FOOD FOR PEACE:
Reducing climate security risks and sustaining peace through food and agricultural interventions

Ambra Al Keylani, India Belgharbi, Amelia Giancarlo, Martin Szoke

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Partner: FAO - Liaison Office Geneva (Contacts: Patrick Jacqueson, Fiona Arnone)

Academic supervisor: Denis Ruysschaert; Teaching Assistant: Emanuele Zavanella

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EXECUTIVE SUMMARY

The climate crisis is significantly transforming the global peace and security landscape: it exacerbates the social, economic, and political processes that can lead to instability and conflict. This situation has given rise to a new area of focus: climate peace and security. Within this area, food security plays a central role. The agricultural sector absorbs more than twenty-six percent of all damages and losses caused by medium- and large-scale climate-related disasters. Furthermore, conflict is the key driver of food insecurity, frequently combined with climate-related shocks. In fragile contexts, climate and conflict risks often interact and reinforce each other to create multifaceted challenges for agrifood systems; climate can also amplify conflict risks and outcomes while conflict negatively affects adaptive capacity to changing climatic conditions. At the same time, carefully designed food and agricultural interventions and improved natural resource management have the potential to maximize synergies between climate adaptation and mitigation and sustaining peace.

This report examines possible pathways through which food and agricultural interventions can address climate security risks and sustain peace. It is specifically addressed to the Food and Agriculture Organization of the United Nations (FAO) and its partners, but its insights can be useful for others. The report adopts a methodological approach that combines a desk review of existing academic and policy literature with key informant interviews, the analysis of two regional case studies, and public outreach. The first section develops a much-needed definition of climate security and a better understanding of the complex relationship between climate change, agrifood systems, food security, and peace and conflict that reflects the understanding existing within FAO and among its partners. The second section identifies and explores seven pathways through which food and agricultural interventions can work to address climate security risks and sustain peace, and provides recommendations on how to better integrate them into future food and agricultural interventions. These specific pathways are: increased resilience, sustainability, context-specificity, integrated conflict-analysis, holistic natural resources management, dialogue mechanisms, locality, and animal production and health. The third section then examines brief case studies in which these pathways have already been successfully applied, notably in FAO interventions in the Karamoja region and in Colombia.

Based on its research and findings, this report makes the following recommendations to FAO:

Key recommendations

1. **Consider a shared definition of climate security.**
2. **Develop and adopt a shared understanding of the relationship between climate change, food security, and conflict and peace.**
3. **Tailor interventions to increase local populations' economic, social, and individual resilience to climate shocks and stresses.**
4. **Make food and agricultural interventions (even more) contextually specific by conducting preliminary context analyses and context monitoring with special attention paid to climate security risks.**
5. **Integrate conflict-analysis into food and agricultural interventions.**
6. **Design locally sustainable food and agricultural interventions.**
7. **Include dialogue-mechanisms in food and agricultural interventions to strengthen community resilience to climate shocks.**
8. **Build peace at the local level through agriculture, with special consideration and priority given to local voices and perspectives.**
9. **Consider animal health programs as promising entry points for addressing climate security risks.**

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"[...] the Food and Agriculture Organization is born out of the need for peace as well as the need for freedom from want. The two are interdependent. Progress towards freedom from want is essential to lasting peace."

— First Session of the Conference of FAO, 1945.[1]

"If we are to achieve the SDGs [Sustainable Development Goals], we need to act boldly and urgently to reduce the risks that environmental degradation and climate change present for conflict, and commit to protecting our planet from the debilitating effects of war."

— António Guterres, Secretary-General of the United Nations, 2020.[2]

[1] Cited in: United Nations Interim Commission on Food and Agriculture, 1945.
[2] Guterres, Secretary-General's message on the International Day for Preventing the Exploitation of the Environment in War and Armed Conflict, 6 Nov 2020.

1. INTRODUCTION

The climate-peace and security nexus – the way global climate change and socio-economic and political insecurities and risks are linked to each other – has become increasingly important and visible on the international agenda. Climate change has clearly caused a significant increase in the occurrence, impact, magnitude, and severity of climate-related disasters, such as droughts, storms, and floods. It particularly threatens the physical security of most vulnerable communities and locations. It does so especially in fragile and conflict-affected countries, where institutional responses are limited or ineffective. In this context, climate change significantly undermines security and not only contributes to, but exacerbates conflicts by increasing and intensifying environmental stressors on conflict-prone societies. Additionally, it is also a source of novel security threats to states' national security. This situation has given rise to a new area of focus, climate security, which we will define in the course of this report as a "condition that exists when people, communities, and institutions have the capacity to manage stresses to loss of livelihoods and of food security, which emerge from climate variability and change so that the potentially destabilizing effects on development are minimized or peacefully addressed".[3]

Within the area of climate security, agrifood systems and food security – the availability, access, utilization, and stability of food – play a central role. The agricultural sector alone absorbs 26% of all damages and losses caused by medium- to large-scale climate-related disasters.[4] Climate change and its cohort of climate-related disasters and variabilities, such as water scarcity, desertification, and rising sea levels, severely affect food security and livelihoods, leading to forced displacement and limiting possibilities of voluntary return. At the same time, food security is also recognized to both significantly affect and be affected by violent conflicts.[5] In fragile contexts, climate and conflict risks often interact and reinforce each other in a vicious circle, thus creating multifaceted challenges for agrifood systems. Conflict negatively affects adaptive capacity to climatic conditions, and climate change can amplify conflict risks and outcomes. However, food security is also a pathway into tackling climate security risks: carefully designed food security

[3] This definition is adapted from Morales-Muñoz and Caroli, 2022, 3.
[4] FAO 2018b, 16.
[5] FAO, 2018a, 1.

interventions and improved natural resource management have the potential to maximize synergies between climate adaptation and mitigation and sustaining peace.[6]

This report examines in detail how food and agricultural interventions can contribute to addressing climate security risks and thus sustain peace. It is in particular addressed to our partner, FAO, who commissioned it, and affiliated organizations, but its insights are also useful for others. FAO already plays a central role in both the area of food security and climate security: it is the largest and most prominent global implementer of food and agricultural interventions; it is also the UN's foremost technical institution in helping to prevent conflict over access to natural resources.[7] Moreover, FAO's mandate has included a dimension of peace and security from its inception, as illustrated by the quote from the First Session of the Conference of FAO in the report's epigraph. The mandate to contribute to peace and security was also significantly re-affirmed by the 2016 UN Security Council and UN General Assembly's Resolutions on Peacebuilding, which called on all UN bodies to identify sustaining peace as a key goal and integrate it into their strategic planning.[8] Against this background, FAO has already taken several important steps to increase its understanding of the climate-security nexus and address climate-security risks in its interventions.[9] Yet, given the topic's complexity, it is still fine-tuning its position and strategy on climate security.

This report supports FAO in fine-tuning its position and strategy on climate, peace and security further. More specifically, it addresses the question of how FAO's food and agricultural interventions can contribute to reducing climate security risks and sustaining peace. The report does so by adopting a methodological approach that combines a desk review of existing academic and policy literature with key informant interviews (KIIs), the conduct of case studies, and public outreach. The first section develops a much-needed definition of climate security, and a shared understanding of the complex relationship between climate change, agrifood systems and food security, and peace and conflict, which is an essential basis for FAO to adopt in order to successfully address climate security risks. The second section explores possible pathways through which food and agricultural interventions can work to address climate security risks and sustain peace, and provides recommendations on how to better integrate them into future food and

[6] FAO, 2018a, 1; FAO, 2022, 1.
[7] FAO, 2018a, 1.
[8] UN A/RES/70/262 and UN S/RES/2282.
[9] See esp. FAO, 2017a; FAO, 2022.

agricultural interventions. The third section examines two case studies where FAO has already successfully applied these pathways, namely, in the Karamoja region and in Colombia.

2. RESEARCH QUESTION

At the outset of our investigation, it is worth further elaborating on our central guiding question that this report attempts to answer. The specific research question posed to us by FAO was:

- How can policies and actions which address the impacts of climate change in the agriculture and food security sector contribute to peace and help address the climate security risk?

Given the breadth and depth of this research question, we also identified several sub-inquiries that emerged from this overarching research question. These are as follows:

- How should we define “climate security”? What does climate security mean specifically in the FAO context?
- What is the relationship between climate change and conflict, peace, and stability? What is the relationship between climate change and agrifood systems and food security? What is the relationship between agrifood systems and food security and conflict?
- Which pathways exist within agriculture and food security interventions that can help address climate security risks and contribute to peace and stability?
- Are there examples of food and agricultural interventions that have already successfully contributed to addressing climate security risks and sustaining peace?
- How can these pathways and good practices be integrated into future interventions? Generally, what are the most appropriate policy and operational actions for FAO to implement in the future?

3. METHODOLOGY

In order to address these questions and tackle the complex nature of the subject, this project used a mixed-methods approach consisting of four stages: the first stage was to review the existing academic and policy literature and the identification and exploration of gaps and controversies in that literature. The second stage consisted of key informant interviews (KIIs) with FAO offices, related UN agencies, and other (mostly Geneva-based) peace-oriented foundations working on the climate-security nexus (a full list of interviewees and interview questions is found in **Annex C**). This stage was itself divided into three subphases: the identification and mapping of relevant actors in the climate security field; the conduct of the KIIs; and the evaluation of the interviews using coding. This coding consisted of a combination of descriptive and value coding of the interviews.

We decided to code the key informant interviews manually rather than using a dedicated qualitative analysis software. We found that reading through the interview responses manually allowed us to better understand and absorb the information with which our key informants presented us, but also to identify themes in a more holistic and contextual manner. For example, while many key informants mentioned "sustainability", merely coding for the term alone was not conducive to understanding what that key informant communicated. For these reasons, our coding process was carried out as follows: as the key informants interviews were conducted, our student team conferred regularly internally, as well as with our FAO partners to discuss emerging themes and observations. To begin, there were two crucial observations: first, there was a lack of a common definition of *climate security* within FAO, and there was a repeated expression of the need of such a definition; there was also a repeated expression of need for a shared understanding within FAO of the relationship between climate change, food security, and peace and conflict. We therefore agreed with our partner that a crucial first part of our mandate was to develop a definition of climate security and a shared understanding of the complex relationship between climate change, food security, and peace and conflict that serves as a basis for future FAO interventions on climate security.

Secondly, we recognized seven themes that a great majority of our interviewees had identified as pathways through which food and agricultural interventions could address climate security risks and sustain peace. Those pathways were increased resilience, sustainability, context-specificity, integrated conflict-analysis, dialogue mechanisms, locality, and animal health.

This became the second, main part of our group's mandate: to better articulate these seven overarching and adaptable pathways and so facilitate their integration into future food and agricultural interventions. In order to quantify the relevance of our selected themes over the whole of the fifteen interviews we conducted, our coding team simplified the themes into short search terms, which we used to conduct a (very simple) quantitative analysis. The results of that tally are as follows:

"Resilience" or "resilient"	appeared 62 times
"Sustainability" or "sustainable"	appeared 16 times
"Context" or "contextualization"	appeared 37 times.
"Conflict sensitivity" or "conflict sensitive"	appeared 16 times
"Dialogue"	appeared 12 times
"Mechanism"	appeared 17 times.
"Local"	appeared 43 times.
"Community" or "communities"	appeared 47 times
"Animal health" or "animal"	appeared 19 times

The table demonstrates those terms that appeared most often (between 20 and 65 times throughout all initial key informant interviews) in orange, and those that appeared often (between 10 and 20 times) in yellow. This quick tally was a quantitative way to confirm our assumptions that the themes of "sustainability", "context-specificity", and "locality" were the three most agreed and elaborated upon among our informants.

It is worth highlighting that we are aware that, through speaking primarily with FAO or FAO-adjacent experts, there is a risk of a certain institutional bias. However, given that FAO has spearheaded food and agricultural interventions worldwide for decades and also positions itself at the forefront of climate security action, it is the central player in the field and possesses an unrivaled wealth of expertise. It is for these reasons we chose to collaborate with these specific experts.

The third stage was the conduct of selected case studies on food and agricultural interventions which had already successfully contributed to sustaining peace and addressing

climate security risks through one or several of the aforementioned pathways, namely, interventions in the Karamoja region and in Colombia. These case studies were selected on the basis of recommendations by our partner and interviewees, as well as a mindfulness to choose case studies that were thematically and geographically diverse. The rationale behind selecting such diverse case studies was that, due to the novelty of the field, there currently does not exist sufficient data on how any one specific intervention contributed to climate security and peace. We therefore compared and contrasted the contributions made by various interventions to draw lessons for future FAO interventions. The case studies themselves were again conducted using a mixed-methods approach that included a review of existing academic and policy literature, the conduct of KIIs with practitioners who had worked on the intervention, as well the evaluation of (partly unpublished) documents and data kindly supplied by our FAO partner and interviewees.

Finally, the project's methodology (and fourth stage) included a dimension of public outreach. Due to the project's interdisciplinary nature, our team believed that we would greatly benefit from input from various experts and practitioners in the many subfields working within climate security (including conflict studies, food security, climate change and agriculture, etc.). Due to the novelty and urgency of the topic, we also believed that it was important to communicate our research findings to the wider public. Thanks in particular to the opportunities offered by our partner, our team presented the project at the Youth for Agrifood Systems Transformation Dialogue at the World Food Forum, the lunchtime seminar of the Geneva Graduate Institute's Center for International Environmental Studies, and the 2022 Geneva Peace Week, for which we produced an exclusive podcast. The team has also been invited by our partner to present the project at the FAO headquarters in Rome in January 2023. Full details regarding the public outreach opportunities in which our team has participated can be found in **Annex D**.

3. BACKGROUND AND CONTEXT

Articulating the climate, food security, and peace nexus

This section presents the results on our research for the first part of our mandate, which consisted of the development of a much-needed definition of climate security, as well as a better articulation of the relationship between climate change, food security, and peace and conflict, to serve as a foundational basis for future FAO interventions addressing climate security risks and sustaining peace.

