Rethinking Eco-Environmental Peace Models Within a Complex Geoeconomic Environment: A Theoretical Exploration

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Abstract

Eco-environmentalists have made strides in creating conceptual linkages between environmental changes and security cooperation in the context of geoeconomic dynamics. However, what is missing from this corpus of knowledge is the right-scaling of cooperation to the local level that encompasses *horizontal* interaction among actors through commercial activities. Constructing such a relationship by connecting different actors *horizontally* through activities that enhance human security and states' stability can significantly contribute to the understanding of geoeconomics in the world's planetary resources. This paper advances a theoretical proposition, "Intensifying the commercialisation of fodder in ecologically fragile environments has the potential to improve livelihoods, hence, creating horizontal geoeconomicinterdependence among the local communities, and consequently, lowering communal conflict and institutionalizing positive peace." The paper argues that the transformation of societies from the traditional '*vertical'* environmental cooperation security thinking to a more '*horizontal'* relational environmental problem-solving approach is a pathway to creating a sustainable and inclusive peace. The paper highlights the new urgency towards reassessing the Horn of Africa's geoeconomics through *horizontal* local commercial activities as a pathway to renegotiating a positive peace framework in a fragile geopolitical environment through what we coin, '*local peace commercialistic'*:in the new approach, participation is at the heart of peaceful co-existence.

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Introduction

Eco-environmental peace models offer varied outcomes in addressing conflicts emanating from human interaction with ecological systems and resource exploitation. This mixed outcome mirrors a complex relationship between climate variability and armed conflict mediated by an interactive set of intervening variables, including human behaviour and diminishing resources. Conflicts over diminishing resources have intensified in drylands in recent years, owing to climate variability and associated risks (Palik et al. 2020). Risks associated with localised armed conflict remain the greatest threats to human security and survival (Buhaug et al. 2023). Yet despite the obvious significance of this relationship, the question that still lingers in literature is why the eco-environmental peace models have not been able to adequately address communal conflict in fragile communities. The complex conflict drivers at play have been reinforced by climate variability risks that feed scarcity and the inaccessibility of water and livestock feeds — factors that trigger disputes among neighbouring communities (Wang et al. 2022). Further, geoeconomic cooperation (international trade) and competition (conflict) are on the rise in international politics, especially in situations such as the Horn of Africa's experiencing a proliferation of actors in conflict (Kurecic 2015). The beneficiaries of this *cooperation-competition* continuum control access to important global wealth production through neoliberal models of peacebuilding development at the expense of local or regional geoeconomics. Geoeconomics goes beyond cooperation or competition; it is also about the geostrategic use of economic power within a geographical locus (Onditi and Yates 2021, Mackinder 1904). Within this complex environment, the Horn of Africa's geostrategic pivot has been overshadowed by a double set of tragedies — intractable terrorist activities and the deleterious effects of climate variations (Vihma 2018). In response to these complex interactive determinants of state instability, scholars have suggested that increasing fodder availability throughout the year could help mitigate the effects of conflicts over resources among communities in fragile environments (Schilling et al. 2012). Livestock feeds provided during drought emergencies minimize livestock mortality and distress among migrating communities. In most cases, fodder is being imported to drought-prone areas by the private sector, sometimes over long distances. However, we observe that the prohibitive cost of doing so and the lack of infrastructure make attempts at increasing animal feeds in agropastoral regions a complex undertaking. Therefore, we believe that enhancing access to livestock feed is essential to increasing fodder availability and lowers the risk of communal conflicts over natural resources. This is particularly true for regions experiencing climate variability shocks, ethnic fractionalization, cattle rustling, and livelihood disruption due to terror-related activities in the Horn of Africa.

Climate-related shocks pose risks to human security (Otto et al. 2017), and the same is true for the Gedo region, Somalia. Increasing climate variability, including severe droughts and floods, confront agropastoral households in the region. Often, climate variabilities cause massive displacement of people within Somalia and across borders into Kenya and Ethiopia (Bannor et al. 2023). Amidst increasing climate variabilities, the growth of livestock and human populations has increased pressure on rangelands in pastoral areas (Lutta et al. 2021). These changes lead to the non-pastoral use of land and water resources, hence interrupting migration routes and leaving livestock keepers with fewer accessible water resources and pasturelands (Lutta et al. 2021). Violent conflicts over water and pasture are common in the border zone, along with the resultant adverse impacts on food security and the wellbeing of the affected communities (Mcneely 2003). Over the years, the limited availability of pasturelands has also hampered livestock production in arid and semi-arid areas of

Somalia. This has resulted in livelihood vulnerability among the agropastoral communities in the region.

In the literature relevant to fragile regions such as Gedo in Somalia, there is a scanty analysis of fodder production itself. There are more studies on the process of how fodder production can be utilized to enhance community resilience and state stability. However, studies on fodder's accessibility and affordability for agropastoral communities remain scarce — partially resulting from poor road networks, underdeveloped input supply chains (e.g., agrovets; stockists), and high distribution costs. Green fodder could be an alternative, but the literature skews toward dairy feeds and is limited to the Kenyan context (Republic of Kenya 2017, Saha et al. 2022; Omollo et al. 2018). Similar studies focus on animal feed production and marketing, but do so without addressing the linkages between commercial fodder production and the prevention of communal conflict. Further, there is hardly any literature on improving fodder seed availability for communities predisposed to ecological fragility and terror-related activities. Although there does exist a thin amount of literature on the cost-benefit analysis of feed value chains, the application of this tool in fragile environments affected by both communal conflict and ecological instability remains scarce. In recent years, there has been an emerging demand for a commercial fodder sector motivated by public initiatives in collaboration with development partners to invest in fodder production (Netherlands Development Organization 2013). Can the growing 'appetite' for fodder development in the region offer an adequate demand and political goodwill for the commercialization of the same, and subsequently cure the intricately connected disease of communal conflict?

