

CLIMATE, SECURITY AND FOOD SYSTEMS IN KENYA

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FOCUS
Climate Security



Fighting Food Crises along
the HDP Nexus Coalition



INITIATIVE ON
Climate Resilience

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Background

The latest [Intergovernmental Panel on Climate Change report](#) unequivocally argued that evidence on the linkages between climate and peace and security is weak. Nonetheless, trends observable in different global contexts – particularly in the last few decades – point to a clear conclusion: intra- and inter-state conflict dynamics are being increasingly influenced by food insecurity, environmental degradation, climate variability and extremes, and the struggle to access and control a finite pool of natural resources. Understanding how climate impacts food and nutritional security and how this in turn may affect peace and security is critical to “ending hunger through pursuing peace and unleashing the potential of sustainable food systems to enhance the prospects for peace”, a key objective of the HDP Nexus Coalition.

In its Phase 1 (September to December 2022) the Climate, Security and Food Systems theme workstream of the HDP Nexus Coalition worked together with its members to collate state-of-the-art evidence on the connection between climate, food, and peace and security. This brief summarises the latest research conducted by [CGIAR FOCUS Climate Security](#) for the country of Kenya. CGIAR FOCUS Climate Security has developed a Climate Security Observatory (CSO) within the [ONECGIAR Climate Resilience Initiative](#). The CSO is an evidence-based decision support tool helping researchers, policy makers and other practitioners working at the intersection of climate, peace, and security to understand and respond to climate-related security risks. The CSO relies on a state-of-the-art integrated mixed-method approach to qualify and quantify the climate, peace and security, and food systems nexus and characterise the nexus across four lead questions:

- HOW does climate worsen the root causes and drivers of conflict?
- WHERE are the most vulnerable areas to climate induced insecurities and risks?
- WHO are the vulnerable groups to climate and security risks that should be targeted?
- WHAT needs to be done to mitigate potential climate-conflict linkages?

The rest of the brief will present the latest research of the CSO for Kenya across these questions.

HOW does climate worsen the root causes and drivers of conflict in Kenya?

With its devolved government, comparatively high degree of institutional maturity, and one of the fastest growing economies in Sub-Saharan Africa, Kenya can be characterized as a relatively peaceful context when compared to most of its neighbouring countries. However, with impacts of climate variability and extremes such as rising temperatures, rainfall variability, and increasing frequency and intensity of droughts and floods adversely increasingly affecting crops and livestock, and non-climatic shocks such as the COVID-19 pandemic and the Russia-Ukraine war widening existing inequalities, the country has been facing increasing risks of resource-related violence. While climate may not be directly driving localized conflict dynamics, its context-specific interactions with socio-economic and political factors can shape and exacerbate risks of human insecurity and conflict.

The following pathways represent some of the causal mechanisms of how the climate security nexus may emerge and operate in Kenya, based on a triangulation approach that combines: 1) systematized search and interpretation of existing understanding in academic and grey literature; 2) key points of discussion emerging from the ClimBeR Climate Security workshop (June 2022, Nairobi); 3) and preliminary findings

from a fieldwork conducted in September 2022 across specific sites representing distinct ecosystems and livelihoods within Kenya.¹

Pathway #1: Resource availability and access pathway

Climate-induced impacts on land, water, and food systems across Kenya may not only limit the availability of precious resources, including water, pasture, livestock, fish, and other foodstuffs such as fruits and vegetables, but also make access to these resources highly contested. This is especially the case in the drought-affected arid and semi-arid lands (or ASALs, comprising more than 80% of land area in the country), where small-scale resource-related violent conflict between pastoral and agro-pastoral groups is increasingly common and correlated with the increased frequency of dry spells, specifically during the rainy season. Climate variability has additionally contributed to temporally and geographically atypical livestock movements, which undermine traditional resource sharing and mobility arrangements and can lead to violent clashes. This violence usually manifests in the form of (livestock) raids carried out by male youth and is further facilitated by the proliferation of small arms. Whilst the phenomenon of cattle raiding has long played an important socio-cultural role for pastoral communities within Kenya and large-scale violence could often be avoided through traditional means of conflict resolution, the norms and institutions around raiding have become increasingly eroded. The effects of climate variability and extremes - along with more root grievances fuelled by experiences of marginalization, lack of basic services, limited employment opportunities, weak governance, and the erosion of legitimacy of formal institutions – have contributed to more extreme violence.

