POLICY PAPER :

DEVELOPING RELEVANT AND COHERENT PROGRAMME AND POLICY INITIATIVES USING THE CLIMATE CHANGE, CONFLICT AND MIGRATION NEXUS ANALYTIC FRAMEWORK IN THE MENA REGION

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IOM REGIONAL OFFICE FOR THE MIDDLE EAST AND NORTH AFRICA

INTRODUCTION

The Migration, Environment and Climate Change (MECC) Institutional Strategy is a framework developed by the International Organization for Migration (IOM) to address the intersection of migration and environmental and climate-related issues. The MECC strategy aims to mainstream environmental and climate considerations into all aspects of migration governance and to support the development of environmentally and climate-resilient migration policies and practices. It is based on the recognition that environmental and climate-related factors, such as disasters, resource scarcity and changing weather patterns, can be drivers of migration and that migration, in turn, can impact the environment. The MECC strategy seeks to ensure that migration is managed in an environmentally and climate-sensitive manner and that the rights and needs of migrants are protected.

To support this, the Organization has set forth four priority areas of engagement:

1. **IOM migration policy role** – As the leading intergovernmental migration agency, IOM will support States and other players to develop innovative rights-based migration policies and practices that integrate issues of climate change, environmental degradation and disasters due to natural hazards.

2. **IOM knowledge provider role** – As a leading knowledge provider, IOM will strengthen evidence-based policy and operational approaches to address migration in the context of climate change, environmental degradation and disasters due to natural hazards through the production, analysis and dissemination of relevant data and knowledge.

3. **IOM operational role** – As a leading functional actor, IOM will support States and other players to operationalise responses to migration and displacement in the context of environmental degradation, climate change and disasters across the HDPN.

4. **IOM convening role** – As a leading convener, IOM will promote policy coherence and inclusive partnerships to mainstream the inclusion of migration and displacement considerations in climate change, environment, disaster and other relevant agendas.

While the following policy paper has elements related to all four priority areas, it focuses mainly on Priority Engagement Areas 1 and 2. The first section summarises the main findings from the MECC Climate Change, Conflict and Migration (CCM) Nexus and Water Scarcity Study conducted in Libya and Sudan. It focuses on aspects broadly generalisable to the MENA region and contexts facing similar issues. The second section identifies the principal issues shared across both countries' findings as a basis for the subsequent three sections, which first present an analytic framework for guiding IOM's knowledge provider role in the MECC domain, followed by an elaboration on the distinction between *amplifying* and *moderating* factors. The last section applies the framework and develops several generalisable recommendations in alignment with IOM's migration policy role. The analysis and arguments evidence coherence with the six principles of the MECC Strategy: 1) committing to a rights-based approach, 2) promoting an innovating and effective approach to migration governance and practice, 3) adopting a gender-responsive approach, 4) implementing a migrant-centred and inclusive approach to enhance positive outcomes, 5) promoting a human security approach and 6) supporting policy coherence and enhancing partnerships. The concluding section develops suggestions for future applications of these tools.

SUMMARY OF FINDINGS FROM THE CLIMATE CHANGE, CONFLICT AND MIGRATION (CCM) NEXUS AND WATER SCARCITY STUDY – LIBYA AND SUDAN

The main objective of the CCM Nexus and Water Scarcity Study was to contribute to developing public policies that address issues related to conflict, migration, environment and climate change in Libya, Sudan and the MENA region. It aimed to equip critical actors and institutions with the evidence and analysis necessary to implement public policies and design programmes considering the CCM Nexus. The methodology deployed dual qualitative and quantitative design to generate empirical data and shed light on the linkages between the study themes. In line with Priority Engagement Areas 1 and 2, it generated data and knowledge to support public policies, content elements for capacity-building of state and other actors through training activities, implications and recommendations for integrating the CCM nexus into policy and programme design, two related concept notes and this policy note on coordinated approaches to addressing the key issues that emerge.

Detailed findings, limitations and recommendations can be found in the *CCM Nexus and Water Scarcity Study Final Report*. Below are summaries of key points that emerged.

1. **Climate change.** Study findings demonstrated that water management and environmental degradation issues are systemic and require multi-stakeholder engagement. Policies and initiatives should address issues such as insufficient investment in alternative water sources and technologies, a lack of transparency practices, underdeveloped regulatory frameworks and enforcement mechanisms, insufficient monitoring and maintenance of existing water management infrastructures and low overall awareness about CCM Nexus dynamics. Successful responses to these issues have tended to employ intentional and inclusive engagement of those actors who can be held directly accountable for programme and policy implementation, oversight and outcomes. Additionally, the gendered impacts of environmental degradation on adults and youth must be considered.