This paper presents a theoretical adventure to gauge the plausibility of a new model for peacebuilding development, coined the '*local peace commercialism'* approach (a derivative of a horizontal interaction of actors). This theoretical exploration paves the way for future empirical field research into testing this new model using a case study from communities experiencing a double set of tragedies — ecological fragility and communal conflict.

The Geoeconomic Context and the Emerging Concept of Local Peace Commercialism

Scholars who study the geopolitical economy (geostrategy) of global systems have asserted that most states in the global south are a product of uneven and uncombined development (Desai 2013, cited in Kurecic 2015, 524). The Horn of Africa, and particularly Somalia, belongs to this category of states due to what Kurecic describes as experiences of "geoeconomic-geopolitical conflicts" (Kurecic 2015, 522). The selection of the Gedo region in Somalia was informed by its location along the River Daua — the lifeline of the local population. This makes the region an ideal case study for understanding the relationship between fodder production and the geoeconomic dynamics in the Horn of Africa. Gedo is a vast region of Somalia bordering Ethiopia and Kenya. The region is home to the River Daua flowing eastwards into Somalia at Border Point One (BP1) in Mandera. The region also has a presence of emerging fodder enterprises supported by Vétérinaires Sans Frontières (VSF) — Suisse's livelihoods restoration project (LLRP) funded by USAID and OFDA. The intervention included training agropastoral households in irrigated fodder production, fodder marketing, farm inputs, and fodder/pasture seeds in the Kenya and Somalia border. They targeted individual agropastoralists with the potential of growing irrigated fodder along the river Daua. The intervention aimed to increase livestock feed availability during dry periods and to diversify income through fodder sales (VSF-Suisse 2020). The VSF-Suisse capacity

development initiatives for fodder enterprises have included agronomic-focused practices of fodder production, business skills, and conflict resolution techniques. The trainers used fodder demonstration plots organized at the village level. The training on business skills included financial records keeping and enterprise management. The agropastoralists were also supported with pasture seed and other inputs, including farm tools.

The Gedo region presents the most fragile of contexts in the Horn of Africa. The region has been subject to widespread instabilities restarting from inter and intra-clan conflicts, livestock raids, political secessions, and terroristic activities (Gavin 2022, Teferra 1989). Despite the national borders dividing the predominantly Somali communities between Kenya and Somalia, there are frequent movements of communities and their livestock across the border looking to access rangelands, water, and markets. Climate-related shocks pose risks to human security (Otto et al. 2017), and the same is true for the Gedo region, Somalia. Increasing climate variability, including severe droughts and floods, is a challenge confronted by agropastoral households in the region. Although traditional risk mitigation strategies — such as splitting herds over communities — helped in the past, prevailing political challenges, demographic changes, and resource scarcity in the region hardly permit such strategies.

Measures to increase climate security in the border zone enhance livelihood resilience. Over the past ten years, development agencies have promoted coping strategies and have enhanced climate security in cross-border regions. There are emerging market opportunities and demands for an improved supply of quality feed in developing countries (Manyeki et al. 2013). The drivers of this demand include urbanization and population growth, hence increasing the demand for livestock products. For example, in Mandera County of Kenya, which borders the Gedo region, increases in fodder production, irrigation development, and animal health management efforts have enhanced the resilience of agropastoral households (MoALF 2017). Opportunities to build competitive livestock production and marketing in drylands include enhancing the production and storage of fodder (Mogotsi et al. 2013; Ombui et al. 2014). Climate-informed policies and institutional frameworks governing livestock production enable the building of resilience and adaptation. Transboundary collaboration in addressing climate security is essential in the context of Somalia (Eklöw and Krampe 2019). Improving livestock production in these drylands has great potential to improve livelihoods, lower tensions over natural resources, and create economic opportunities among the communities (Krampe et al. 2021). Fodder production and conservation improve food and feed security (Mulwale et al. 2014) and, hence, can improve stability and promote a truly positive peace. Indeed, fodder enterprises can build the adaptive capacities of agropastoral systems, enabling them to better withstand current and future climate shocks (Wanyoike et al. 2018).

The Inconclusive Debate: Ecology, Geoeconomics, Conflict, and Geography

Whether eco-environmental sustainability measures lead to reduced conflicts between communities or not has been a matter of some debate, considering that there are many other factors leading to social conflicts. Moreover, environmental scientists (Schilling et al. 2017) warn against environmental sustainability measures that reproduce existing inequalities among conflicting communities. Given the complexity of the relationship between climate variability and armed conflict,

understanding the characteristics of the operating context becomes crucial when it comes to guiding researchers and scientists in assessing the impact of the relationship. Besides the contextual factors, there is a consensus among scholars on how climate variability influences human conflict, examined from various angles, including political economy, political geography, environmental violence, and patterns of environmental change (Salehyan 2014). However, the causal-effect relationship between ecological factors and conflict occurrence is a complex one — and, as of yet, has yet to be fully understood by both natural and social scientists (Hsiang et al. 2011, Tol et al. 2010), although some studies have found a correlation between seasonality and the occurrence of violent conflict with unfavourable weather conditions increasing behavioural incentives for engaging in armed conflict (Landis 2014). These scenarios are comparatively limited in time and space. The inconclusive nature of studies on the link between climate variability and armed conflict ignites yet another debate over making sense of the main variables underlying the relationship — ecology, politics, and the environment.