Findings of fieldwork carried out in September 2022 in Laikipia County appear to confirm this, showing that conflicts between the Yaaku and the Samburu communities around Mukogodo forest are intensifying because of the climate crisis. Nowadays, members of Yaaku villages within the forest report to be the victims of cattle rustling - mostly by Samburu pastoralist tribes to the north - around once per week. These attacks have increased both in intensity and frequency throughout 2022, leading to harsher impacts on Yaaku wellbeing. Attackers are no longer restricted to cattle theft through low violence means, but rather frequently destroy infrastructure and force massive displacement to secure access to land, waterholes, and pasture, hence implying an expansionist dimension to the long-term held practice of cattle rustling. Rustling is also becoming more violent due to the introduction of automatic firearms and the development of more elaborate schemes, some of which even rely on local Yaaku informants. The resultant climate-related insecurity can carry possible spill over effects across administrative boundaries within Kenya as well as across international boundaries.

Resource scarcity has also contributed to conflicts between agro-pastoralist and pastoralist groups and conservancies, with the former increasingly crossing into wildlife conservation areas driven by a lack of animal feed and water resources. The presence of conservancies has also been argued to contribute to tensions among communities themselves, as creating zones of land use and restricting grazing makes it

¹ For more detail, see Medina, L., Belli, A., Caroli, G., DuttaGupta, T., Tarusarira, J., Schapendonk, F., Savelli, A., Wamu-koya, G., Sokello, Angoma S., Ogallo, L., Nying'uro, P., Kinuthia, M., Onchiri, Anyieni A., Omware, S., Ambani, M., Kithinji, D., Hellin, J.J., Loboguerrero, Rodriguez A.M., Laderach, P. and Pacillo, G. 2022. Towards a Common Vision of Climate Security in Kenya. Rome, Italy: CGIAR Focus Climate Security. <https://cgspace.cgiar.org/handle/10568/125809>

necessary for communities to be stricter with their boundary maintenance and refuse access to non-members (Lesorogol, 2022)².

Pathway #2: Livelihood and food insecurity pathway

Livelihood and food insecurity can act as intervening mechanism between climate and conflict risks not only in the context of drought-induced resource scarcity, but also in relation to risks of flooding. With rising temperatures and rainfall variability challenging climate-sensitive livelihoods by affecting productivity of agriculture, livestock, and fisheries, rural populations are increasingly confronted by a broad set of human security risks, including livelihood insecurity - as agricultural production becomes less feasible and profitable – and food and nutritional insecurity, as food prices increase and those reliant on subsistence agriculture find themselves at risk of malnutrition. Growing poverty and threats to food production – as well as insecurity that may indirectly emerge as a result of such threats to livelihood and nutritional security - can reduce access to and the availability of essential healthcare facilities and treatments (WHO, 2021)³. In the context of these threats to livelihoods, food and nutritional security, insufficient provision of public goods, and a lack of alternative livelihood options, certain groups may elect to migrate to urban areas. Whether it is internal migrants in urban slums or refugees in camps, the pressure on local infrastructure and resources can fuel tensions between the host community and refugees, those internally displaced, and migrants. On the other hand, those staying behind in rural areas, especially discontented youth who may lack access to education and employment, may become targets for recruitment by armed groups offering economic incentives.

Quantitative evidence produced as a result of conducting econometric analysis on linkages across climate, peace and security, and food systems appears to confirm these dynamics. A one-unit increase in below-average rainfall anomalies is associated with an increase of 18.8 percentage points in the share of Kenyan households with at least one stunted child, and a 1% increase in drought-induced stunting generates an average increase of 8% in future violence. Agricultural productivity is also associated with education and wealth (inequality), which are in turn highly correlated with migration and violent conflict.⁴

The fieldwork findings also show that across all the case studies (Banyala community in Busia County, Yaaku community in Laikipia County and the Endorois community in Baringo County) the loss of agriculture-based livelihoods due to the compounding effects of climate and conflict has led to decreasing employment rates and income. These effects are also forcing people to adopt, or re-adopt, livelihood strategies that are associated with insecurity, such as livestock rearing in conflict-prone areas, cross-border fishing, or farming in regions where land availability has been reduced by the presence of displaced populations. In a context in which men are expected to provide for security and household income, this has rendered many young men with a sense of indignity and low capabilities. The task of finding

² Lesorogol, C. (2022). Community wildlife conservation isn't always a win-win solution: the case of Kenya's Samburu. *The Conversation*. Available at: <https://theconversation.com/community-wildlife-conservation-isnt-always-a-win-win-solution-the-case-of-kenyas-samburu-194590>. Accessed: January 9 2022.

³ World Health Organisation. (2021). *Climate Change and Health Factsheet*. Available at: <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>. Accessed: January 9, 2022.

⁴ These results were produced as part of the CGIAR FOCUS Climate Security CSO platform's econometric analysis.

alternative incomes has fallen to a larger extent on women, who mostly adopt the production of beads or the non-sustainable extraction of resources, like charcoal burning.

Despite what is often reported in the literature, an increasing economic role of women in the household was not, in women's perception, contributing to gender parity. Women were excessively overburdened by work and the lack of income, while their influence over decision making processes, at the household and community levels, had not changed significantly. At the same time, the feeling of ineptness by men exposed women to higher risk of household violence, as men adopt abuse as the only way of reasserting their authority. Increased malnutrition, reduce productivity, school dropouts, early pregnancies, substance abuse, crime and prostitution were all readily correlated to the effects of drought and loss of livelihood by the research participants. These trends therefore form critical priorities and evolving concerns for protection programming, which should take into account how climate change-related impacts may produce insecurities in an intersectional way.

Pathway #3. The vicious cycle of climate security

Whereas the previous two pathways have captured some of the ways through which climate-related impacts can result in human insecurity and conflict within Kenya, the relationship between climate change and potential conflict-related outcomes is not unidirectional. In fact, the relationship can perhaps best be described as a vicious cycle, with the presence of one potentially exacerbating the other.

Kenya experiences multiple forms of conflict – including natural resource-based conflict, inter-ethnic violence, cattle rustling, border and land disputes, drug trafficking, and terrorism – that are deeply rooted in a long history of colonialism, marginalization, ethnic-based violence, and instability which has characterized the broader East African context. The presence of long-term conflicts in Kenya undermines community well-being and security through a wide variety of forms. The management of conflict imposes significant economic costs to both government and households, undermines investment in productive activities, and hinders access to basic infrastructure and services. As a consequence of these conditions, institutional trust and government effectiveness are diminished, whilst poverty and marginalization are in turn increased. This confluence of conflict-related factors contributes to undermining individual and household adaptive capacity in the face of climate extremes and variability. The presence of violence and conflict also directly impacts food and nutritional security and rural livelihood strategies by restricting food and livestock production, access to markets, and either limiting necessary human mobility or conversely causing displacement. For some populations - especially pastoralist communities - the impact of conflict may undermine their capacity to migrate in search of grazing land and water, whilst for others, fleeing or engaging in irregular migration is essential for survival.

Fieldwork findings show that since 2005, the Endorois community (Baringo County) have been subjected to violent attacks from neighbouring Pokot communities to the north of their land around Lake Bogoria Game Reserve. The onset of the conflict coincided with tribal territorial conflicts across Kenya driven mainly by electoral-based violence, and has continued to revolve around political boundaries, access to land, and the interests of political and economic elites across Baringo. The conflict has had a significant impact on the wellbeing of the population, to the extent that Endorois today reject the term “cattle rustling” and instead prefer referring to banditry or terrorism. Thousands of internally displaced people dwell within Endorois territory, many hundreds have been killed, and more than 10,000 livestock have

been stolen or killed. Hospitals, water tanks, roads and other infrastructure has also been destroyed. Fieldwork research indicated that the Endorois mostly perceive the conflict as fueled by political and economic interests over their land. They understand that high levels of vulnerability, poverty and marginalization among Pokot populations makes them more susceptible to recruitment into banditry and raiding parties. However, it is also recognized that Pokot vulnerability to recruitment may be enhanced through the effect of climate change, mainly through the loss of livelihoods during extreme droughts. The reverse is also true, however, in that the effects of conflict have similarly exacerbated the vulnerability of Endorois populations to climate risks. The impacts of droughts and lower agricultural productivity, they report, are today a lot higher due to the widespread presence of Internal Displaced People (IDPs) across the territory and the loss of life and livelihoods due to the impacts of violence.