2. **Conflict and intercommunal tensions.** The study's findings also suggested that joint problem-solving committees, inclusive governance and adaptation policies and programmes, non-violent conflict resolution and justice mechanisms and understanding local histories of conflict dynamics can all contribute to successful conflict resolution and migration management. Additionally, violence, intercommunal clashes, environmental degradation and resource-related conflicts pose significant threats to peace, stability and livelihoods.

3. **Migration.** Migration related to CCM Nexus dynamics represents a complex, multi-faceted phenomenon. Conflict and economic conditions are key drivers of migration, with relative importance depending on factors such as national origin and the destination community. Vulnerabilities, such as lack of documentation, employment opportunities and access to essential services, should be considered when designing programmes and policies. Large-scale rural-to-urban migration is associated with economic opportunities and risks, and policymakers should be aware of the potential impacts of such movements. Social networks, existing mechanisms and practices and risk mitigation strategies should be considered when designing policies to facilitate regular, orderly and dignified migration.

GENERALISABLE CONCERNS FOR THE MENA REGION

The CCM Nexus and Water Scarcity Study findings resulted in a set of country-specific recommendations. In any setting, it is critical that policy and programme initiatives engage in context-specific, participatory approaches to ensure responses are relevant and sufficiently tailored to population needs. In the context of this study, some findings were highly localised and unlikely to

transfer from one setting to another. However, many generalisable concerns surfaced that have broader implications for the MENA region. They include the following:

1. **Underutilisation of existing resources and infrastructures and limited investment in alternative sources and technologies exist.** This lack of investment is seen in areas such as desalination plants, technologies, alternative water sources and monitoring and maintenance of existing water management infrastructures and their related elements. Acknowledging that desalination is very expensive and resource intensive, there are existing plants that remain underutilised or unused that may be valuable complements to the other abovementioned approaches. Critical areas for investment include alternative, diverse and renewable energy approaches to water management and responsible waste management. Sustainable water management strategies must be implemented to improve access to clean water, protect the environment and reduce the risks associated with CCM Nexus dynamics and water scarcity.

2. **There is a need for enhanced transparency practices, legal frameworks, regulatory frameworks and enforcement mechanisms related to sustainable environmental practices and water management.** Low public awareness, transparency and accountability and governance and oversight capabilities complicate coordinated responses. Local administrative capabilities were identified as key for successful policy and programme implementation but require strengthening to improve living conditions for migrations affected by CCM Nexus and water scarcity dynamics. Training, financial backing, and relevance of programmes are critical. Existing transparency requirements, regulatory frameworks and enforcement mechanisms related to water management, even if they live on paper, must often be fully implemented to their potential. Part of this can be driven by the limited budget available, so more support is undoubtedly needed. However, there also exists variability in the sense of urgency felt around these issues, especially vis-à-vis other systematic problems (e.g., conflict violence) that may not be understood as interlinked. One purpose of the CCM Nexus and Water Scarcity Study was to evidence those linkages.

3. **Challenges persist with leading coordinated responses.** These are systems-level problems that require systems-level solutions. Successful responses to these issues necessitate multi-stakeholder engagement, communication and coordination between the local and national levels. Institutions, organisations and communities struggle to find the proper balance of awareness raising, policy and programme design, and governance and oversight for addressing the intermeshed domains of the CCM Nexus. Opportunities exist for supporting state actors and other stakeholders (individual and organisational) to strategically identify, coordinate and apply complementary forms of technical, relational, economic and physical capital. These challenges are complicated when policy and programme implementation occurs in fragile and conflict-affected contexts. Such conditions present many complications, such as high government turnover or myopic focus on narrowly defined security concerns. Furthermore, violent conflict can result in environmental degradation and difficulties accessing natural resources, which can lead to the destruction of vital infrastructures, delays in resource management projects and destruction of livelihood options. It is important to note that resource-related conflicts often occur due to or as an expansion of existing tensions and violence rather than as a catalyst of them. Furthermore, at the individual level, it is a profoundly complicated proposition to alter daily practices with an eye for longer-term sustainability when immediate survival needs loom large.

4. **Significant limits to participation and representation remain.** Though women's participation is increasing, it still needs to be expanded due to prevailing cultural practices, difficulty locating women for data collection and a lack of political will to include them in research and policy design. Additionally, environmental degradation has differential impacts on men, women and youth, particularly girls, who may have even more significant limitations imposed on their access

to education due to flooding or other forms of environmental destruction. Rural and otherwise more remote communities experience tend to be underrepresented in national dialogues. Furthermore, depending on host communities, ethnic, national and other inter-group divisions can reproduce the marginalisation of specific categories of populations. This reinforces the need to contend more fully with approaches to engagement in many settings.