Ecological fragility and conflicts have emerged as key concerns affecting communities at the local level and affecting countries on a global scale. There is an indirect linkage between the environment, conflicts and politics. The relationship between the environment and conflicts varies from one region to another and is complex. On this relationship, Buhaug et al. (2023) note that such complexity occurs because the environment, access to resources, and conflicts are linked to political and economic factors. The Horn of Africa has been experiencing climate variability and unpredictability, leading to increased food insecurity and water scarcity, as well as resource competition (Gavin 2022). Communities depend on natural resources and ecosystem services for their livelihoods; hence, climate shocks — such as prolonged droughts — disrupt their way of living. Limited resources lead to increased community conflicts as people compete over declining resources. The aspect of politics arises when people attempt to gain control over natural resources. For instance, the Kerio-Valley in Kenya is within the territory of different counties, and it is inhabited by different communities, including those of the Pokot, Marakwet, and Turkana. Access to the Kerio River (which separates the two Pokot and Marakwet communities but has better grazing land on the Marakwet side) and access to nearby pastures have both been major focal points of the conflict (Elfverssion 2016). State-instigated violence and clan rivalry have been the cause of state fragility in Somalia (Ingiriis 2018). In both cases, structural factors and institutional failures reinforce each other, leading to clan violence and state violence.

Geoeconomic cooperation and competition feed the geopolitical economy of resource conflicts, making the latter one of the outcomes of geopolitical interaction. Geopolitics does not just affect regional policy alignment; it also influences ecological systems. For instance, climate change modelling predicts a rise in temperatures, increased precipitation variability, or a sea level upsurge related to climate variability, all of which greatly impact human security and safety (Wang et al. 2022; Schleussner et al. 2016). Land use and land use change is one of the links between climate variability and human security (Vanelli & Peralta 2022; Unruh 2010). Factors such as population growth and urbanization result in increased pressure on the land as more people need to settle and depend on natural resources for their livelihoods (Barnett 2003). It is difficult to predict how people will respond to these scarce resources, and how they do depends on various factors like their sensitivity or resilience. Additionally, while the human ability to adapt and mitigate climate variability can trigger violent conflicts, the connection is mostly indirect. In Somalia, the linkages between climate change

and armed conflict can be examined in three ways: (i) clan rivalry, (ii) the role of terror groups, and (iii) increased irregular migration activities (Giovanna and Miola 2018). In the classic Luttwakian scholarship of international politics, the concepts of geopolitics and geoeconomics are used interchangeably (cited in Shahzad 2022, 22). However, in the contemporary literature, economic power seems to drive the global system and can be used in the act of balancing power among states. The two concepts are compliments of each other. It is therefore plausible to observe that in future debates, the concept of geoeconomics will replace geopolitics. Hence, the current paper adopts '*geoeconomics'* as the key concept defining the interactivities of actors in the Horn of Africa.

The final factor is location/geography. The concepts of geoeconomics and geography are inseparable. The two are co-joined by the geostrategic scheme of things. Studies on the link between climate change and security have highlighted possible connections between climate change and violent conflict (Barnett 2003, Scheffran et al. 2012). However, the scientific community is split on whether or not there is sufficient evidence to either support or refute an interconnection between climate variability and violent conflicts (Homer-Dixon 1994). Kenya's Rift Valley region has been an ideal environment for studying the relationship between violent cattle rustling among various nomadic pastoral communities. On the one hand, researchers found increased incidences of cattle rustling during the dry months of the year when the communities move over long distances in search of pasture and water (Ember et al. 2012).

However, Witsenburg and Adano (2009) find increased cattle theft in wet months of the year, which contrasts with the results of many researchers who report that most of the cattle theft and communal conflicts in the Horn of Africa occur during extreme drought periods (Sakaguchi et al. 2017). The results for Africa as a whole are conflicting with regard to whether or not climate change increases the likelihood of civil wars (Cappelli et al. 2023; Buhaug 2010). Some studies contend that ecological factors such as rising temperatures during the dry months of the year increase the risk of conflict for agropastoralists and pastoralists due to reduced productivity (Giovanna and Miola 2018), whereas others argue that there are other context-specific factors such as political differences and incitation (Wang et al. 2022). Indeed, the geography of conflict studies has underscored the importance of universality and the comprehensiveness of security, including efforts to break the cycle of poverty and increase economic productivity as a means to promote the peaceful coexistence of communities living in conflict-prevalent regions. On this framework of human security, the first author of this paper has previously asserted that "productivity is not an end in itself; rather, the ultimate goal of empowerment is to foster peace and stability by ensuring the safety and security of individuals" (Onditi 2021, 165). Likewise, any alternative approach to peacebuilding development should offer both climate variability mitigation and adaptation incentives embodying equal participation (a horizontal relationship) in working together towards the goal of preventing communities from engaging in negative competition over diminishing resources.

Hence, the '*horizontal local peace commercialism'* schema provides a rich backdrop for developing an ideal framework of intervention, involving the social interaction of stakeholders with diverse policy actors within a social commercialistic ecosystem. Before introducing the alternative peacebuilding model, the following section examines the existing models, assessing their merits and demerits.

Eco-Environmentalist Peacebuilding Models: A Critique

Peacebuilding development initiatives and interventions have traditionally been guided and framed by two major models: a) peace ecology, and b) environmental peacebuilding. A more recent, social-ecological peace model was developed as a response to the normative limitations of the peace ecology model and environmental determinism (Yanuardi et al. 2022). Yanuardi and his colleagues argue that the dynamic nature of conflict goes beyond biophysical systems to embolden social identities and ecosystem health and recovery, especially in post-conflict settings. Within this body of knowledge, there has been an enduring theoretical framework that frames the international peacebuilding development discourses. That is the “liberal commercial peace theory”, which puts forward an interesting proposition — *peaceful co-existence can be achieved by entrenching economic ties among nations* (Kant 1991). However, critiques of these frameworks and thought processes have argued that the approaches are too *internationalistic* in nature, and that their application ignores the nuances and contextual differences between the global north and south. It’s no wonder that some scholars have cautioned against the application of the “liberal commercial peace theory” without proper (re) consideration of context (Bulman 2022). This is because the proceeds of economic ties only bring positive peace in developed countries. Moreover, the models reinforce *vertical* interaction and the top-bottom mode of intervention, hence entrenching inequalities between the global south and north. Yet the post-Cold War peace and security environment has been shaped mainly by non-state actors *within* a state (intra-conflict) (von Uexkull and Pettersson 2018).