WHERE are the most vulnerable areas to climate induced insecurities and risks?

A spatial hotspot analysis reveals the geographic co-occurrence of specific combinations of conflict (mostly riots, violence against civilians, and protests), climate conditions (drought and low precipitation) and socio-economic vulnerabilities (undernutrition, inequality, and resource scarcity). Evidence suggests that high levels of conflict co-occur with adverse climate and socio-economic vulnerabilities in the Northeast and North of the country. More specifically:

- High conflict co-occurs with low precipitation and high levels of drought stress (**red dots** in Figure 1) in the counties of Turkana and Marsabit, in the following subcounties: North Horr, Turkana North, Turkana West Loima, Turkana Central.
- High conflict co-occurs with moderate-high levels of drought stress/moderate-Low precipitation (**orange dots** in Figure 1) in the counties of Isiolo, Marsabit, Wajir, Mandera Garissa, Tana River and in the following sub-counties: Isiolo North, Laisamis, Eldas; Tarbaj, Wajir East, Wajir South, Wajir West, Mandera East, Balambala, Garissa Township, Bura, Daadab, Mandera South.
- The presence of inequality and resource scarcity intersect under high conflict and high levels of drought stress/low precipitation conditions occur in the Turkana County, specifically in the following wards: Nakalale, Kakuma, Letea, Lopur, Songot.

WHO are the vulnerable groups to climate and security risks that should be targeted?

Climate insecurity hotspots are characterized by low development, high deforestation, low male and female education, high population density, and a low absolute and relative wealth index (Table 1). More specifically, education levels are low compared to the national average of 6.6 years (World Bank), ranging from 0.34 total years of education to a maximum of 2 years of education for women and 1 year to 3.3 years for men. Malnutrition is high, with a maximum of 24% of stunting prevalence for children under 5, a maximum of 23% wasting prevalence and 29% of underweight prevalence across children under 5 years old. Similarly, on average 85% of the population is economically dependent (younger than 15 years or older than 65 years old). Finally, the overall level of development of the climate security hotspots is limited. Data show that electricity, water, and health facilities are scarce, and the economic status is significantly lower than the national average. The groups that are arguably most vulnerable to bidirectional climate and conflict linkages are, therefore, women and young people (particularly those in

poorer households), young men who lack access to education and income generation opportunities, and those disproportionately reliant upon natural resources or climate-sensitive livelihood activities.

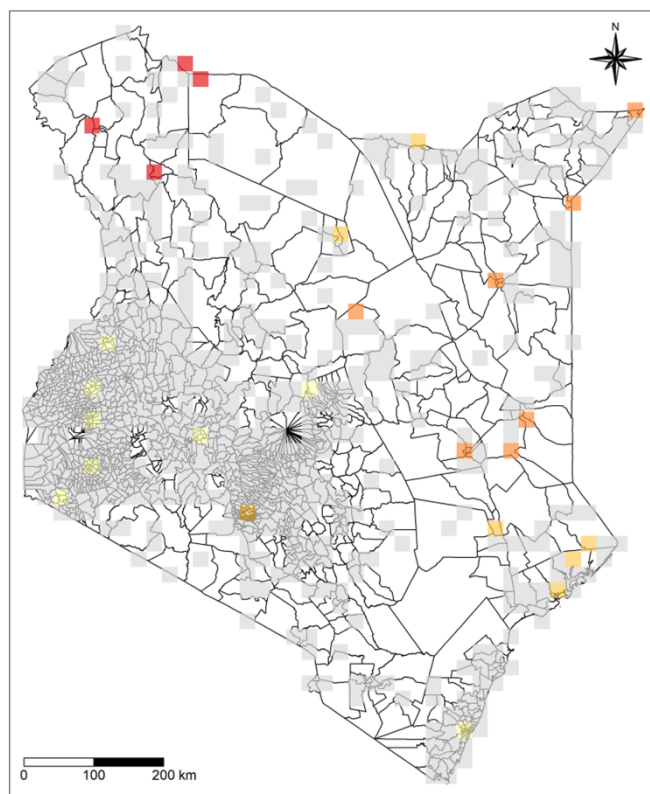


Figure 1. Map showing the combination of climate, conflict and socio-economic risks and insecurities in Kenya, at county and sub-county levels.