5. **Opportunities exist for ensuring population-specific migrant-centred approaches to managing migratory flows**. The complexity of CCM Nexus and water scarcity dynamics present various motives, experiences and dispositions regarding migration. The importance of certain factors can vary greatly depending on the national origin, host community, catalysts for migration and dispositions towards current settlement. Climate change-related factors such as loss of land and livelihood, floods and drought, extreme heat, and man-made causes such as deforestation and poor infrastructure have caused environmental degradation, which can hurt well-being and social cohesion, profoundly impacting migrants and their receiving communities. Violent conflict and intercommunal clashes are also significant catalysts for migration, and community rejection and an inability to migrate despite a desire to do so present significant challenges. Rural-to-urban migration presents unique challenges for both the migrants and receiving communities. Furthermore, unplanned migration has numerous repercussions, such as environmental degradation, water scarcity, increased risk of conflict, public health risks, gender-based violence, armed violence, human trafficking and family separation.

6. **Awareness of the importance of sustainable resource use and management practices needs to be improved**. The complexities of raising awareness and multi-generational planning related to the effects of climate change, naturally occurring environmental degradation and man-made environmental degradation are many. Furthermore, more than just attention is needed: governance, oversight and enforcement are necessary to ensure desired outcomes. This was evidenced by the intersection of individuals' solid waste dumping practices, inadequate provision of waste management services and weak enforcement of sanitation regulations, which all contributed to contamination of water sources, poor population health outcomes, issues with access to water and unplanned migration. A lack of awareness combined with the limited availability of structural solutions continues to cause concern.

7. **There is a need for the production, collection and long-term management of coordinated, comprehensive and population-needs-driven data**. Furthermore, such data needs to be publicly available for relevant and coherent policy and programme design at all levels of society. Given the region's many political and economic climates, overcoming data access and quality challenges and engaging decision-makers from all affected population groups will be difficult. Nevertheless, prioritising evidence-based programmes and policy design is essential to ensure successful monitoring, measurement and evaluation. It also sets the stage for more efficient application of limited resources from all domains.

Given CCM Nexus and Water Scarcity Study findings and concerns and building on the two desk reviews conducted at the inception stage for the study, this policy paper develops an analytic framework for guiding coherent, evidence-based policies and programmes using a migrant-centred, rights-based and inclusive approach.

CONTEXTUALISED KNOWLEDGE PRODUCTION: A CCM NEXUS ANALYTIC FRAMEWORK

The CCM Nexus Analytic Framework can be seen in **Figure 1**. The purpose of this framework is to guide policy and programme development that holistically addresses the intertwined elements of the CCM Nexus, including water scarcity. It emerges from extensive research in the academic and practitioner literature and the CCM Nexus and Water Scarcity Study findings. It is intended for use on a context-by-context basis to ensure the relevance and nuance required to support evidence-based initiatives based

on local knowledge and practices. This section elaborates on the different elements, while the following section develops the distinction between amplifying and moderating factors. Following, examples will be provided on how to apply the Framework to develop policy and programme recommendations.

Notably, the most prominent consideration at the top level of the Framework is *environmental degradation* rather than simply *climate change.* This intentional design element acknowledges that – both in the literature and based on the study findings – climate change is but one factor that influences the extent and rate of environmental degradation. Environmental degradation represents sequences of adverse events like frequent floods, soil erosion and the subsequent reduction of land for agriculture and livestock. Climate change can result in changes in rainfall patterns, rising temperatures, water scarcity and related extreme weather events, all of which can cause environmental degradation. However, the influence of climate change is only one of several closely linked factors. Also involved are other natural factors (e.g., geographic vulnerabilities and non-climate-induced natural hazards such as earthquakes and tsunamis) and man-made factors (e.g., deforestation and infrastructures impacting ecosystems).