The literature only passively addresses the possibility of a direct causative relationship between the environment and conflict. The relationship varies from one region to another and is complex. The complexity occurs because the environment, resource access, and conflicts are linked to political and economic factors (Scheffran et al. 2012). Communities depend on natural resources for their livelihoods; hence, climate shocks such as prolonged droughts disrupt their way of living. Limited resources lead to increased communal conflicts as people compete over the declining resources. The lack of effective mechanisms to address these disruptions breeds negative peace. These limitations call for an interrogation of conditions that limit the efficiency and applicability of these classical models in resolving intra-state communal conflict with the aim of proposing an alternative peacebuilding development approach through local commercial activities.

First, let’s examine peace ecology. It is one of the oldest models. Inspired by ideas such as environmental peacemaking, the structural theory of aggression, anthropogenic peace, environmental conflict resolution, and eco-violence (Galtung 1964, Brisman 2016, Kyrou 2007, Gjessing 1967), the *peace ecology (PE) paradigm* is based on the premise that environmental cooperation can nurture peace (Homer-Dixon 1994). The shift from viewing environmental scarcity as posing a threat to regional and international security (Ide et al. 2023) to viewing environmental peace as posing a pathway to regional stability is anchored in Johan Galtung’s thesis of transforming conflict, constructively, by alleviating cultural and structural violence (Galtung 1964). In this model, power asymmetries form the source of structural and cultural violence among communities. The power asymmetry proposition, which is mainly advocated by political ecologists, proposes that peace and ecology are directly interconnected and interdependent (Ide et al. 2023). In day-to-day living, violence is usually embedded in the interrelationship between people and the biophysical systems at play in their environment. The

structures and functions of nature that define ecology are the same features that control peoples' thinking and decision-making processes. The concepts of ecology and ecosystems are central to the study of sustainable peacebuilding development. A system is made of a group of interacting elements with a defined boundary functioning towards a common goal (Carayannis et al. 2016). In a social system, elements are usually tied together in a self-rationalised social network. A collection of systems can create an interdependence among components. Among the known ecological principles, the *Law of Diversity and Stability* is likened to an understanding of ecology from a social science perspective, in which case stable environments lead to the sustainability of diverse ecological communities (Burton-Jones and Gallivan 2007).

Likewise, a natural ecosystem with high biodiversity is likely to sustain a larger number of cultures and human activities. In peacebuilding parlance, an appreciation of cultural diversity eliminates negative competition, thus leading to positive peace (Kyrou 2007). A community of agropastoralists living in drought-stricken regions may wish to trade in fodder to sustain the supply of livestock feeds. This is an example of a socio-economic system resulting in positive peace. However, in a recalcitrant political system, uncooperative elements may produce counterproductive responses to interventions. For instance, the decision by a prominent politician to introduce restrictive laws that forcefully relocate people away from forest land may effectively work against the politician, thereby leading to tensions between neighbouring communities resulting from the displacement of communities and competition over land. This example illustrates the *unfolding* nature of life — the constructive decision to promote environmental stability inadvertently leads to communal tensions or violence. The PE, as a science and mode of thinking, has provided a framework for considering the implications of people's behaviours and actions affecting the functioning of an environment in its totality. The model is anchored on four interrelated principles: a) bioregionalism, b) place/geography, c) sustainability, and d) interconnectedness. In this set of principles, there is a growing consensus that EP lacks a common worldview and a theoretical grounding for linking ecology with peace. Within this debate, there is a general agreement by environmental incrementalists (Duong et al. 2021) that transformation from a competitive peacebuilding approach to a human relations approach based on collaborative environmental peacebuilding is likely to cure the structural limitations of EP.

The EP model highlights the environmental nature of peacebuilding; rather than focusing on environment-conflict problems, scholars in this knowledge domain have argued for incentivizing actors dedicated to working towards achieving environmental cooperation and peace through social responses to conflict situations arising from environmental changes (Ide et al. 2023, Dresse et al. 2019, Eklöw and Krampe 2019). In cooperative social situations, which is the core of EP, the goals of individuals or groups are defined, and each subset is regulated by the rules of the game (Deutsch 2012). In the context of EP, individuals or groups cooperate to tackle shared environmental challenges (Ide 2019). The defining element in the EP model is therefore the engagement of local actors with international donors to address common environmental insecurities (Hwang 2022). In other words, environmental cooperation as an approach to peacebuilding development reinforces *vertical* interaction among actors as they exploit natural resources for peace.

Two main problems associated with the verticalization of the relationship, though, are that ecological fragility and conflicts emerging from troubles arising from the exploitation of natural resources have emerged as challenges affecting communities utilizing the EP model. Violence and conflict are two of the major social consequences of the EP model, as predicted by political ecologists (Mcneely 2003, Otto 2017). As the negative externalities of societal institutions (exclusion

of ethnic groups, failed resource-governance regimes, and a lack of trust in such institutions) become more pronounced in society, the vulnerability of communities already suffering the effects of ecological fragility exacerbates violence or armed conflict (Raleigh 2010).

The EP paradigm recognizes the relationship by which conflict-affected and post-conflict communities are likely to be tethered into a complex web of environmental violence and armed conflict (Olumba 2022). Response mechanisms should therefore be embedded in the conflict-sensitive and sustainable management of natural resources in support of a positive peace through the implementation of community measures such as adaptation, mitigation, and turning risks into livelihood opportunities (Ide et al. 2023). This framework of intervention is anchored on three elements: firstly, (i) environmental cooperation — enforced through vertical interaction between local actors and high-level political leadership; secondly, (ii) a hybrid peace — built through how communities, by various ways and means, respond to the changing nature of conflict ranging or morphing from interstate to intra-state conflict; and finally, (iii) humanitarianism — especially the principle that responding to emergencies such as drought should be guided by the philosophy of human-environment interaction (Freeman 2017, van Baalen and Mobjork 2018). Like peace ecology, the socio-economic dimension of human security is key to this model of peacebuilding, as is the idea that the benefits of environmental cooperation outgrow individual interests.