3.1 Defining climate security

As mentioned in the Introduction, climate security is a relatively recent but rapidly evolving field of research. However, due to that rapid growth, many different definitions of "climate security" exist. No single definition has yet been established.[10] A wide variety of definitions also exists among practitioners: in our key informant interviews, we not only observed that different definitions existed *between* organizations, but also that *within* organizations, individuals were working under an array of varied definitions. When asked what "climate security" meant to them, interviewees from FAO provided answers ranging from "climate security [is] the nexus between climate change and peace and security" to "climate security [refers to] the risks that emerge from the adverse effects of climate change and how these risks can increase the likelihood of conflict or exacerbate existing conflicts" to "climate security [refers to] a framework of policies and actions related to climate change [so as to] ensure social cohesion in communities and at a broader level". Therefore, we concluded that even within FAO itself, no established definition of climate security exists.

Our understanding was that the broad flexibility of definitions even within organizations like FAO was partly intentional, as it allowed practitioners from various different sectors to work together, as well as focus on a specific aspect of climate security most closely related to their field. However, we also had the impression that a lack of a common definition sometimes impeded

[10] For different definitions of "climate security", see e.g. SIDA, 2017, 5; Smith and al., 2019, 2; Buxton, 2021, 1.US Code, 2022, §3060. On the slipperiness of the concept, see Busby, 2018, 330; Busby 2021, 187; Buxton, 2021, 1-2.

collaboration. Several interviewees from FAO, as well as from affiliated organizations, stated that it would be useful to have one shared definition. One interviewee from FAO acknowledged that the lack of a definition had created misunderstandings in the past. Our first recommendation to FAO is therefore to develop and adopt a shared definition of climate security for its practitioners working on food and agricultural interventions.

Recommendation 1

1. Consider a shared definition of climate security.

This definition should be both narrow enough to facilitate cooperation and flexible enough to accommodate different viewpoints. It should also be acceptable to all involved stakeholders: one interviewee stated that different stakeholders had different definitions of climate security for political reasons. Finally, while climate security has traditionally been, and often still is, defined as being concerned with *state* security, we advocate that, in the FAO context, it should be defined more broadly and also comprise *human* security.[11] First of all, such a broad understanding of climate security already exists within FAO and among its partners: all our interviewees implicitly or explicitly suggested that "climate security" was also concerned with human security. A human security approach also acknowledges that climate change can have negative consequences for people, even if state security is not challenged.[12] Moreover, crises such as the Covid-19 pandemic have amply demonstrated that health and environmental disasters can pose threats to security.[13] To summarize, the definition should be broad, flexible, consider the various understandings of climate security already existing within FAO, respect the interest of stakeholders, and entail a human security dimension.

Incidentally, such a definition has recently been developed by Morales-Muñoz and Caroli as a working definition based on stakeholder consultations conducted in March 2022: according to this definition, climate security "refers to condition that exists when people, communities, and

[11] For the definition of "climate security" as concerning "national security", see esp. US Code, 2022, §3060.
[12] Busby 2021, 187; Adger and al., 2021.
[13] Busby 2021, 187.

institutions have the capacity to manage stresses to loss of livelihoods and of food security, which emerge from climate variability and change so that the potentially destabilizing effects on development are minimized or peacefully addressed".[14] We recommend that this definition be further considered as a shared definition by FAO in order to create a common understanding among its staff of what climate security means and so facilitate collaboration on the topic.

Proposed Definition: climate security

Climate security refers to a condition that exists when people, communities, and institutions have the capacity to manage stresses to loss of livelihoods and of food security, which emerge from climate variability and change so that the potentially destabilizing effects on development are minimized or peacefully addressed.

3.2 Establishing the relationship between climate change, food security, and peace and conflict

As discussed, many of our interviewees suggested that it was also pivotal to have a shared detailed and evidence-based understanding of these relationships in order to determine how food and agricultural interventions can reduce climate security risks and sustain peace. In this context, our second recommendation to FAO is therefore to further develop and adopt such a shared understanding.

Recommendation 2

2. Develop and adopt a shared understanding of the relationship between climate change, food security, and peace and conflict.

We shall start by considering the effects of conflict on the environment and food security. It is well established that armed conflicts have devastating effects on the natural environment: they not only harm it through bombs, toxic waste, and chemical warfare, but also by destabilizing

[14] Morales-Muñoz and Caroli, 2022, 3.

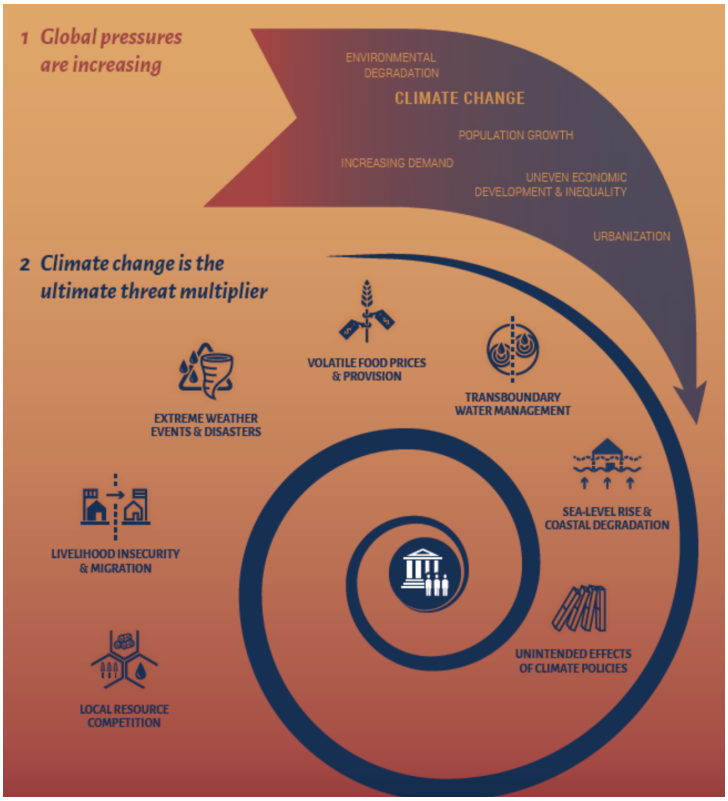
governance, economy, and civilian life.[15] Conflicts also severely affect food security: they have in recent years been consistently identified as one of the leading drivers of hunger.[16] They do so in manifold ways, including by restricting access, availability, utilization, and stability of food.[17] Since conflict frequently breaks out in already vulnerable and food-insecure communities, it also increases the stresses on these communities, thereby further undermining their livelihoods and intensifying their food insecurity.[18] As will be discussed, food insecurity and conflict mutually reinforce each other, and can thus create a vicious circle of violence.

The relationship between climate change, food security, and conflict is less clear and subject to dispute. Several diverging views on the relationship between climate change and conflict exist in the academic and policy literature.[19] Some scientists and practitioners have argued that climate change is directly linked to conflict: taking their cue from Malthus' theory that a lack of resources causes conflict, they suggest that climate change puts a greater strain on resources globally, thus increasing the number of conflicts.[20] However, others have been more cautious about making such a direct link: they contend that conflicts cannot easily be attributed to a single root cause such as climate change, but are rather the result of many complex socio-political factors.[21] Conflicts are also highly contextually-specific and follow unique dynamics that cannot be reduced to a simple narrative of a "climate conflict".[22] More generally, scholars also contest the (neo-)Malthusian idea that resource scarcity necessarily causes conflicts.[23]

More recently, a third, middle view has thus emerged: this view regards climate change as a "threat multiplier".[24] Although climate change cannot be demonstrated to directly cause violent conflict, it can be said to indirectly contribute to, intensify, and trigger conflict. Since climate change and its negative effects add to the stressors on conflict-prone societies, significantly

[15] McNeely, 2003, 142; Loucks, 2009, 82; Karna, 2010, 201; Gaynor, 2016, 533.
[16] FAO, 2022, 3. Cf. also Teodosijević, 2003; Hendrix and Brinkman, 2013, 5; Brück & al., 2016, 5-13.
[17] Brück et al. 2017, 5-13. Cf. FAO, 2017a, 32; FAO, 2022, 3-4.
[18] WFP, 2017, 6-7. Cf. FAO, 2017a, 36.
[19] Detailed overviews are Salehyan, 2008; Burke, Hsiang and Miguel, 2015; Busby 2018; Busby, 2021.
[20] Esp. Homer-Dixon, 1994; Kaplan, 1994; Baechler, 1998; Burke and al., 2009; Steinbruner and al., 2012; Welzer, 2012. On Malthus' theory, see Malthus, 1803/1992.
[21] Esp. Barnett, 2003; Gleditsch & Nordås, 2007; Salehyan, 2008; Theisen, 2008; Buhaug, 2010; Salehyan, 2014; Benjaminsen, 2016; Koubi, 2019. Cf. also IPCC, 2022, 17.
[22] E.g. Gleditsch, 1998; Fairhead, 2001; Peluso & Watts, 2001; Benjaminsen, 2012.
[23] Esp. Urdal, 2005; Benjaminsen, 2012, 80-81.
[24] E.g. Fjelde, 2015; Rüttinger &al., 2015; SIDA, 2017; Baalen and Mobjörk, 2018; Mach & al., 2019.

reducing these societies' capacities to mitigate and resolve conflicts peacefully and thereby increase the risk of violence.[25] Climate change induced stressors do this through several pathways,[26] bringing us to the relationship between food security and climate change and conflict. The scholarship identifies food insecurity and volatile food prices as major pathways through which climate change can lead to conflict, alongside local resource competition, livelihood deterioration, migration, extreme weather events and disasters, transboundary water management, rising sea-levels and coastal degradation, and unintended effects of climate policies.[27]



Climate change is the ultimate threat multiplier (Source: Rüttinger and al., 2015, 3)

Turning to the relationship between climate change and food security, the effects of climate change on food security are well-known: as discussed in the Introduction, climatic shocks such as droughts, flooding, and storms have devastating effects on the agricultural sector, which absorbs

[25] Rüttinger and al., 2015, 2-6
[26] Rüttinger and al., 2015, 2-6.
[27] Teodosijević, 2003; Rüttinger, 2015; Brück and al. 2016; Busby, 2018, 340; FAO 2022.

26% of all damages and losses caused by medium- to large-scale climate-related disasters.[28] Climate change also causes considerable uncertainty about the future availability of water, and rising sea levels affects the salinity of water in coastal areas, which presents major agricultural challenges.[29] Furthermore, climate change is significantly changing the conditions under which agricultural activities are conducted, including temperature and rainfall distribution, and has profound effects on major crop yields, livestock production, forests, aquaculture, and agro-ecosystems.[30] These effects impact all four pillars of food security: in particular, they impact the availability of food by disrupting food production and access by causing a rise of and volatility in food prices; climate-related extreme weather events also affect the utilization and stability of food by disrupting food supplies and causing economic shocks.[31]

Food (in)security in turn then impacts conflict.[32] Although it is difficult to establish a direct causal link between the two, food insecurity contributes to, and sometimes triggers, conflicts. It does so in particular when combined with other stressors in already fragile contexts where societies are divided or lack coping mechanisms. For example, several studies have identified increasing climate change-driven food insecurity as one cause of higher incidences of local and regional conflicts in the Sahel zone.[33] Moreover, spikes in food prices, partly caused by changing climatic conditions, have been held responsible for food riots in over 40 countries across the globe in 2007-2008.[34] A correlation between food insecurity, volatile food prices, and malnutrition has also been identified by several econometric studies.[35] Furthermore, food insecurity has been identified as a major cause of large-scale human displacement, which can in turn cause conflict, or intensify pre existing conflicts.[36] Food insecurity therefore not only acts as a significant stressor on fragile and unstable societies, but can create new or exacerbate existing stressors that themselves

[28] FAO, 2018b, 16. Cf. FAO, 2015.
[29] FAO, 2015, x.
[30] FAO, 2015, xi.
[31] FAO, 2015, viii.
[32] Brück and al., 2016, 14-20; FAO, 2017a, 43-53.
[33] Hima, 2019, 36-40; Mbaye, 2020, 13; Puig-Cepero and al., 2021.
[34] FAO, 2017a, 43.
[35] See esp. WFP, 2017, 24; Kangogo and al., 2021.
[36] von Uexkull, 2016, 12395; FAO, 2017, 48.

contribute to conflict. Finally, since, as discussed, conflict itself can greatly impact food security, thus creating a vicious cycle of violence.[37]

This third view of climate change as a "threat multiplier" is the view that is currently predominant in science and policy literature.[38] It is also the view most frequently expressed by our interviewees. However, it is noteworthy that some FAO interviewees working in the field provided several examples where the effects of climate change created new sources of tension and arguably directly caused conflict, especially at the local level. One particularly striking example was provided by an FAO expert working in East Africa: he described to us how climate change-induced drought caused conflict between women of neighboring villages in rural Kenya. The drought had led to a well drying up in one of the villages, forcing the women of that village to go to the other village's well to search for water. This led to longer waiting times at the well and greater competition for the available water, and so caused a conflict between the women of the villages. Of course, in this particular instance, several unfavorable preconditions existed, such as the already scarce availability of water in the region. But the example suggests that the effects of climate change here almost directly caused conflict. We therefore recommend the adoption of a broad understanding of climate change as a threat multiplier that can contribute to, intensify, and sometimes trigger conflict through various pathways, including food insecurity.

Proposed Definition: climate change as a threat multiplier

Climate change is a threat multiplier: it can contribute to, intensify, and sometimes cause or trigger conflict. It can do so through various pathways, including, and most relevant to the work of FAO, through food insecurity.

[37] Mbaye, 2013, 17.
[38] FAO, 2015; Rüttinger and al. 2015; SIDA 2017; Buxton, 2021, with further literature.

5. RESULTS, DISCUSSION & ANALYSIS

Pathways to addressing climate security risks and sustaining peace

After having developed a much-needed definition of climate security and a better understanding of the relationship between climate change, food security, peace and conflict, we can now turn to the second, main part of our mandate: to identify and better articulate possible pathways through which food and agricultural interventions can address climate security risks and sustain peace, and so facilitate their integration into future FAO food and agricultural interventions. This section discusses the seven major pathways we identified in detail.