Figure 1: The Climate Change, Conflict and Migration (CCM) Nexus Analytic Framework
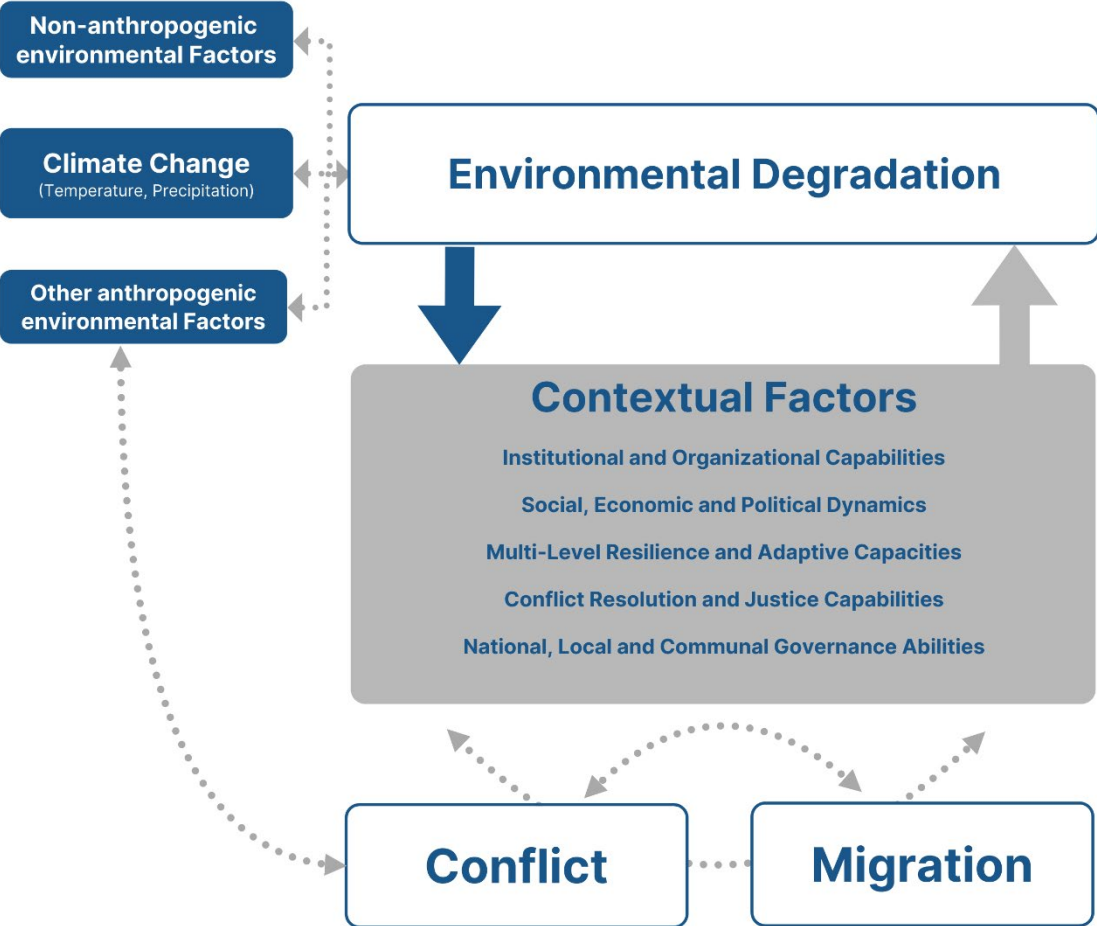
Contextual factors represent the second analytic category of the Framework. At times, there are direct causal connections between environmental degradation, conflict and migration. More often than not, however, there is no direct and isolated link. Outcomes are instead contingent upon the contextual factors present in a given location. This includes the institutional and organisational presence, capabilities and human capacity to cope with and adapt to such risks at different levels. Human resilience may enable populations to alleviate the negative impacts of environmental degradation.

The nature and prevalence of social relations are critical in this analysis stage. Familial and social networks play a significant role in addressing the confluence of CCM Nexus dynamics, not least because of the psychosocial effects these dynamics have on everyday lived experience and the role of resource-sharing in various domains as a collective adaptation mechanism. Understanding migrants as individuals embedded in social networks and existing related social processes represents an underdeveloped approach to ensuring holistic solutions to complex problems. In these ways, environmental degradation, conflict and migration impact and interact with the contextual factors (i.e., political stability, economic conditions, social practices, adaptive capacities, conflict resolution capabilities, migrants' socio-familial networks and multi-level governance mechanisms), resulting in specific outcomes over others.

Finally, the Framework guides the analysis of the *conflict* and *migration* components, as CCM Nexus dynamics can trigger and amplify the risks and deleterious effects of both, especially in fragile and conflict-affected contexts where human resilience may be insufficient to deal with the consequences of environmental degradation. Resource scarcity, for instance, can lead to conflict and migration when crisis governance is unable to sustain fragile livelihoods in the short term and coordinate distributional and ecological solutions in the long term. Structural factors like ethnic tensions and economic hardship further add to these vulnerabilities. Moreover, forced displacements and confrontations between migrants and receiving populations render conflict and migration mutually reinforcing. Simultaneously, conflict and migration alter the structural contexts within which they are embedded and influence households', communities' and governments' resilience by straining and enhancing their crisis management and adaptation capacities.