The final element of EP is the relationship among various actors. The EP model relies on the dialogue and trust between state and non-state actors — factors essential to making important joint decisions on peacebuilding development. The long-term pathway toward peace is guided by preventing environmental disruption, promoting trust among actors, and embedding the building blocks within the processes of building peace and development. Within this framework of action, Dresse et al. (2019) identify three building blocks for the EP model: (i) initial conditions, including the biophysical systems and the socio-political context; (ii) mechanisms; and (iii) outcomes and resources. Although the proponents of the model provide an adequate framework for thinking and intervention, including “trajectories” (Dresse et al. 2019), none of these trajectories address community-based initiatives that promote *horizontal people-to-people* interaction (Press-Barnathan 2006). Further, the rejection of simplistic environmental cooperation has initiated the debate on the need to consider root causes of conflict, including structural, cultural, and power asymmetries (Paulson et al. 2003) — arguing, instead, that socio-ecological processes can prevent the likelihood of violent conflict. The social-ecological peace model is therefore an attempt to redefine local conflict dynamics through social identities.

The most recent scholarly development in the study of peacebuilding development is the conceptual reconfiguration of peace, society, and the ecological system. Yanuarde et al. (2022) call this the *social-ecological peace (SEP)* model. The model is prescribed for post-conflict settings, in which case efforts to address the effects of negative peace are integrated into consideration of basic human needs. The SEP approach to peacebuilding creates an enabling environment designed to enhance the empowerment of people beyond their access to positive ways to fulfill basic needs while at the same time actively supporting ecosystem recovery and health (Yanuard et al. 2022, 254). It encompasses processes ranging from the disarmament, demobilization, and reintegration of ex-combatants to addressing the consequences of systemic economic inequalities and cultural violence. Yanuard et al.’s framework of thinking and intervention within this model

outlines four forms of peace that a post-conflict society should achieve: (a) a direct negative social peace; (b) a direct positive social peace; (c) a direct negative ecological peace; and (d) a direct positive ecological peace (Yanuard et al. 2022, 255). Although Yanuard et al.'s conceptual framework for peacebuilding in a post-conflict setting provides for multiple dimensions, including social, cultural, and ecological dimensions, the model limits its focus to post-conflict situations while providing comparatively less guidance on how actors in a multifaceted environment should address communal conflicts arising from resource scarcity and competition due to climate variability. The gray nature of conflicts in Africa — conflicts characterized by covert militarism, disinformation, cyberattacks, economic coercion, political pressure, and maritime disputes (Onditi and Yuko 2023, Onditi 2022) in the Horn of Africa — makes it difficult to apply SEP to the Horn. Like any other crisis situation in Africa, differentiating between active conflict and post-conflict reconstruction development remains blurred in the Horn of Africa. In complex societies and fragile regions such as the ones identified for this study (Gedo- Somalia), the line between "latent conflict", "active conflict", and "post-conflict reconstruction" is blurred. Such settings require context-specific peacebuilding interventions guided by factors driving structural and cultural violence.

It is against this background that this paper explores the plausibility of a horizontal *'local peace commercialism'* as an analytical framework of thinking and intervention for peacebuilding development in ecologically fragile and communal-conflict-infested societies. Before outlining the imperatives of the proposed model, the following section examines the merits and demerits of the various forms of interaction (vertical vs. horizontal) between actors in a typical peacebuilding architecture.

The Nature of Interactivity in the Various Models

The role of politics (*vertical* vs. *horizontal*) in influencing decision-making processes in peacebuilding architecture pulls in the opposite direction. Whilst in the *vertical* quadrat, the so-called 'cooperative rules' represent a faction of political maneuvering, the *horizontal* interaction is delinked from high-powered political interference. Whereas in the *vertical* quadrat, power is distributed through a system of authority, in the *horizontal* interaction of actors, the implementation of local commercial peacebuilding initiatives relates to the distribution of trading resources (in this case study, the trading resource is the fodder). In the horizontal model, the shift from the traditional top-down approach enables actors, who are mainly traders, to derive alternative forms of power and status from economic activities as opposed to deriving these from political patronage.

One of the causes of convolution in *vertical* interaction is the overreliance on external donor funding for peacebuilding activities. Thus, in the environmental peacebuilding models, policies and strategies are formulated at the national or international levels and are cascaded downwards. Those with the capacity to fund do so while, in return, setting the required objectives to be implemented by the so-called "local actors." By contrast, in the *horizontal* model (local peace commercialism), actors are conscious of the need to modify or react to policies and strategies based on the local context. The actors view peacebuilding activities as being an interactive process, a negotiated effort, and a socio-economic phenomenon. In the typical environmental cooperation peacebuilding model (vertical), the exploitation of resources justified by the 'fig-leaf' pretext of peacebuilding often causes environmental degradation, which in turn adversely affects

the livelihood of the host communities. In the *vertical* model, so-called 'international cooperators', who often are agents of multinational companies (MNCs), do not own up to their environmental liability in order to avoid compensating the local host communities for the environmental damage their policies and practices are responsible for. The recalcitrant attitude breeds tensions between (so-called) 'powerful actors' and the local communities they exploit.

In the *vertical* model, the dangers of ignoring the local political systems are glaring. At the same time, this approach may pave the way for international cooperation stakeholders to offer best practices on the important policy dimensions of peacebuilding. The market distortions arising from the imposition of internationalist agendas promote rent-seeking and reliance on external aid, predisposing the local community to both domestic and international market shocks and vulnerabilities. This market shock in the resource cycle has a significant effect on livelihood conflict dynamics. Communities that experience the challenging double tragedy of ecological fragility and bouts of conflict can overcome such challenges by adopting mutual commercial activities founded on and established according to local realities and implemented through a mutually egalitarian process of horizontal (rather than hierarchical) interaction. A boom in the local resource revenue from commercial fodder trading activities can lead to self-reliance. Self-reliance leads to economic sovereignty. When backed by an appropriate local regulatory framework to guide the commercialization of fodder, economic sovereignty can mitigate the likelihood of resource mismanagement, thus leading to the institutionalization of a positive peace.

The *horizontal* model can be a precursor for the devolution of structurally hierarchical peacebuilding architectures. A combination of local participation in commercialization activities and quality institutions at the local level can, in the local population, incubate a sense of belonging. Hence, it can reduce the likelihood of communal conflict. Unlike the *vertical* model, the horizontal approach tends to breed robust civil society movements that are key for building strong institutions and checks and balances against the excesses of states. Further, the inclusion of local content in the *horizontal* policy formulation is vital for local participation in commercial activities. Policies and legislation that encourage local enterprises are crucial for establishing a positive peace. A property rights regime that characterizes the *horizontal* model is important for building investors' confidence in the local economy, which plays an important role in breaking the cycle of poverty. Public investment and infrastructure are key to establishing sustainable local commercial activities for poverty reduction and a positive peace. However (as critiqued by post-colonial theory), given its externally-focused profit-driven motive of extracting resources rather than profitably investing in the community, the *vertical* model offers limited local-growth-disenabling factors such as infrastructure investments as a return for their local benefactors' service. Thereby using the local community and then abandoning it to its fate of remaining starkly bound to the crushing wheel of the cycle of poverty.

What are the Imperatives of the Proposed Horizontal Model?

As an alternative to environmentally deterministic peace models (such as peace ecology, environmental peacebuilding, and the social-ecological model), liberalists (Gartzke and Westerwinter 2016, Simpson 2018) have suggested a different approach, one based on commercial activities. This approach is framed by the liberal commercial peace theory (Keohane

and Nye 1989, Oneal et al. 1996). This liberal theory is premised on the idea that individuals of different nations can interact to create a common economic interest, hence shifting political power into the (clasped) hands of a peaceful and productive society (Hsueh 2015). Also known as the 'democratic peace' thesis, liberalists advocate for economic interdependence. The main assumption here is that when states are engaged in mutually beneficial trade relations, the likelihood that such states would be involved in militarized violence with each other is reduced (Kegley and Hermann 1995) because the prohibitive economic cost of winning self-defeating Pyrrhic victories would act as a deterrent against the mutually assured destructiveness of engaging in war with one's own business partners. Immanuel Kant elaborates on the concept of "economic interdependence" by demonstrating how interactive states would likely not go to war with each other because they are governed by rules and non-violent norms of dispute resolution.

Despite the merits of liberal peace theory, its internationalist character presents yet another complication. The model lacks the mechanism for *right scaling* peacebuilding processes from inter-state vertical relations to intra-state local-level interaction. Local-level peacebuilding initiatives *within* a state offer *horizontal* "people-to-people" interaction that diffuses power asymmetries brought about by the *vertical* interactive effects of the (so-called) cooperative eco-environmental peace models. The application of the proposed model, '*local peace commercialism'* through '*fodder intensification'* (Schilling et al. 2012), has the potential to shift the focus from environmental resource scarcity problems to '*purchasing power capabilities*.' For instance, the livelihood assets, such as livestock feeds provided during drought emergencies, can minimize livestock mortality and distress associated with the irregular migration of communities residing in fragile geographies. In the Gedo case study analyzed in this paper, the commercialization of fodder increases *horizontal* trade relations among the various actors, including those in the private sector. In the researchers' view, structures that promote the *horizontal* engagement of actors, such as physical infrastructure and local market systems, increase the likelihood of a positive peace. The proposed '*local peace commercialism'* schema posits a *horizontal* relationship between actors and demonstrates how this interaction is sustained through commercial intensification.

One of the critiques of *liberal commercial peace theory* questions its overly international approach to peacebuilding development and the lack of mechanisms for (in their view, rightly) 'right scaling' it to the local community level (Chandler 2010). Liberalists believe world peace can be achieved by ensuring that states are glued together through democratic norms, international institutions, and frameworks of international cooperation (Keohane and Nye 1989, Grieco 1990). However, the nature of conflict and war is changing, with large-scale intrastate actors taking centre stage in conflict and sometimes even in conflict resolution (Yilmaz 2007, Hensel 2002). Liberal peace thinking tries to internationalise Western liberal models of intervention. In the process of attempting this, however, the actual subjects of the intervention — those most affected by it — are often ignored, thereby entrenching north-south inequalities (Chandler 2010). So-called "external interveners" too often try to solve deep-rooted problems by offering quick fixes, sometimes conflating "aid" for "peacebuilding development." This *vertical* relationship between international interveners and local actors or state representatives leads to one-sided interventions — interventions which, in the end, do not reflect the aspirations, needs, and best interests of the local community (Richmond 2008). In other words, the *liberal commercial peace theory* — like peace ecology, environmental peacebuilding, and the social-ecology peace model — is too international and statist to fit the local socio-economic realities. To this end, there is an absence of a conceptual mechanism and thought process to

offer guidance in scaling international interventional approaches to the local level *within* a state, especially in regions experiencing both ecological fragility and communal conflict.