5.1 Increased Resilience

The first pathway that we identified, and that was most frequently mentioned by our interviewees, is increased resilience. FAO defines resilience as "the ability to prevent disasters and crises as well as to anticipate, absorb, accommodate, or recover from them in a timely, efficient, and sustainable manner." With this definition in mind, our team approached several discussions with resilience experts who shared sentiments of its importance as a pathway to peace.

One of FAO's recent commitments to programmatic innovation is to "increase the specific objectives to prevent, mitigate, alleviate, and resolve conflicts"[39], detailing that the plan is to do so through resilience strategies. Our experts articulated, however, that we cannot be vague about what we mean by resilience and whose resilience we wish to improve or strengthen. Furthermore, we must focus not just on disaster resilience, but economic, social, and individual resilience as well. Some specific pathways articulated by our key informants to building resilience include (but not limited to) the cultivation of more resilient crops, the diversification of income for local people, strengthening local risk management and governance, and scaling up investment in farms by strengthening preparedness and anticipatory action. The FAO Corporate Framework articulates that working to improve the resilience of populations impacted by climate-related shocks contributes positively to peace and stability.[40] This idea was reaffirmed by a respondent, who communicated

[39] FAO, 2018a, 13.
[40] FAO, 2018a, 28.

that resilience is important because the sooner and better local populations can "bounce back", the less risk there is of conflict related to resource competition.

The capacity to anticipate and adapt to the changing climate is essential to maintaining stable and sustainable livelihoods, particularly in regions that depend on natural resources or where agricultural outputs are most vulnerable to climatic variability. Investments in programs that attempt to adapt agricultural outputs to the changing environment may have important effects on conflict prevention and post-conflict rehabilitation.[41] In terms of climate adaptation and resilience building, FAO can act towards strengthening or implementing National Adaptation Plans that take into account resilient agri-food systems. Addressing climate vulnerability contributes to positive peacebuilding as it lessens drivers of conflicts.[42] In that sense, FAO's resilience work includes climate-smart agriculture, early warning systems, anticipatory action, and social protection to protect resources and livelihoods and prevent conflicts.

5.2 Sustainability

The second pathway we identified is sustainability. The pathway of sustainability is two-fold, both external and internal: first, externally, investments made by FAO should be focused on sustainable land use, agroforestry, and livelihoods. Second, agricultural interventions *themselves* should be sustainable and longitudinal in nature, as opposed to short-term and based on a very fixed term of aid. In order to design food and agricultural interventions with an eye toward what is locally sustainable, best practices articulated by our respondents include (but are not limited to): the need to conduct initial context analyses and continuous context monitoring; contributing to the creation or strengthening of sustainable agrifood system supply chains; implementing, encouraging, or subsidizing sustainable agricultural practices among local farmers; asking local stakeholders about indigenous sustainable land use systems to stop deforestation and using those practices to inform intervention design and implementation, and more. A key informant expressed how sustainability is directly related to resilience, demonstrating the link between climate change adaptation and security by explaining that when people have access to resilient livelihoods, they are able to build alternatives to unsustainable activities or illegal practices. Our respondents revealed that while the concepts of sustainable land management, integrated water and coastal zone management are well known, they have yet to see how these concepts have been truly thought

[41] Holleman, Jackson, Sánchez & Vos, 2017.
[42] Crawford, & Church, 2021, 82-91.

through in context of acute tensions, particularly those acute tensions caused or exacerbated by climate change. The FAO Corporate Framework explicitly articulates that "efforts to revive the agricultural sector and improve food security, including through social protection, have positive effects on the sustainability of peace."[43] Investment in sustainable agriculture and food security programming will promote peace — our team argues that incorporating peacebuilding and climate security risk management mechanisms into programming from the design stage will only increase the likelihood of peace as a programmatic outcome.

5.3 Context-specificity

Our third pathway is context-specificity. One striking similarity between many of our the interviews was the emphasis on the contextual specificity of climate security. A large number of practitioners highlighted that climate security is highly context-specific, and conflict-sensitivity is therefore extremely important. One respondent went as far as to postulate that the very definition of climate security is context dependent, arguing that some programs can contribute directly to conflict prevention by addressing the proximate drivers of conflict, for example, land tenure. But in other contexts, such as through multi-mandate organizations like FAO, it is more difficult to make this direct contribution to conflict prevention; here, rather, conflict prevention and climate security risk management must be integrated into peacebuilding efforts to make sure they are contextually specific within the intervention zone. As previously mentioned in the sustainability section, initial context analyses are key, but they are not enough.

A key informant expressed that these initial context analyses, while they do not have to be complex, can inform later stages of programming. Just as important, however, is context *monitoring*. There must be context monitoring efforts and indicators in place during programming to inform thinking as the program progresses. Furthermore, if contextual factors shift, there must be mechanisms in place to change and course-correct programming. The FAO Corporate Framework points out that especially in conflict zones or zones in which there is a conflict risk, programmatic efforts "require contextual understanding and conflict analysis to ensure that interventions do not heighten conflict risks and hence avoid doing harm."[44] There is no one-size fits all for development or humanitarian action work in general, let alone when it comes to mitigating climate security risks. Each country's, region's, and community's conflicts look and

[43] FAO, 2018a, 50.
[44] FAO, 2018a, 8.

operate differently. Interventions and programming that attempt to incorporate a climate security risk mitigation strategy and peacebuilding efforts must be well aware of the existing (conflict, social, economic, etc.) context prior to and throughout implementation.

5.4 Integrated conflict analysis

Linked to context-specificity analysis is the equally important consideration of conflict sensitivity. Our interviewees – some of whom were conflict-sensitive programming specialists – expressed that sustaining peace goes hand in hand with incorporating guidance and tools for context-understanding in food security intervention program design. When asked about the most appropriate policy and operational actions for FAO to take in the future with regards to the climate-security nexus, interviewees always put the emphasis on the fact that context analysis is key, but there is a true need to be more conflict-sensitive. The FAO Corporate Framework notes that the agency is dedicated to "work to better understand the root causes of instability, fragility, and insecurity in the areas of FAO's mandate to inform conflict-sensitive approaches."[45] It insists that FAO will build the capacity of relevant personnel, including national personnel, for conflict risk assessment and conflict-sensitive programming.[46]

The body of specialists interviewed argued that FAO is on the right track with the setup of a conflict and peace unit and the delivery of conflict sensitivity clinics, in order to try to assess interventions through a conflict-sensitivity lens – that is to say "*do no harm*". Interviewees nonetheless agreed that the specialized agency of the United Nations should strengthen conflict sensitivity and peacebuilding dialogue, as well as generally develop more rigorous analytics to measure conflict sensitivity.

5.5 Strengthened dialogue mechanisms

Our fifth pathway is strengthened dialogue mechanisms. To foster long-standing peace, we need more than technical changes to agriculture, as political issues and technological solutions may not always produce the intended results.[47] Integrating dialogue mechanisms is key in creating and opening spaces to collaboration between stakeholders, as well as in building capacity for systematically facilitated dialogue among those stakeholders. In order to handle environmental concerns peacefully and prevent the violent escalation of conflict over natural resources, FAO may

[45] FAO, 2018a, 12.
[46] FAO, 2018a, 15.
[47] Morales-Muñoz et al., 2021, 179-199.

strengthen both their own conversation and negotiation capabilities, as well as those of local actors, guarantee that such solutions are co-developed with local people, and support local dialogue and governance platforms. FAO can help avoid and/or resolve local disputes caused by climate effects by implementing participatory and cooperatively carried out natural-resource management programs, for example, in collaboration with local NGOs or pastoralist community organizations. It is essential to create organized discussion spaces to resolve disputes involving food production and natural resource management systems. These dialogue mechanisms should clearly lay out specific governance and management measures to reduce conflict risks. In order to reduce the costs of conflict, certain mitigation and management measures are essential. This may be done by encouraging the engagement of social and environmental leaders, security personnel, and national-level authorities in measures to lessen violence against community leaders. For instance, dialogue spaces that produce a multi-stakeholder shared vision about land-use arrangements with incentives (financial or otherwise), such as community production centers, support (i) social cohesion aimed at building trust between the government and civil society, (ii) socio-economic inclusion, and (iii) community resilience to fight illicit economies[48]. Lastly, if defined as a strategy for providing different parties with a means of subsistence through transitional justice procedures, conversation spaces for the resilience of food systems can foster reconciliation.

In order for climate change-related agriculture and food security interventions to contribute to sustaining peace, one of our correspondents noted that a solution is to open channels of dialogue and mediation agreements around natural resources – which has been effective in reducing conflict; and thus, at community, regional and national levels. A successful example is the intervention in Karamoja, described further below in the report. Our informants explained that in the future, FAO should promote peacebuilding dialogues – for instance through the platform of the Geneva Dialogue for Environment and Peace. These dialogue mechanisms are already being integrated into food and agricultural interventions, but interviewees insisted on the need to increase and facilitate dialogue processes to ensure that people speak to each other to resolve issues induced directly or indirectly by climate change induced shocks and stressors.

5.6 Locality

Our sixth pathway is locality. In the same way interventions need to be context-specific, there is a need to focus on local stakeholders, local-level anticipatory action to avoid conflict, local

[48] Quandt, 2018.

resource use and management, and related fields. The goal of increased locality of interventions is to enhance the agency of most vulnerable groups. In short, agricultural and food security interventions can work to build peace from the micro-level up, starting with local community members. Conflict is greatly influenced by exclusion and marginalization. Therefore, it is important to include the aforementioned dialogue mechanisms into the formulation of the climate adaptation and resilience strategy, with special attention paid to the voices and perspectives of local actors. Ensuring inclusive institutions and the involvement of stakeholders who represent the most disadvantaged groups is a critical component of this. For instance, smallholder farmers and rural women bear a disproportionately heavy cost of the negative consequences of climate change. FAO can therefore work as a facilitator to increase women and smallholder farmers' access to climate adaptation technologies and have a voice in climate policy-making. This pathway is closely interlinked with other pathways such as conflict sensitivity or strengthened dialogue mechanisms.

FAO's guide *Operationalizing Pathways to Sustaining Peace* explains that the UN entity projects largely influence conflict dynamics at the local level – particularly in relation to food security and agricultural livelihoods.[49] Local conflicts often influence – or are influenced by – broader conflict dynamics, meaning that local peace is connected to, and can contribute to, higher-level peace dynamics. The document suggests that increasing FAO's peacebuilding impacts will require the incorporation of more local actors or analysis into project design and implementation.[50] A few concrete solutions as to how food security interventions can contribute to sustaining local peace also emerged from the interviews. For instance, a respondent explained how local procurements to feed refugees can be a source of tension with local populations. However, by pairing refugee assistance with local procurement livelihood options to improve the food security of existing local populations, we can shift the narrative and reduce tensions. Another solution suggested was enhancing the capacity of local structures, such as farmers field schools, both formally and informally, in order to receive capacity development training.

Regarding policy and operational actions for FAO more specifically, our interviewees suggested enhancing actions which focus on supporting local agricultural production. For example, local agricultural production can be supported by strengthening social safety nets through mechanisms such as cash transfers or the improvement of social protection systems to maintain economic access to food at the local level. This type of action relates also to strengthening local

[49] FAO, 2022, 10.
[50] FAO, 2022, 10.

governance, scaling up investment at the local farm and landscape levels, and strengthening preparedness and anticipatory actions. Indeed, one successful FAO intervention supported agriculture and food security within Colombian communities that opened their doors to Venezuelan migrants and Colombians returnees (see **section 6.2** for the full case study). FAO's entry point was rebooting local agricultural production to give communities the means to produce food and protect their livestock.

5.7 Animal Health

Our seventh and final pathway is animal health. When asking our respondents for examples of successful projects implemented by FAO that contributed to climate security and peace, they repeatedly cited animal health campaigns as among the most successful projects. Animal health is thus another very promising entry point to working on the climate-security nexus. One interviewee referred to an example based on stakeholder consultation. They explained that some of the most striking successes were animal vaccination campaigns. Animal vaccination was shown to reduce conflict between pastoralist groups and among farmers by lowering the possibility of disease transmission between cattle and thus the consequent discontent stemming from the loss of livelihoods due to cattle death. See Annex F for a more detailed case study on animal vaccination as a pathway to sustaining peace in the face of climate change.

Another learning from the KIIs discussed an intervention in Colombia which also used animal vaccination to reboot agriculture production and protect livestock. The vaccination campaign resulted in goats producing more milk, which had a great impact on local food security and strengthened social cohesion. The lesson that came out of the interviews is that animal health interventions work to reduce conflict between pastoralists in regions where there is heavy reliance on livestock. The animal vaccination campaign in Karamoja can serve as an example of successfully integrating climate security into an agricultural intervention, and proves the importance of animal health in reducing shocks and stressors in the face of climate change.

5.8 Key recommendations 3-9

Based on the discussion above, we developed another five key recommendations to FAO, in addition to those already articulated in the preceding sections:

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Recommendations 3-9

3. Tailor interventions to increase local populations' economic, social, and individual resilience to climate shocks and stresses. One of the greatest contributions food and agricultural interventions can make to addressing climate security risks is increasing the resilience of local populations to climate stresses and shocks. It should therefore tailor its interventions to specifically increase the local population's economic, social, and individual resilience to climate shocks and stressors. Local resilience can be increased through the cultivation of more resilient crops, the diversification of income for local people, strengthening local risk management and governance, and strengthening preparedness and anticipatory action to scale up investment in farms.

4. Design locally sustainable food and agricultural interventions. This can include (but is not limited to) contributing to the creation or strengthening of sustainable agrifood system supply chains; implementing, encouraging, or subsidizing sustainable agricultural practices among local farmers; engaging with local stakeholders to learn about indigenous sustainable land use systems to stop deforestation and using those practices to inform intervention design and implementation, and more.

5. Make food and agricultural interventions contextually specific by conducting preliminary context analyses and context monitoring with special attention paid to climate security risks. Climate security risks are highly contextually specific. Responses therefore need to be similarly contextually specific: interventions should always include preliminary context analyses, as well as continuous context monitoring. FAO interventions are already highly contextually specific and integrate context analyses and monitoring, but they can profit by more strongly considering the climate security context of their intervention.

