, including involving officials in activities where feasible
	7.7	Identify opportunities to deliver capacity building support to local partners, and include them in sustainability planning from the outset
	7.7	Identify opportunities to deliver capacity building support to local partners, and include them in sustainability planning from the outset

3.1 Data sources
Examples of useful CPS data sources can be found data here.

3.2 Example CPS indicators
Examples of useful CPS indicators can be found here.

[78] From See Achieving Climate Security; 2023; USIP; pp26-35.
[79] From Weathering Risk's Single Indicator Table; Weathering Risk; p40.

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK