CLIMATE CHANGE AND SECURITY PARTNERSHIP PROJECT

FINAL REPORT
MARCH 2017 - FEBRUARY 2022

EXECUTIVE SUMMARY

The linkages between climate change, peace and security have gained growing recognition in recent years. As climate change accelerates, its impacts risk exacerbating existing social, economic, and environmental drivers of insecurity at local levels (where communities struggle to cope with converging pressures) and internationally (when resources and ecosystems are shared across national borders). At the same time, insecurity hinders climate change adaptation efforts, and risks leaving already vulnerable communities even poorer and less resilient to interlinked climate and security crises.

The European Union (EU) and the UN Environment Programme (UNEP) established a partnership on climate change and security in 2017, with the aim of collaborating to strengthen the capacity of countries and international partners to **identify environment and climate-related security risks at global, national and community levels, and to programme suitable risk reduction and response measures.**

The resulting five-year project was among the first of its kind to integrate climate change adaptation and peacebuilding objectives into analysis, planning and resilience-building initiatives in conflict-affected contexts. The project also made important contributions towards strengthening the capacity of key actors at international and field levels to identify and address climate-related security risks.

As the EU and UN scale up global action to build resilience to climate-security challenges, the results and lessons learned from this project provide guidance, practical tools and concrete examples to support future planning and increased programming in different regions of the world.

RESULTS

Local level results

Pilot projects were delivered in North Darfur, Sudan and the Karnali River Basin, Nepal – two contexts where climate-related security risks manifest in distinct ways – to test how integrated climate change adaptation, conflict prevention and peacebuilding approaches could contribute to strengthening resilience at local levels.

In North Darfur, climate change is contributing to shrinking the resource base that underpins livelihoods for both farmers and pastoralists. Against a background of decades of protracted conflict, environmental and climate-related pressures risk compounding longstanding economic, social and governance challenges and exacerbating grievances between resource user groups. In western Nepal, rising temperatures and increasingly erratic and unpredictable rainfall patterns contribute to disputes over access to community forests, availability of water, and land ownership, especially in areas where governance mechanisms are still weak. In recent years, devastating floods have destroyed essential infrastructure and land, leading many people (particularly men) to migrate away from their homes in search for alternative livelihoods in urban centres or across borders.

In both contexts, the projects aimed to address the underlying drivers of insecurity by promoting more effective and equitable management of shared natural resources. The project combined climate change adaptation activities – such as the introduction of climate-smart agricultural techniques and water conservation methods, livelihood diversification and the development of sustainable water infrastructure – with inclusive approaches to dialogue, conflict resolution, and natural resource governance in order to: (i) strengthen social cohesion and trust, (ii) build capacity for peaceful mediation and dialogue, and (iii) promote sustainable and climate-resilient livelihood options for vulnerable groups.

Implemented in partnership with Practical Action, as well as local authorities and institutions, the two-year pilot projects (2018-2021) achieved three key results. First, **social trust and intra and inter community relationships, as well as relationships between communities and authorities, were significantly strengthened** through adaptation and resilience building interventions implemented with the specific objective of bringing conflicting groups together and enhancing social cohesion. In both countries, communities and authorities worked together to identify environmental challenges and to devise and implement solutions that benefitted all groups.

In Nepal, for example, where climate change is impacting the reliability and availability of water, intercommunal conflicts often arise around defunct water infrastructure, especially when competition over scarce water resources increases during the dry season or when monsoon rains are weak. A community-led process to improve water infrastructure and management in Sonahaphanta village reduced incentives for conflict over water, enhanced relationships between community members and improved their capacities to cope with increasing weather extremes. In Sudan, the project supported a participatory process to re-establish the joint management of migratory routes to mitigate conflicts that erupt between farmers and nomadic pastoralists because of livestock entering farmland or farmland encroaching on areas traditionally allocated for grazing of animals. Participants of the joint planning process engaged in regular dialogue to assess natural resource-related pressures leading to conflict along migratory routes and agreed on concrete measures to address these risks. At the end of the project, community members reported more frequent and positive interactions with other resource user groups.

Second, **local capacity to mediate and resolve conflicts related to natural resources improved markedly** through the establishment of inclusive processes that addressed the distinct needs of different groups and provided a platform for continuous dialogue between and among resource users. In both countries, the project established or strengthened community-based and inclusive governance or conflict resolution structures, offering training and support for peaceful mediation and intercommunal dialogue.

At project closure, communities reported the resolution of long-standing natural resource-related disputes and shared examples of successful mediation processes to prevent the escalation of new conflicts. A conflict tracking tool used to identify and monitor disputes related to natural resources over the course of the project implementation in Nepal, for example, found that out of 32 identified disputes, 75 percent were either reduced (22 conflicts) or fully resolved (3 conflicts). These conflicts primarily involved disputes over forest and land use, as well as water during the dry season. In Sudan, communities shared examples in which Natural Resource Management and Peacebuilding Committees established through the project were able to prevent disputes from escalating into violence, in particular those that regularly occur between farmers and pastoralists. Committee and community members interviewed during the final verification mission described community-led mediation processes as leading to consensus-based solutions, and thus fewer grievances, as compared to official processes that were characterised as expensive, lengthy, and leading to situations where small frictions could escalate quickly again.

Finally, promoting climate-resilient livelihood options significantly **enhanced the economic prospects of vulnerable communities,** including through support to on-farm and off-farm activities, as well as through investments in critical infrastructure. Livelihood activities targeting women in both country contexts, for example, served not only to enhance climate resilience and food and economic security for entire communities, but also supported women to overcome pervasive gender-based inequalities that limit access to sustainable and inclusive economic recovery.

In Sudan, some 70 percent of the farmers who received drought tolerant seeds across target communities in North Darfur were women, including a substantial number of heads of households. Several women reported that improved economic status and newly acquired skills resulting from the project's support contributed not only to enhancing food security in their families and communities, but also to enhanced social status. Similar results were achieved in Nepal, where seasonal migration of men to urban centres or neighbouring countries has increased to compensate for faltering agricultural livelihoods negatively affected by changing weather patterns and environmental degradation. Empowering women through sustainable and climate-resilient livelihoods both enabled them to demonstrate their leadership skills in natural resource management and enhanced the resilience of their communities, in some cases provided sufficient economic security to allow men to return home.

National level results

At the national level, the project contributed to **enhancing preparedness for identifying, preventing and responding to climate-related security risks.** The national assessments of climate-related security risks produced through the project for Nepal and Sudan provided guidance on how to understand, prevent or respond to security risks linked to climate or environmental change. Together with a series of training initiatives on understanding and planning for the security implications of climate change delivered to national stakeholders in both countries, the project contributed to building both the evidence base and capacity to address climate-related security risks through national policymaking and planning processes.

While political events in both countries and the COVID-19 pandemic initially undermined early investments by the project at the national level, the project worked through UN partners during the last phase of implementation to ensure uptake of its lessons in country-level analysis and planning initiatives, with the objective of catalysing broader action on climate-security risks. For example, the project team supported the UN Resident Coordinator's Office in Nepal to integrate climate-security considerations into the 2021 Common Country Analysis and the 2022-2027 UN Sustainable Development Cooperation Framework. Similarly, in Sudan, the project supported the integration of climate change considerations into a national peacebuilding assessment led by the United Nations Integrated Transition Assistance Mission in Sudan (UNITAMS), which will inform country-wide peacebuilding investments and planning.

Global level results

At the global level, the project played an important role in **strengthening system-wide capacity to identify, assess and address climate-related security risks.** To meet the growing demand for training and expertise, the project developed a Massive Online Open Course on designing and implementing inclusive approaches to addressing climate-related security risks, integrating the project's guidance and tools into a self-paced, online course that is the first of its kind globally. Drawing heavily on lessons learned and good practices identified through the project – and featuring elements from the pilot projects through interactive case studies – the course provides an introduction to climate, peace, and security linkages using an intersectional lens, as well as guidance on conducting integrated analysis and designing programmes to address these multifaceted challenges.

To further enhance system-wide capacity for integrated risk analysis, UNEP also developed the Strata data platform to identify, map and monitor environmental and climate stresses potentially driving threats to peace and security. Strata offers the best available analytics and visualisations on where and how environment and climate stresses are converging with other factors of risk over space and time, to help field-based partners – national and regional bodies, political and peacekeeping missions, UN Resident Coordinators, UN country teams, EU Delegations and other stakeholders – to prioritise practical risk mitigation and resilience-building measures. A prototype of Strata focused on Somalia was launched in February 2022 to support the UN Assistance Mission in Somalia and the UN Country Team, as well as environmental and peacebuilding civil society organisations in the country.

LESSONS LEARNED

LESSON 1. CLIMATE CHANGE ADAPTATION AND RESILIENCE-BUILDING INTERVENTIONS CAN STRENGTHEN PEACEBUILDING AND CONFLICT PREVENTION AT LOCAL LEVELS, WHEN DELIVERED IN A CONFLICT-SENSITIVE WAY.

The project's integrated approach yielded positive results for natural resource management, as well as for social cohesion, trust-building and local governance in conflict-affected contexts. In both pilot countries, the project used interventions around natural resource management, climate resilient infrastructure and livelihoods as a platform for bringing different groups together for a common purpose, facilitating more meaningful and regular exchanges and laying the foundation for more inclusive, equitable and legitimate governance mechanisms. Further application is needed to assess how the project's approach can support resilience-building in contexts where climate-related security risks manifest in different ways, particularly in borderlands where ecosystems are shared across national borders.

LESSON 2. WORKING WITH LOCAL ORGANISATIONS AND INSTITUTIONS AS PRIMARY IMPLEMENTING PARTNERS ENSURES THE NECESSARY RELATIONSHIPS, KNOWLEDGE, AND EXPERTISE NOT ONLY TO DELIVER CONFLICT-SENSITIVE PROGRAMMING BUT ALSO TO SUSTAIN RESULTS BEYOND THE LIFESPAN OF A PROJECT.

The success of the pilot projects in Nepal and Sudan was predicated on strong partnerships with local organisations and local government institutions, who understand the complexities of the climate-security challenges in context and can navigate the local political landscape. At project closure, community members and government representatives alike stressed the importance of newly established relationships both between communities and government, as well as improved capacity and coordination between relevant government entities. These relationships and the new governmental capacities will sustain project activities after the project's conclusion.

LESSON 3. CLIMATE CHANGE ADAPTATION INTERVENTIONS IN CONFLICT-AFFECTED CONTEXTS OFFER OPPORTUNITIES FOR STRENGTHENING THE LEADERSHIP AND POLITICAL AND ECONOMIC INCLUSION OF VULNERABLE OR MARGINALISED GROUPS, PARTICULARLY AT LOCAL LEVELS.

The pilot interventions in Sudan and Nepal demonstrated that specifically targeting vulnerable or marginalised groups through activities such as sustainable livelihoods can serve as an entry point for transforming underlying social, economic and political drivers of insecurity and conflict. The greatest success was achieved when the project specifically focused on establishing inclusive and community-based management mechanisms that promoted the leadership of women and marginalised groups in decision-making roles. In future programming, specific attention should be paid to fully engaging women in conflict mediation and peacebuilding structures to leverage their knowledge and skills, including by creating gender-equal structures and undertaking capacity building that specifically targets women.

LESSON 4. INFLUENCING NATIONAL PLANNING AND POLICY PROCESSES TO ADDRESS CLIMATE-RELATED SECURITY RISKS REQUIRES SUSTAINED TECHNICAL ENGAGEMENT WITH GOVERNMENT STAKEHOLDERS, AND IS MOST EFFECTIVELY CONDUCTED THROUGH PARTNERSHIPS WITH UN AND OTHER PARTNERS AT COUNTRY AND REGIONAL LEVELS.

While the pilot projects resulted in strong uptake of approaches to address climate-related security risks at local levels, fostering consensus and coordinated action at the national level proved more challenging. Meaningful influence at the national level requires regular and sustained technical engagement with key actors to translate integrated analysis and learnings from the field into policy advice and support – whether directly to national governments or through partnerships with UN and field-based actors. Recognising that climate change does not respect national borders, such capacity should be considered at a regional level, particularly in the context of a government transition, where national level actors are less consistent, or where ecosystems are shared across borders.

LESSON 5. UNDERSTANDING AND RESPONDING TO CLIMATE-RELATED SECURITY RISKS REQUIRES UP-TO-DATE AND CONTEXT SPECIFIC DATA ON CLIMATE, CONFLICT AND SOCIO-ECONOMIC CONDITIONS, MADE EASILY ACCESSIBLE TO POLICYMAKERS AND PRACTITIONERS.

The project demonstrated that meaningful climate-security analysis needs to be grounded in detailed and highly localised understanding of the socio-economic, environmental and conflict context. At the country level, the project's approach to combining localised qualitative analysis – using information gathered through interviews, focus groups and household surveys – with environmental and climate data, proved to be an essential first step in designing pilot activities and informing policy and planning initiatives at local and national levels. Strata, UNEP's earth stress monitor, aims to make integrated climate-security data analytics and visualisations more readily available to key national counterparts and UN and EU partners on the ground to inform risk analysis, early warning, planning and resilience programming processes.

LESSON 6. ELEVATING EXPERIENCES AND EXAMPLES FROM THE GROUND TO GLOBAL POLICYMAKING SPHERES IS ESSENTIAL FOR CLOSING THE POLICY-PRACTICE LOOP AND SCALING INTEGRATED PROGRAMMING THROUGH SYSTEMS LEVEL CHANGE.

While there is growing global awareness of the linkages between environmental degradation, climate change, peace and security, relatively few examples of actionable solutions for addressing climate-related security risks are available. This project provides replicable models for conducting contextualised analysis of climate-related security risks, and for delivering integrated solutions that combine climate change adaptation and peacebuilding approaches in policy and practice. The project's approach has already generated programmatic uptake, particularly within conflict prevention and peacebuilding programming. To date, however, there is still little integration of conflict sensitive, let alone "peace positive", approaches into planning and programming for climate action.

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1. INTRODUCTION

The linkages between climate change and security have gained significant attention in recent years. As climate change accelerates, its impacts exacerbate existing social, economic, and environmental challenges in many contexts, which can contribute to insecurity at local levels, or even internationally. Security concerns linked to climate change include impacts on food, water and energy supplies, increased competition over natural resources, loss of livelihoods, climate-related disasters, and forced migration and displacement.

Despite growing recognition of the interlinkages between climate change, peace and security, few examples of integrated programmatic approaches that address specific risks at the intersection of climate change and insecurity exist. Conflict and crisis affected contexts are more susceptible to being overwhelmed by climate change, but too often peacebuilding and stabilisation efforts do not consider climate-related impacts or environmental hazards. At the same time, insecurity hinders climate change adaptation efforts, leaving already vulnerable communities even poorer and less resilient to interlinked climate and security crises, but climate change adaptation initiatives often fail to fully integrate peacebuilding or conflict prevention objectives.

The European Union (EU) and the UN Environment Programme (UNEP) established a partnership on climate change and security in 2017 to fill this gap, with the aim of collaborating to develop integrated approaches to climate-conflict analysis and deliver actions on the ground to address emerging climate-related security risks. This report details the results and lessons learned from five years of partnership contributing to data and analysis, field-based resilience building approaches, and capacity building to address the multifaceted and complex risks posed by climate change and different dimensions of insecurity.

THE PROJECT

Building on the findings of the report commissioned by the Group of Seven (G7), "A New Climate for Peace," the five-year EU-UNEP Climate Change and Security project (2017-2022) aimed to strengthen the capacity of countries and international partners to **identify environment and climate-related security risks at global, national and community levels, and to programme suitable risk reduction and response measures.**

This was achieved through five distinct outputs: *see Figure 1*

⮞ OUTPUT 1. TO BUILD NATIONAL CAPACITY TO IDENTIFY, PLAN FOR AND
RESPOND TO CLIMATE-RELATED SECURITY RISKS;

⮞ OUTPUT 2. TO PILOT INNOVATIVE APPROACHES TO BUILDING RESILIENCE
TO CLIMATE-RELATED SECURITY RISKS AT COMMUNITY LEVEL IN SUDAN
AND NEPAL;

⮞ OUTPUT 3. TO DEVELOP AN ENVIRONMENT AND CLIMATE-RELATED SECURITY
HOTSPOT MONITORING TOOL (AT PROTOTYPE STAGE);

⮞ OUTPUT 4. TO CONDUCT REGIONAL LEVEL ANALYSES OF CLIMATE-RELATED
SECURITY RISKS; AND

⮞ OUTPUT 5. TO DELIVER PROGRAMMATIC GUIDANCE ON ADDRESSING
THE GENDER DIMENSIONS OF CLIMATE-RELATED SECURITY RISKS.

The theory of change linking these outputs to the ultimate objective of contributing to the **reduction of disputes driven by environmental and climate factors and of increasing resilience to these stresses in crisis-affected and fragile settings,** is presented in *Figure 2* .

Implemented by UNEP, this project was supported by the EU Instrument contributing to Stability and Peace (IcSP) with a grant of EUR 5 million. In addition, the project leveraged opportunities for co-financing from the governments of Norway, Sweden, Finland and Germany to support new activities that extend the project's capacity to meet specific needs of partners on the ground on data and analysis, as well as concrete policy and programming guidance.

To deliver the project, UNEP worked hand in hand with the German think-tank adelphi on analysis, advocacy and capacity development. At national and community levels in Nepal and Sudan, the project was implemented through Practical Action, in close collaboration with local, state and national authorities.

OBJECTIVE

Disputes driven by environmental and climate factors are reduced, and resilience to these stresses is increased in crisis-affected and fragile settings.

OUTCOME

Strengthened capacity to identify environment and climate change-related security risks at global, national and community levels, and programme suitable risk reduction and resilience-building response measures.

OUTPUT 1

Capacity of national level policymakers and stakeholders enhanced to identify plan for and respond to environment, climate change and security risks in two countries within climate change adaptation or peacebuilding policies and plans.

OUTPUT 2

Knowledge of local communities on resilience building measures for specific environment, climate and security risks is improved through **pilot interventions in two countries.**

OUTPUT 3

Prototype environment and climate security **hotspot monitoring methodology and tool** developed.

OUTPUT 4

Environment and climate stress **analysis at the regional level** conducted with UN and partners.

OUTPUT 5

Policy recommendations and programming guidance delivered on addressing **gender dimensions of environment and climate-related security risks.**
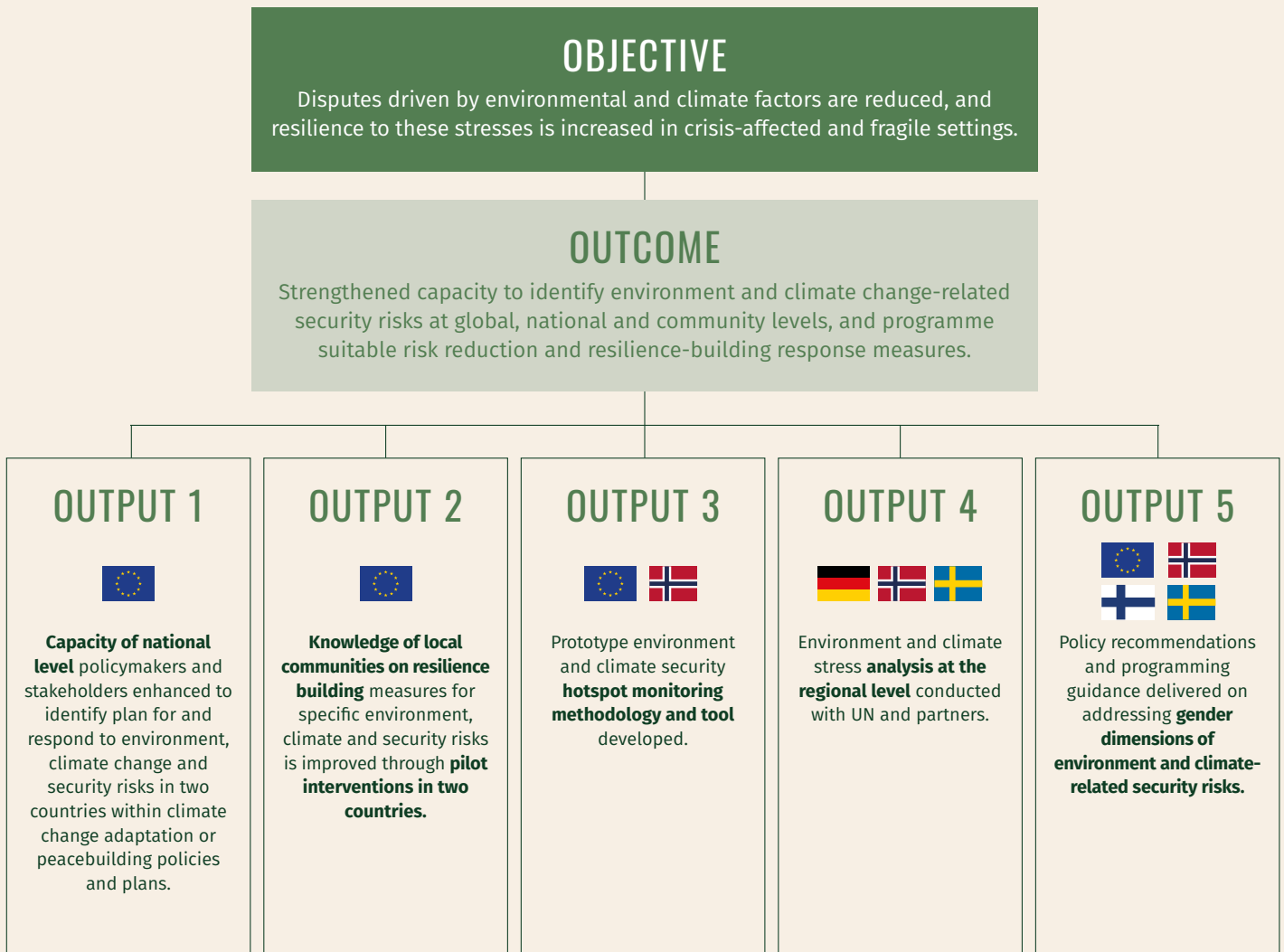
Figure 1. *Structure of the Climate Change and Security project.*

IMPACT

Reduction of disputes driven by environment and climate change and increased resilience to these stresses in fragile states.

INTERMEDIATE STAGE

Communities are more resilient and better able to manage risks to natural resources and their livelihoods from environment and climate-related security risks.

Countries are better able to assess environment and climate-related security risks in an integrated way and implement risk reduction or resilience building measures in an effective, coherent and efficient manner.

Global and regional institutions, including UN field-based entities, are able to assess and anticipate environment and climate-related security risks to plan and deploy more effective conflict prevention, and peacebuilding interventions in coordination.

OUTCOME

Strengthened capacity to identify environment and climate-related security risks at global, national and community levels and programme suitable risk reduction and resilience response measures.

DRIVERS

➔ *Assessment methods and tools enable identification and response to environment and climate change-related security risks.*

➔ *Participatory and multi-stakehaolder processes increase national and local support to address environment and climate-related security risks.*

➔ *Partnerships between UNEP experts and UN field based entities increase overall UN capacity to engage with governments to address risks.*

➔ *Integrated approaches and field interventions demonstrate increased community resilience to environment and climate-related security risks.*

ASSUMPTIONS

➔ *National, regional and global institutions as well as UN Country Teams, EU Delegations and other bi-lateral actors are willing to engage to identify and implement policy response options.*

➔ *Policy makers and stakeholders are willing to engage in capacity building.*

➔ *Availability of the required data sets and empirical links can be detected in the collect data on environment- and climate-related security risks.*

OUTPUTS

Capacity of national level policymakers and stakeholders enhanced to identify, plan for and respond to climate-related security risks in two countries.

Knowledge of local communities on resilience building measures for specific environment, climate-related security risks is improved in two countries.

Prototype environment and climate-related security hotspot monitoring methodology and tool.

Environment and climate stress analysis at the regional level conducted with UN and partners.

Policy recommendations and programming guidance delivered on addressing the gender dimensions of environment and climate-related security risks.

SOLUTION

Guidance and support for multi-stakeholder decision making.

Field demonstration projects by local communities.

Global level hotspot monitoring and predictive analytics based on best available data.

Global and regional analysis conducted jointly by UNEP and UN partners in the field which feeds into UN planning.

Guidance and field projects on environmental and climate entry points for empowering women in peacebuilding.

PROBLEM

Lack of expertise at national level to identify, plan for, and respond to environment and climate security risks.

Lack of knowledge at community level to design resilient livelihoods for environment and climate security risks.

Lack of access to data and analysis that can identify and predict emerging environment and climate security hotspots.

Institutional fragmentation leads to dispersed knowledge and to lack of uptake in conflict prevention and peacebuilding strategies.

Structural barriers preventing women from formally managing natural resources and engaging in risk reduction measure on environment and climate security.

Figure 2. *Theory of Change of the Climate Change and Security project.*

THIS REPORT

Following this introduction, this final project report is organised into three main sections. Section 2 provides a detailed overview of key outcome-level results at local, national, and global levels, including illustrative examples from field interventions that demonstrate the value of the project's integrated approach for climate resilience and peace. Section 3 sets out the main lessons learned, while the final section summarises key achievements and main activities across each of the five outputs.

The results of this pioneering partnership are being shared at a critical time to inform future policy developments, programmes and investments of both the EU and the UN system in this fast-expanding field. In particular, the learning and good practices from this project will contribute to the design a second phase of EU-UNEP collaboration on climate change and security.

WEATHERING THE COVID-19 PANDEMIC

The global pandemic that engulfed the world starting in March 2020 had significant impacts on delivery across the UN system as a whole. The pandemic had **two direct consequences on this project,** as follows.

First, restrictions on domestic travel and government mandated lockdowns limited access to the field, causing some delays in the implementation of project activities. In Sudan, the health crisis not only limited movement but also compounded insecurity caused by extreme floods in project locations, the result of a particularly strong rainy season across North Darfur that led to shortages in food and fuel stocks. In Nepal, the government mandated a strict lockdown extending from March to October 2020. During this period, heavy monsoon rainfall resulted in floods and landslides that caused 367 deaths and hundreds of missing and injured people. The project's main implementation partner Practical Action not only adapted to the new situation in both countries, but also became an essential actor in the coordination of relief work at district-level. When the rains reduced, the field teams ensured contact-free food and water delivery, as well as market access to project communities.

Second, COVID-related restrictions on international travel and quarantine requirements made it impossible to provide on-the-ground support to country level partners during 2020 and early 2021. All international missions planned to Sudan and Nepal were cancelled during this period. These missions would have enabled the project's international team to conduct additional training to government partners, as well as to directly support implementing partners in monitoring project impact in the field.

Despite these challenges, the project team adapted quickly to the new context. At the field level, implementing partners adopted a set of precautions to safely interact with target communities, such as limiting meeting size and requiring personal protective equipment. The international project team also leveraged the opportunities afforded by digital technologies to provide technical support to country teams, including for monitoring and evaluation activities in Sudan and Nepal. The team organised a series of "virtual missions" to each country to facilitate in-depth discussions and workshops on key challenges, progress, and work planning. It is important to note, however, that while digital technology provided a critical lifeline for continued engagement during this unprecedented time, it was not a direct replacement for on-the-ground engagement, especially where technological capacity or resources are low. When travel restrictions eased, the project team was able to conduct a final monitoring and support mission to Sudan in October 2021.

Protection plans were put in place to limit the exposure of participants in the project's activities, as seen here in North Darfur, Sudan.

2. OUTCOME-LEVEL RESULTS

Several achievements stand out as marked contributions towards the project's outcome to **strengthen capacity to identify environment and climate change-related security risks at community, national and global levels, and programme suitable risk reduction and response measures.**

Where pilot interventions were delivered in Sudan and Nepal, there is evidence of the project's contributions to conflict prevention and peacebuilding in target communities, while at the national level, project activities contributed to improvements in planning for and responding to climate-related security risks. Globally, the project helped shape the emerging policy agenda on climate-security through strategic engagement with key entities and enhanced system-wide capacity for understanding, identifying, and addressing climate-related security risks.

The following discussion presents outcome-level results at local, national, and global levels.

LOCAL LEVEL RESULTS

At the community level, pilot interventions were designed to test combinations of climate adaptation measures and peacebuilding approaches to strengthen resilience to climate-related security risks in target communities through:

- ENHANCED SOCIAL COHESION AND TRUST,

- STRENGTHENED LOCAL GOVERNANCE MECHANISMS FOR INCLUSIVE NATURAL RESOURCE MANAGEMENT, DIALOGUE AND MEDIATION, AND

- IMPROVED SUSTAINABLE AND CLIMATE-RESILIENT LIVELIHOOD OPTIONS FOR VULNERABLE GROUPS.

Findings from detailed monitoring and evaluation processes, including testimony collected through interviews and focus group discussions with project beneficiaries and other key stakeholders, as well as results from household surveys, indicate the project made positive contributions towards these three peacebuilding and climate change adaptation objectives.

Improved relationships as a result of conflict-sensitive climate adaptation and resilience-building measures

Findings from pilot communities in Sudan and Nepal indicate that climate change adaptation and resilience building interventions implemented with the specific objective of bringing conflicting groups together and enhancing social cohesion, including through the provision of climate-resilient liveli-hoods and community-led sustainable infrastructure projects, made significant contributions towards strengthening relationships and social trust between and among groups. This includes intra and inter community relationships, as well as relationships between communities and authorities.

In the Karnali River Basin in Nepal, for example, where climate change is impacting the reliability and availability of water, intercommunal conflicts often arise around defunct water infrastructure, especially when competition over scarce water resources increases during the dry season or when monsoon rains are weak. A community-led process to improve water infrastructure and management, supported by the project, reduced incentives for conflict over water, enhanced relationships between community members and improved their capacities to cope with increasing weather extremes. Box 1

Box 1. Improved water infrastructure and management strengthen social cohesion in the Karnali River Basin, Nepal

Sonahaphanta, a small village located at the bank of the Geruwa Karnali River, is one of the poorest villages in Bardiya district, home mainly to small landholding farmers whose livelihoods rely on rainfed agriculture. Amar Bahadur Khatri, the village Badghar or traditional leader responsible for mediating disputes at the community level, described that *"for the past several years, both winter rain, pre-monsoon rain and even the monsoon rains have been more unpredictable and rainwater stealing in the field has given rise to social disharmony."*

Support for critical water infrastructure and capacity building for the sustainable management of this infrastructure provided by the Climate Change and Security project, including through the provision of water bore holes and new sets of water pumps, has had transformative impacts on social cohesion within the community. According to Bahadur Khatri, *"since the installation of an irrigation water facility last year, disputes caused by rainwater stealing in the paddy have completely reduced and relationships between residents in the neighbourhood have improved significantly."*

New irrigation schemes contribute to commercial vegetable farming in Sonahaphanta, Bardiya district, Nepal.

In Sudan, the project supported a participatory process to re-establish the joint management of migratory routes to mitigate conflicts that erupt between farmers and nomadic pastoralists because of livestock entering farmland or farmland encroaching on areas traditionally allocated for grazing of animals. Participants of the joint planning process engaged in regular dialogue to assess natural resource-related pressures leading to conflict along migratory routes and agreed on concrete measures to address these risks.

FROM THE AWARENESS AND TRAININGS WE AND OUR COMMUNITIES RECEIVED IN THE FIELD OF CONFLICT RESOLUTION AND JOINT ANIMAL MIGRATORY ROUTES MANAGEMENT - ESPECIALLY YOUTH, BOTH MALE AND FEMALE - WE DECIDED TO CONVENE A SOCIAL EVENT IN OUR VILLAGE ED ALBAIDA. AS THE NATIVE ADMINISTRATION LEADER, I WELCOME OUR GUESTS, NOMADIC PASTORALISTS FROM SOUTH AND EAST DARFUR, TO LIVE WITH US, TO SHARE OUR RESOURCES FOR PEACEFUL CO-EXISTENCE AND TO ESTABLISH GOOD RELATIONSHIPS SOCIALLY AND ECONOMICALLY.

TRADITIONAL LEADER, ED ALBAIDA VILLAGE

As a result of the joint structures and processes supported by the project, findings indicate a measurable improvement in the interactions and relationships between pastoralists and farmers over the project period. In January 2020, participants organised two social events bringing together more than 800 people from pastoralist and farming communities. During interviews and focus group discussions, community members and government alike emphasized the significance of these social events as the first time pastoralists and farmers came together for dancing and celebration. Community members reported that conflicts between farmers and pastoralists reduced markedly following the joint activities and social event, and that there was an increase in positive interactions between farmers and pastoralists in different contexts, for example in sharing tea at local markets and joining communal events such as marriage ceremonies and funerals.

The project also contributed to rebuilding trust between communities and government following years of protracted conflict. At the onset, the project established a technical committee made up of representatives from different governmental departments as well as other key institutions (such as the University of El Fasher) to provide technical guidance and oversight to the project. Communities received regular visits and training sessions from government representatives, including members of the technical committee with expertise in animal health and agricultural techniques to support project interventions, such as capacity building of newly established animal veterinary centres or the distribution of drought-tolerant vegetable seeds. In some cases, community members reported that activities related to the project represented the first time they interacted with local government. This was confirmed in discussions with government representatives, who noted that the project positively changed their knowledge of and relationship with communities. *Box 2*

Women in North Darfur contribute to planting a community forest with support from the Sudan Forests National Corporation.

Box 2. Engaging local authorities to strengthen climate-resilient livelihoods builds trust between local communities and government in Wadi El Ku catchment, El Fasher, Sudan

Floods, droughts, and increasingly unpredictable rainfall are undermining already fragile livelihoods in North Darfur. The context, beset by decades of conflict and insecurity, has offered limited opportunity for dialogue or regular interaction between communities and local authorities, whose relationship has long been strained.

The Climate Change and Security project recognised the opportunity to build trust between communities and their government and actively engaged both parties in a process to improve access to climate-resilient livelihoods. For example, the project supported the Ministry of Production and Economic Resources to conduct training sessions for para-veterinary workers managing newly established and community-owned animal drug centres. Similarly, the project worked with the Ministry of Agriculture to distribute drought resistant seeds and conduct training in agricultural techniques.

Improvements in well-being from the project's livelihood activities, combined with the more regular interaction between communities and their government, had a positive impact on their relationship. In a household survey conducted in February 2021 in five project communities, 100 percent of respondents reported that their interactions with the government increased during the two years of project implementation and described these interactions as significantly positive.

Representatives of different government institutions interviewed during the verification mission also stressed the project's notable contribution in establishing relationships and stronger links with communities. One member of the technical committee said that *"previously when it came to organizing the relationship between farmers and pastoralists, the government would just sit at their desk in the office and make policies. Now the government goes down to the community to organize directly with community members."* They also highlighted that these new contacts and relationships helped them obtain better information and increase their own knowledge.

The improved relationship between government and communities was confirmed with community members, who explained that, before the project, there were few or only weak links between them. They shared different examples of improved access to government services and advice. One community member in Um Eshera noted that *"there was no relationship between the community and the government before the project, but now the relationship improved because government representatives from the Ministry of Agriculture and the National Pasture and Forest Cooperation participated in the implementation of project activities and visited the field to meet the community".*

Strengthened capacity of communities to mediate disputes and prevent conflict through more inclusive natural resource-related governance mechanisms

A key achievement of the pilot projects in Sudan and Nepal has been to build local capacity to mediate and resolve conflicts related to natural resources in an inclusive manner. Inclusive processes not only ensure that the distinct needs and expertise of different groups are considered in local decision-making mechanisms, but also provide a platform for continuous dialogue and relationship building between and among resource users.

UNLIKE IN THE PAST, THESE DAYS THE CDCRC IS INVITED TO PARTICIPATE IN THE FLOOD DAMAGE ASSESSMENT, AND OUR RECOMMENDATION HAS BEEN MADE MANDATORY BEFORE THE LOCAL GOVERNMENT PROVIDES ANY RECOVERY AND RELIEF SUPPORT IN THE CASE OF FLOOD INDUCED DAMAGE OR WILDLIFE-RELATED REPARATION TO THE AFFECTED HOUSEHOLDS."

MINA THARU, A MEMBER OF THE CDCRC.

In Nepal, where marginalised groups have traditionally been excluded from public services and decision-making processes, project activities focused on strengthening community-based conflict resolution and governance mechanisms and enhancing the inclusion of underrepresented groups.

Data from the project area in shows a marked improvement in the communities' capacity to resolve natural resource-related conflicts. A conflict tracking tool used to identify and monitor disputes related to natural resources over the course of the project implementation found that out of 32 identified disputes, 75 percent were either reduced (22 conflicts) or fully resolved (3 conflicts). These conflicts primarily involved disputes over forest and land use, as well as water during the dry season _Box 3_ .

Land-related disputes – including conflicts over public land use and boundaries – proved the most complex and challenging to address, accounting for the greatest number of unresolved issues _Table 1_ . These include, for example, a disagreement over a community forest boundary set between Sankatti and Sonahagaun communities, a dispute over the public use of a pond which sits on both public and private land, and conflict between government and community members over the extraction of river resources in areas where the Karnali River has changed course due to erosion and cuts into private land.

	RESOLVED	REDUCED	NO CHANGE
Forest (11 total)	1	9	1
Water (14 total)	1	12	1
Land (7 total)	1	1	5

Table 1. _Status of the 32 disputes tracked by the project over two years. The table reflects the status of the disputes at project closure in July 2021._

Box 3. Natural resource conflicts monitored across project communities in Nepal

During the two years of project implementation, UNEP and implementation partner Practical Action used a conflict tracking tool to identify and monitor 32 natural resource-related disputes across the project area. These included disputes related to forests, water, and land. ⟩ *Map 1* Disputes over water – including access to water and the distribution of water infrastructure – were the most prevalent, comprising some 45 percent of the identified disputes. Land and forests accounted for 32 percent and 22 percent of identified disputes, respectively. ⟩ *Figure 1*
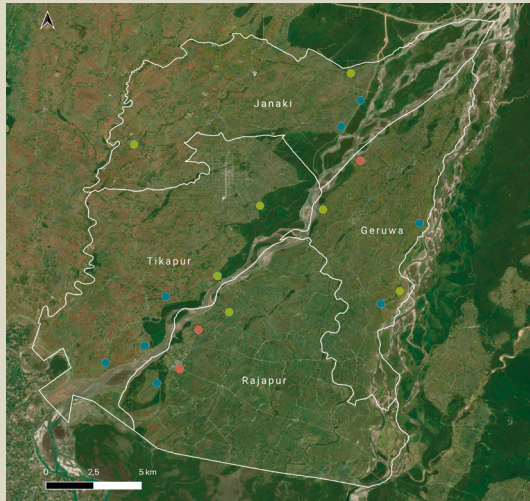
Map 1. *Location of natural resource-related disputes identified and tracked by the project in Nepal's Karnali River Valley.*
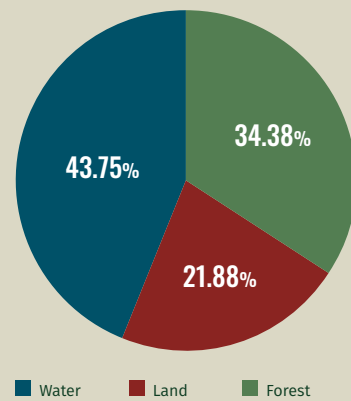

Figure 1. *Distribution of disputes over natural resources. Of a total of 32 disputes tracked, 43.75% were related to water, 34.38% were related to forest, and 21.88% to land.*

Results indicate that conflict resolution and mitigation mechanisms supported by the project contributed to reduction or full resolution of 25 of the 32 tracked disputes during the two years of project implementation ⟩ *Map 2 and Figure 2* . Mediation and conflict resolution work is ongoing to address the unresolved disputes, led by community-based organizations supported by the project.
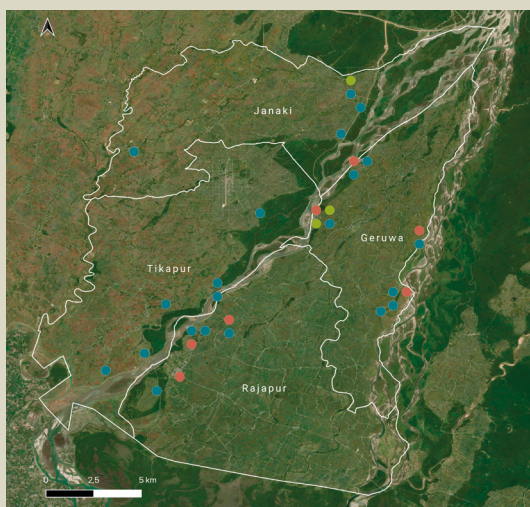
Map 2. *Status of the natural resource-related disputes addressed by the project through community-based organizations in the Karnali River Valley.*
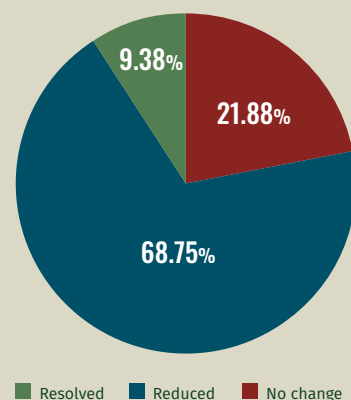

Figure 2. *Status of natural resource-related disputes at project closure. A total of 68.75% of disputes were reportedly reduced, 9.3% resolved, and 21.8% remained unchanged.*

There are, however, some notable success stories where community-based institutions supported and trained in mediation and conflict resolution methods by the project – such as Community Disaster Management Committees (CDMC), Community Forest User Groups (CFUG), cooperatives and community Disaster and Climate Resilience Committees (CDCRC) – demonstrated their capacity to facilitate dialogue between communities, as well as between government and local communities on the most complex of issues. ⟩ *Box 4*

Box 4. Inclusive governance structures contribute to conflict resolution between Bardiya National Park authorities and the Dakshinpurba community in Nepal

The Geruwa river has historically been understood to be the official boundary between Bardiya National Park and Dakshinpurba community. However, climate change is contributing to an increasing number and intensity of floods, which in turn have led to the river frequently changing its course. This has resulted in the boundary of the park moving over time and cutting into farmland. As the river changed, however, the government insisted on the continued payment of taxes from farmers on more than 100 hectares of flooded land.

With support from the project, the CDCRC in Dakshinpurba, together with a committee formed by the Geruwa River flood victims, launched a public campaign to advocate for more just treatment by the municipality for those who had lost their land and facilitated a constructive dialogue between park authorities and the community. The process resulted in a decision by the Geruwa Rural Municipality to reduce the land tax for flood victims by 75 percent and in January 2021, a plan was approved to construct a dam along the border of the National Park.

Mahadev Tharu, a member of the CDCRC involved in the dialogue process between Dakshinpurba and the park authorities, noted that the *"once the dam is constructed, we are hopeful that the people will get back land that was grabbed by the National Park"* and that *"the age-old dispute will be settled, leading to a improved relationship with the Park management. Without CDCRC,"* he noted, *"we would not have been able to voice our concerns."*

CRDRC member Mahadev Tharu points to contested land in between Bardiya National Park and Dakshinpurba community in Geruwa Rural Municipality, Nepal.

To prevent and better manage conflicts over natural resources in Sudan, the project established Natural Resource Management and Peacebuilding Committees (NRMPBC) in each of the eight target villages. The committees included representation from both farming and pastoralist communities, as well as men and women that received training in mediation and conflict resolution delivered through a partnership with the University of El Fasher. During interviews and focus group discussions, community members shared several examples in which committees and their members were able to prevent disputes from escalating into violence, in particular those that regularly occur between farmers and pastoralists over animals trespassing into fields and destroying crops Box 5 . In some cases, committees are now tasked with mediating in other social disputes and conflicts that do not concern natural resources, such as marriage disputes and theft.

Committee and community members interviewed during the verification mission also underscored the higher effectiveness of local conflict resolution mechanisms compared to government-led or "official" processes. Community-led mediation processes were described as leading to solutions with consensus and thus fewer grievances, while official processes that require use of the court system were characterised as expensive, lengthy and leading to situations where small frictions could escalate quickly again.

Box 5. Community-led conflict resolution in Um Esher, Sudan

In the village of Um Esher, a nearby settlement of pastoralists was accused of stealing an animal from the village, creating significant tension. Applying skills in mediation and conflict resolution acquired through the project, the Natural Resource Management and Peacebuilding Committee intervened. After a detailed fact-finding mission within the settlement area, the Committee learned that the accused were not responsible for taking the animal – the animal had indeed passed by the village but had continued onwards. The Committee then facilitated a two-week mediation process between the two villages which eventually led to a joint resolution. This was lauded as an important success, as these types of conflicts had previously often escalated quickly into violence.

Livestock grazing in Wadi el Ku, North Darfur, Sudan.

Post-conflict economic recovery enhanced for vulnerable or marginalised groups through the provision of climate-resilient livelihoods

Another important outcome of the projects in Sudan and Nepal has been to improve the economic prospects of vulnerable communities through climate-resilient livelihood approaches targeting marginalised groups. Climate-resilient livelihood activities targeting women, displaced populations, or ethnic minority groups, for example, have served not only to enhance food and economic security for entire communities, but also enhanced their social status and overcome pervasive inequalities that limit access to sustainable and inclusive economic recovery. This is particularly critical for women in contexts where men migrate away from their homes in search of alternatives to faltering traditional livelihoods, leaving women with increased economic burdens.

In Sudan, communities reinforced that sustainable livelihoods are essential for preventing conflict between natural resource user groups whose livelihoods are increasingly threatened by the changing climate. In this light, climate change adaptation interventions focused on supporting farmers to be more productive and efficient in smaller areas of land on the one hand, such as through the distribution of drought tolerant seeds and training in improved agriculture techniques, and improving pasture area and essential services along migratory routes for pastoralists on the other hand, to dissuade deviation from established grazing areas.

Some 70 percent of the farmers who have received drought tolerant seeds across target communities in North Darfur were women, including a substantial number of heads of households. Several women reported that improved economic status and newly acquired skills resulting from the project's support contributed not only to enhancing food security in their families and communities, but also to enhanced social status `Box 6` . Women have also reported that new economic opportunities have had important positive impacts on their safety, as they have reduced the need to walk long distances to collect wood for charcoal production and gum arabic to supplement their families' income, activities during which they are routinely exposed to risks of violence.

Box 6. Training in conflict resolution enhances women's leadership potential in Sudan

Azine received training through the project in conflict resolution and mediation. After completing her training, Azine organized peace dialogues with farmers and pastoralists to share her new skills and knowledge with others in the community. *"I went village to village and explained to people the importance of peace and described what we are doing,"* she recalled.

One day, Azine came home to find her field tended to by women from the surrounding villages. The women explained that they were so proud of Azine's work as a peace ambassador, they would volunteer their time managing her farm so she could continue her leadership role. Recalling her experience, Azine explained that the knowledge and skills she gained from the project changed her status in the community, where she was now perceived as an important leader.

Among pastoralist communities, the training of animal health workers was identified as a priority during the participatory planning process, as well as during the joint migratory route planning. The project trained 12 community members from pastoralists communities in veterinary services, including two women and ten men. While this does not represent gender balance, this was the first time women from pastoralist communities in this area had been provided training in this area. Training in veterinary services has reportedly improved community well-being and provided paid work for trained workers.

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I PLANTED 13 HOLES OF OKRA. FORTY DAYS AFTER PLANTING, I STARTED HARVESTING THE CROP EVERY THREE DAYS. IN EACH HARVEST I GOT ABOUT 2 OR 2.5 KILOS OF GREEN OKRA. I HARVESTED MY CROP ABOUT 25 TIMES. I USED SOME OF MY OKRA FOR MY FAMILY, I GAVE SOME OF IT AS GIFTS TO MY NEIGHBOURS, AND SOLD SOME IN THE MARKET FOR 2210 SDG.

COMMUNITY MEMBER, KUMA GRADAYAT VILLAGE, SUDAN

The project activities in Sudan also achieved important results for the peaceful return of internally displaced persons (IDPs). This was particularly the case in the village of Abu Sikien where many inhabitants were living in IDP camps at the start of the project (about 50 percent). Project activities, including livelihood interventions that specifically targeted not only IDPs in the camp, but also host communities in the village, as well as more than 20 facilitated meetings between community members to resolve pre-existing issues, created a conducive environment for the peaceful return of IDPs to their home village.

Similar results have been achieved in Nepal, where seasonal migration of men to urban centres or neighbouring countries has increased to compensate for faltering agricultural livelihoods negatively affected by changing weather patterns and environmental degradation. Findings from a household survey conducted in February 2021 indicate that about 42 percent of the households in project communities experienced emigration of at least one family member before the start of the project Figure 3 to Kathmandu (39 percent), India (29 percent), and other districts (22 percent) Figure 4 .
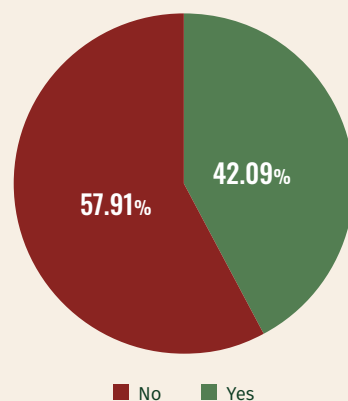
Figure 3. *In a household survey conducted in January 2019, 42 percent of respondents reported having at least one family member who had migrated away. Source: CCS Household Survey (February 2021).*
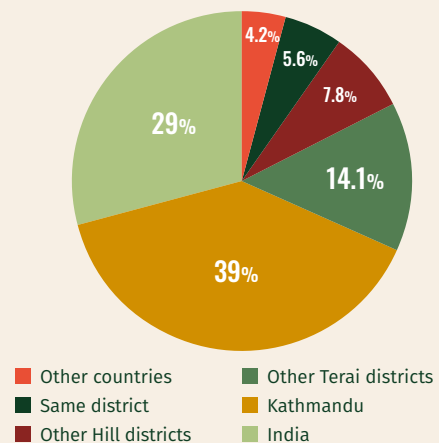
Figure 4. *Of those who had migrated, households reported that that most emigrated to Kathmandu or India (cumulative 68%) and only a minority reported emigration to nearby districts (cumulative 27,5%). Source: CCS Household Survey (February 2021).*

As a result of the seasonal migration, women remain behind in the communities with greater economic responsibilities. Empowering women through sustainable and climate-resilient livelihoods has both enabled them to demonstrate their leadership skills in natural resource management and enhanced the resilience of their communities, in some cases providing sufficient economic security to allow men to return home. Box 7

Box 7. Enhancing community resilience to floods by empowering local women in Nangapur village, Nepal

In Nangapur village, extreme flooding in 2017 and again in 2019 destroyed the crops Geeta Tharu and her family relied on to support their basic needs. To compensate for lost income, Geeta's husband migrated to the capital Kathmandu for most of the year to work in the informal construction business, leaving Geeta behind to support their family.

The Climate Change and Security project enrolled Geeta in a small business training course and provided seed funding for Geeta to start her own small restaurant in her village. Geeta now earns a daily income of USD 10 to 15 and in her first year of business, has opened a bank account and saved more than USD 500. The business enabled Geeta to send her daughter to a private school and has brought her husband home to reside permanently in Nangapur and support the family enterprise.

Geeta Tharu displays a new billboard advertising her eatery in Nangapur, Bardiya district, Nepal.

Findings from Nepal also demonstrate substantial improvements in livelihood diversification. At the start of the project, the majority of households (78 percent) relied on one or two livelihood practices, most of which were agricultural and highly vulnerable to changing weather patterns. Through skills training and targeted investments in climate-resilient income generating activities, target communities significantly diversified their sources of income to include off-farm activities as well as investments in crops more resilient to changing weather. In a survey at the end of the project, the majority of community members reported to have three or four different livelihood practices (67 percent) Figure 5 , allowing them to adapt the source of income to the season and prevailing climatic conditions. Nearly all surveyed beneficiaries (95 percent) reported improved income as a result of project activities Figure 6 .

Livelihood diversification before the project (n=335)

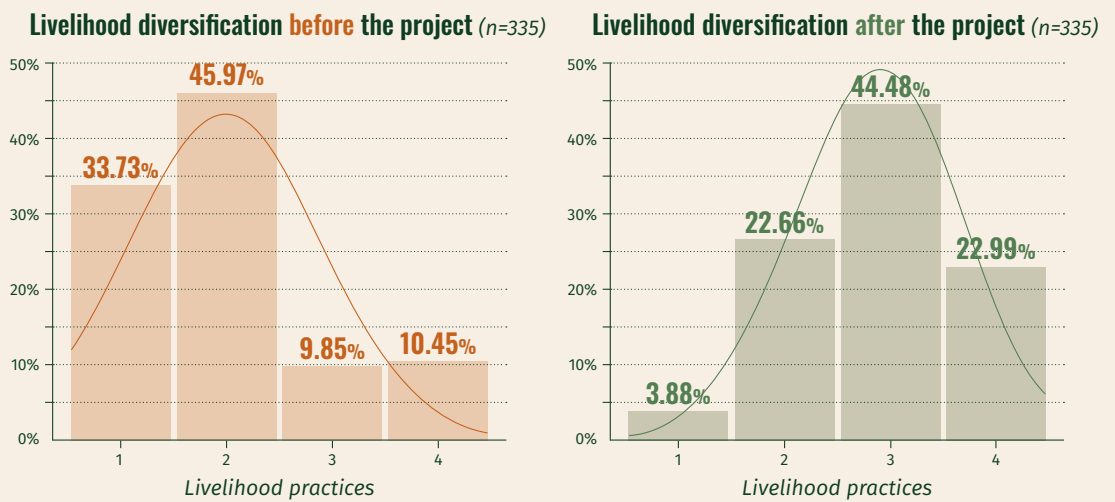### Livelihood diversification after the project (n=335)

Figure 5 (above). Diversification of practices of livelihood before (left) and after (right) the implementation of the project. The graphic indicates how beneficiaries increased their sources of income from 1 or 2 (78%) to 3 or 4 (67%). Source: CCS Household Perception Survey (February 2021).
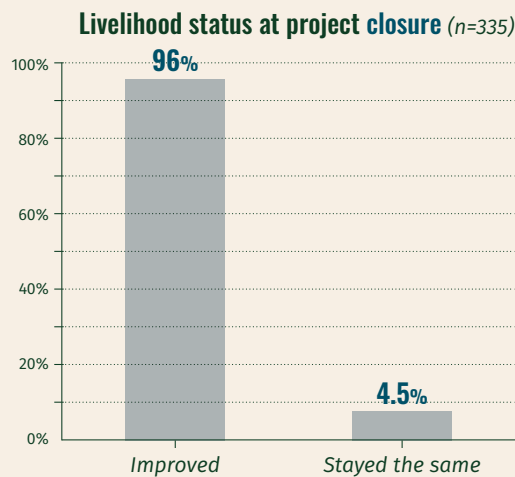
Livelihood status at project closure (n=335)

Figure 6 (left). The majority of respondents (95 percent) reported improved livelihood status at project closure. Source: CCS Household Perception Survey (February 2021).

NATIONAL LEVEL RESULTS

At the national level, the project's achievements centre on enhanced capacity of governments and their partners, including UN country teams, to identify and respond to climate-related security risks through improved integration into national planning and policy processes. Strategic engagement with national governments in Sudan and Nepal on matters relating to the security implications of climate change was challenging throughout the project as a result of a combination of factors, including the inherently political nature of national security matters, significant political changes during the lifespan of the project, and the impacts of the COVID-19 pandemic, which have both limited the feasibility of regular interaction and led to major institutional changes.

Sudan experienced a revolution in 2019, resulting in national structural changes and a significant change in personnel. With a national level partner all but absent, the project focused its efforts on building the capacity of State level institutions and actors. With an established transitional government in place, the project team re-engaged national counterparts during the reporting period to assess areas of possible collaboration and continued support through the project. However, in October 2021 a military coup d'état seeking to dissolve the civilian-led government, has resulted in an internet blackout, heavy protests, and ongoing negotiations, and has again paused national level engagement. In Nepal, the ongoing federalism reform process established new governmental structures during the project, requiring more focused attention on municipal level institutions and support to fill capacity and regulatory gaps. Despite these challenges, there are some promising indications of enhanced capacity for planning and action, both at national and subnational (provincial/state) levels.

Enhanced national and subnational government preparedness for identifying, preventing and responding to climate-related security risks

The national assessments of climate-related security risks produced through the project for Nepal and Sudan provided – for the first time – guidance on how to understand, prevent or respond to security risks linked to climate or environmental change. Together with a series of training initiatives on understanding and planning for the security implications of climate change delivered to national stakeholders in both countries, the project started to build both the evidence base and capacity to address climate-related security risks through national policymaking and planning processes.

In both Nepal and Sudan, there is evidence of uptake and application of these new capacities and knowledge. In Nepal, the project supported the review of national policies and guidelines related to agriculture, disaster response, and sustainable development, and provided concrete recommendations for enhancing resilience to climate-related security risks. For example, in 2019, project partners reviewed the draft national climate change policy and incorporated key considerations for peace and security, such as the recognition of loss and damage and investments in early warning systems. In 2020, the project also contributed to Nepal's National Determined Contributions, which as a result, integrated considerations linked to loss and damage as well as gender and social inclusion.

The project also worked through UN partners during the last phase of implementation to ensure uptake of its lessons in country-level analysis and planning initiatives, with the objective of catalysing broader action on climate security risks. For example, the project team supported the UN Resident Coordinator's Office in Nepal to integrate climate security considerations into the 2021 Common Country Analysis and the 2022-2027 UN Sustainable Development Cooperation Framework, paving the way to scaled support to the national and local governments to address the issues.

In Sudan, the project invested significant efforts in building the capacities of national level government entities during the first years of implementation, but the national transition that commenced following the 2019 revolution resulted in a change of personnel trained by the project and limited the project's direct engagement with national level actors. The project team re-engaged national partners in the final year of implementation, briefing key stakeholders on the project's results from Darfur. As a result, national government counterparts requested support from the team to replicate and scale the project's approach across Sudan within both Sudan's national environmental and peacebuilding frameworks. The project team agreed to collaborate with government partners on the development of a concept note to support this process. Discussions with the government commenced for how to best support awareness raising and capacity building on policy and planning for climate-security risks.

Following the October coup d'état, the project refocused national level engagement to work through UN and EU partners to enhance the integration of climate-related security considerations into country level peacebuilding frameworks and planning processes. A key achievement of the project was the integration of climate and environmental considerations into a national level peacebuilding assessment led by the United Nations Integrated Transition Assistance Mission in Sudan (UNITAMS), which will inform country wide peacebuilding investments in the coming years.

The project has also had a direct impact on sub-national level institutions in the state of North Darfur. The project's governance structure, in particular the early establishment of the technical committee, was key to success in this area. The technical committee not only provided institutional oversight, but was also intimately involved in the design and implementation of project interventions, including through regular visits to the field and meetings with the project team. Wherever possible, project activities were directly linked to existing governmental structures and mechanisms to ensure not only strengthened capacity of institutions but also sustainability of project interventions. According to interviews with partners from different government agencies, the technical committee also helped to establish relationships and improve coordination between different parts of the government. *Box 8*

Box 8. State government demonstrates new capacity for collecting and sharing weather information in Sudan

To help communities cope with changing rainfall and weather extremes, the project supported the installation of four rain gauges in target communities designed to improve access to weather information. Community members were trained to read the device and send data to the state's Meteorology Centre, which broadcasts information on the radio together with additional weather information and forecasts, as well as information on which crops to plant and when. During the daily radio programme, community members can call the meteorology department to ask specific questions or receive additional information and advice.

To manage data, government representatives also created a WhatsApp group with individuals from different departments, such as the Departments of Water and Agriculture, to share relevant information contributing to improved intergovernmental coordination. The State government demonstrated its capacity not only to manage the collection of data, but also to communicate it effectively to community residents. Upon project closure, the ownership of the rain gauges was fully transferred to the state.

GLOBAL LEVEL RESULTS

At the global level, activities contributed to **strengthening system-wide capacity to identify and assess climate-related security risks.** To meet the growing demand for training and expertise, the project developed a Massive Online Open Course (MOOC) on designing and implementing inclusive approaches to addressing climate-related security risks, integrating the project's guidance and tools into a self-paced, online course that is the first of its kind globally. The course, which was jointly developed by UNEP, UN Women, the UN Climate Security Mechanism, adelphi, and the One UN Climate Change Learning Partnership (UN CC: Learn), is designed to reach a broad group of stakeholders, including political analysts and peacebuilding practitioners, climate adaptation specialists and gender and inclusion advisors seeking to better integrate climate, conflict, and gender considerations into their analytical processes and programming. Drawing heavily on lessons learned and good practices identified through the project – and featuring elements from the pilot projects through interactive case studies – the course provides (1) an introduction to climate, peace, and security linkages through an intersectional lens, (2) guidance on conducting integrated analysis, and (3) guidance on programme design and planning to address these multifaceted challenges. At project closure, more than 1,200 people have registered for course since its launch in August 2021.

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"BY MAPPING SUCH HOTSPOT AREAS, OUR CONFLICT ANALYSIS EVALUATION CAN FOCUS ON AND RELAY THE IMPORTANCE OF INTEGRATING CLIMATE-RELATED RISKS IN PEACE BUILDING AND PEACEKEEPING EFFORTS."

EVALUATION OFFICER AT THE UN SECRETARIAT
STARTA DEMONSTRATION WORKSHOP, FEBRUARY 2022

To further enhance system-wide capacity for integrated risk analysis, the Strata data platform was developed to identify and monitor environmental and climate stresses potentially driving threats to peace and security. Strata is a web-based, easy-to-use platform that allows analysts, policymakers, and practitioners to access and use climate change, peace and security data in their daily work, including to raise awareness of converging risks, to design and prioritise policy and programming responses, and to monitor and evaluate interventions. Thereby, Strata has enhanced capacity for monitoring climate-related security risks within and outside the UN system, including political missions, UN Resident Coordinators, UN country teams, EU Delegations and other regional and national stakeholders.

Strata launched a prototype focused on Somalia in February 2022, with the primary objective to support the UN Assistance Mission in Somalia and the UN Country Team, as well as environmental and peacebuilding civil society organisations. Since its launch, Strata's userbase has steadily grown to 325 users globally. Feedback from users will be used to inform the implementation of new developments and regional extensions.


The MOOC on Climate Change, Peace and Security hosted on UN CC:e-learn.
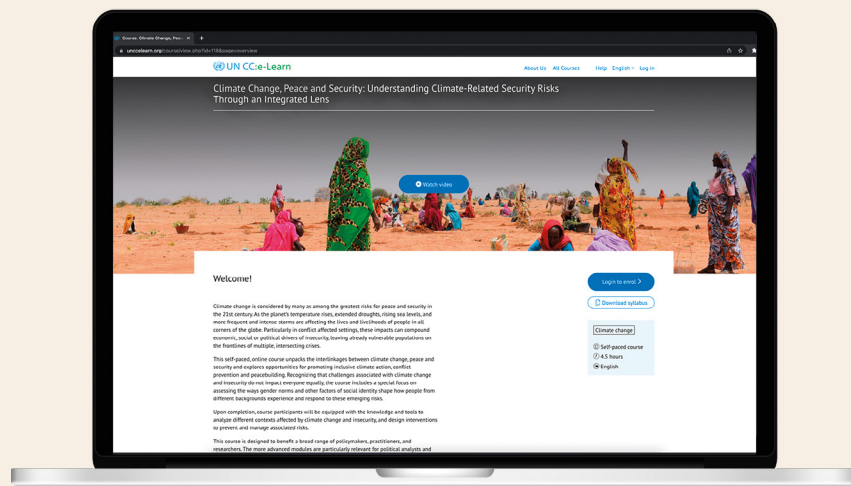
3. LESSONS LEARNED

As a project focused on learning – testing new approaches, generating new evidence, documenting good practices, and developing tools for replication and upscaling – the Climate Change and Security project continually sought to ensure that both negative and positive outcomes of interventions were thoroughly analysed, that lessons learned were captured, and that management practices were adapted accordingly.

This section summarises the principal lessons learned from the project at local, national, and global levels. These include operational lessons as well as lessons related to climate-security data and analysis. As the EU and the UN accelerate work in this area, these lessons provide guidance on designing integrated approaches for addressing climate-related security risks.
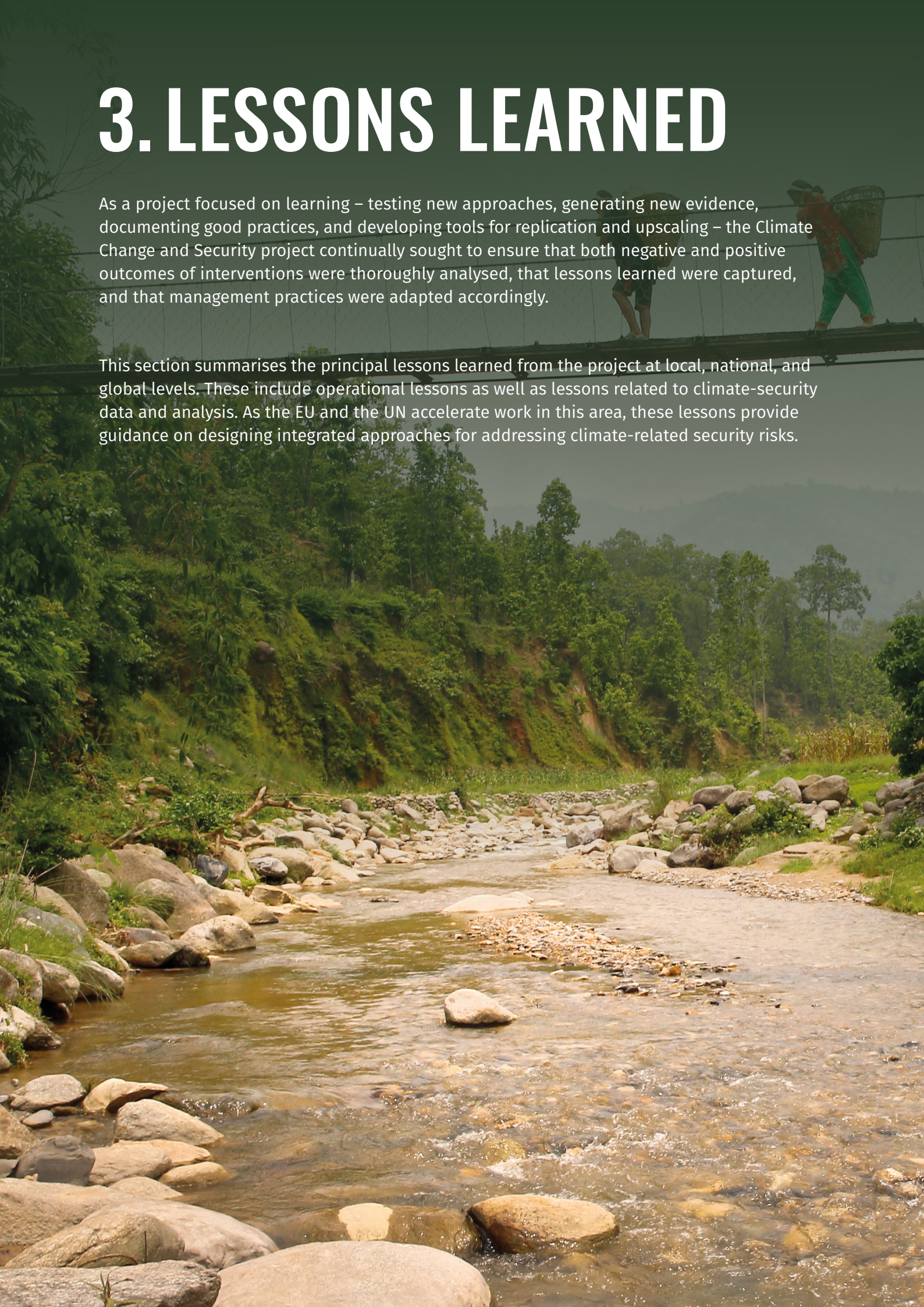
Building resilience to climate-related security risks at <u>local</u> level

LESSON 1. CLIMATE CHANGE ADAPTATION AND RESILIENCE-BUILDING INTERVENTIONS CAN STRENGTHEN PEACEBUILDING AND CONFLICT PREVENTION AT LOCAL LEVELS, WHEN DELIVERED IN A CONFLICT-SENSITIVE WAY.

The project's integrated approach yielded positive results for natural resource management, as well as for social cohesion, trust-building and local governance in conflict-affected contexts. In both pilot countries, the project used interventions around natural resource management, climate resilient infrastructure and livelihoods as a platform for bringing different groups together for a common purpose, facilitating more meaningful and regular exchanges and laying the foundation for more inclusive, equitable and legitimate governance mechanisms. In this light, the project helped to reframe climate and environmental challenges in conflict-affected contexts as opportunities for collaboration rather than a source of grievance and potential conflict.

Several key factors contributed to the project's success. This included grounding intervention design in a nuanced and detailed understanding of underlying local conflict dynamics and working through inclusive conflict-sensitive participatory processes, which helped the project avoid unintended consequences that could inadvertently have escalated conflict risks. The project also made significant investments in building the awareness and capacities of implementing partners and beneficiaries to understand and identify the complex interactions between climate change and conflict, and to monitor and evaluate progress towards both climate change adaptation and peacebuilding outcomes. By including peacebuilding and climate change adaptation expertise in the implementation team from the onset, the project avoided siloed approaches and was able to design activities that addressed climate and conflict risks at the same time.

As the impacts of climate change intensify and the need for integrated programming that addresses the root causes and multidimensional nature of crises grows, the project's approach serves as a replicable and scalable example for conflict-sensitive resilience-building programme design. However, further application is needed to assess how the project's approach can support resilience-building in contexts where climate-related security risks manifest in different ways, particularly in borderlands where ecosystems are shared across national borders.

LESSON 2. WORKING WITH <u>LOCAL</u> ORGANISATIONS AND INSTITUTIONS AS PRIMARY IMPLEMENTING PARTNERS ENSURES THE NECESSARY RELATIONSHIPS, KNOWLEDGE, AND EXPERTISE NOT ONLY TO DELIVER CONFLICT-SENSITIVE PROGRAMMING BUT ALSO TO SUSTAIN RESULTS BEYOND THE LIFESPAN OF A PROJECT.

The success of the pilot projects in Nepal and Sudan was predicated on strong partnerships with local organisations and local government institutions, who understand the complexities of the climate security challenges in context and can navigate the local political landscape.

Recognising the range of expertise required to deliver integrated programming, capacity building for local organisations should be considered a primary objective of programme delivery. A particular focus should be placed on how to design a theory of change that integrates climate action and peacebuilding objectives, how to measure the peacebuilding impacts of climate and environmental objectives, and how to mainstream gender equality and social inclusion across all programming components. At the end of the pilot project in Sudan, the local project manager noted that this was the first time she had managed

a project that combined "soft" activities – focused on governance, dialogue, and mediation – with more traditional climate change adaptation activities, such as seed distribution or the provision of climate-resilient infrastructure. The project's local partner is now expanding its climate-security portfolio in the region.

Furthermore, establishing partnerships with local government and including local institutions in project delivery can help to rebuild trust where government legitimacy has been undermined by conflict, and contribute to the sustainability of project results. For example, a technical committee was established at the start of the project in Sudan, consisting of representatives of different local government entities. The technical committee provided oversight and was deeply involved in all aspects of project delivery. At project closure, community members and government representatives alike stressed the importance of newly established relationships both between communities and government, as well as improved capacity and coordination between relevant government entities. These relationships and the new governmental capacities will sustain project activities after the project's conclusion.

LESSON 3. CLIMATE CHANGE ADAPTATION INTERVENTIONS IN CONFLICT-AFFECTED CONTEXTS OFFER OPPORTUNITIES FOR STRENGTHENING THE LEADERSHIP AND POLITICAL AND ECONOMIC INCLUSION OF VULNERABLE OR MARGINALISED GROUPS, PARTICULARLY AT LOCAL LEVELS.

The meaningful inclusion of marginalised or vulnerable groups in all levels of decision-making is essential for building durable peace, yet in many contexts deep-seated power dynamics as well as social or gender norms exclude particular groups from engaging governance mechanisms or leadership roles. For example, women are primary providers of food, water and energy in many contexts but are largely absent from higher level decision-making processes linked to natural resources and beyond.

The pilot interventions in Sudan and Nepal demonstrated that specifically targeting vulnerable or marginalised groups through activities such as sustainable livelihoods and benefit sharing of natural resource management and ecosystems services can serve as an entry point for building more inclusive governance mechanisms, raising their voice in broader decision-making processes, and empowering them economically, thus transforming underlying social, economic and political drivers of insecurity and conflict. For example, in Sudan, engaging both IDPs and host communities in livelihood activities, and specifically targeting both groups in conflict resolution trainings and mechanisms, created conducive conditions for the peaceful return of IDPs to their home villages in some target areas. Furthermore, results from both pilot locations demonstrated that engaging women in sustainable livelihoods and climate change adaptation initiatives can lead to gains beyond women's economic empowerment, including improvements in status, legitimacy and leadership within community governance and conflict resolution mechanisms.

However, positive spill-over effects from economic empowerment of women or marginalised groups into social or political spheres is not automatic. The greatest success was achieved when the project specifically focused on establishing inclusive and community-based management mechanisms that promoted the leadership of women and marginalised groups in decision-making roles. In future programming, specific attention should be paid to fully engaging women in conflict mediation and peacebuilding structures to leverage their knowledge and skills, including by creating gender-equal structures and undertaking capacity building that specifically targets women.

Strengthening integration of climate-security risks into <u>national</u> policy and planning processes

LESSON 4. INFLUENCING NATIONAL PLANNING AND POLICY PROCESSES TO ADDRESS CLIMATE-RELATED SECURITY RISKS REQUIRES SUSTAINED TECHNICAL ENGAGEMENT WITH GOVERNMENT STAKEHOLDERS, AND IS MOST EFFECTIVELY CONDUCTED THROUGH PARTNERSHIPS WITH UN AND OTHER PARTNERS AT COUNTRY AND REGIONAL LEVELS.

While the pilot projects resulted in strong uptake of approaches to address climate-related security risks at local levels, fostering consensus and coordinated action at the national level proved more challenging, not least because of political sensitivities related to matters of national security. The overt emphasis on peace and security objectives of the national-level climate fragility assessments produced through the project, for example, ultimately politicised the analysis and undermined the adoption of an actionable strategy within the national governments involved. It would ultimately have been more effective for UNEP to work through partnerships with other UN actors (in particular Resident Coordinators and UN missions) to ensure integration of environmental and climate risks within planning for stabilisation, peacebuilding and development in both contexts.

A potential model for more effective partnerships across the UN system was illustrated late in the project in Nepal, where UNEP worked through the Resident Coordinator's Office to help integrate climate-security issues into both the Common Country Analysis and the subsequent programming framework by providing conflict-sensitive environmental and climate analysis and technical advice on options for risk mitigation and resilience building. Establishing such types of partnerships from the onset and sustaining them throughout the lifecycle of a project could enable a channel of influence for ensuring environmental and climate-related considerations are both mainstreamed across national planning processes and recognised as areas of opportunity for building and sustaining peace.

Meaningful influence at the national level also requires regular and sustained technical engagement with key actors. Standing capacity is essential to translate integrated analysis and learnings from the field into policy advice and support – whether directly to national governments or through partnerships with UN and field-based actors. Recognising that climate change does not respect national borders, such capacity should be considered at a regional level, particularly in the context of a government transition, where national level actors are less consistent, or where ecosystems are shared across borders. Establishing stronger links to regional partners can help ensure that climate security considerations are integrated into regional security, environmental and climate policy.

LESSON 5. UNDERSTANDING AND RESPONDING TO CLIMATE-RELATED SECURITY RISKS REQUIRES UP-TO-DATE AND CONTEXT SPECIFIC DATA ON CLIMATE, CONFLICT AND SOCIO-ECONOMIC CONDITIONS, MADE EASILY ACCESSIBLE TO POLICYMAKERS AND PRACTITIONERS.

The first phase of the project highlighted a number of significant challenges for effective, timely and policy and programme-relevant analysis of climate-related security risks, including challenges for the combination of different types of data – climate, environmental, socio-economic and conflict-related data – to assess how different risk factors interact and to identify possible entry points for mitigating or responding to climate-related security risks.

For example, the national climate-fragility assessments conducted in Sudan and Nepal revealed a dearth of localised and readily available up-to-date climate and environmental data, socio-economic data and conflict data. Where such data does exist, it often remains inaccessible to non-technical experts. Peace and security experts, for example, often have distinct skillsets from climate or environmental experts, and have limited capacity to interpret climate datasets or to assess possible interactions between environmental or climate risks and socio-economic, peace and security challenges. This is particularly true in transboundary contexts, where analysis needs to span across national borders.

Strata, UNEP's earth stress monitoring tool developed to prototype stage during Phase 1, aims to fill this gap, making relevant data sets available to key national counterparts and UN and EU partners on the ground to inform risk analysis, early warning and national resilience planning and policymaking processes. Even at prototype stage, extensive demand for the type of data and analysis Strata can provide has been expressed by field partners.

However, the project also demonstrated that hotspot mapping is not sufficient on its own and that meaningful climate-security analysis needs to be grounded in detailed and highly localised understanding of the socio-economic, environmental and conflict context. At the country level, the project's approach to combining localised qualitative analysis – using information gathered through interviews, focus groups and household surveys – with environmental and climate data proved to be an essential first step in designing pilot activities and informing policy and planning initiatives at local and national levels. Capacity building for data collection and analysis using an integrated approach was a priority throughout the project, including through focused training sessions with implementing partners and through the development of guidance tools and resources for conducing integrated analysis.

Community members inspect crops grown from drought-tolerant seeds in Umeshira, North Darfur, Sudan

Closing the policy-practice loop at <u>global</u> systems level

LESSON 6. ELEVATING EXPERIENCES AND EXAMPLES FROM THE GROUND TO GLOBAL POLICYMAKING SPHERES IS ESSENTIAL FOR CLOSING THE POLICY-PRACTICE LOOP AND SCALING INTEGRATED PROGRAMMING THROUGH SYSTEMS LEVEL CHANGE.

While there is growing global awareness of the linkages between environmental degradation, climate change, peace and security, relatively few examples of actionable solutions for addressing climate-related security risks are available. This project provides replicable models for conducting contextualised analysis of climate-related security risks, and for delivering integrated solutions that combine climate change adaptation and peacebuilding approaches in policy and practice. A key focus of the project has been on elevating lessons from the ground to inform global policy agendas, namely on conflict prevention and sustaining peace and, through the project's specific focus on gender and social inclusion, on women, peace and security (WPS).

Central to the project's success in influencing uptake has been its strategic engagement with key actors and influencing bodies that contribute to shaping priorities within relevant policy frameworks. For example, the project's cooperation with the interagency UN Climate Security Mechanism helped to build capacity on climate-security across the UN system, including through the joint development of a self-paced, free Massive Online Open Course on Climate Change, Peace and Security. Similarly, collaboration with UN Women as well as leading WPS policy think tanks contributed to elevating climate-security as a key priority for the WPS agenda.

The project's approach has already generated some programmatic uptake, particularly within conflict prevention and peacebuilding programming. For example, the UN Peacebuilding Fund (PBF) identified climate security as a key priority area for its 2020-2024 strategy. In 2021, UNEP integrated learnings from the pilot project in North Darfur into the design of a new USD 4 million project funded by the PBF to address climate security risks in Blue Nile State, Sudan. To date, however, here is still little integration of conflict sensitive and peacebuilding approaches into planning and programming for climate action.

Community members contribute to water infrastructure maintenance in the Karnali River Basin, Nepal

4. PROJECT OUTPUTS

The Climate Change and Security project achieved its goals across all five outputs. At the local level, the project delivered successful pilot interventions in Sudan and Nepal, demonstrating how to integrate climate change adaptation, conflict prevention and peacebuilding objectives. At the national level, the project contributed to building capacity and preparedness of government and international partners to plan for and address climate-security challenges. At the global level, the project's achievements include new analytical capacity for identifying climate-related security risks and prioritising responses, as well as the availability of training and guidance materials to meet the growing demand from policymakers and practitioners seeking to address climate-related security risks.
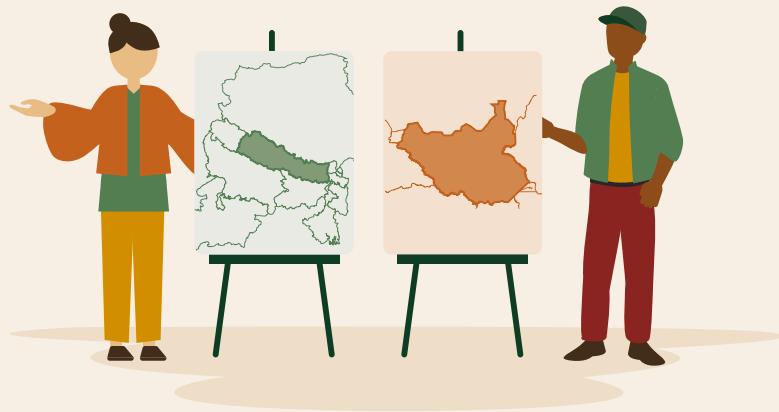
The following section provides a highly summarised overview of key achievements for each planned output. Where activities were co-financed through contributions from other sources, these are indicated at the top of each sub-section.

OUTPUT 1

Capacity of national level policymakers and stakeholders enhanced to identify, plan for and respond to environment, climate change and security risks in two countries within climate change adaptation or peacebuilding policies and plans

FINANCED BY THE EU

INDICATORS	DETAILS	STATUS
Number of climate change adaptation or peacebuilding policies, institutional structures and response plans that aim to address climate change and security risks at a national or sub-national level.	Two Climate-Fragility Risk Briefs for Sudan and Nepal published by the Climate Security Expert Network.	Achieved
Number of national-level policy-makers and stakeholders with increased awareness and skills of resilience measures to address climate-fragility risks.	The project facilitated climate security training sessions for over 100 national policymakers and experts. In Sudan and Nepal, technical support to national government counterparts for integration of climate change adaptation and peacebuilding policies and scaling of project approach is ongoing.	Achieved

Despite challenges related to government transitions and COVID-19, the project made considerable progress towards achieving its goal to **build the capacity of national policymakers and stakeholders to identify, plan for and respond to climate-related security risks** in Nepal and Sudan. Activities under this output centred on building the evidence base for understanding linked climate change and security risks and strengthening the capacity of national stakeholders to assess and address these risks, including national actors outside of the pilot countries.

➲ CLIMATE-FRAGILITY RISK ASSESSMENTS CONDUCTED IN PROJECT COUNTRIES: The project finalised climate security risk briefs for Nepal and Sudan, which were published by the Climate Security Expert Network knowledge platform. The assessments unpack the pathways through which the impacts of climate change can contribute to conflict and fragility in the two pilot countries and identify entry points to build resilience to climate-related security risks, serving as important resources to inform policymaking, programming and planning at the national level.

➲ TRAINING IN INTEGRATED ANALYSIS AND PROGRAMME DESIGN DELIVERED TO GOVERNMENT OFFICIALS, UN PARTNERS, AND CIVIL SOCIETY: To strengthen national capacities to address climate-related security risks and facilitate the uptake of the tools and guidance materials developed, the project delivered training on identifying and addressing climate-related security risks with the core objectives of (1) enhancing analytical capacity to identify climate-fragility risks, and (2) supporting the design and implementation of integrated climate-smart, conflict-sensitive programmatic interventions to address these risks. Prior to the COVID-19 pandemic, training was delivered to more than 100 people including government officials, UN partners and academia across different country contexts.

➲ STRATEGIC GUIDANCE ON CLIMATE-SECURITY FOR NATIONAL LEVEL ACTORS: The project aimed to translate learnings from the field into actionable advice for national level actors seeking to address climate-related security risks. In Sudan, the project team held a series of meetings with national government counterparts and international actors to share learnings and identify priority areas for environmental and peacebuilding planning. National level engagement in Sudan was challenging due to a revolution in 2019 followed by a coup d'état in October 2021. However, by working through the UN Country Team – and in particular in close collaboration with UNITAMS – the project successfully contributed to integrating climate security considerations into the national conflict and political analyses. In Nepal, the project team worked through the Resident Coordinator's Office to integrate climate-security issues into both the Common Country Analysis and the subsequent development programming framework, providing conflict-sensitive environmental and climate analysis and technical advice on options for risk mitigation and resilience building.

OUTPUT 2

Knowledge of local communities on resilience building measures for specific environment, climate and security risks is improved through pilot interventions in two countries

FINANCED BY THE EU

INDICATORS	DETAILS	STATUS
Number of specific climate change and security risks reduced through improved resilience from pilot interventions.	In **Sudan**, the project helped to reduce risks of conflict between farmers and herders linked to migratory routes and reduced vulnerability through enhanced sustainable, climate-resilient livelihoods, improved governance structures, and the provision of skills training in conflict resolution and mediation. In **Nepal** improved water infrastructure, reduced motivation for rainwater theft and enhanced capacity for dialogue and dispute resolution, ultimately reducing a total of 24 instances of the 32 disputes tracked in the project area over 2 years.	Achieved
Number of communities using new skills/knowledge or practices to improve resilience to climate-related security risks.	A total of 25 communities have applied new sustainable livelihood techniques, improved natural resource governance, and enhanced capacity for dialogue.	Achieved
Number of sites where communities have adopted measures to improve the management of natural resources to address climate-related security risks.	A total of 25 communities adopted community-based measured and enacted mechanisms to manage their forest, land, and water resources in a climate and conflict-sensitive manner.	Achieved
Number of local-level dispute resolution, dialogue, mediation and peacebuilding mechanisms that are equipped to understand climate-related security risks.	The project supported the establishment of new peacebuilding institutions and strengthened existing ones (33 total) to better manage natural resources in an inclusive manner with an improved understanding and adaptation to climate-related security risks.	Achieved

Pilot project in Sudan

Building on interventions conducted by the EU-UNEP Integrated Water Resources Management project in Wadi El Ku (WEK), the pilot project in North Darfur, Sudan aimed to address underlying drivers of conflict by promoting more effective and equitable management of shared natural resources between and among different groups. The project was implemented by Practical Action Sudan in eight communities identified as particularly vulnerable to linked climate change and security crises Map 1 .

All planned activities under this pilot project were successfully delivered during the project period and achievements are summarised below. A detailed briefing note describing results and activities from the pilot project, as well as lessons learned for Sudan, is available in Annex 1 .
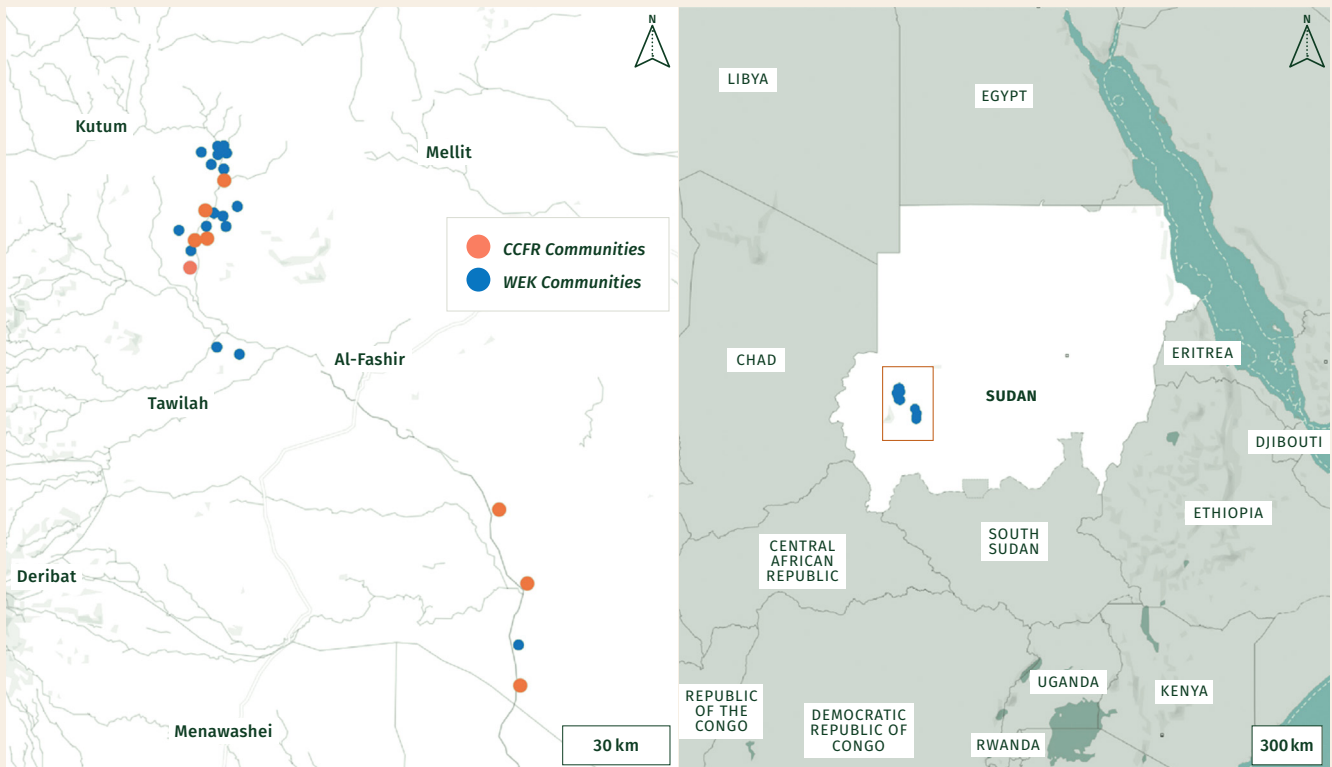
Map 1. *The eight communities of the CCS project (orange dots), together with the communities supported by the EU-UNEP Wadi El Ku project (green).*

● **LOCAL-LEVEL DISPUTE RESOLUTION, DIALOGUE, MEDIATION AND PEACEBUILDING MECHANISMS EQUIPPED TO UNDERSTAND CLIMATE-RELATED SECURITY RISKS:** To strengthen communities' capacity to prevent and peacefully resolve conflicts over land and water, the project established Natural Resource Management and Peacebuilding Committees (NRMPBC) in each of the eight target villages and delivered training in mediation and conflict resolution in partnership with the University of El Fasher. Committees and their members were able to prevent disputes from escalating into violence, particularly those that regularly occur between farmers and pastoralists when animals destroy crops or when crops are cultivate on established migratory routes.

● **JOINT MANAGEMENT MECHANISMS OF DISPUTED MIGRATORY ROUTES RE-ESTABLISHED:** The pilot project supported a participatory process to assess challenges leading to conflict along migratory routes, identify conflict hotspots along the routes, and develop joint solutions for conflict prevention. Key results of the process were (1) the joint identification and demarcation of conflict hotspots along 30 kilometres of migratory routes (e.g. areas with significant agriculture activity); (2) expansion of migratory routes from 50 to 150 meters wide; (3) development of a joint action plan for conflict prevention; and (4) improved access to water and veterinary services along the routes.

● **POST-CONFLICT ECONOMIC RECOVERY ENHANCED FOR VULNERABLE OR MARGINALISED GROUPS THROUGH THE PROVISION OF CLIMATE-RESILIENT LIVELIHOODS:** Strengthening climate-resilient and sustainable livelihood opportunities were identified by farmers and pastoralists alike as essential for reducing competition over key resources. Livelihood activities centered on (1) strengthening veterinary services, including through the provision of training to 12 animal health workers, (2) improving agricultural techniques, such as through the distribution of drought tolerant seeds and new skills training, and (3) investments in off-farm income generating activities, enabling people to better cope with changing seasons. The project also invested in the provision of critical infrastructure and restoration of degraded ecosystems, such as through the establishment of four community forests and construction of a new solar powered water pump.


Agricultural extension workers distribute drought-tolerant seeds to farmers in North Darfur

Pilot project in Nepal

The pilot project in Nepal aimed to build resilience to climate-related security risks in the Karnali River Basin, a context where changing weather patterns undermine livelihoods and aggravate underlying drivers of conflict. As temperatures rise and rainfall patterns become more erratic and unpredictable in western Nepal, conflicts often occur over access to community forests, availability of water and land ownership, especially in areas where governance mechanisms are still weak. In recent years, devastating floods have destroyed essential infrastructure and land, leading many people (particularly men) to migrate away from their homes in search for alternative livelihoods in urban centres or across borders.

The project's achievements through pilot activities in Nepal are summarised below. A detailed description of the pilot project's results, activities, and lessons learned is available in Annex 2 .
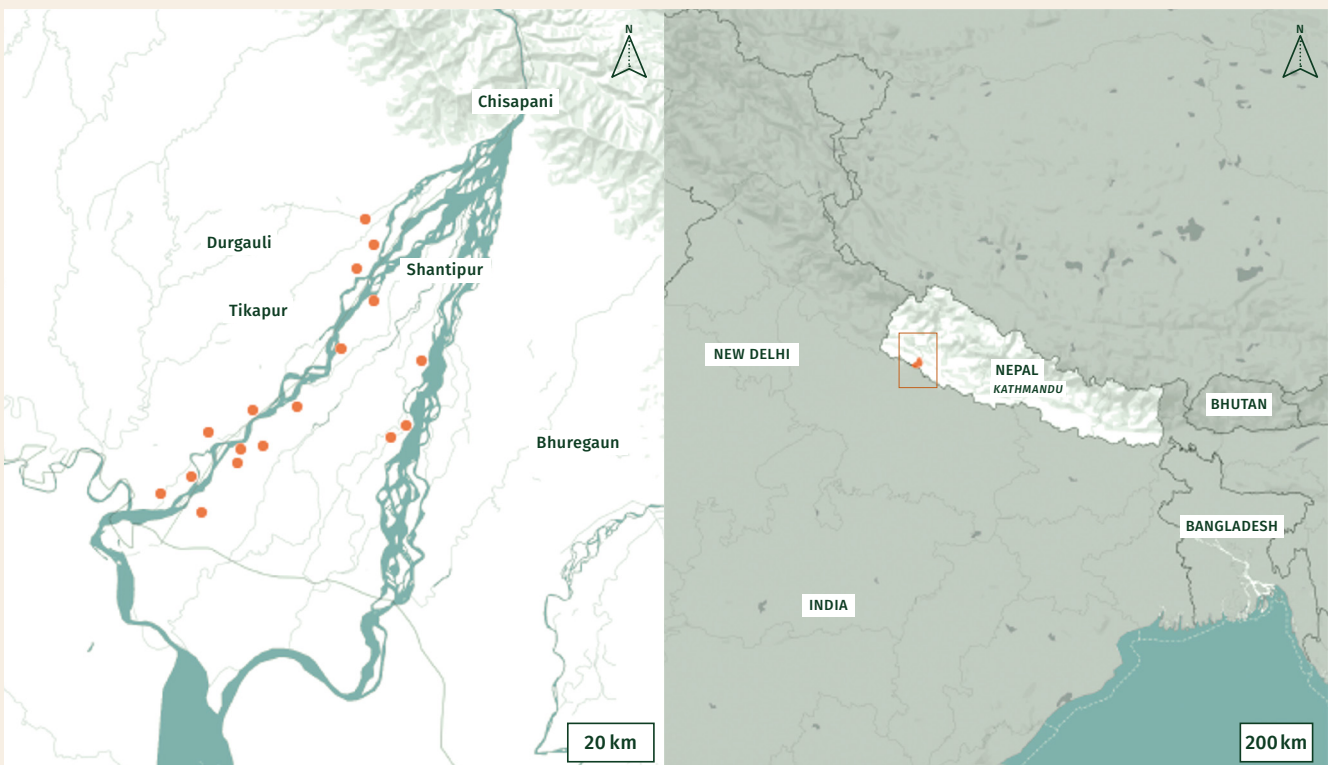
Map 2. *Location of the pilot communities in the Karnali River Basin, Nepal*

➲ **LOCAL-LEVEL DISPUTE RESOLUTION, DIALOGUE, MEDIATION AND PEACEBUILDING MECHANISMS EQUIPPED TO UNDERSTAND CLIMATE-RELATED SECURITY RISKS:** The project supported community-based natural resource management committees in each of the 17 project locations to identify environmental challenges, devise possible community-based solutions, and mediate natural resource-related disputes. The committees also created a platform for dialogue with local government, as local committees were invited to actively engage in key government planning processes for disaster preparedness and response.

➲ **PEACE-POSITIVE CLIMATE CHANGE ADAPTATION AND RESILIENCE-BUILDING MEASURES ENHANCED:** The project supported a community-led process to improve water infrastructure and management to strengthen capacities to cope with increasing weather extreme, reducing incentives for disputes. Implemented under the leadership of newly formed construction and maintenance committees, these activities included the installation of 32 water points, expanding irrigation access in 13 communities as well as the rehabilitation of three land protection schemes along existing irrigation canals, which had the dual purpose of providing protection against flooding and erosion as well as increasing access to irrigation. A strong focus was placed on developing governance structures to manage, finance, and maintain the infrastructure beyond the duration of the project.

➲ **STRENGTHENED CLIMATE-SMART AND ALTERNATIVE LIVELIHOODS FOR VULNERABLE AND MARGINALIZED GROUPS:** Several pilot activities were aimed at diversifying climate-sensitive livelihoods. These included, for example, supporting improved agricultural techniques, providing diverse seed types, and supporting off-farm small business development. At the start of the project, the majority of households in the area (78 percent) relied on one or two livelihood practices, most of which were agricultural and highly vulnerable to changing weather patterns. By the end of the project, however, 67 percent of households had at least three different livelihood practices, allowing them to adapt the source of income to the season and prevailing climatic conditions, and nearly all surveyed (95 percent) reported improved income as a result of project activities.