In the aggregate, the CCM Nexus Analytic Framework is intended to surface *relationships and interlocking factors* over *causal linkages* (hence the dual direction of all arrows). Causality occurs when one event (the cause) leads to a second event (the effect) – i.e., the second event results from the first. In other words, causality is the idea that an action or event will produce a specific response or effect. A relationship, on the other hand, is a connection or association between two things. Relationships can be causal, meaning that one thing causes another, or they can be non-causal, meaning that there is a connection or association between two things, but one does not cause the other. Both occur when CCM Nexus dynamics converge, and it is critical to determine the exact nature of the interaction of CCM Nexus dynamics in context.

DISTINGUISHING BETWEEN AMPLIFYING AND MODERATING FACTORS

An emergent finding from the CCM Nexus and Water Scarcity Study was the importance of distinguishing between *amplifying* and *moderating* factors. An amplifying effect occurs when a change in one variable leads to a more considerable change in another. For example, a slight increase in temperature could lead to a more significant increase in the rate of evaporation, which could lead to a further rise in temperature. This creates a positive feedback loop, amplifying the initial change over time. (In this case, "positive" refers to the dynamic of one effect reinforcing and accelerating another – even when the outcomes are negative. In contrast, a *negative feedback loop* occurs when the results of a set of factors reduce the number or intensity of occurrences of that same result over time.) Amplifying factors are important in this context because they represent possible points of intervention that might dramatically reduce, reverse or slow the onset of adverse effects of CCM Nexus and water scarcity dynamics.

As an example of an amplifying factor, the Study found that climate change and other forms of environmental degradation amplify pre-existing vulnerabilities related to the history and condition of violent conflict and intergroup tensions. For example, one community had a long history of inter-tribal tensions that emerged in many domains. However, as rainfall patterns become more unpredictable and flooding increases, resource competition has increased and generally manifests along the same existing dividing lines. Environmental degradation and climate change have *amplified* these communities' risks and occurrences of tribal conflict. Similar dynamics were frequently reported between farming and pastoralist populations. While coexistence was not historically conflict-free, increasing water scarcity, deforestation and desertification have accelerated the frequency of conflicts between the two populations.
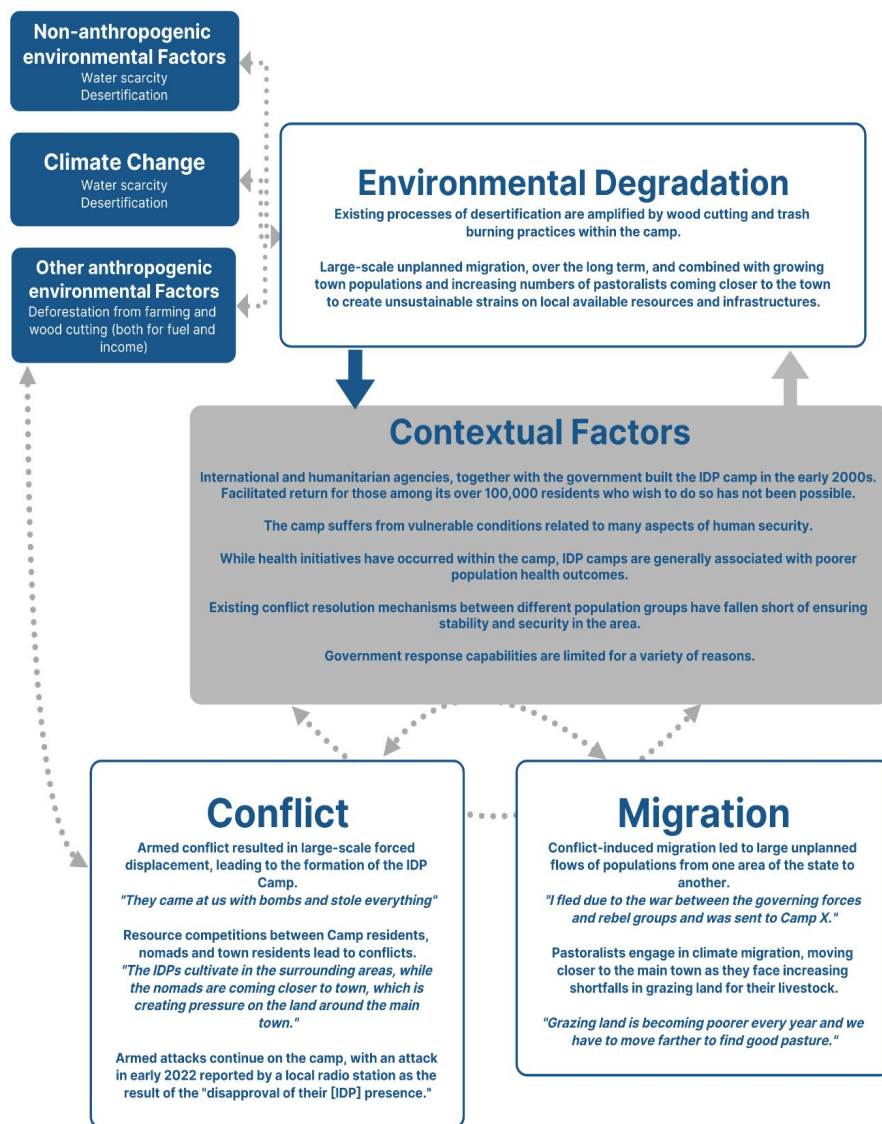
Distinct from *amplifying* factors in the Study were *moderating* ones. A moderating effect refers to a situation in which the strength or nature of the relationship between two variables is affected by the presence of a third variable. This means that the presence of the third variable changes the relationship between the first two variables in some way. Moderating effects are important because they help explain why certain relationships between variables hold for some groups or situations but not others – further underscoring the need for site-specific application of the CCM Nexus Analytic Framework and participatory development of policy and programme initiatives. This can help researchers better understand the underlying mechanisms behind these relationships and develop more effective interventions or policies.