Red hotspots are areas where high conflict intersects with high levels of drought stress, low precipitation, and high levels of inequality and resource scarcity. Orange hotspots are areas where high conflict intersects with moderate levels of climate risks. Dark yellow hotspots are areas where high conflict intersects with moderate-low levels of drought and high levels of precipitation. Yellow hotspots are areas where high conflict intersects with low levels of climate risks. Grey hotspots are areas with other combinations of conflict, climate and socio-economic risks.

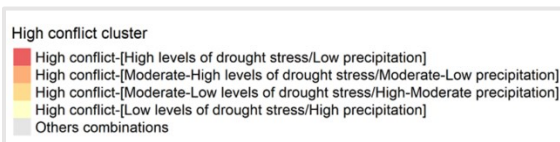


Table 1 Summary descriptive statistics of the climate security hotspots, where high level of conflict intersects with high climate and socio-economic risks (red dots in Figure 1)

	Turkana Loima and Central (Turkwel, Kanamkemmer, Kang'A totha, Lodwar township)	Turkana North & West (Nakalale, Kakuma, Letea, Lopur, Songot)	Marsapit (North Horr, Illeret)	Turkana North (Lake Zone)
Population density (multi-annual average)	32579	57897	604	598
Years of education female (multi-annual average)	2.07	0.93	0.79	0.37
Years of education male (multi-annual average)	3.3	1.78	2.11	1.04
Stunting prevalence (under 5 years) (multi-annual average)	20.59	23.46	21.46	10.54
Wasting prevalence (under 5 years) (multi-annual average)	8	7.64	22.62	4.19
Underweight prevalence (under 5 years) (multi-annual average)	24.27	27.79	19.35	11.11

	Turkana Loima and Central (Turkwel, Kanamkemmer, Kang'A totha, Lodwar township)	Turkana North & West (Nakalale, Kakuma, Letea, Lopur, Songot)	Marsapit (North Horr, Illeret)	Turkana North (Lake Zone)
Nightlights (multi-annual average)	0.38	0.22	0	0
Piped water (percentage) (multi-annual average)	44.05	40.6	10.04	8.36
Sanitation facilities (multi-annual average)	0.5	0.82	2.53	0.83
Estimated Net Migration Recent	-1.26	-2.55	-0.13	-0.07
Absolute wealth index	1309.99	1247.27	545.46	337.96
Relative wealth index	-0.1	-0.29	-0.23	-0.25
Dependency Ratio	85.69	85.69	90.26	79.74
Difference of years of education (male - female) (multi-annual median)	1.23	0.91	0.91	0.5

Source 1 Data sources can be found in the Annex 1

WHAT needs to be done to break the cycle between climate and conflict?

Regional and national consultations revealed the following critical recommendations to address the climate security nexus in Kenya:

- Multilevel (and rights-based) governance:** Fostering a community of practice for climate security in Kenya that brings together a multi-sectoral set of actors from across local, sub-national, and national levels of governance. Given the complexity and multi-dimensionality of the climate-conflict interface, there is unlikely to be a single 'silver bullet' policy solution to the emergence of climate-related security risks. Instead, multiple actors are likely to possess a mandate relevant to mitigating the conditions in which said risks are more likely to occur. Developing a shared understanding of climate security and coordinating efforts across sectors and scales is therefore crucial. Specific institutional units that were suggested as potential anchor points for the construction of a climate security community of practice within Kenya during the 2022 Climate Security Workshop include at the regional level the Greater Horn of Africa Climate Outlook Forum (GHACOF), the Climate Smart Agriculture Multi-Stakeholder Platform (CSA-MSP – currently coordinated by the Ministry of Agriculture, Livestock, Fisheries, and Co-operatives at the national level – and at the sub-national level, the County Steering Groups (CSG) (Medina et al., 2022).
- Policy frameworks:** Identifying policies, instruments, strategies, and action plans at national and sub-national levels that could be potentially updated using or help mainstream a climate security lens. For instance, given how national level climate goals and objectives are transposed and county-level climate action is largely designed, funded, and implemented through the County Climate Change

