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Peace in the ground: How land degradation in the Sahel impacts Europe and what the EU can do about it

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Abstract

The deterioration of security and humanitarian conditions in the Sahel region has widely acknowledged implications for the EU, and the strategic importance of tackling them has been established in EU strategies. Local land degradation sits at a nexus of the many challenges as it is a driver of poverty, famine, conflict, migration, poor governance, loss of biodiversity and climate change. A local framing of the issues makes it possible to identify the actions that can address them. The vast number of people engaged in land-based livelihoods offers the potential to halt and even reverse degradation. The main limiting factor for this is the lack of targeted financing. The EU can be a leader in this process through (1) integrating ecosystem health into existing programming; (2) designing new projects targeting sustainable land use; (3) supporting the development of monitoring systems that enable funding, including from carbon markets; and (4) lowering administrative barriers to partnerships.

Keywords

Climate change, Security, Sustainable development, Sahel, Ecosystem restoration, Nature-based solutions

Introduction

The Sudano-Sahelian region of Africa spans 5,400 kilometres from the Atlantic Ocean to the Red Sea, separating the Sahara Desert from the Western Coast and tropical areas of Africa. It has a tropical semi-arid climate, characterised by heat and low rainfall. It consists mostly of grasslands, savannahs and shrublands. Although political designations

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of Sudano-Sahelian countries vary, they generally include Senegal, Burkina Faso, Mauritania, Mali, Niger, Chad and Sudan, with important neighbouring countries being Nigeria, Algeria, Ethiopia and Libya.

The Sudano-Sahelian countries have faced a myriad of issues, including extreme poverty, social and political tensions, institutional and governance challenges, environmental degradation and exposure to climate change. These have contributed to frequent food crises, fragile governments, illegal trafficking, radicalisation and violent extremism, including links with international terrorist groups.

The EU has long been worried about development in the region and perceives the rising poverty there as a catalyst for instability, extremism and government fragility, which have undermined the ability to create viable economic and security conditions for inhabitants. This has had consequences reaching far beyond the region. The 2011 European External Action Service's Strategy on the Sahel (defined as Mali, Mauritania and Niger) noted that security and development in the region are interlinked and that contributing to both is in the interest of the EU's citizens. The strategy emphasised the importance of tackling extreme poverty and creating conditions for grass-roots economic and human development.

This article argues that at the centre of many issues lies land degradation, which is rooted in unsustainable land-use practices, which need to be addressed to enable sustainable peace and development. By concentrating the framing of the issues on land degradation, we open up a menu of impactful, community-focused and community-led interventions that the EU can support, increasing local agency and ownership of climate solutions. The article will give an overview of the EU's engagement with the Sahel, and discuss the links between local environmental degradation and issues often attributed to climate change, the best potential solutions for tackling them and how the EU could support their implementation.

The EU's Sahel strategy

Since the Sahel Strategy was adopted, two new frameworks have been developed: the Regional Action Plan 2015–2020 and the 2021 Integrated Strategy in the Sahel.

While continuing the commitments of the Sahel Strategy, the Regional Action Plan focused on addressing violent extremism and radicalisation, and improving the conditions for youth, migration, and mobility and border management. It also added Burkina Faso and Chad as core countries (Council of the EU 2015, 6).

The 2021 Integrated Strategy reinforced the importance of a solid and long-term partnership between the EU and the Sahel (Council of the EU 2021a). The EU's Sahel strategy links with the Comprehensive Strategy with Africa, the most recent initiative to build a new partnership. Its focus is on multilateralism, peace, security and stability, sustainable and inclusive development, and sustainable economic growth (Council of the EU 2020, 2).

The policy prescriptions and activities have been many, including capacity building and training, civil-society development, the promotion of religious dialogue, livelihoods projects, social safety nets, rule of law development and so on. However, despite the efforts, referred to as 'all instruments at [the EU's] disposal, from humanitarian aid to support for defence and security forces, through stabilisation and support for sustainable development, at all levels of cooperation', and a doubling of the budget since 2014, the profound security and development crisis in the region continues (Council of the EU 2021b, 5).