The actor's analysis framework, presented in Figure 1, is therefore an attempt to theorize the plausibility of a *'local peace commercialist'* approach as a peacebuilding development model through what we coin *'horizontal interaction*.' As a way of conceptualizing the newly proposed model, the schematic diagram is developed to simulate the relationship between the peacebuilding models, design principles, and features of desirable actor interactivity.

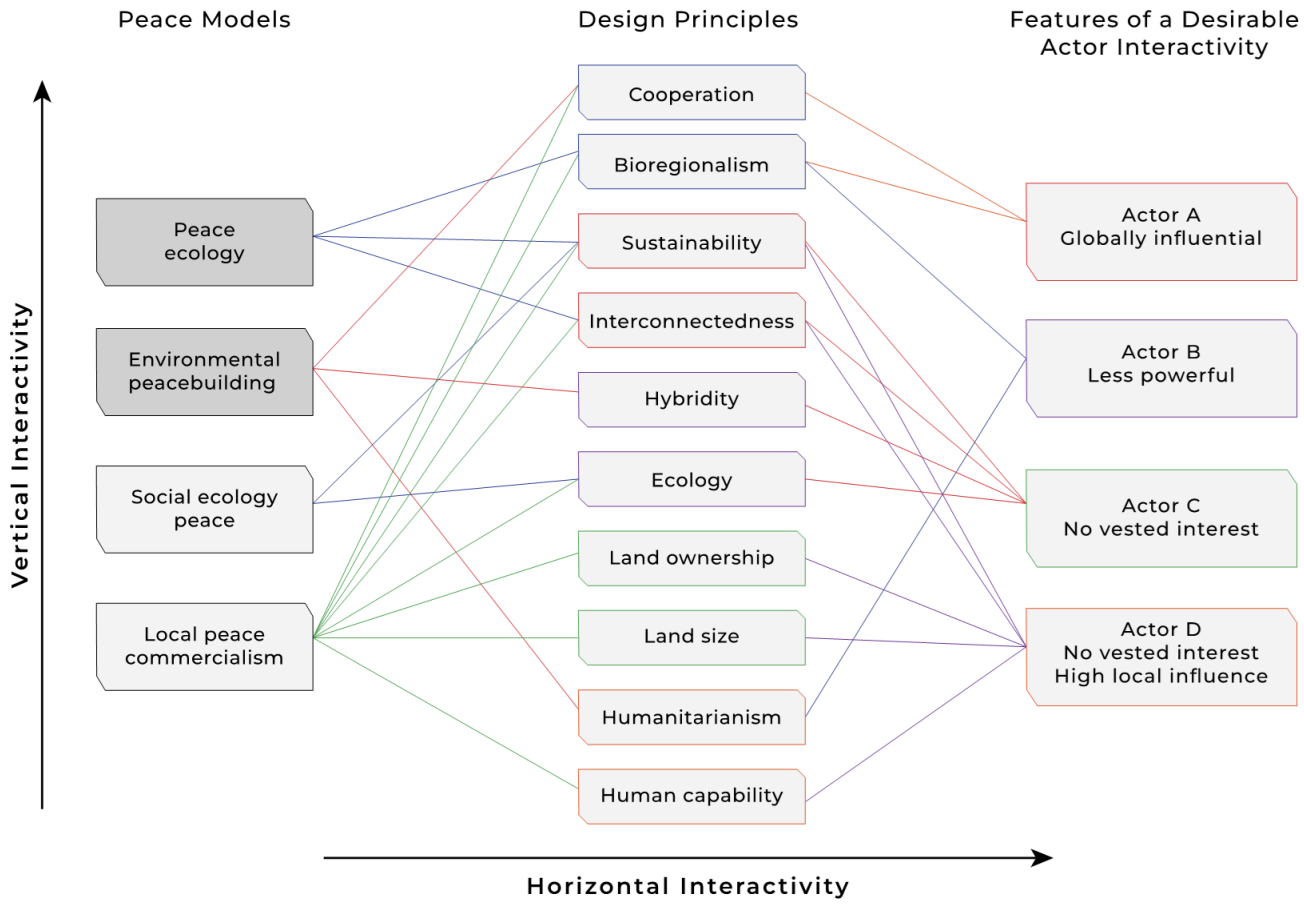

Figure 1. Overview of the Conceptual Model Presenting the Design Principles of the Four Peacebuilding Models and Their Desirable Actor Interactivity.

Source: Francis Onditi Conflictology Observatory and Prediction Lab, 2023 .

Vertical Interactivity — The higher the verticality of the interaction as reflected through the comparatively less dense web design (on the left-hand side), the lower the benefits of the model to the local community. In this logic of things, therefore, the less effective models of peacebuilding development are SEP, EP, and PE, in ascending order. The most effective model is the one with a higher density of interactivity. Thus, '*local peace commercialism'* is presented as being the most preferred approach to peacebuilding development.

Horizontal Interactivity — The denser the web of interaction as illustrated through the interaction between the design principles and the features of desirable actor relations (Actors A, B, C, and D) (on the right-hand side), the greater the benefits to the local community. A higher network density implies a healthier actor relationship between the various design principles and actors. Going by this logic, the most desirable actor relationship is one that is capable of mitigating the effects of climate variability and institutionalizing positive peace (as represented by Actor D).

The actor analysis presented in Figure 1 is a tool for understanding the vertical and horizontal dynamics of actors in the ecological system of peacebuilding development. In this study, this tool integrates five attributes of actors: (i) individual and group behaviours, (ii) interests and influence, (iii) agendas, (iv) relationships, and (v) the power (resources) they wield. Peacebuilders operating from different approaches are not just interest groups but active or passive players in the policy environment. Peacebuilding, as examined from the actors' points of view, includes relations encompassing macrocosm and microcosm interactions (Onditi 2019). The understanding of actors' dynamism at various levels determines the likelihood of their future decisions on peacebuilding. In this paper, the actor analysis tool is used to determine the behaviour and interests of various actors "Features of a Desirable Actor's Interactivity" or building a desirable ecology-based peacebuilding architecture.