Funds (CCCF), this policy mechanism – and others like it – may form entry points for how climate security considerations could be mainstreamed using existing processes and procedures. More research is needed to map which existing climate governance mechanisms within Kenya may offer possibilities for moving towards implementation. This is particularly significant because as things currently stand, policies and strategies produced at the national level in Kenya from across different sectors – despite showing evidence of to some extent understanding how climate-related security risks may emerge – generally still struggle to translate this awareness into concrete programmatic initiatives and outcomes. One notable exception to this, however, comes in the form of the Ending Drought Emergency Common Programme Framework, a multi-pillared initiative enshrined in the mandate of the National Drought Management Agency (NDMA) and which is also linked to the Intergovernmental Authority for Development’s (IGAD) Drought Disasters and Sustainable Strategy Framework. Such multi-dimensional and multi-scalar initiatives are critical for the implementation of integrated risk management approaches in which climate, development, and (human) security priorities are combined and synergies sought.

At the community level, the main proposal involved the formal implementation of Kenya’s Community Land Act (2016), through collaborative arrangements between neighbouring ethnic groups, to transfer ownership of forest resources to communities and create a conservation reserve within the forest, hence shifting towards tourism-based livelihoods. Multi-ethnic management committees for forest management would also work hand-in-hand with a community patrol reserve, conformed by recruits from all neighbouring communities, which would be charged with monitoring the implementation of forest regulations and the occurrence of cattle rustling. The deployment of technology, such as drones and climate information services, was discussed as strategic tools for both early warning and responses to the occurrence of violence and illegal resource extraction from the forest.

- **Programmatic planning:** Design of climate adaptation (and mitigation) programmes and initiatives that actively contribute to peacebuilding efforts in Kenya by integrating peace and security concerns from the very beginning of the planning process and in monitoring and evaluation. Challenges remaining in this regard include, for instance, how to measure and chart the somewhat intangible co-benefits climate action may bring for peace and social cohesion, how to bring together the appropriate coalition of cross-scalar and cross-sectoral actors and ensure various priorities are reflected in program design, and how to ensure programming has sufficient longevity to address complex and interconnected issues. It is also important to confront evolving climate change trends and deal with the reality facing many communities right now: whereas local adaptation and mitigation efforts are essential, climate-related security risks also have implications for discussions around loss and damage and how technical assistance and funding can best be delivered for those already suffering under the impacts of climate change. Future loss and damage work (for example under the new Santiago Network for Loss and Damages (SNLD)) – such as conducting standardised Loss and Damage Needs Assessments (LDNAs) - must therefore be conducted in a conflict-sensitive manner and ideally integrate a variety of damage and loss types, including those caused by climate-related conflict.

At community level, fieldwork results from Laikipia, Baringo and Busia counties indicate that participatory appraisal tools that foster collective reflection can support jointly articulated visions of the links between human security and climate vulnerability and should be undertaken at a much larger scale to form the basis of designing locally owned programming. These findings can foster collective action for natural resource management and climate adaptation, and guide the programming of environmental peacebuilding strategies based on local belief systems and adaptive capacities. A clear lesson from fieldwork research is the need to account for local social-ecological conditions and insecurity dynamics when coming up with potential interventions that build upon community-level action. The extent and mode to which the climate-smart management of natural resources and agriculture can be potentially used as an instrument to foster social cohesion among conflictive parties, was found to be contingent on local cultural particularities and conflict dynamics. Proposals need to build upon assessments of specific natural resources available in each region, the concrete climate threats that communities face and already present adaptive capacities, the nature of conflictive relations between involved actors, and the stated preferences of local populations. Some examples of this collective action solutions are included here.