6. Integrate conflict-analysis into food and agricultural interventions. Prior to solidifying intervention details and activities, FAO should make it a priority to first conduct analyses to better understand the nature of conflict in the region and locality, if and which resources are contentious and conflict-inducing, if and how land-use is contentious and conflict-inducing, if there is and how water scarcity can contribute to conflict, how this conflict manifests locally, and if they have, why these issues have persisted through time or been exacerbated by specific climate change induced shocks and stressors.

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7. Include dialogue-mechanisms in food and agricultural interventions to strengthen communities. These mechanisms can operate as a pathway for intervention designers and practitioners to establish dialogue mechanisms not just between themselves and local actors, but also between communities between which there may be tensions or security risks. These mechanisms can work to reduce the costs (monetary and otherwise) of conflict. Dialogue mechanisms as mitigation and management measures can help avoid and/or resolve local disputes caused by climate effects by implementing participatory and cooperatively carried out natural resource management programs, for example, in collaboration with local NGOs or pastoralist community organizations.

8. Build peace at the local level through agriculture. Orienting interventions as grassroots programs can work to ensure the inclusion of local institutions and the involvement of stakeholders who represent the most disadvantaged groups. Including these groups is critical to incorporating peacebuilding into agricultural interventions.

9. Consider animal health programs as promising entry points for addressing climate security risks. Animal health campaigns have been among the most successful past FAO interventions which helped to address climate security risks. Although they can obviously not be implemented everywhere, FAO could benefit from paying specific attention to opportunities where animal health campaigns can be implemented.

We are aware that none of the pathways presented here are completely novel — this is a good thing. Elements of pathways that can contribute to addressing climate security risks and sustaining peace are already present in existing food and agricultural interventions, and so can easily be further developed. FAO, as well as numerous other development and humanitarian response organizations, have been working in recent years to incorporate sustainability, context specificity, along with the other pathways, more concretely into their work. Many of these agencies have experts in dialogue mechanisms, conflict sensitivity, resilience, and more. In the future, their expertise and experiences can be harnessed when thinking through the logistics of how agricultural interventions can incorporate peacebuilding and climate security risk minimization elements. These are not the only pathways to peace that FAO (and others) can chart; we merely wished to

highlight the pathways on which the relevant literature and our key informants focused most heavily.

6. CASE STUDIES

6.1. Karamoja

The Karamoja cluster, a region running along the border of Uganda and crossing into parts of Ethiopia, Kenya, South Sudan, represents an example of an FAO food security intervention region that includes peacebuilding elements.

With a total population of over 4.5 million people, the Cluster is home to at least 13 pastoralist and agro-pastoralist communities; environmentally, the region is characterized by uneven and inconsistent rainfall, which manifests as protracted dry spells and flash floods[51].

Map of the Karamoja cluster (Source: Catley et al, 2021)

[51] Akiyode, Tumushabe, Hadijjah, Peter, 2017, 174.

The productive assets and conventional coping mechanisms that support livelihoods have been severely eroded over the past several decades due to the increase in the volume, frequency, and intensity of climate-induced hazards[52]. Furthermore, trans-boundary animal diseases frequently worsen the impact of extended dry spells on livestock productivity. Pastoralists move around the region with their livestock as a strategy not only to manage the rangeland to survive in the arid and unpredictable environment, but also to cope with recurrent droughts.[53] Due to competition for access to rangeland resources, pastoralists who are in the process of moving may come into conflict with other pastoralists as well as other land users, particularly sedentary farmers.[54]

In order to tackle the climate-security challenges experienced by the local population, FAO has implemented several interventions aimed at promoting food security and fostering peace, as well as advancing coping mechanisms for climate change mitigation and adaptation. These interventions can be categorized as follows:

1. *Increasing the resilience and adaptive capacity to climate change,* by adopting a Community-Based Integrated Watershed Management approach, and by providing training sessions to District Local Government and NGO staff, to improve their knowledge and abilities in developing, implementing, monitoring, and evaluating community-based integrated watershed management programs.[55]

2. *Ensuring sustainability,* by diversifying agricultural livelihoods and accumulating assets.[56]

3. *Integrating conflict analysis with a participatory approach,* thus enabling communities to have a common understanding of the causes of conflict. This allows FAO to implement stronger and more sustainable recommendations, working toward building trust and peace in the long term.[57]

[52] FAO, 2012, 15.
[53] Onyango, 2018, 212.
[54] Interview with Bettie Aytam.
[55] FAO, 2014, 6.
[56] FAO, 2022, 16.
[57] Interview with Bettie Aytam.

4. *Bringing communities together and strengthening dialogue mechanisms,* with the aim of strengthening capacities in terms of conflict prevention and resource management and sharing.

5. *Promoting animal health,* through livestock immunization campaigns. Since 2011, FAO has promoted the International Livestock Emergency Guidelines and Standards (LEGS).[58] FAO and other stakeholders have been training and supplying community animal health workers, who play a crucial role in mobilizing and teaching pastoral communities about animal health, performing immunizations, disease surveillance, and other fundamental support services for animal health.[59]

6. *Preventing gender-based violence (GBV),* as a tactic for building resilience and sustaining peace.[60] To that end, because it is recognized that addressing household food and economic security lessens the underlying causes of GBV, FAO leverages the Farmer Field and Life Schools (FFLS) as a platform for promoting production and entrepreneurial skills among the local communities.[61]

FAO uses a bottom-up approach framework, focusing on local level solutions as a basis for its interventions. FAO operates with the understanding that while communities in the Cluster share many characteristics and face similar challenges, the scope and opportunities available for responding to conflict can vary significantly across the landscape.

Nevertheless, despite significant investments, the challenges concerning climate-security in the Karamoja Cluster have persisted, and they can be ascribed to the complexity of the context: the spatial dispersion of the region, the multitude of actors, the diversity of local circumstances, and the cross-border aspect of the region all contribute to a coordination problem.[62]

The key lesson derived from FAO experience in Karamoja is that for innovations and good practices to have lasting influence, they must be tailored to the conditions and realities of each specific context.

[58] FAO, 2014, 2.
[59] Ibid.
[60] FAO, 2014, 7.
[61] Ibid.
[62] Interview with Paul Opio.

6.2. Colombia

Colombia is an example of an FAO food security and agricultural intervention that includes peacebuilding elements. The country's population is diverse both in terms of its complex geography and ethnic groups, encompassing between 87 (official number) and 900 distinct ethnic groups. Around 23% of the population lives in rural areas.[63]

More than fifty years of violent armed conflict wounded the government's ability to provide services and damaged the national infrastructure, leaving the country struggling with internal violence, poverty, and hunger. Vast economic damages forced 6.4 million people to be displaced.[64]

In 2016, a Peace Agreement between the Revolutionary Armed Forces of Colombia guerrillas and the Colombian state was signed. FAO played a supportive role in monitoring and assisting with the implementation of the technical elements of the Comprehensive Rural Reform (CRR), which aimed to transform Colombia's rural areas by strengthening food security, boosting income and job opportunities, and optimizing social cohesion, including the agriculture- and resource-related aspects of post-conflict engagements.[65]

[63] Segovia, 2017, 2.
[64] FAO, 2019, 1.
[65] FAO, 2022, 22.

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Map of Colombia Departments (Source: Colombia Travel Guide 2009-2016)

In order to tackle the climate-security challenges experienced by the local population, FAO has implemented several interventions aimed at promoting food security and fostering peace through increasing social cohesion between communities in the region. These interventions follow the seven pathways previously mentioned. Through them, FAO:

- *Integrated conflict analysis (1)* and *context-specificity (2)* in their intervention. They conducted both climate change vulnerability and conflict risk analyses.[66] The result was the implementation of comprehensive policies aimed at achieving climate-security in the long-term. It contributed to the rapid recovery of the food security of vulnerable communities affected by the conflict.[67]

- *Strengthened dialogue mechanisms (3)* by collaborating with various actors (such as organizations, academia or civil society) in the implementation of the CRR, mandated by the Colombian government.[68]

[66] FAO, 2018a, 59.
[67] Ibid.
[68] FAO, 2021c, 33.

- *Increased resilience (4)*, *locality (5)*, and *sustainability (6)* through the empowerment of local farmers and women. A crucial part of the FAO intervention was the capacity strengthening and training of farmers to build resilience. In Colombia, this was implemented through empowering farmers to analyze, collaborate, and find creative solutions together — which is key to having long-term positive effects on peacebuilding and food security.[69] The intervention also adopted a gender lens through its programming to encourage women's entrepreneurship and participation in local decision-making assemblies. To build resilience to the migration crisis, FAO provided around 600 households with livelihood assistance to boost local crop production, protect households' assets and address issues of social cohesion.[70] The intervention also worked to strengthen institutional capacities as a mechanism for peacebuilding and resilience, for example, the design and implementation of community production centers increased resilience and sustainability through local knowledge and cultural exchanges. FAO's actions resulted in increased food security and access to land in areas of intervention, thus contributing to peacebuilding efforts. Such interventions strengthen collaboration and social cohesion between farmers and contribute to building sustainable partnerships and peace.

- *Promoted animal health (7)* through the implementation of an animal vaccination campaign. It worked to reinforce agricultural production and protect livestock, decreasing inter-community conflict and increasing social cohesion and food security.[71]

Despite the complexity of the Colombian context, FAO's intervention had a positive impact on the country's climate security by improving social cohesion as well as land and natural resource governance.

[69] FAO, 2022, 26.
[70] FAO, 2021c, 48.
[71] Interview with Héctor Morales-Muños.

7. CONCLUSION

In conclusion, food and agricultural interventions are a powerful tool to address emerging climate security risks and for sustaining peace. In the climate-security context, these interventions can contribute to mitigating the harmful effects of both climate change and conflict. They can also be actively harnessed to anticipate and thus reduce the increased risk of conflict created by climate change and its detrimental effects. Specifically, this report identified seven major pathways through which food and agricultural interventions can do this: increased resilience, sustainability, context-specificity, integrated conflict analysis, strengthened dialogue mechanisms, locality, and animal health. Our interview partners repeatedly cited that previous food and agricultural interventions had already used these seven pathways to successfully address climate security risks and sustain peace. Our two in-depth case studies confirmed the potential of several of these pathways. We therefore recommend that future interventions should more strongly integrate these pathways and refine and develop them further. In addition, we also recommend the adoption of a shared definition and understanding of climate security to serve as a basis for and facilitate cooperation on the topic and in the field.

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ANNEX A. Glossary

Agrifood systems. According to FAO, "agrifood systems encompass the entire range of actors and their interlinked value-adding activities in the primary production of food and non-food agricultural products, as well as in food storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption. Within agrifood systems, food systems comprise all food products that originate from crop and livestock production, forestry, fisheries and aquaculture, and from other sources such as synthetic biology, and that are intended for human consumption."[72]

Climate change. "Climate change" is here defined according to the UNFCCC definition as a "change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."[73]

Climate security. For the purpose of this report, we define climate security as "condition that exists when people, communities, and institutions have the capacity to manage stresses to loss of livelihoods and of food security, which emerge from climate variability and change so that the potentially destabilizing effects on development are minimized or peacefully addressed".[74] For further discussion of the varying definitions of climate security, see section 1.

Conflict. Violent conflict "involves at least two parties using physical force to resolve competing claims or interests".[75]

Environment. The natural world that encompasses the non-human world around us, especially as affected by human activity.[76]

Food security. The availability, access, utilization, and stability of food.[77]

[72] FAO, 2021a, 2
[73] UNFCCC (1992) Art. 1.2.
[74] Morales-Muñoz and Caroli, 2022, 3.
[75] Frère & Wilen (2015).
[76] Dalmer (2022) 15.
[77] FAO & al., 2017, 1.

ARP 4.8: Food for Peace

Peace is distinguished into two forms

- **Negative Peace**. The mere absence of war and violence, and
- **Positive peace.** "lasting peace built on sustainable investments in economic development and institutions as well as societal attitudes that foster peace".[78]

Big P. Actions which support and sustain political solutions and securitised responses to violent conflict.[79]

Little p: Actions which focus on building the capacity for peace within societies, and 'big P' actions support and sustain political solutions and securitised responses to violent conflict.[80]

Peacebuilding. Measures "aim[ing] to reduce the risk of lapsing or relapsing into conflict by strengthening national capacities at all levels for conflict management, and to lay the foundation for sustainable peace and development."[81]

Sustaining peace. Activities aimed at preventing the outbreak, escalation, continuation and recurrence of conflict, including addressing root causes and moving towards recovery, reconstruction and development.[82]

[78] Institute for Economics and Peace, 2018. Cf. also esp. Galtung (1969).
[79] IASC, 2020, 1.
[80] IASC, 2020, 1.
[81] UN Peacekeeping, 2022.
[82] FAO, 2018a, 1.