Indeed, acute issues in all spheres are evident. In 2021, three of the four successful military coups in Africa occurred in the Sudano-Sahelian region (Chad, Mali and Sudan), with that which occurred in Guinea also in the close vicinity (Durmaz 2021). In multiple Sahel countries, conflict, food insecurity and displacement have been increasing in recent years, with resources to tackle the issues lacking (*The New Humanitarian* 2019). The conditions in the region continue to radiate to neighbouring areas, as well as to the wider international community in the form of humanitarian need, security threats and displacement.

Environmental degradation in the Sahel

One under-discussed issue that we believe to be at the core of the continued instability is land degradation. As a semi-arid region bordering the Sahara, the Sahel is from the outset more vulnerable to degradation, with desertification an ever-present threat. A study found that the Sahara has expanded in the Sahel by 10% in terms of annual rainfall measurements and by up to 18% if measured seasonally (Thomas and Nigam 2018, 3349). As early as 1992, the UN Environment Programme classified the Sahel as among the regions most affected by land degradation (UNEP 1992).

Environmental issues have only become explicitly enshrined for the Sahel in the most recent EU strategy, which notes that it will 'encourage countries in their efforts to achieve *sustainable and inclusive development*, including habitat protection, preserving biodiversity and combating desertification.' '[L]ong-term prospects for sustainable social, environmental and economic development' are noted alongside military involvement and short-term stabilisation (Council of the EU 2021b, 14, 10).

It is heartening to see environmental issues emerging in EU strategy documents on the Sahel. Up to 70% of the population in the region relies directly on the land for their livelihoods through agriculture and pastoralism (Ickowicz et al. 2012, 261). In such a context, sustainable solutions for either development or security cannot emerge when the land in the area is becoming degraded. Environmental restoration is a necessary component of a meaningful response.

However, clear solutions are not provided in these strategies. It is common for the issues to be framed as climate change. The UN Sahel Special Adviser described the region as 'disproportionately affected by global warming' and sees the root causes as 'discrimination, human rights violations, weak governance, conflict, and the impact of climate change' (Climate Centre 2018). The International Committee of the Red Cross

(2021), UNESCO (Werrell and Femia 2018), the US Institute of Peace (Blaine 2021), the World Bank (2020), the UN Human Rights office (UN Human Rights 2021, 4–5) and many others have published documents linking climate change with the issues faced by the people in the Sahel.

However, the root causes are more complex than this. The key form of environmental degradation in the Sahel is land erosion. Erosion occurs with the loss of plant life, root structures and organic matter from the soil, and is linked through a host of interconnected pathways to negative outcomes in the environmental, socio-economic, political and security sectors. The links between soil and rising temperatures and decreasing rains are well known. Plant life naturally cools microclimates by releasing water vapour, contributing to cloud formation that limits sunlight, and thereby lowering temperatures and increasing precipitation.

Soil erosion is also a massive contributor to climate change. There are 2,500 billion tonnes of carbon in the earth's soil, compared with 800 billion tonnes in the atmosphere and 560 billion tonnes in plant and animal life (Schwartz 2014). When land is degraded, carbon is released into the atmosphere. An estimated two-thirds of terrestrial carbon stores from soils and vegetation have been lost since the nineteenth century through unsustainable agriculture, forestry and other land use (IUCN 2015). In the period 2007–2016 they totalled an estimated 23% of anthropogenic greenhouse gas emissions (IPCC 2019, 8). Furthermore, biodiversity, from microbiomes to flora, fauna and the habitats they provide, has been severely weakened.

At the local level, eroded soils generate less food for people and livestock. This creates chronic stress with regard to food security and incomes. Eroded soils also make natural shocks, namely drought and flooding, more likely, as well as creating drier microclimates due to the reduced capacity of soils to absorb and retain water. This creates a feedback loop in which erosion continuously weakens the conditions for living matter to reproduce and thereby hastens further erosion.

The weakened and vulnerable livelihoods of the people living in these circumstances contribute to both poverty and competition over land between various users, particularly farmers and pastoralists. Conflict between these groups is a growing source of violence, further eroding already weakened mechanisms for conflict mitigation and resolution. From local-level disputes over land, 'pastoralism-related violence in the Sudano-Sahel has become increasingly intertwined with some of the most pressing security threats facing the world today' (Vellturo 2020). The proliferation of small arms further increases violence. Pastoral groups are often blamed, despite the historical roots of the livelihood, centuries of collaborative coexistence and the importance of the livestock sector to national GDPs. Both weakening food security and increased conflict heighten pressures for migration.