Gender and life cycle comprise the most common *moderating factors* identified in the Study. For example, findings demonstrate that both moderate the effects of climate change and environmental degradation on livelihood. Narrative accounts illustrated this in multiple instances. One woman reported that her entire family had switched from pastoralism to a blend of pastoralism and farming due to changing rainfall patterns and water scarcity: climate change resulted in shocks to livelihood. This manifested differently for the men, women and youth in the family. Now only the youth take the herds, and the women and elderly stay behind. Another woman complemented this account by asserting that she now stays behind the longest when the men take the cattle to graze. In this way, gender and stage of the life cycle *moderate* the effects of climate change on changes in livelihood. Recall that moderation can refer to either the strength *or* the nature of the relationship between two variables. Thus, it is essential to emphasise that identifying gender and life cycle as moderating factors does not suggest that outcomes will always be worse in a given scenario if you are young or a woman. It is only to say that, with regards to the effects of environmental degradation on livelihood, whether you are a woman, youth, or girl *matters* for how you experience those effects.

APPLYING THE CCM NEXUS ANALYTIC FRAMEWORK

The CCM Nexus Analytic Framework builds on these and previous findings to offer a structure to guide the analysis of related problems and issues. It provides a way of organising and interpreting data so that policy and programme initiative designers, stakeholders and beneficiaries can identify patterns, generate hypotheses and develop relevant and coherent solutions with population needs and capacities. It also surfaces immediate needs and capability gaps to target for improvement over the short, medium and long term. Given that it is intended for site-specific application, the example provided here was developed from a set of direct interviews conducted in an IDP camp in Sudan. See **Figure 2** for the completed framework.

Non-anthropogenic environmental Factors
Water scarcity
Desertification

Climate Change
Water scarcity
Desertification

Other anthropogenic environmental Factors
Deforestation from farming and wood cutting (both for fuel and income)

Environmental Degradation
Existing processes of desertification are amplified by wood cutting and trash burning practices within the camp.

Large-scale unplanned migration, over the long term, and combined with growing town populations and increasing numbers of pastoralists coming closer to the town to create unsustainable strains on local available resources and infrastructures.

Contextual Factors
International and humanitarian agencies, together with the government built the IDP camp in the early 2000s. Facilitated return for those among its over 100,000 residents who wish to do so has not been possible.

The camp suffers from vulnerable conditions related to many aspects of human security.

While health initiatives have occurred within the camp, IDP camps are generally associated with poorer population health outcomes.

Existing conflict resolution mechanisms between different population groups have fallen short of ensuring stability and security in the area.

Government response capabilities are limited for a variety of reasons.

Conflict
Armed conflict resulted in large-scale forced displacement, leading to the formation of the IDP Camp.
"They came at us with bombs and stole everything"

Resource competitions between Camp residents, nomads and town residents lead to conflicts.
"The IDPs cultivate in the surrounding areas, while the nomads are coming closer to town, which is creating pressure on the land around the main town."

Armed attacks continue on the camp, with an attack in early 2022 reported by a local radio station as the result of the "disapproval of their [IDP] presence."

Migration
Conflict-induced migration led to large unplanned flows of populations from one area of the state to another.
"I fled due to the war between the governing forces and rebel groups and was sent to Camp X."

Pastoralists engage in climate migration, moving closer to the main town as they face increasing shortfalls in grazing land for their livestock.

"Grazing land is becoming poorer every year and we have to move farther to find good pasture."