ANNEX B. List of Key Informants

First round of key informant interviews (scoping)

Inter-view #	Interviewee	Date of Interview
1	Giulia Caroli *Climate Security Specialist at CGIAR*	5 April 2022
2	Julius Jackson *Team Leader, Conflict and Peace Unit; Technical Officer, Protracted Crises at FAO*	5 April 2022
3	Antoine Libert *Anthropologist specializing in rural development, Mexico-based FAO.* Sylvie Wabbes-Candotti *Agronomist, Emergency and Resilience Officer at FAO.*	5 April 2022
4	Connor Elliott *Emergency and resilience focal point for FAO in NYC*	6 April 2022
5	Annika Erickson-Pearson *Head of Community Management for the Geneva Peacebuilding Platform*	11 April 2022
6	Bettie Atyam *Conflict-Sensitive Programming Specialist at FAO*	12 April 2022
7	Antonio Scognamillo *Economist with Economic and Policy Analysis of Climate Change (EPIC) program at FAO*	12 April 2022
8	Zsuzsanna Kacsó *Conflict Analysis & Conflict-Sensitive Programming Specialist* *FAOJAO*	13 April 2022

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9	Héctor Morales PhD Student *Advisor in Environmental Peacebuilding at CGIAR*	14 April 2022
10	Paul Opio *Livestock Officer of Food and Agriculture Organization of the United Nations, Rome*	26 April 2022
11	Lev Neretin *Office of Climate Change/Biodiversity/Environment at FAO*	6 May 2022
12	Anna Ricoy *Disaster Risk Management Officer, leading the resilience and emergency response program at FAO: Latin America and Caribbean*	6 May 2022
13	Catherine Wong *Team Leader, Climate and Security Risk, UNDP*	11 May 2022
14	Marie Herman *Team Member, Climate and Security Risk, UNDP*	11 May 2022
15	Valentin Hervouet, *Team Leader, Climate and Security Risk, UNDP*	11 May 2022

Second round of key informant interviews (case studies)

Case Study	Interviewee	Date of Interview
Karamoja	Bettie Atyam: *Conflict-Sensitive Programming Specialist at FAO*	23 September 2022 *(2nd interview)*
Karamoja	Paul Opio	11th October 2022 *(2nd Interview)*

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	Livestock Officer of Food and Agriculture Organization of the United Nations, Rome	
Colombia	Anna Ricoy *Disaster Risk Management Officer, leading the resilience and emergency response program at FAO: Latin America and Caribbean*	interview scheduled November
Colombia	Héctor Morales PhD Student, *Advisor in Environmental Peacebuilding at CGIAR*	interview scheduled November

Key informant interviews for Geneva Peace Week podcast

Interviewee	**Date of Interview**
Julius Jackson *Team Leader, Conflict and Peace Unit; Technical Officer, Protracted Crises at FAO*	5th October 2022
Dr Peter Läderach *Principal Scientist CGIAR*	5th October 2022
Albert Souza-Mülli *Peace Responsiveness Advisor, Interpeace*	5th October 2022
Dr Caroline Pellaton *Corporate Operations Manager, Geneva Water Hub*	5th October 2022

ANNEX C. Interview Guides

First round key informant interviews:

1. How would you define climate security? What does it mean to you?
2. Do you have personal experience of working on the climate-security nexus, and if so, could you describe your work to us?
3. How can climate change related agriculture and food security interventions contribute to sustaining peace?
4. Do you have in mind successful projects that FAO has implemented that have directly or indirectly?
5. What are the most appropriate policy and operational actions for FAO to take in the future with regards to the climate-security nexus, and how are these contextually specific?
6. Would you have any suggestions or advice for us to take into consideration during our research/project?
7. Who would you recommend us to engage with to deepen/perform our study?

Second round: in depth key informant interviews interview guide, Karamoja 1:

1. We know that Karamoja is divided into three "livelihood zones" which are determined based on aridity of the land and the dependence of the people on livestock: Pastoral, Agro-pastoral, and Agricultural. And we know that hazards such as drought and flash flooding as a result of climate change have impacted and continue to impact peace among pastoralist communities in the region.
    - ➔ **Could you tell us a little bit more about the impact these hazards have had on the people of the region? Any specific details you can share about how climate change induced struggles have impacted each of the livelihood zones differently or similarly would be helpful.**
2. We read that FAO had a best practice before carrying out programming in the region in the form of conducting a household economy analysis prior to designing interventions, as well as drawing on existing household level studies so as to not undermine the existing survival tactics in the region. We read that you created what they called "livelihood profiles" to understand how livelihoods would be affected by ecological and economic changes.
    - ➔ **Were you involved in this work? Could you tell us more details about this**

preliminary study and data collection? What do you think some of the consequences might have been had you not done this preliminary livelihood profile? How did it alter how you went about intervention design?

3. We read that since 2004, FAO has been engaged in building resilience through a holistic livelihood program, focused on three areas: livestock production, crop production, and land and water management within a disaster risk management framework. Our next few questions are about the sustainability of FAO's interventions in the region. The animal vaccination efforts have become quite famous for their success not only in preserving livestock, but also in promoting peace between pastoralist communities.
    - ➔ **Could you tell us a little bit about where this portion of the intervention is now? Are vaccination efforts still ongoing? Does it appear that peace has been maintained between communities even today?**
4. You mentioned your involvement in capacity building; we learned about the Farmer Field Schools that FAO piloted and adapted. We know that by 2013, over 800 FFS had been opened.
    - ➔ **Are they still operating today? Has FAO observed how they have changed over the years? Would you consider them a success, and if so or if not, why? If you are not involved in this, could you provide another specific example of capacity building like the training you mentioned?**
5. We read that "Female-headed households located in select areas of the region are less resilient than male-headed households, meaning female-headed households have a lower amount of assets (both productive and non-productive) compared to male-headed households.
    - ➔ It is clear that gender is an important factor to be addressed when thinking about resilience in the face of climate change induced changes in the region. What gender based work has FAO implemented in the region?
6. We read that In 2011, over 50 tons of sorghum and cowpea seeds were distributed to 15,000 households and at least 200 acres of nuclei multiplication gardens of disease tolerant cassava varieties and 50 acres of orange-fleshed sweet potatoes were established in the wet belt of Kaabong and part of Kotido districts to enhance the availability of cassava and sweet potato vegetative planting material in Karamoja.
    - ➔ **Can you describe the impact this kind of seed and resource distribution had on**

the food system? From producers to food vendors to consumers? It does not have to be exactly tied to this particular intervention, but we are interested in hearing what you have observed as far as impact and lessons learned/good practices.

7. Based on your personal experience, in Karamoja or elsewhere, what are the most effective interventions implemented with regards to resource based conflicts? Are there any consistent challenges to their realization you have observed?
8. What are the next steps planned by FAO in the region, if any?

Second round: in depth key informant interviews interview guide, Karamoja 2:

1. What are the effects of climate change in the region, in particular on food and agriculture?

We read that Karamoja is divided into three "livelihood zones" which are determined based on the aridity of the land and the dependence of the people on livestock: pastoral, agro-pastoral, agricultural. And we know that hazards such as drought and flash flooding as a result of climate change are affecting them. **Could you detail some of the specific characteristics of the region that expose it to the issue of climate change more than other areas? Since the region is so large, are there some areas of the region that suffer from varied impacts of climate change?**

2. What concrete examples of conflicts derived from climate-change-driven scarcity have you observed as a professional working on the field?

3. Could you perhaps describe to us in more detail the food and agricultural intervention that FAO undertakes in the region, which have an impact on climate change mitigation and adaptation, and ultimately also on peace and stability?

4.What successes/ good practices can we draw from the FAO intervention in the region? Can you share illustrations/suggestions? Based on your personal experience, what are the most effective interventions implemented with regards to resource based conflicts?

5. What are the main challenges to the intervention's realization? And what "don'ts/ negative

examples can we perhaps draw from the intervention?

6. What are the next steps to be undertaken by FAO in the region, if any?

7. Do you have any other suggestions/contacts/literature recommendations?

Second round: in depth key informant interviews interview guide, Colombia 2:

1. Can you tell us more about the impacts war had on the environment and people in the region, especially in light of the striking levels of inequalities in the region?

2. As you wrote in your article, "governments in multiple locations have failed to protect communities' access to lands held under customary tenure, but also that the rapid proliferation of natural resource concessions has led to claims of land grabbing and localized conflict in Liberia, South Sudan, Peru, Afghanistan, Timor-Leste and other post-conflict contexts.". What makes Colombia a successful environmental peacebuilding operation in the long term?

3. The Venezuelan refugee and migrant crisis is one of the largest external displacement crises in the world, and Colombia has been the country most affected by the crisis. How was this element considered in environmental peacebuilding? What were the challenges and opportunities associated with it?

4. What is the role of the local government in sustaining peace?

5. Based on your experience, what are the most effective policies to implement with regards to resource-based conflicts? Are there any consistent challenges to their realization you have observed?

6. Do you know if there still are some efforts regarding environmental peacebuilding ongoing today in the region?

ARP 4.8: Food for Peace

Key informant interviews for Geneva Peace Week podcast interview guide:

1. Can you please explain to us in more detail your understanding of climate security?
2. Could you focus a bit on the role of food security within the climate-security nexus and tell us more about how food and agriculture affects peace and stability?
3. Could you provide us with an example where food and agricultural interventions have been particularly successful in contributing to peace and stability?
4. Interpeace is a peacebuilding organization. Why is food security important in your work?
5. Interpeace is working in several countries on the ground. In which country or region is food and climate security the most relevant for your work?
6. Water has always been a source of conflict, especially in dry climates. With climate change accelerating, how can water based interventions contribute to food security and peace?
7. The Water Hub is part of the Blue Peace Movement. Could you tell us a bit more about it, including on the concept of hydro-diplomacy?
8. The issue of gender is a key component of CGIAR's work on climate security. Could you tell us a bit more about it using a concrete example?

ANNEX D. Public outreach and community engagement

It has been a top priority of both our student team as well as our partner to keep the "applied" component of the applied research project at the forefront. While our technical research, in terms of literature reviews and key informant and expert interviews, has composed the bulk of the effort of the ARP, our partner has encouraged us to take advantage of opportunities to engage in more varied and meaningful ways with the community around us and the FAO community. We knew from the beginning that our research would make a positive and interesting contribution to the 2022 Geneva Peace Week (GPW22). We made it a goal to craft a comprehensive and interesting proposal to the GPW22 organizing team, and we were grateful to be accepted.

There were two options regarding the format of contribution to the Peace Week. We could organize and execute a panel discussion, in which we explain our research in a live session, and hear from a panel of experts on the topic. The other option was to take part in the Digital Series and create a 15 minute podcast on the topic. We feel extremely lucky to have been a part of the Digital Series of GPW22 with a podcast we developed, entitled *Food Security for Peace: Exploring Pathways to Build Peace through Food and Agricultural Interventions*. The podcast focuses on increasing understanding of how agriculture and food systems are linked to climate change and conflict dynamics. It explores pathways through which food security and agricultural interventions can support the dual processes of building resilience to climate change and sustaining peace. In collaboration with FAO, CGIAR, Geneva Graduate Institute, Interpeace, World Food Programme and the Geneva Water Hub - Hydropolitics Towards Peace and Security, the podcast examines both promising past interventions and considers lessons for the future.

Our team was extremely fortunate to have had the opportunity to take part in a hybrid side-session during the World Food Forum (WFF), which took place between 17 - 21 October. The 2022 WFF theme was, "Healthy Diets. Healthy Planet," and was aimed at "bring[ing] young people together in a safe and inclusive space to discuss, advocate, and co-identify priorities and solutions on the way forward to catalyze the transformation of agrifood systems." The side event at which we were invited to present was a Youth Dialogue with several guiding questions, two of which members of our team were requested to answer. The first was, "how can we create awareness of the global hunger crisis and the challenges facing our global agri-food systems

among youth?", followed by: "how can youth act as agents of change and drive sustainable transformation of agri-food systems to support the SDGs and end hunger?". For the first question, Amelia and Ambra shared broadly about the power of podcasts as an accessible and easily digestible form of continued education, and specifically about our podcast for GPW22. For the second, Martin and India shared about the Applied Research Project in general, highlighting the importance of collaboration, and creating spaces for exchange and intentional learning. This could be between organizations, such as between the Geneva Graduate Institute and FAO, or between generations. We pointed out that the WFF session itself was an incredible opportunity for collaboration and to create relationships with others interested in the same topics and issues (others presenting at the session included representatives from Uniterre, Youth Parliament Swiss Abroad, World Association of Girl Guides and Girl Scouts, Biovision, and Pfadi Peter und Paul).

Furthermore, on November 2, our team will partook in two GPW22 online sessions in which creators of the Digital Series gather to speak about their podcasts and answer questions from participants. Our partner has also invited our student team to the FAO headquarter offices in Rome, Italy, where we will present our research, share our findings and recommendations, and look for further opportunities to promote the integration of peacebuilding components into existing and future agricultural interventions led by FAO.

ANNEX E. Literature Review: Food security interventions with a Peacebuilding Element

This annex reviews the existing academic and policy literature on food security interventions with a peacebuilding element. Among the different international actors working on an integrated approach to sustainability, FAO's mandate recognizes the connections between preserving peace, food security, and sustainable development. This suggests that FAO's policies and programming for resilience and climate change action may favorably affect other aspects of the nexus, such as conflict transformation and positive peace.[83] Positive peace refers to the structures, attitudes, and institutions that sustain and create peaceful societies.[84] It encompasses various aspects that stop both direct violence and the widespread suffering brought on by other forms of violence, such as exploitation and repression in political and economic structures, racism in cultural contexts, and environmental violence from pollution and unhealthy environments.[85]

These pathways acknowledge the links between current political, economic, and social issues as conflict drivers, as well as their interplay with climate change impacts on agri-food systems and potential entry sites for promoting peace and peacebuilding. Through the understanding of climate-peace pathways as the processes that reconfigure social and political orders and networks, it is assumed that FAO supports and encourages the dual process of fostering positive peace and promotes resilience to climate-related security risks[86]. The identified pathways are the following:

1. *Governance of land and other renewable natural resources*

One of the entry points for generating co-benefits of climate adaptation and mitigation for food security and peace is environmental and natural resource governance[87]. Through peacebuilding, FAO can improve food security as conflicts over resources are often due to governance failure. The organization can help strengthen or implement regulatory frameworks and institutions to regulate the use and rights to natural resources sustainably and equitably. At the international level, it can help manage resources that are shared between states, such as water. The processes of greater resource governance's potential to maintain peace are explored in recent research. First, the spread of environmental standards and good governance principles may

[83] Mayrhofer, & Gupta, 2016, 22-30.
[84] Galtung & Fischer, 2013, 95-102.
[85] Galtung, 1969, 167-191.
[86] Lederach, 2019.
[87] Morales-Muñoz et al., 2021, 179-199.

promote human empowerment and bolster civil society. Second, the provision of state assistance, in the form of public services, can help communities with their practical needs, thus increasing their trust in the government[88].

2. *Climate adaptation and resilience*

The capacity to adapt to climate change is essential for maintaining stable and sustainable livelihoods, particularly in regions that depend on natural resources or agricultural output and are most vulnerable to climatic variability. Investments in programs that attempt to adapt agricultural output to a changing environment may have important effects on conflict prevention and post-conflict rehabilitation, according to Holleman, Jackson, Sánchez, and Vos[89]. In terms of climate adaptation, FAO can act towards strengthening or implementing National Adaptation Plans that take into account resilient agri-food systems. Addressing climate vulnerability contributes to positive peacebuilding as it lessens drivers of conflicts[90]. In that sense, FAO also works on climate-smart agriculture and early warning systems to protect resources and livelihoods and prevent conflicts.