For example, in Laikipia, the Yaaku community holds a relatively mild grudge against their assailants, the Samburu. This is because, although they do not partake in the practice themselves, they understand cattle rustling as a cultural practice which has not been historically associated with high-intensity impacts. For this reason, participants expressed a willingness to explore strategies by which a collaborative governance of resources was fostered between all involved tribes, including the Yaaku, Samburu, Maasai and Ilgvesi. All of these tribes have used Mukogodo forest as a home or migratory route for decades, and community-level efforts for the sustainable management of forest resources are already significant. Peacebuilding proposals developed by members of the Yaaku community hence revolved around securing a long-term access to and fostering the sustainable management of Mukogodo forest, a protected reserve currently controlled by the Kenyan government.

These recommendations were meant as a way of seeking 1) alternative livelihood strategies which benefits are not limited to the Yaaku; 2) a more sustainable use of forest resources; 3) and the deployment of platforms where young populations across ethnic groups can engage and develop a sense of shared identity through the management of Mukogodo forest. This was also deemed as a suitable strategy for disarmament and reintegration through the provision of alternative income sources. Participants recognized that previous dialogue platforms mediated by government have failed to address conflict issues, but also acknowledged that these were open only to high-level authorities, rather than foster reflection and shared identity by people who partake in cattle rustling.

- **Research and evidence gaps:** Develop better understanding of how various types of climatic extremes and variability could potentially exacerbate different expressions of conflict and insecurity that afflict Kenyan populations. The creation and dissemination of for instance county-specific climate security risk profiles that record the main risk pathways leading from socio-ecological through to economic and political systems; exactly where multi-dimensional forms of insecurity, vulnerability, and exposure overlap and what the key variables that should be addressed are; and what population types are most affected by these compounding risks, could be a very useful research tool to aid both national and external actors in making their programming tailored and responsive to local realities.

- **Finance for climate security:** Leverage pre-existing networks to support the development, implementation, and scaling of financial interventions for climate resilience that actively contribute to peace.

Annex 1 - Data sources

Name variable	Own calculation	Data type	Data source
Accessibility to healthcare services at 2019	No	Raster	https://developers.google.com/earth-engine/datasets/catalog/Oxford_MAP_accessibility_to_healthcare_2019#bands
Population density (multi-annual average)	Yes	Raster	https://developers.google.com/earth-engine/datasets/catalog/CIESIN_GPWv411_GPW_Population_Density
Nightlights (multi-annual average)	Yes	Raster	https://developers.google.com/earth-engine/datasets/catalog/NOAA_DMSP-OLS_NIGHTTIME_LIGHTS
Estimated Net Migration Recent	No	Raster	https://sedac.ciesin.columbia.edu/data/set/popdynamics-global-est-net-migration-grids-1970-2000
Years of education male (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/index.php/s/CTnFWYaZxc7ZENC?path=%2FData%20%5BGeoTIFF%5D
Years of education female (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/index.php/s/CTnFWYaZxc7ZENC?path=%2FData%20%5BGeoTIFF%5D
Difference of years of education (male - female) (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/index.php/s/CTnFWYaZxc7ZENC?path=%2FData%20%5BGeoTIFF%5D
Piped water (percentage) (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/s/bkH2X2tFQMejMxy?path=%2FW_PIPED%20-%20Access%20to%20piped%20water%20%5BGeoTIFF%5D%2FPercent
Sanitation facilities (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/s/bkH2X2tFQMejMxy?path=%2FS_PIPED%20-%20Access%20to%20sewer%20and%20septic%20sanitation%20facilities%20%5BGeoTIFF%5D%2FPercent
Stunting prevalence (under 5 years) (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/s/Q7eg2wgdmaSFbHt?path=%2F3%20-%20Stunting%20Prevalence%20%5BGeoTIFF%5D%2F1%20-%20Under%205
Wasting prevalence (under 5 years) (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/s/Q7eg2wgdmaSFbHt?path=%2F4%20-%20Wasting%20Prevalence%20%5BGeoTIFF%5D%2F1%20-%20Under%205
Underweight prevalence (under 5 years) (multi-annual average)	Yes	Raster	https://cloud.ihme.washington.edu/s/Q7eg2wgdmaSFbHt?path=%2F5%20-%20Underweight%20Prevalence%20%5BGeoTIFF%5D%2F1%20-%20Under%205
Relative wealth index	Yes	Raster	https://data.humdata.org/dataset/relative-wealth-index
Absolute wealth index	Yes	Raster	https://data.humdata.org/dataset/relative-wealth-index