While analysis can begin in any section of the Framework, a migrant-centred and rights-based approach starts with a statement of the problem faced by a particular population of migrants and focuses on the dynamics as they relate to that issue. In this instance, residents of the IDP camp X face severe threats to their physical security. Their arrival at the camp resulted from armed clashes in the early 2000s . The current threats to their fundamental human security represent a convergence of CCM Nexus factors, which guide the completion of the framework. For example, water scarcity and desertification have led to reduced availability of resources for camp, pastoral and neighbouring town residents in the aggregate. The same conditions have resulted in an increased presence of pastoralists in the region looking for adequate grazing land for livestock. While it is not within the scope of the Study to disentangle the extent to which water scarcity and deforestation already occurring were accelerated by climate change, it is clear that man-made environmental degradation in the form of wood cutting for fuel and livelihood has *amplified* the impact. These conditions and dynamics converge within a context

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[1] The camp name is anonymized.

of overall insecurity, challenges to population health outcomes and the breakdown of local intergroup and governmental conflict resolution and resource management capabilities. These conditions are *moderated* by gender: for example, limited access to reproductive health services for women in the camp has led to high maternal and child mortality rates for routine and difficult pregnancies. In this way, using the CCM Nexus Analytic Framework can support holistic data collection (when used in the design phase) and knowledge creation (when applied in the analysis phase) to support relevant policies. One iteration cannot capture the wide variety of complexities involved. Still, it can organise the interplay among multiple factors and the potentialities for changes in one domain of the CCM Nexus to impact dynamics in another.

As evidenced by the Framework, any programme or policy initiative intended to improve the conditions of human security of migrants would be strengthened by addressing the intergroup tensions with town residents and pastoralists. For example, one recommendation might be to establish a resource management committee composed of camp residents, local and regional government representatives, and representatives of nearby townships and pastoralists. The committee should be tasked with developing a resource management plan that considers the needs of the camp and its residents and nearby townships and pastoralists. The plan should address long-term and short-term resource management goals such as establishing sustainable land use practices. The plan should also include monitoring and enforcement provisions and measures to ensure accountability among all stakeholders. Such a plan would address elements of all three CCM Nexus dynamics while also strengthening critical contextual factors that contribute to community resilience: strengthening capabilities for coordination and non-violent conflict resolution, building awareness of and strategies for addressing environmental degradation and reducing multiple sources of vulnerability. The initiative should be led by the government and will strengthen its governance capabilities by enacting a coordinated response to environmental degradation to build social cohesion.

GENERALISED RECOMMENDATIONS FOR ADDRESSING CCM NEXUS AND WATER SCARCITY DYNAMICS IN THE MENA REGION

To conclude, the following are some generalised recommendations resulting from both the CCM Nexus and Water Scarcity Study, as well as the content of this Policy Paper:

1. **Use holistic approaches such as the CCM Nexus Analytic Framework to identify, elaborate and develop policy and programme solutions**. Such approaches consider the first, second and third-order consequences of CCM Nexus dynamics, such as threats to livelihood, public health concerns, emergent threats and environmental degradation. Identify the adverse effects of climate change to promote human security by reducing the risks and impacts of natural hazards, displacement and resource shortages. Integrate understandings of heterogenous sources of conflict and instability – e.g., armed conflict, inter-group tensions and other forms of violence, including gender-based violence, human trafficking and exploitation of already marginalised population groups. Facilitate the elaboration of the comparative economic viability between origin and destination communities in terms of aligning skill sets with job opportunities, cost of living requirements and access to essential services. Use migration decision-making factors and dispositions identified in the CCM Nexus and Water Scarcity Study to guide a dialogue around the limits and possibilities for orderly migration. Incorporate detailed understandings of the role of social networks and family dynamics into policy and programme initiatives to ensure a holistic, migrant-centred (and not simply migrant-centric) approach to providing fundamental rights and effective migration government and practice. Notably, "holistic" is not synonymous with "large-scale". It can occur at the micro level if it is more suitable for population needs, project specifications, and feasibility. Considering CCM Nexus and water scarcity dynamics and the social networks and familial relationships within which they embed does not necessitate

large-scale investments. The CCM Nexus Analytic Framework is an integrated approach to thinking about these problems, not an indicator of scale.

2. **Support governments in developing whole-of-government and whole-of-society strategies and standard operating procedures that engage multiple sectors to address the effects of the CCM Nexus and provide clear, institutionalised guidance to inform policymaking decisions.** Elaborate on ministry-specific activities. Identify Cross-Ministry coordination opportunities, existing capabilities (financial, technical, political capital) and areas for strengthening. Identify cross-sector coordination and collaboration opportunities. Design explicit and intentional workflow and reporting practices. Resist reducing CCM dynamics into institutionally siloed, singular conditions. Instead, determine whether and how moderating and amplifying effects touch on multiple domains and develop holistic, cross-institutional and cross-sector solutions to addressing related challenges. Early warning and response capability development should feature in these efforts. Good governance is essential for addressing the complex and interconnected challenges elaborated in this paper and for managing the challenges and opportunities of migration in a fair, humane and sustainable way.

3. **Focus on infrastructure maintenance, development and expansion.** Engage technical experts in related scientific domains from the inception phase and coordinate financial, political, social and technical capital across multiple sectors. Invest in alternative, diverse and renewable energy approaches to water management and responsible waste management. Prioritise those communities identified in the CCM Nexus and Water Scarcity Study and others most vulnerable to the amplified adverse effects of CCM Nexus dynamics.

4. **Educate and inform society about climate change, environmental degradation and sustainability.** Develop awareness-raising campaigns about environmental issues and the administrative capacity to enable desired behaviours. Ensure targeted, location-specific messaging according to gender, life cycle, national origin and resource use (household, agricultural and industrial water use, dumping and deforestation). In tandem with awareness-raising, develop the administrative capabilities of partner country institutions to establish the legal frameworks, oversight and accountability for the structural and cultural changes related to sustainable environmental practices. For example, raising awareness of appropriate measures for solid waste disposal will not have the intended effect if no waste management services are available. Administrative capabilities can also refer to non-state governance mechanisms, such as tribal councils, intercommunal compacts and other conflict-resolution tools.

5. **Design CCM Nexus and water management programme and policy initiatives to promote social cohesion by convening leaders from different population groups, especially those at risk of divisions and tensions, should one group be perceived to benefit from one more than the other.** To achieve this, identify local non-violent conflict resolution mechanisms and their strengths and shortcomings vis-à-vis conflicts over access to resources. Local non-violent conflict resolution mechanisms are essential for addressing disputes over natural resources, such as land, water and minerals, which are often at the centre of conflicts, particularly in areas where resources are scarce or where there is competition for access. These conflicts can be exacerbated by the impacts of climate change, which can disrupt the availability and distribution of natural resources and increase competition for them. Local non-violent conflict resolution mechanisms can help to prevent and resolve these conflicts by providing alternatives to violence and promoting dialogue and collaboration between different groups. They can also help to address the root causes of conflict and promote the sustainable management of resources. By fostering a culture of non-violence and peaceful dispute resolution, these mechanisms can contribute to more resilient and sustainable communities that are better able to withstand the impacts of climate change and other challenges. To enable this, facilitate the development of a

shared understanding of community development priorities. Elaborate on a sustainable resource management plan. Specify programmes, policies and supports available (or required) to address the most significant gaps. Develop a mutually agreed upon action plan with pre-determined accountability mechanisms. Support the development of monitoring, measurement and evaluation capabilities.

6. **Design programmes and policies using an intentional, specific and strategic participatory approach from the design phase through implementation, monitoring, measurement, evaluation and reporting.** Employ marginalised or disproportionately negatively affected populations throughout the implementation pipeline when possible. Create more inclusive policies and initiatives that address the gendered impacts of environmental degradation, joint problem-solving committees to facilitate conflict resolution and more robust solutions to reduce the prevalence of violent conflict and intercommunal clashes and mitigate displacement effects on youth. Inclusivity can also help to build trust and confidence among the different parties. Without it, there is a greater risk that some voices will be marginalised or excluded, which can lead to a lack of buy-in and ultimately undermine the effectiveness of initiatives. Critical for this recommendation is the following: first, identify successful approaches to achieving participatory engagement *in context* and strengthen and build upon those. Imposing externally developed frameworks run a much higher risk of undermining initiative objectives. This is especially important when building on sociohistorical beliefs and divisions that might marginalise specific populations. Technical support should be in terms of strengthening, facilitating and equipping. Research should accompany this element, in particular, to inform more robust country-level initiatives across sectors, especially in countries where certain population groups are difficult to access.

7. **Prioritise data-driven policy and programme initiatives**. Collection of and access to reliable, current data remains a significant problem. However, those that use high-quality data and participatory practices to strengthen local governance have the potential to be more successful and sustainable. This includes data and predictive modelling on climate change, conflict and unplanned migration, sponsored research on renewable and alternative energy and water source alternatives and ongoing research into how CCM Nexus effects emerge in context, as well as responses to and results of structured policy and programme initiatives. Regular, coordinated monitoring, measurement and evaluation of components remain necessary across actors and institutions. It is recommended to build robust partnerships with academic institutions within host countries already working on these issues.