3. *Peace-positive climate change mitigation*

FAO may assist developing nations by providing the institutional assistance required to convert existing legislation and foster the growth of agriculture in a changing climate. In order to execute Nationally Appropriate Mitigation Actions (NAMAs), FAO can serve as the liaison between the agricultural and environmental sectors. This collaboration can serve as a starting point to address issues related to the demand for increased food production due to less land availability, and lessening the environmental strains caused by the agriculture industry.

Additionally, FAO's advisory role in climate mitigation strategies can help to promote peace. It can spark new investments in the farming sector and establish a forum for discussion on rural development. In this way, FAO can help promote peace, since economies more reliant on agriculture are also those that are more vulnerable to war and climate change[91]. More concretely, FAO can foster climate mitigation policies to protect forests which in turn creates sustainable

[88] Krampe, Hegazi & VanDeveer, 2021, 144, 105508.
[89] Holleman, Jackson, Sánchez & Vos, 2017.
[90] Crawford, & Church, 2021, 82-91.
[91] Castro-Nunez, Mertz & Quintero, 2016, 22-30.

livelihoods. The food produced will therefore participate in fostering peace in a virtuous cycle[92]. FAO also works on integrating local knowledge in designing solutions to promote agroecology and contribute to peace.

[92] Castro-Nunez, 2018, 621.

ANNEX F. Detailed Karamoja case study

Introduction to the Karamoja Cluster context

An example of an FAO food security intervention region that includes peacebuilding elements can be found in the region of the Karamoja Cluster. The Karamoja cluster covers an area of over 8,000 kilometers, running along the border of Uganda and crossing into parts of Ethiopia, Kenya, South Sudan. The Cluster is home to at least 13 pastoralist and agro-pastoralist communities, with a total population of over 4.5 million people, the majority of whom are of Ateker origin and speak the Ateker language.[93] These communities have a long history of interaction with one another extending back to pre-colonial times as they traveled the region's rangelands with their cattle in search of pasture and water[94]. Some of these villages can be located on both sides of international borders, as the villages predated the borders. The creation of national borders changed the legal realities, but it did not significantly alter the relations between the communities[95]. In fact, an important factor contributing to ongoing tension and violence in the Karamoja Cluster is the discrepancy between border region situations as defined by law, and how communities actually live and interact.[96]

The region is characterized by uneven and inconsistent rainfall, which manifests as protracted dry spells and flash floods[97]. According to the degree of aridity and the resulting reliance on cattle, the Karamoja region can be divided into three livelihood zones: 1) Pastoral: A semi-arid region that stretches along Kenya's eastern border, with an extended dry season and sporadic rainfall that stretches along Kenya's eastern border; 2) Agro-Pastoral - extending across the middle of the Karamoja region from the border with South Sudan, with an average annual rainfall of 500–800 mm; 3) Agricultural – capable of supporting most tropical food crops, with an average annual rainfall of 700–1000 mm.[98]

[93] Akiyode, Tumushabe, Hadijjah, Peter, 2017, 174.
[94] FAO, 2022, 14.
[95] Ibid.
[96] Ibid.
[97] FAO, 2022, 15.
[98] FAO, 2014, 1.

Map of the Karamoja cluster (Source: Catley et al, 2021)

The productive assets and conventional coping mechanisms that support livelihoods have been severely eroded over the past several decades due to the increase in the volume, frequency, and intensity of climate-induced hazards[99]. Furthermore, trans-boundary animal diseases frequently worsen the impact of extended dry spells on livestock productivity. Deforestation, monoculture, poor land and water management techniques (which cause uncontrollable runoff), erosion, nutrient depletion, water pollution, and flooding in low-lying areas all affect crop output[100]. These underlying causes reflect the region's overall shortage of production capabilities and overburdened extension service delivery. Other challenges include the use of crude tools, a lack of clean, drought-tolerant, and quickly maturing crop varieties, crop pests and diseases, and poor pre- and post-harvest management techniques, all of which threaten to make the communities even more vulnerable as the effects of climate change worsen.[101]

Pastoralists employ livestock mobility as a strategy not only to manage the rangeland in order to to survive in the arid and unpredictable environment, but also to cope with recurrent droughts. They move their livestock across large territories both within and across national borders. Due to the dispersed and unpredictable resources, communities engage in flexible and dynamic resource adaptation and optimization[102]. Mobility enables pastoralists to maximize livestock

[99] FAO, 2012, 15.
[100] Akiyode, Tumushabe, Hadijjah, Peter, 2017, 174.
[101] FAO, 2014, 2.
[102] Onyango, 2018, 212.

productivity in an environment characterized by spatial and temporal variations in rainfall as well as variations in the quantity and quality of forage. Due to competition for access to rangeland resources, pastoralists who are in the process of moving may come into conflict with other pastoralists as well as other land users, particularly sedentary farmers.[103]

This case study will examine aspects of the Karamoja Cluster under the lens of the seven identified pathways through which FAO's agricultural interventions can and have promoted and sustained peace.

Integrate conflict analysis, context-specificity

The nature of the conflict in the Karamoja Cluster, including its development over time and management difficulties, are determined by both micro- and macro-level dynamics. While macro-level dynamics come from the national, regional, and international levels, micro level dynamics start at the community level. Although communities have little or no control over them, macro-level dynamics increasingly influence micro-level dynamics, and can restrict or increase the scope and chances for action to manage conflict. Therefore, implementing effective conflict management interventions requires a comprehensive grasp of the relationships between the micro and macro levels — integrated conflict analysis is key. Macro level dynamics tend to be the drivers of conflict and may form and define chances for conflict resolution and management, whilst micro level dynamics may define and shape the causes of conflict.[104]

For example, many non-pastoralists believe that resource-based disputes are primarily caused by the practice of pastoralism, and more specifically, by pastoralist mobility[105]. This view influences institutional and policy responses that seek to settle pastoralists and reduce mobility. Those who advocate for such policies frequently fail to understand that pastoralist mobility does not, in and of itself, lead to conflict. Rather, conflict arises as a result of several factors — which are all extremely context specific — including population growth, the degradation of rangelands by competing land uses such as mining, oil exploration, and commercial agriculture, the shrinking of rangelands due to green energy development, and the negative effects of territorial ethnicization on

[103] Interview with Bettie Aytam.
[104] FAO, 2022, 21.
[105] Akiyode, Tumushabe, Hadijjah, Peter, 2017, 173.

rangeland management[106]. Intervention planners and designers must remember that particularly in regions afflicted by conflict and the harshest impacts of climate change, context specificity is key to a successful peace sustaining program.

The proliferation of small armies, the dissolution of traditional institutions and systems for managing natural resources and resolving conflicts, the inefficiency of formal systems of governance, and the effects of climate change are just a few of the factors that have contributed to the increasingly frequent, complex, and violent resource-based conflicts in the region in recent years. The situation has worsened over the previous two years as a result of new problems and threats, including the COVID-19 pandemic.[107]

Communities in Karamoja have a long history of controlling climate fluctuation using a variety of tactics to maximize livestock production and productivity while preserving the rangelands[108]. Climate variability is an inherent feature of the rangelands. However, the effects of climate change are now so severe that they are undermining conventional coping strategies.

It is widely accepted that climate change is a driver of conflict in the Karamoja Cluster, primarily due to its impact on the rangelands' capacity to provide pasture, water, and other resources that support pastoral and agro-pastoral livelihoods[109], even though there may be no causal link between climate change and conflict. Particularly, the effects of climate change on the wellbeing and productivity of rangelands heighten resource competition and raise the possibility of conflict.

Competition for access to pastoral resources and cattle rustling have been highlighted as the two primary causes of resource-based conflict.[110] In pastoral and agro-pastoral societies, competition for access to pasture and water is endemic, but it is heightened during droughts when different communities congregate in regions with important dry season grazing and water sources, both inside and outside of national borders.[111] When the pastoralists whose areas contain the strategic resources oppose the entry of pastoralists from other regions or attempt to control or bar them from accessing the resources, the rivalry degenerates into war. Conflict, on the other hand,

[106] FAO, 2014, 2.
[107] FAO, 2022, 22.
[108] Ibid.
[109] Akiyode, Tumushabe, Hadijjah, Peter, 2017, 173.
[110] FAO, 2022, 21.
[111] Interview with Paul Opio.

can arise if the indigenous population's rules for managing the rangelands are disregarded or broken by the visiting pastoralists[112]. Such circumstances arise when conventional resource sharing agreements are no longer useful in negotiating access to pasture and water.

Growing human and cattle populations have increased the risk of competition for pasture and water leading to conflict, while rangelands are shrinking as a result of changes in land use and land tenure systems that lower productivity and are already being influenced by climate change[113]. Additionally, a gap in coordination and conflict resolution has been produced by the weakening of conventional governance and resource management organizations that previously controlled access to rangelands resources[114]. The security and efficacy of communal tenure over rangelands have been eroded by government policies that are supported by conceptions of the ownership of land and natural resources that are irreconcilable with those of pastoralists.

Cattle rustling, which is essentially violent intercommunal theft of livestock, predates the history of pastoralism. The violence that traditionally accompanied livestock rustling was organized and contained. The degree of the violence and the number of victims were constrained by the use of traditional weapons like spears and arrows.

Cattle rustling is no longer a common practice; instead, it has evolved into "cattle raids," which are violent in nature and carry a high danger of serious bodily harm. The Karamoja Cluster's gun proliferation is largely to blame for the change from livestock rustling to cattle raids. This tendency can be linked to the civil conflicts in Ethiopia, Somalia, and Sudan as well as the 1979 overthrow of the Idi Amin military administration in Uganda. Since 2013, South Sudan's civil war has increased options for citizens to obtain weapons. The evolution of cattle rustling is a sign of how the widespread availability of firearms has changed the social structure of communities in the Karamoja Cluster, particularly through shifting the power dynamics between young and elders during the planning and execution of cattle raids.[115]

[112] Interview with Paul Opio.
[113] Akiyode, Tumushabe, Hadijjah, Peter, 2017, 172.
[114] FAO, 2022, 23.
[115] FAO, 2022, 24.

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In the Karamoja Cluster, there is a clear connection between conflict, food security, and climate change, and these issues cannot be solved without addressing conflict. Contrarily, overcoming these obstacles is necessary for managing conflict and establishing a lasting peace.[116]

Conflict reduces chances for food production and diverts funds that would be used to support agriculture to security activities, which both contribute to food insecurity. Youth who take part in raids to obtain resources to purchase food, however, show that food insecurity can also serve as a catalyst for conflict.[117] By placing restrictions and limitations on market operations, which are essential for facilitating access to food, conflict further erodes food security. Transporting food to markets is made difficult by the insecurity along the roads in the Karamoja Cluster.[118] Furthermore, as farmers are unable to put the skills they learn from such programs to use, violence reduces the effectiveness of efforts by development partners, such as FAO, to support improved access to food in the Cluster.

The effects of escalating climate change have a significant negative multiplying effect on the conflict situation in the Karamoja Cluster.[119] Conflict makes it harder to move around, which makes the effects of climate change worse. Conflict-related restrictions on pastoralist mobility force the concentration of cattle in particular areas, which leads to overuse and degradation and exacerbates the effects of climate change, which express themselves in more frequent droughts and floods. Contrarily, as rangelands resources become less accessible due to climate change, competition increases and conflict results. Additionally, due to climate change, pastoralists must relocate farther and farther from their houses during the dry season, exposing them to insecurity.[120]

As a result of climate change, agricultural and cattle production now face new threats. Additionally, pastoralists report more frequent outbreaks of animal diseases, which are made worse by the fact that animals suffer from a lack of water and pasture, making them more prone to infection[121]. Climate change directly relates to how conflict affects livelihoods. Many pastoralists have turned to selling firewood and burning charcoal to get money as war has weakened the livestock business.

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[116] Akiyode, Tumushabe, Hadijjah, Peter (2017), 174.
[117] Interview with Bettie Aytam
[118] FAO, 2022, 23.
[119] Akiyode, Tumushabe, Hadijjah, Peter (2017), 173.
[120] Interview with Bettie Aytam
[121] Ibid.

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It is reductionist to attribute the issue of conflict between pastoralist communities in the Cluster to their mobile traditions. The drivers of conflict are far more complex and nuanced, and a proper integrated conflict analysis is required for interventions to successfully implement a productive and effective peacebuilding element into their programming.

Dialogue mechanisms, locality, and resilience

The Karamoja Cluster has the highest level of food insecurity in the Intergovernmental Authority for Development (IGAD), an area which encompasses 5.2 million km2 over Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda[122]. The most important source of income and food for communities in the IGAD is livestock, which is poorly integrated into national livestock health monitoring systems and market routes[123]. An intervention with an eye toward locality would prioritize local knowledge and needs into programming, which could include improved integration of local needs within the national livestock health monitoring system. Even further, an intervention that aims to sustain peace in the region could work toward establishing better lines of communication (dialogue mechanisms) from local populations to those who control standards for livestock health monitoring systems and market routes.

Bringing communities together, both at the local level and in terms of cross-border cooperation, and training them on conflict sensitivity is a crucial intervention implemented by FAO, with the aim of strengthening capacities in terms of conflict prevention and resources management and sharing. Enabling communities to have a common understanding of the causes of conflict allows them to implement stronger and more sustainable recommendations, and the participatory approach builds trust and advances peace in the long term[124].

Diversifying agricultural livelihoods and accumulating assets are crucial factors in keeping such livelihoods viable and moving communities toward building resilience[125]. To help communities mobilize resources, Group Savings and Loan Schemes (GSLS) were launched and have grown over time as essential elements of the APFS program. In addition to the initiatives,

[122] https://igad.int/the-igad-region/
[123] Ibid.
[124] Interview with Bettie Aytam.
[125] FAO, 2022, 16.

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APFS groups receive training in farming as a business to enable them to effectively use their self-mobilized resources by using improved and suitable farming techniques[126].