To equate land degradation with climate change is neither an accurate nor a helpful framing. Climate change is a real global and regional issue. However, it is a separate, if interconnected, process. Human-induced factors, such as the excessive exploitation of firewood, charcoal production and unsustainable agro-pastoral practices, including

overgrazing and over-cultivation, are more immediate causes of soil erosion. Climate change does not necessitate that these processes take place, but it exacerbates their negative consequences.

What to do about it

This framing around unsustainable land-use practices enables the identification of issues that are specific and local. As global problems require global solutions, local solutions are available for local problems. It is multitudes easier to identify local drivers for deforestation and to design activities to address them than it is to solve global climate change, necessary as both are.

From the acute issues emerging in the Sahel, tremendous opportunities are also materialising. Nature-based solutions (NBS), working to make land-use practices more sustainable, especially in agriculture, pastoralism and forestry, provide a pathway to improve both local food production and the resilience of livelihoods to shocks, thereby decreasing conflict and migration pressures, and sequestering carbon in the soil. Actionable local strategies can be transformational at the local level, but also link to the global fight against climate change.

The technical solutions are well established and implementable, with many examples provided by Pasiecznik and Reij (2020). The UN Convention to Combat Desertification (*UNCCD* n.d. (a)) estimates that soils could globally sequester up to three billion tons of carbon annually, while being enriched by it. The Convention (*UNCCD* n.d. (b)) also argues that better land management and rehabilitation will also lead to greater drought resilience.

Efforts are already underway to achieve this. The main programme aimed at ecosystem restoration in the Sahel is the Great Green Wall (GGW), an African Union initiative launched in 2007 to regreen degraded lands and stop desertification. Its ambition is to become the 'largest living structure on the planet: a grown, not built, world wonder, stretching across the entire width of the continent of Africa', restoring 100 million hectares of degraded land, sequestering 250 million tons of carbon and creating 10 million green jobs by 2030 (*UNCCD* 2020, 6). Both the European Commission and the European Investment Bank are partners.

However, the GGW implementation has been lagging, with only 4% of the aims completed in the progress report (UNCCD 2020, 23). Furthermore, more than half of the progress has been made by Ethiopia alone, with 2.3 million hectares planted.

There have also been significant issues with the implementation of the GGW beyond slow progress. The report notes issues around tracking how money is spent and whether funding is being used for the desired activities. Questions have also been raised regarding how successful tree planting has been, as reporting lacks survival rates, let alone the impacts on the soil or socio-economic systems (Watts 2020). An instructive example arises

from Turkey in November 2019, when an effort to break the world record in planting the largest number of trees in one location in one hour led to 303,150 saplings being planted. After three months, however, up to 90% of the saplings were dead (Carleton 2020).

The concern around tree survival is exacerbated by the fact that the Sahel is not predominantly a forest ecosystem, but rather grass-predominated savannah. Over-reliance on trees as an NBS, especially if driven by carbon sequestration that incentivises quick-growing exotic trees, may even be harmful to the local ecosystems and particularly pastoral livelihoods. Rangeland, including the Sahel, is not, as some assumptions may imply, 'degraded forests', but 'highly productive, biodiverse ecosystems that support many livestock and people' (Scoones 2021). Furthermore, grasses can be an equal carbon sink to forests due to their extensive root systems (Carleton 2022). Similar concerns have been raised about the Bonn Challenge that aims to plant a trillion trees, where up to 80% of commitments involve monoculture plantations or limited tree mixes (Stanford University 2020).

Socio-economic factors have also been challenging, particularly as conserved areas become cut off from already economically deprived and marginalised populations, exacerbating poverty (Kelly et al. 2021). Similar issues and worse have been noted in many instances related to the Reduce Emissions from Deforestation and forest Degradation (REDD+) programme (Lang 2020). Monitoring, reporting and verification (MRV) was noted as a significant bottleneck for the progress of the GGW (UNCCD 2020).

The end result of this MRV capacity gap is that actual outcomes cannot be evidenced and communicated. Identifying successes and failures remains haphazard and is too often based on subjective storytelling. Best practices cannot be systematically established. Projects continue to be designed and implemented in a suboptimal way, and learning remains fractured. The issues are particularly acute for rangeland and soil-related projects, which are more challenging to monitor from a technical perspective than the above-ground biomass of trees.