Extreme flooding destroyed local infrastructure in project communities in the Karnali River Basin in Nepal

OUTPUT 3

Prototype environment and climate security hotspot monitoring methodology and tool developed

CO-FINANCED BY THE EU AND THE GOVERNMENT OF NORWAY

INDICATORS	DETAILS	STATUS
Number of registered users for the online platform.	End of project (28 February 2022): 325	**Achieved**
Methodology, data and platform established to identify critical environment and security hotspots detected at global, regional or national level.	Research on applied methodology, data management, and platform design completed in January 2022. Details and documentation can be found on: www.unepstrata.org/resources/	**Achieved**

Output 3 is the development of Strata, **UNEP's Earth Stress Monitor** a web-based, easy-to-use geospatial data platform to support practitioners and policymakers to identify, track and map environmental and climate stresses potentially driving threats to peace and security at subnational and lower levels of granularity. Developed in partnership with the University of Edinburgh and EarthBlox and built on near real-time geospatial data streams, Strata aims to help prioritise practical risk mitigation and resilience-building measures by offering the best available data analytics and visualisations on where environment and climate stresses are converging over space and time with other factors of risk. Heavily reliant on co-design with national and local stakeholders to ensure it is fit for purpose, the platform allows users to customise data analytics and visualisations to their specific context without prior technical or data skills or background.

➡ SCIENTIFIC RESEARCH ON APPLIED METHODS FOR GEOSPATIAL ENVIRONMENTAL AND CLIMATE RISK ASSESSMENTS: The project developed a model inspired by the EU JRC's Convergence of Evidence approach to identify climate and environmental security hotspots. Based on identified geospatial data sources, 25 indicators were developed to monitor climate-related security risks in three main categories: (1) climate and environmental hazards; (2) peace and security, and (3) socio-economic exposure and vulnerability. The research and methodological development were documented in a scientific article, currently under review in the peer-reviewed journal Political Geography. The Strata guidebook, available at www.unepstrata.org/resources/, provides users with an explanation of the applied methodology, a quick starter guide, a glossary, and an overview of Strata's indicators and data sources.

➡ DATA MANAGEMENT: Near real-time geospatial data streams (continuously updated) were developed, primarily through cloud computing based on satellite imagery and derived data sets from Google Earth Engine, but also other data providers such as the Armed Conflict Location and Event Data Project (ACLED) and the Humanitarian Data Exchange (HDX). Each dataset and indicator is available at a subnational and lower granularity so that hotspots are area-specific and relevant on a scale of country teams and regional project teams.

➡ TECHNICAL DEVELOPMENT OF THE WEB-BASED PLATFORM: Based on the scientific designs, a new web-based platform was created, including the calculation of separate indicators, algorithms of stress convergence, indicator aggregation, and hotspot mapping and visualisation. Different features were implemented to create a smooth, intuitive user journey through the platform, such as a dashboard with default graphs, hover-over was launched dialogues and information windows, and the drag and drop builder tool for users to customise their analytics. In February 2022, a prototype of Strata – focused on Somalia – was launched, with the primary objective of supporting the UN Assistance Mission in Somalia and the UN Country Team, as well as environmental and peacebuilding civil society organisations in the country. The prototype is currently undergoing in-depth evaluation to guide further developments of the platform, such as new analytical features and regional extensions. The evaluation covers five aspects of the tool: correctness, uptake, relevance, useability, and ethics.

➲ **USER-CENTRED DESIGN:** NA co-design process involved targeted end-users in the design and building of Strata to ensure the development that the platform would be useful in the daily operations of practitioners, analysts, policymakers and other users. The process comprised a series of stakeholder consultations with target users and subject matter experts, including:

First round of consultation (May - June 2020): 89 experts;

Survey and follow-up interviews (March – April): 25 participants;

Set of co-design workshops (May - June 2021): 71 participants;

Set of user-testing workshops of the prototype (Oct 2021): 51 participants.

As Strata expands regionally, the user-centred co-design process can also serve as an entry point for dialogue, capacity building and environmental peacebuilding between users.
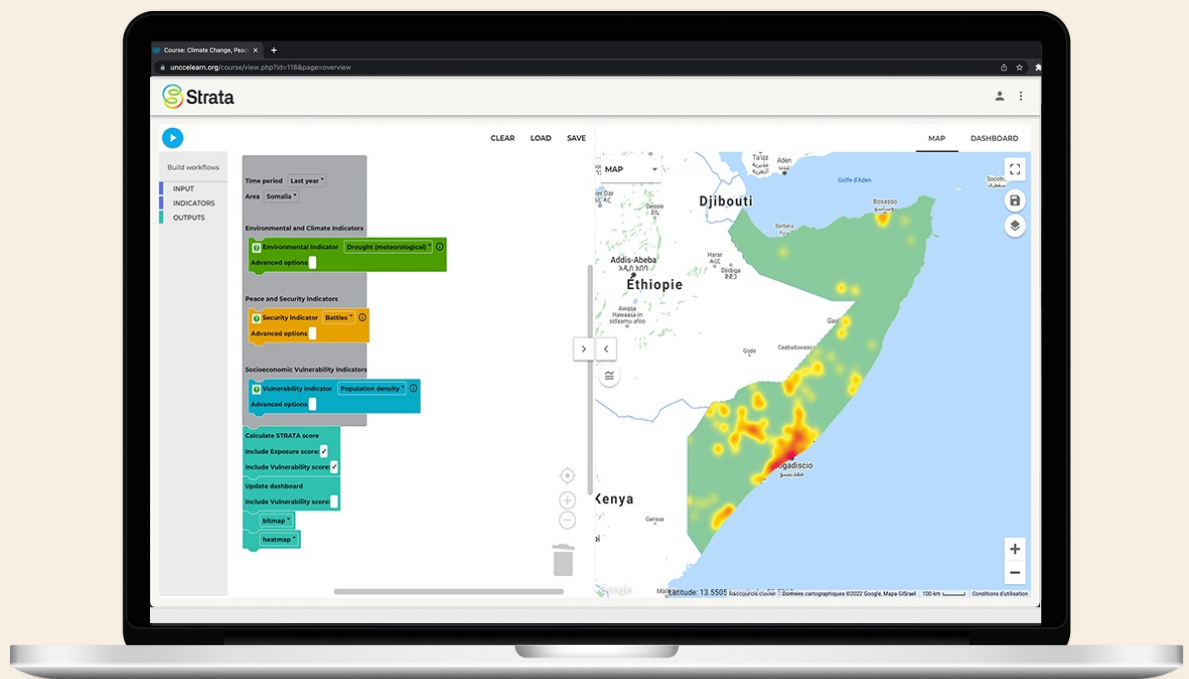

Figure 7. The Strata platform. The left-hand side of the figure showcases the drag-and-drop menu that allows for customisable analysis of climate security hotspots, and the resulting geospatial output is visualised in the right-hand side in the form of hotspots or in the form of graphs by clicking "dashboard". Hotspots are currently read as: green for no-stress, yellow for low level of stress and red the greatest stress (representing more indicators converging).

OUTPUT 4

Environment and climate stress analysis at the regional level conducted with the UN and partners

CO-FINANCED BY THE GOVERNMENTS OF GERMANY, NORWAY AND SWEDEN

INDICATORS	DETAILS	STATUS
Number of UN missions, peace operations and RCOs that monitor the spatial distribution of environmental and climate stressors over time, and routinely analyse their interaction with economic, social, peace and security issues.	OSE Horn of Africa, UNSOM and MINUSMA supported to start systematically monitoring climate-related security risks. Somalia: Geospatial analysis pilot under way (supported by UNEP STRATA platform). Climate advisor to OSE Horn of Africa was deployed in February 2022, making sustained advice available to the Special Envoy's Office.	Achieved
Number of UN and regional partners' staff consulted in processes to develop a regional-level monitoring mechanism for key environmental and climate stressors.	Over 60 staff members of UN (among others DPPA, UNDP, UNDRR, IOM, WFP, Office of the Special Envoy, UN political and peacekeeping missions) and non-UN entities (including IGAD and AU as well as NGOs) consulted in kickstarting regional-level monitoring of key environmental and climate stressors in the Horn of Africa, as well as West Africa and the Sahel, West Asia, and MENA.	Achieved
Number of analysis processes leading to the establishment of a regional-level monitoring mechanism for key environmental and climate stressors, to be incorporated within the mission/RCOs' routine analysis processes during the coming 2+ years.	**Horn of Africa:** the methodology for the Climate Security rolling assessment was formulated and a first version of the assessment was produced for review by partners in the region. Based on the desk review, two local workshops were organised, contributing to the maritime and coastal climate security foresight study in Somalia. **Mali/MINUSMA:** Integrated Environmental Assessment under way, completion expected Q1 2022; mission has agreed to establish in-house capacity for climate-security analysis. **Somalia:** environment/climate analytical work conducted to provide targeted support to UNSOM, environmental analysis is incorporated into mission's routine analysis.	Achieved

Output 4 focused on supporting regional partners in the identification and analysis of environmental and climate-related security risks, in order to inform fragility assessments and resilience programming, including through the application of Strata.
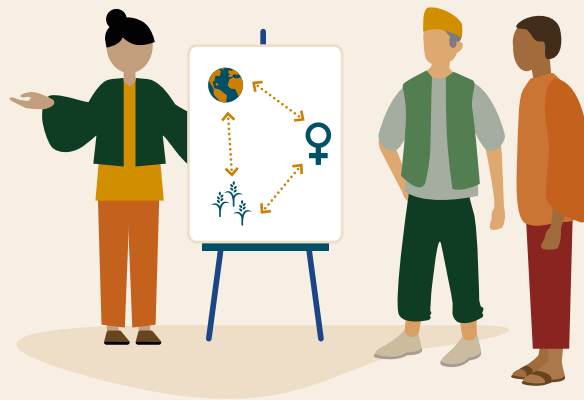
- ➲ **SUPPORT TO THE OFFICE OF THE UN SPECIAL ENVOY FOR THE HORN OF AFRICA:** The project supported the Office of the Special Envoy for the Horn of Africa and the UN Assistance Mission to Somalia to identify and understand key environmental and climate stressors. UNEP is working in the region as part of the UN Climate Security Mechanism (CSM) to support a regional climate-related security risk assessment, strengthen cooperation among UN actors in the region, and provide sustained advice on climate security to the Office of the Special Envoy for the Horn of Africa. A rolling climate security assessment process was designed and carried out to strengthen regional cooperation and coordination on climate-related security risks and responses. In addition, the project supported a number of thematic studies, undertaken by UN entities under Pillar 4 (natural resources and climate resilience) of the UN Strategy for the Horn of Africa.

- ➲ **SUPPORT TO UN PARTNERS IN THE SAHEL AND WEST AFRICA:** UNEP engaged with UN partners UNOWAS, UNFCCC, IOM to build up analysis of climate-related security risks under the new UN Regional Working Group on Climate Change, Environment, Security and Development in West Africa (UN-CCESD). UNEP also worked with UNDP and MINUSMA on an integrated environmental assessment in Mali. The assessment provides a detailed analysis of the state of the environment, including geospatial mapping of environmental issues and linkages with peace and security.

OUTPUT 5

Policy recommendations and programming guidance delivered on addressing the gender dimensions of environment and climate related security risks

CO-FINANCED BY THE EU AND THE GOVERNMENTS OF FINLAND, NORWAY, SWEDEN

INDICATORS	DETAILS	STATUS
Number of people to attend briefing or webinar on gender dimensions of environment- and climate-related security risks based on policy reports and guidance developed by the project.	Webinars include a series of events to present and discuss findings from the 2020 policy report on gender, climate and security. A total of 1,000 people attended the webinar series.	Achieved
Number of web platforms providing resources, guidance and opportunities for exchange and cross-fertilisation developed and launched.	A Knowledge Platform on Women, Natural Resources, Climate and Peace, established in 2019, serves as a resource centre for a growing community of practice on the theme: https://www.gender-nr-peace.org/	Achieved
Number of practitioners trained on the gender dimensions of environment- and climate-related security risks.	Live training on gender dimensions of climate-related security risks delivered in 10 instances to a cumulative total of 1,000 people. MOOC on gender, climate and security launched in August 2021 with more than 1200 participants registered.	Achieved

This output on the gender dimension of climate change-related security risks built on the good practices and lessons learned of the Joint Programme on Women, Natural Resources, Climate and Peace, an interagency programme led by UNEP with UN Women, DPPA and UNDP (2016-2020).

UNEP's work in this area centred on (1) building system-wide capacity for conducing integrated gender, climate and security analysis and designing gender-responsive approaches for resilience building and conflict prevention; and (2) supporting the upscaling and replication of the programmatic methodologies developed, tested and validated through the Joint Programme's pilot projects in Sudan and Colombia. Key achievements were as follows:

➡ **LAUNCH OF A NEW MASSIVE ONLINE OPEN COURSE (MOOC) ON CLIMATE CHANGE, PEACE AND SECURITY:** To meet the growing demand for training and expertise, the project launched a MOOC in August 2021 titled "Climate Change, Peace and Security: Applying an Integrated Lens". Aimed at a broad audience including political analysts, climate change adaption specialists, and gender and inclusion advisors, the course provides introduction to climate change and security linkages, applying a gender and social-inclusion lens (Module 1), guidance on conducting integrated climate-security analysis (Module 2), and an introduction to designing integrated and gender-responsive climate-security programming (Module 3). More than 1,200 people have registered for the MOOC since it's launch. The course is hosted on the One UN Climate Change Learning Partnership (UN CC: Learn) online platform and was developed in partnership UN Women, the UN Climate Security Mechanism and adelphi.

➡ **OUTREACH AND KNOWLEDGE SHARING THROUGH WEBINARS, SPEAKING ENGAGEMENTS, AND TRAININGS:** The project also provided tailored training and capacity building through interagency training platforms (UNSSC), relevant conferences (the Berlin Climate Security Conference), and UN political missions (UNSOM). To build awareness across the UN system, the project engaged in outreach and knowledge sharing activities, including through regular speaking engagements and input into relevant UN processes, such as contributions to the climate security section in the Annual Report of the Secretary-General on Women, Peace and Security.

➡ **REPLICATION AND UPSCALING OF INTEGRATED PROGRAMMING TO ADDRESS THE GENDER DIMENSIONS OF CLIMATE-RELATED SECURITY RISKS THROUGH THE UN PEACEBUILDING FUND:** The project supported the design and development of several projects financed through the UN Peacebuilding Fund to replicate and scale a model for integrated programming tested and validated under the Joint Programme for Women, Natural Resources, Climate and Peace. In August 2021, a USD 4 million joint UNEP, UNDP and UN Women project was launched in Blue Nile State, Sudan. With a focus on addressing the gender dimensions of climate-related security risks, this new initiative incorporates lessons learned from the North Darfur pilot project.