Other major contributors to food insecurity in the region include increasingly frequent recurrent droughts, desertification brought on by climate change, and degradation of rangelands. According to the literature, limitations on pastoral movement brought on by shifting borders within states exacerbate intercommunal tensions and disagreements over increasingly scarce natural resources, weaken productivity, and jeopardize food security.[127]

The Karamoja Cluster has a long history of both voluntary and involuntary population mobility, and conflict affects migration across national borders[128]. Droughts, floods, and other climate-related disasters induce periodic displacement. Often, those who have been uprooted return to their homes once the disaster has passed or the rains have stopped. Although such communities coexist peacefully with the host communities for the most part, their relationships are occasionally strained and frequently threatened with expulsion[129]. This is an opportunity to use dialogue mechanisms as a peacebuilding tactic: if there are mechanisms in place for migrant communities to more effectively communicate with host communities, conflict could be reduced.

To build resilience in the cluster FAO has been involved in several capacity building and strengthening activities. Over the past seven years FAO has supported efforts to lessen the impact of drought on livelihoods with assistance from the European Commission's Humanitarian Aid and Civil Protection Office (ECHO)[130]. This support has come in the form of technical coordination and backstopping. According to comparable agreements, FAO is wrapping up the implementation of the Drought Risk Reduction Action Plan for the Horn of Africa, which was supported by ECHO and primarily focused on boosting resilience and lowering vulnerability in local communities in Karamoja.[131]

In order to improve drought and flood preparedness, increase the adaptive capacity of vulnerable communities, and address the twin issues of climate change and environmental degradation, FAO has adopted a Community-Based Integrated Watershed Management approach

[126] FAO, 2014, 2.
[127] FAO, 2022, 17.
[128] Akiyode, Tumushabe, Hadijjah, Peter (2017), 173.
[129] Ibid.
[130] FAO, 2014, 5.
[131] Ibid.

that considers the connections between land and water within a natural ecosystem[132]. Moreover, to improve their knowledge and abilities in developing, implementing, monitoring, and evaluating community-based integrated watershed management programs, District Local Government and NGO staff in the Karamoja region have participated in specially designed training sessions[133].

This resilience and capacity strengthening extended to land and water management interventions as well: FAO has been advocating effective methods for managing land and water, including micro-irrigation, building underground dams on dry river beds, bio-intensive gardening, and conservation agriculture[134]. Specific examples include the establishment of local tree nurseries and the promotion of drought-tolerant cultivars.

Finally, FAO focuses specifically on gender-based violence prevention as a tactic for building resilience and sustaining peace. To that end, because it is recognized that addressing household food and economic security lessens the underlying causes of GBV, FAO leverages the Farmer Field and Life Schools (FFLS) as a platform for promoting production and entrepreneurial skills among the local communities[135]. Age and gender play important roles in determining varying levels of vulnerability and resilience, and the Socio Economic and Gender Analysis (SEAGA) methods developed by FAO serve as the foundation for choosing the most effective interventions[136]. As a result, the APFS has supported sustainable medium- and long-term livelihood possibilities. In addition to the APFS, Junior Farmer Field and Life Schools (JFFLS) have been developed in the districts of Kaabong and Kotido with a focus on young people currently enrolled in school, previous raiders, and dropouts[137].

In conclusion, FAO used a bottom-up approach — focusing on the local level solutions as a basis — to coordinate cross border humanitarian and development actors. As a result, pastoral communities increased cross-border trade, allowing them to develop joint drought responses. FAO-implemented interventions included a call for community animal health workers to provide basic animal health services and developing a livestock and pastoral field school to build capacities

[132] FAO, 2014, 6.
[133] Ibid.
[134] Ibid.
[135] FAO, 2014, 7.
[136] Ibid.
[137] FAO, 2014, 5.

on existing local knowledge. FAO's action resulted in increasing resilient livelihoods in the area, thus reducing vulnerability to droughts and other climate related shocks and stressors.

Animal health and sustainability

Over the past years, communities in Karamoja have received support from the FAO, the Government of Uganda, and the relevant District Local Governments through a comprehensive livelihood program that focuses on three integrated priority areas of livestock production, crop production, and land and water management within a Disaster Risk Management (DRM) framework[138]. Furthermore, the following interventions have been implemented:

In conjunction with the government, FAO has helped the livestock immunization campaigns in the region, and through increased surveillance and response, the incidences of common cattle diseases have decreased, and following pockets of outbreaks have been continuously under control. Since 2011, FAO has promoted the International Livestock Emergency Guidelines and Standards (LEGS). FAO and other stakeholders have been training and supplying community animal health workers, who play a crucial role in mobilizing and teaching pastoral communities, performing immunization, disease surveillance, and other fundamental support services for animal health[139].

Furthermore, in order to effectively address the distinctive livelihood concerns in the area, FAO has been testing and adapting the Farmer Field School (FFS) methodology. The APFS offers a platform for integrating several interventions holistically in order to bridge short-term activities such as skill development, the provision of necessary inputs, rural savings, and the beginning of income diversification as a prelude to medium- and long-term development[140]. Furthermore, APFS also enhances people's capacity in conflict prevention and resolution, as they learn how to assist in case any disputes over resources arise.

More than 850 FFS, Agro-pastoral Field Schools (APFS), and Pastoral Field Schools (PFS) have been established with the help of close to fifteen NGOs and the corresponding District Local Governments, serving 25,500 households in the area[141]. The organizations have received a variety

[138] FAO, 2014, 2.
[139] Ibid.
[140] FAO, 2019, 1.
[141] FAO, 2012, 5.

of seeds, farm equipment, investment grants, and training in crop and animal husbandry, soil, and water management techniques[142].

Conclusion

Looking forward, there have been significant investments, as demonstrated through FAO's involvement, in the region. But that investment is of course not limited to the international donor and development sector. The regions that make up the Karamoja Cluster are among the least developed in each of the four countries through which it stretched. To address their development issues generally and to resolve and manage conflict specifically, all four of these countries have formed institutions and are putting into place policies, programs, and institutions that are focused on these regions. Some nations have created specialized ministries with the charge of directing the social and economic development of the Karamoja Cluster's constituent regions. These form the primary partners for programming to address the underlying causes of violence and foster lasting peace in the Karamoja Cluster, along with decentralized and devolved governance systems (regions in Ethiopia, counties in Kenya, states in South Sudan, and districts in Uganda).

The four national governments are actively implementing policies and programs that allow for cross-border cooperation on pastoralist development and conflict transformation at the regional level within the framework of the African Union (AU) and IGAD. The four nations have pledged to implement the Framework and Guidelines on Land Policy in Africa and the Policy Framework for Pastoralism in Africa within the AU.[143]

The Member States adopted the Policy Framework for Pastoralism in Africa to make it easier to secure, preserve, and advance the rights and quality of life for pastoralist communities. The policy framework acknowledges the threat that conflict poses to pastoralist livelihoods and development, as well as to international, regional, and national peace and security in general, and asks for persistent conflict resolution. It emphasizes the value of pastoral strategic mobility in enabling effective use, conservation, and adaptation to climate change of rangelands.[144]

[142] Ibid.
[143] FAO, 2014, 2.
[144] CGIAR (2013).

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Strengthening land rights, increasing production, and securing livelihoods are the goals of the Framework and Guidelines on Land Policy in Africa[145]. In addition to calling for policies and programs to safeguard pastoral ecosystems and improve pastoral land rights, especially through the resolution of cross-boundary disputes, it acknowledges the significance of pastoralism and cattle production to agricultural growth in Africa. The Framework and Guidelines serve as a foundation for the creation of land governance policies that increase pastoralists' rights to tenure and promote their mobility both within and across national boundaries.

Over the past years, communities in Karamoja have received support from the FAO, the Government of Uganda, and the relevant District Local Governments through a comprehensive livelihood program that focuses on three integrated priority areas of livestock production, crop production, and land and water management within a Disaster Risk Management (DRM) framework[146].

The Karamoja Cluster faces substantial difficulties in managing conflicts and fostering peace. Given that it has persisted after years of programming and considerable investments, it is a difficulty that cannot be solved easily. It is crucial to consider the size of the task and the things that can be learned from programs. The Cluster as a whole has many issues, but it is vital to recognize that there are a number of challenges that are unique to different regions and are determined by regional environmental, economic, and political realities and situations. The complexity of the Karamoja Cluster's resource-based conflict poses the biggest obstacle to resolution.

In spite of significant investments and a wide number of actors, the challenges concerning climate-security in the Karamoja Cluster have persisted. Communities worry about projects being implemented without proper consultation with them about their goals and about a lack of coordination among the several actors. They claim that this explains why so many initiatives and projects have little to no effect on the ground. In a focus group discussion (FGD) with men in Moroto's Rupa Sub County, the respondents claimed that local NGOs' activities are depriving communities of their autonomy and weakening their resilience. Moreover, the sustainability of

[145] UN (2010).
[146] FAO (2014), 2.

these interventions is weak, and shocks like droughts can reverse the progress made in terms of resource management.

Another key challenge to tackle climate-security risks concerns the non-mandatory nature of conflict sensitive and peace considerations[147]. In fact, when country offices plan their interventions on agriculture and food security, the social security component is not a mandatory aspect to be taken into account. This failure of implementing a multidimensional and systemic approach is also observed on the donors' side, who often are only interested in tackling one factor, i.e., humanitarian assistance, which takes more than the 80% of the resources[148], thus financing interventions that have little impact on the overall communities wellbeing and development. Using humanitarian resources to tackle chronic issues would have an impact on the long term without increasing the dependency of the population on aid. In this context of lack of resources for building resilience, it is important to focus on scale solutions that are proven to be effective at the local level, and to scale them up[149].

The spatial dispersion of the Karamoja Cluster, the multitude of actors, the diversity of local circumstances, and the cross-border aspect all contribute to the coordination problem. Given the variety in governance and policy environments across the region's nations, cross-border coordination is particularly challenging. The size of the Cluster and the variety of local circumstances make it difficult to scale interventions and develop effective ways, necessitating a balance between the particular and the universal. Interventions must be scaled at a level that guarantees an adequate impact while also being sufficiently aligned to local circumstances to adapt to them.

The diversity of institutional and policy frameworks among the four nations presents a unique problem for intervention planning. Layers of institutions, mandates, and policies, some complementing and others tugging in different ways, define the context in the Cluster. Despite the fact that all four countries have some degree of decentralization and devolution, the systems of government and the distribution of power and authority between local governments in areas of conflict and central governments in capital cities differ significantly.

[147] Interview with Paul Opio.
[148] Ibid.
[149] Ibid.

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The need to understand that while communities in the Cluster share many characteristics and face many similar challenges, the scope and opportunities available for responding to conflict can vary significantly across the landscape is a major lesson for programming to address resource-based conflict in the Karamoja Cluster. This means that for innovations and good practices to have a lasting influence, they must be tailored to the conditions and realities of particular places.

Interventions for conflict transformation can either directly target conflict management (strengthening institutional frameworks, enhancing operational efficiency, etc.) or work to increase pastoralist communities' access to profitable prospects. To achieve appropriate activities at community, sub-national, national, and regional (cross-border levels), intervention should be strategically targeted.

The need to include women and young people in conflict management and peacebuilding initiatives has been a key lesson learned with regard to community level interventions. The significance of strong national policy and institutional frameworks for peace building is the most important lesson learned with regard to conflict management and peacebuilding at the national level.

ANNEX G. Detailed Colombia case study

Introduction to the Colombian context

Another example of an FAO food security intervention that includes peacebuilding elements can be found in Colombia. Colombia is a diverse country, both in terms of its environmental attributes and its indigenous ethnic groups. Around 23% of the population lives in rural areas[150]. Its complex geography has influenced conflicts' variation in terms of length and degrees of intensity, making it costly to provide public services, including defense and security[151].

After more than fifty years of conflict, the country was left struggling with internal violence, poverty, hunger and a lack of services and infrastructures[152]. The internal armed conflict over political status quo is distinctively characterized by a large number of (both legal and illegal, national and international) armed groups. This includes guerillas, paramilitary forces, gangs, or external forces such as the United States, causing vast economic damages and forcing around 6.4 million people, out of a population of almost 50 million inhabitants at the time, to be displaced. Throughout the course of the conflict, the country underwent major structural transformations. It shifted from a rural to an urban society, and from a coffee-based economy to an extraction and service-based economy. These changes required major population relocation and increase in production centers, paired with a reduction in the agricultural sector's share of the national Gross Domestic Product (GDP)[153]. The agricultural sector suffered from an increase in production due to the development of export agriculture, which was accompanied by a decrease in short-cycle crops[154]. The intensity and length of the conflict, combined with the fact that family farming was the cornerstone of the country's food security (accounting for around 70 percent of the foodstuff sold in local markets) meant Colombia faced unprecedented challenges in terms of food security and peacebuilding[155].

[150] Segovia, 2017, 2.
[151] Ibid.
[152] FAO, 2019, 1.
[153] Segovia, 2017, 2.
[154] Ibid.
[155] FAO, 2019, 1.

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Map of Colombia Departments (Souce: Colombia Travel Guide 2009-2016)

In 2016, a Peace Agreement between the Revolutionary Armed Forces of Colombia (FARC) guerrillas and the Colombian state was signed. A significant 85.5% of its implementation budget was allocated to the Comprehensive Rural Reform (CRR), which aimed to transform Colombia's rural areas by strengthening food security, boosting income and job opportunities, and optimizing social cohesion.[156]

This case study will examine aspects of the Colombian conflict under the lens of the seven identified pathways through which FAO's interventions can and have promoted and sustained peace.

[156] FAO, 2019, 1.