Poor MRV feeds into the other major challenge in scaling ecosystem restoration activities—finance. Funding for green activities has increased exponentially in recent years, with various new orientations towards an environmentally sustainable future being implemented or prepared, including the European Green Deal, which is backed by an investment of €1.8 trillion (European Commission 2021).

Some additional funding is also reaching activities in the Sahel, with the GGW receiving a pledge of over $14 billion in early 2021. However large this figure sounds, it is woefully insufficient, as is the ambition of planting 100 million hectares of land. The degraded rangeland in Sudan alone is estimated at 60 million hectares.

The growing carbon removal markets offer a potentially transformative new funding mechanism for ecosystem restoration. With all major corporations pledging to become net zero, the value of the market is on the brink of explosive growth of up to $100 billion annually by 2030 (Toews 2021). The price of carbon per tonne is also rapidly rising, enabling the implementation of projects that were previously not financially viable.

Making sure that a substantial part of this money reaches the most vulnerable regions and populations is both a moral imperative and sound policy to avoid perpetual humanitarian emergencies with huge human and financial costs. Incentivising subsistence land users with direct cash payments based on carbon sequestration could enable immediate poverty reduction along with long-term habitat sustainability. Being the producers of an internationally desired product, carbon credits, would transform the position of poor communities from aid beneficiaries to service providers. In these areas, carbon-backed NBS offer the potential for programming that is environmentally, socially and financially sustainable.

The demand for carbon-financed environmental projects in the Sahel is present, the gap is in the supply. Suppliers able to design and certify projects for carbon-credit providers are few, despite many organisations implementing projects on ecosystem restoration. Furthermore, the high cost of accreditation can be prohibitive to all but the largest and most well-financed projects, restricting the ability of many in-need areas to take part. Ultimately, Sahelian carbon projects are few and far between.

Although carbon credits are controversial, with some branding them as greenwashing, this should be seen as a valid critique of some existing projects, not the concept itself. Zero emissions are not possible for certain sectors through reductions alone and some offsetting is required. Ensuring that offsets are (1) genuine with verifiable carbon impacts, (2) implemented in a socially sustainable manner, (3) contributing to the UN's Sustainable Development Goals, (4) expensive enough to encourage efficiency, and (5) targeting the most in-need populations, is a better strategy than disregarding them altogether.

Conclusion

The EU can play a leading role in bridging the existing gaps. The European Space Agency's satellite systems are already providing an invaluable service in the form of remote-sensing technologies that monitor changes in the soil. Many humanitarian and development aid projects are already carrying out ecosystem restoration but with insufficient tools and funding to measure its impacts. Funding direct study and MRV capacity to learn from these projects could generate important baselines for carbon levels and project impacts, helping with both learning and establishing an information base on which carbon-funded projects could be built, unlocking massive scaling potential. Pushing partners to report more robustly on environmental impacts alone may yield many improvements. This is particularly vital for ensuring that NBS beyond forestry can be scaled. The implementer networks are present but lack awareness of the opportunities in and capacity for project development, which are also things that the EU can support.

The EU should also widen its support to all actors engaged in ecosystem restoration. In providing such support the EU should also reform funding administration. The burden of managing a grant from the EU is prohibitively high, effectively excluding smaller actors. Lowering the barriers to partnership would enable innovative approaches,

improve equity and inclusivity, and promote local leadership of projects, thereby increasing local ownership and success. The US Agency for International Development has taken steps in this direction with its New Partnerships Initiative, including smaller grants and a reduction in the first-stage application form from 50 pages to two. Smaller, less burdensome grants may also enable grass-roots approaches that have greater variability and contextual sensitivity.

The newest EU strategy commits to 'base its action on the nexus between humanitarian aid, support for sustainable development and support for peace' (Council of the EU 2021b, 8). Although environmental restoration and NBS are not a panacea and a multitude of tools will be necessary to address the scale of the issues, they sit within this nexus while also contributing to the fight against climate change. Ignoring land degradation would be fatal to all of the EU's goals. The time is ripe for leadership, and small actions building on prior EU programming can be leveraged for great impacts with strategic investments.

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