Further, the paper proposes a derivative matrix (Boxes A, B, C, & D) that can be utilised by researchers and policymakers for studying the hierarchialisation of actors (vertical vs. horizontal) not only in grasping the theoretical sense of how things could function better, but also in crafting policy interventions designed to help change things for the better:

- Box A — Actors with power to influence policy outcomes and have vested interests such as the funding of peacebuilding activities, nurturing peace activists, and formulating regulations for cooperative environmental peacebuilding. Their action is also very likely to affect the peacebuilding architecture.
- Box B — Actors with vested interests in the process of environmental cooperation peacebuilding processes. Their action is likely to affect policy outcomes, but they are not powerful enough to influence local actors in the peacebuilding architecture.
- Box C — Actors with a considerable degree of power to influence policy outcomes and whose behaviour can influence the process but do not have vested interests in the peacebuilding architecture.
- Box D — Actors with no vested interests in the peacebuilding processes nor the power to influence policy decisions and whose behaviour cannot affect policy outcomes. However, their commercial interests and activities have the power to influence local horizontal relationships among the neighbouring communities towards peaceful coexistence and the institutionalisation of a positive peace.

What is the Implication of the New (Horizontal) Model to the Geoeconomic of the Horn of Africa? (Policy Recommendations)

In the foregoing analysis, it is evident that most of the studies on the Horn of Africa's geopolitics/ or geoeconomics have focused on the converging rivalries of the major global powers and the future of the global political economy within the

broader framework of liberal peace theory (Shahzad 2022, Vihma 2018, Kurecic 2015, Desai 2013). These studies have linked the region's geopolitical conflicts to emerging Asian powers and Europe's future realignment as well as Africa's regional continental power struggle, without conceptually aligning the local microcosmic commercial activities to this global order. Not linking the local order to the international order would mean preserving the continuity of the current models of peacebuilding development. However, these models and frameworks are constructed to engage actors in a *vertical* interaction — leading to a complex, antagonistic, and unwieldy system — to solve local conflict and environmental challenges.

Thus, this paper explores the possibilities and opportunities for an alternative model through the*horizontal* geoeconomic strategy (local commercial activities). In this realm, three realignments can transform the Horn of Africa into a geoeconomic powerhouse.

First, given the geostrategic positioning of the Horn of Africa with the Middle East, global agreements such as The Abu Dhabi Declaration, the International Law of the Sea, extensions of EEZs, and the presence of competing surveillance systems can be utilized by states in the Horn to rescale geoeconomics from the global level to the local actors, thereby promoting horizontal interaction.

Second, is the relationship between the horizontal interactivity of actors and the exploitation of the blue economy (Onditi and Yates 2021, Mitra 2017, Doyle 2018). The blue economy can be utilized as an assemblage of norms to advance tenets of good governance, such as local participation, necessary for ocean environmental and sustainable ocean management within the Western Indian Ocean rim (Winder and Le Heron 2017). Efforts at managing environmental challenges emerging from economic power competitions between states must consider aligning geoeconomics with important forces, including military power and land and maritime border surveillance systems.

The third and final implication of the horizontal model to global geoeconomics concerns the world's planetary resources (Sparke 2013). In order for actors within the proposed model of peacebuilding development to achieve the sustainability of commercial activities, the essence of the Fourth Industrial Revolution (4IR) must be factored in as the new frontier of marine resource development as a component of the geostrategic realignment of states. Integrating the 4IR can improve efficiency in the exploitation of marine assets, ranging from the monopoly-breaking bio-prospection hunts for rare and precious metals to the extraction of valuable seabed resources such as oil and gas. The sea also offers the vast potential for producing renewable blue energy from winds, waves, and tides as well as from thermal and biomass sources; as well as for producing an ample and renewable supply of intra-state farming water and exportable drinking water that could be created through desalination. On this note, the Horn of Africa could leverage the European Union's long-term strategy plan launched in 2012 to support sustainable growth in the marine and maritime sectors. This strategy aligns with the new proposed model of horizontal actor interaction, as it identifies those activities that improve the human-human relationship.

While the constructive implications of this new model of peacebuilding development are compellingly evident within the context of regional geoeconomics and international politics, the framework is still deficient in important aspects of how states' relations can be understood through intra-state activities such as local commercial trade. This conceptual lacuna opens a new avenue for students, scholars, and policymakers to advance the debate on how to achieve the balance

between intra-state relations and interstate relations within complex geoeconomic environments such as the Horn of Africa.

Conclusion

This theoretical exploration has revealed that while the literature is rich with a wide variety of models designed with the intent of guiding peacebuilding development thinking and intervention, these models' normative and practical limitations remain the obstacles in mitigating the effects of climate variability on human security. This is particularly the case in regions experiencing geopolitical and geoeconomic conflict events. Although the globalized international system is experiencing geoeconomic realignment, the intractable geoeconomic conflicts and deficient peacebuilding development models operating in Africa overshadow the '*potentials'* for the Horn. It is on the basis of this deficiency that this paper offers an alternative analytical framework of a model ('*local peace commercialism*') for peacebuilding development that builds on the *horizontal* interaction of actors in an ecosystem, and we have demonstrated how it can be applied in an ecologically fragile context. Although there is no *one-size-fits-all* model of peacebuilding development (as different contexts adopt different approaches based on their specific situation), peacebuilding actors in the Horn of Africa should ensure that an appropriate interactive model of peacebuilding development is established on the basis of local commercial activities and realities. The two approaches (*vertical* and *horizontal*) vary depending on factors such as politics, policy frameworks, regulatory mechanisms, and the behaviours of actors as well as on institutional arrangements. This implies that the adoption of the proposed *horizontal* model should be guided by context specifications in order to potentiate its effectiveness.

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