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Context-specificity and integrate conflict analysis

What characterizes the Colombian case is the interlinkages between food security and violent conflict. In their research, Segovia shows that the relationships between food security and violent conflicts are characterized by specific contexts, which are made up of geographical characteristics, the length, nature, scope and intensity of the conflict, as well as the history of food security and public policies implemented during the hostilities.[157]

In Colombia, the armed conflict had a negative effect on food security, as there was mass forced displacement due to disputes over the control of rural territories. Moreover, food insecurity had been a persistent problem in the history of the country, affecting rural areas most heavily, and thus vulnerable populations such as indigenous peoples, afro-descendant populations, and peasants.[158]

What makes Colombia a case study unique from other conflicts is the direct connection between territorial control and the escalation and deepening of hostilities on the one hand, and forced displacement and food insecurity on the other.[159] The relationship between food security and conflict in Colombia therefore changed through time as the conflict transformed, both in terms of actors' socio-political power and motivation. Territorial control was used as a strategic military tool for wealth accumulation and social and political control. Additionally, as in the majority of violent conflicts, the Colombian conflict affected food security by disrupting agricultural production, distribution, and marketing of food.[160] The difference with this specific armed conflict is that the damage in terms of food security was felt at the local and regional level, but did not have a significant impact on food security at the national level. Indeed, warring parties advanced not by physically destroying rural territories, but rather by damaging production through their long-term occupation and control.[161] The strategic control of rural territories was one of the main factors which caused violent and forced eviction and dispossession.

[157] Segovia, 2017: 2.
[158] Segovia, 2017, 5, 26.
[159] Segovia, 2017, 5.
[160] Ibid., 2.
[161] Ibid.

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Beyond the influence of armed conflicts on food security, some authors argue that food security (or insecurity) can influence the dynamics of armed conflict. At the local level, more food insecurity can lead to more violence. A lack of access to food due to crop control or sudden unemployment leads to hunger and therefore contributes to deepening social conflict over resources.[162] Adverse climate conditions, such as floods or droughts, leads to undernourishment and forced displacement, contributing to an increase in social conflicts over land.[163] Inequality in land ownership and its consequences, especially in terms of food insecurity, can therefore lead to conflict, eviction and dispossession strategies, fueling the armed conflict in the long term.[164] Because of this vicious circle, interventions hoping to minimize food insecurity must supplement short-term actions with comprehensive policies aimed at providing structural changes in order to achieve long-term food security.[165]

Although FAO generally is not involved in the negotiation of peace agreements, it can play a supportive role in monitoring and assisting the technical implementation of agriculture- or resource-related aspects of post-conflict engagements.[166] FAO is part of a group of international organizations providing technical support to the Government of Colombia in implementing the CRR. As mentioned, in Colombia, food security is negatively impacted by armed conflicts largely because of the forced displacement of millions of people, caused by the military, economic, and political strategy of armed actors to possess and control territories. This highlights the need for an in-depth understanding of the nature, dynamics, intensity, and pattern of conflict[167] in order to understand the specific context. All UN entities are encouraged to integrate the approach to sustaining peace in their strategic planning as a goal to which their work can contribute.[168] For FAO, this means integrating conflict analysis in their interventions, not only focusing on improving food security but considering how peacebuilding can contribute to their policy objectives. To this end, FAO worked to rehabilitate food production for home consumption as a strategy to strengthen social cohesion and generate resilience in Colombia. Before FAO was able to implement this strategy, they conducted both a climate change vulnerability and a climate change conflict risk

[162] Segovia, 2017, 27.
[163] Ibid.
[164] Ibid.
[165] Segovia, 2017, 28.
[166] FAO, 2022, 22.
[167] Segovia, 2017, 28.
[168] FAO, 2018a, 59.

analysis.[169] The result of integrating conflict analysis into their intervention was the rapid recovery of the food security of vulnerable communities affected by the conflict. It also contributed to the strengthening of institutional capacities as a mechanism for peacebuilding and resilience.

Dialogue mechanisms, locality

FAO supported the Colombian government's peacebuilding efforts through the CRR which worked to not only improve food security, but also job opportunities, incomes, overall social cohesion, and land and natural resource governance.[170] FAO Colombia's implementation of the CRR focused on fighting hunger and promoting rural reforms and development.

As previously mentioned, the Government of Colombia and the Revolutionary Armed Forces of Colombia, asked FAO to collaborate in the implementation of the CRR. As part of their mandate with the Colombian government, FAO seeked to improve local land ownership and management of natural resources; and thus through the following initiatives: 1) supporting reforms the agricultural sector underwent, especially through the facilitation of financial investments; 2) supporting the design and implementation of projects targets at strengthening small and medium producers' technical capacities, as well as those targeted at stimulating rural women's employment opportunities; 3) promoting political coordination at all levels of decision making by fostering policy dialogue, knowledge exchange and cooperation; 4) strengthening farmers' access to land through supporting the implementation of the Voluntary Guidelines for the Responsible Tenure of Land and other natural resources (VGGT).[171]

The implementation of the CRR resulted in the creation of a land fund, from which plots of land were to be distributed among untenured peasants and large-scale initiatives to provide public goods and services. FAO's intervention also led to the promotion of development programs with a territorial approach. The aim of these programs were to stimulate agricultural productivity to increase food security, particularly in the regions most affected by the conflict. To do so, FAO partnered with a wide range of organizations, including academia and civil society.[172]

[169] FAO, 2018a, 59.
[170] FAO, 2022, 22.
[171] FAO, 2019, 2.
[172] FAO, 2021c, 33.

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When implementing the CRR, FAO's main partner in all operations was the State of Colombia.[173] Establishing dialogue and coordination between FAO Colombia and the central government was critical in the development of programs working toward food security in the post-conflict context.[174] External actors such as FAO can be useful to mediate between different in-country actors in order to sustain peace, in this case through food security.[175]

FAO's role in collaborating with the Colombian government is a positive example of the potential of FAO's contribution when backed by a central government's strong leadership. FAO is well-placed to '*leverage the value of the political capital gained through its technical work in agriculture, food security and natural resources with at-risk communities in order to become more engaged in conflict prevention, mitigation and resolution*'.[176] This partnership also allowed the Colombian government to benefit from FAO's technical expertise. With funding from the Colombian government, FAO was able to support and strengthen rural institutions, which creates a solid foundation on which to build peace.[177] Close collaboration with the government gives FAO a comparative advantage in supporting agricultural livelihoods and natural resource-related dimensions of the post-conflict context.[178]

Having the national government as the main partner can be an advantage, as we have described, but some of our interviewees articulated that there is much untapped potential in cooperation with local governments. For example, the local government can serve as a mediator between private interests and local communities' interests.[179] Héctor Morales-Muños explained that FAO's intervention had been criticized on the basis that state-building carried out by external actors usually has the effect of diminishing local ownership.[180] His findings called for more focus on local perspectives to integrate different perspectives into interventions.[181]

In conclusion, FAO used the opportunity of collaborating with the Colombian government to advance social cohesion as well as land and natural resource governance. Though criticized for lacking locality overall, the organization partnered with civil society organizations while keeping

[173] Segovia, 2017, 28; FAO, 2021c, 33.
[174] Segovia, 2017, 28.
[175] Interview with Héctor Morales-Muños.
[176] FAO, 2021c, 33.
[177] FAO, 2022, 22.
[178] Ibid.; FAO, 2021c, 33.
[179] Interview with Héctor Morales-Muños.
[180] Morales-Muños et al., 202, 179.
[181] Ibid., 183.

its comparative advantage: the national government's backing. FAO's action resulted in increased food security and access to land in areas of intervention, thus contributing to peacebuilding efforts.

Increased resilience, sustainability and animal health

A crucial part of the FAO intervention is resilience building through the capacity strengthening and training of farmers. In Colombia, this was implemented through empowering farmers to analyze, collaborate, and find creative solutions together — which is key to having long-term positive effects on peacebuilding and food security.[182] In addition to increasing technical capacities related to resource management and sharing, such interventions strengthen collaboration and social cohesion between farmers, contributing to building sustainable partnerships and peace.

In addition to empowering local farmers, FAO interventions include an explicit focus on women and peace, via the integration of women in participatory processes and placing them at the center of programming as active contributors to sustaining peace.[183] FAO Colombia adopted a gender lens through its programming, which led the organization to work with women in Cauca to encourage women's entrepreneurship and their participation in decision making assemblies. At the national level, during the debate of the vice presidential candidates, FAO Colombia's role was critical in shifting the discussion to focus on the situation of women in rural areas.[184]

Colombia is also home to one of the largest external displacement crises in the word: the Venezuelan refugee and migrant crisis.[185] As of February 2020, the country had received over 1.8 million refugees. Colombia was especially affected as the migration crisis coincided with the end of the internal conflict, and therefore came at a time of economic and political transition. In June 2018, FAO, in collaboration with WFP and UNICEF, conceptualized an early warning early action (EWEA) evaluation in affected areas.[186] Data collected showed a net deterioration of food security in rural border areas and predicted more migrant arrivals, threatening food security even more. In order to build resilience to the crisis, FAO provided around 600 households with livelihood assistance to boost local crop production, protect households' assets, and address issues of social cohesion. The organization's approach followed the rapid recovery model for agricultural

[182] FAO, 2022, 26.
[183] FAO, 2021c, 53.
[184] Ibid.
[185] FAO, 2021c, 48.
[186] Ibid.

production developed in collaboration with the Ministry of Agriculture and the National Disaster Risk Management Unit. Research showed that following the intervention, there were improvements in social cohesion in terms of relationships between host and migrant beneficiaries.[187]

In the context of conflict, FAO works to address food insecurity through the provision of emergency fodder, seeds, agricultural inputs and technical services. In La Guajira, Colombia, an anticipatory project was launched in response to early warning signs of difficult weather conditions and an increased number of migrants entering the country.[188] In order to quickly boost agricultural production, FAO established community production centers to train community members to use new agricultural techniques to increase crop production in harsh weather conditions.[189] These centers became a gathering point for communities to exchange knowledge and organize cultural exchange events. The intervention also provided positive support to refugees and internally displaced populations that had been affected by the armed conflict.

An impact analysis found that tensions between locals and migrants had been rising because of the competition over scarce resources, but that the community production centers appeared to reduce tensions, and 74% of beneficiaries said their relationship with other groups had improved. FAO's intervention served to advance the concept and practice of anticipatory action, which is important in operationalizing the climate-security nexus.[190] Building resilience through FAO interventions is considered by academics to be part of environmental peacebuilding processes.[191]

FAO's intervention in Colombia also used animal vaccination to remedy the decreased food security. It contributed to rebooting agricultural production and protecting livestock.[192] The vaccination campaign contributed to increasing local resilience. As goats produced more milk, both food security and social cohesion were strengthened. Our interviews with experts affirmed that animal health interventions reduce conflict as they can contribute to reducing shocks in the face of harsh climate conditions and conflict.

[187] Ibid.
[188] FAO, 2022, 33.
[189] Ibid.
[190] FAO, 2021c, 29.
[191] Interview with Héctor Morales-Muños.
[192] Interview with Héctor Morales-Muños.

Conclusion

The Colombian case demonstrated that food and agricultural interventions are a powerful tool for addressing conflict-related risks to sustaining peace. In the country, the main relationship found is between violent conflicts and food security, which is configured by the nature, intensity and length of the conflict.[193] We saw that a negative effect caused by (legal and illegal) armed actors looking to control rural territories is the forced displacement of millions of people. This dramatically affected local patterns of production and threatened food security throughout the country, but especially in rural communities.

In Colombia, the integration of conflict analysis and context-specificity was approached by comprehending that rural territory is directly linked to the escalation of tensions in armed conflict. Control over territory and therefore over agricultural production is an important strategy in the conflict, therefore it was essential that this aspect of war be considered when designing and implementing interventions. FAO integrated conflict and climate vulnerability analysis in their intervention which concretely translated into rehabilitating the production of food for home consumption as a strategy to strengthen social cohesion and generate resilience.

FAO also became involved in the implementation of the post-war Peace Agreement, contributing to the dialogue mechanisms and locality pathways. Through their involvement in the implementation of the CRR, and via collaborating with organizations, academia and civil society (among others), FAO was able to leverage the political capital needed to advance its food and agricultural intervention through increased peacebuilding. A critique of the intervention mentioned the untapped potential of more intentional cooperation with *local* governments.

Finally, FAO worked to train local farmers to strengthen capacity, thus increasing resilience to climate induced shocks and stressors. Farmers' empowerment was key to achieving sustainable peace and food security in the region. The intervention also included an explicit focus on women, as their empowerment is directly linked to increased resilience, especially in rural areas. To build resilience, FAO provided households with livelihood assistance to boost local crop production, protect households' assets and address issues of social cohesion, which had suffered due to the migration crisis. Regarding the sustainability pathway, FAO launched an anticipatory project, in

[193] Segovia, 2017, 28.

response to early warning signs of difficult weather conditions and increased migration. Community production centers also improved resilience and sustainability through local knowledge and cultural exchanges. Lastly, related to the animal health pathway, FAO conducted an animal vaccination campaign to reboot agricultural production and protect livestock, decrease inter-community conflict, and increase social cohesion and food security.

An opportunity for future projects is to intentionally integrate peacebuilding practitioners as well as professionals with great negotiation skills into the design and implementation of interventions. Peacebuilding can sometimes be the result of unintended positive consequences following the implementation of agricultural programs, but the goal is to not happen upon peacebuilding as a happy accident. Incorporating peacebuilding elements into agricultural and food security interventions can build sustainable peace using bottom-up approaches, which begin at the local level, often through agriculture. Such practice will have the external benefits of contributing to building social cohesion and increase knowledge exchanges between communities. It is important to keep in mind that the design and implementation of interventions cannot follow one-size-fits-all solutions, and that food and agricultural interventions as well as climate change mitigation and adaptation and peacebuilding should prioritize the perspectives and knowledge of local leaders and support existing institutions.[194]

Another opportunity that recently emerged from literature rests in the utilization of genome-editing (GEd) technologies, which would potentially allow researchers to rapidly develop crop varieties that would be climate-resistant and climate-adaptable, increasing farmers' resilience in terms of productivity, and overall food security.[195] This argument is a controversy and should be the subject of additional research before its implementation. Nevertheless, it is important to note that frameworks for GEd crops are gradually being developed, and Colombia will likely regulate GEd crops with no permanent presence of foreign DNA — not to hurt local ecosystems — in the future, in the same way they regulate conventional crops, as it already is home to field and performance trials.[196] According to the International Food Policy Research Institute, GEd technologies would contribute to addressing climate change and food security, and therefore to the climate-security nexus.

[194] Morales-Muños et al., 2021, 180.
[195] IFPRI, 2022, 90.
[196] IFPRI, 2022, 90.