Soil protection under African Union law: Status quo and developmental perspectives based on a comparative analysis with European Union law[1]

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Abstract

This chapter examines the African Union's (AU) efforts to establish a comprehensive soil protection framework in the face of ongoing challenges related to land degradation and climate resilience. While AU treaties address environmental issues broadly, few specifically prioritise soil health, with the African Convention on the Conservation of Nature and Natural Resources being a notable exception. Current efforts, such as the Draft Framework for the SIA and the ten-year SIA Action Plan, reflect the AU's commitment to soil management, promoting integrated soil management and regenerative agriculture. However, funding constraints, capacity gaps, and the absence of a concrete monitoring and evaluation system impede effective implementation.

The chapter compares the AU's approach with that of the European Union (EU), highlighting shared challenges, such as the variability in member states' capacities and insufficient soil health data. The AU's unique challenges, including linguistic diversity, security concerns, and limited financial resources, make direct comparisons with the EU difficult. Despite these challenges, the chapter suggests that transforming soft law policies into binding regulations, incorporating clear definitions, soil health indicators, and a robust monitoring system, is essential for effective implementation, involving all relevant stakeholders, particularly local communities.

The chapter advocates for the development of a dedicated legal instrument for soil protection, building on existing AU soft law. It highlights the need for effective coordination among initiatives and partners, emphasising stakeholder involvement, collaboration, and balancing sustainability with economic growth. Ultimately, it concludes that a legally binding protocol would strengthen AU soil protection efforts, ensuring long-term sustainability and aligning with broader environmental and development goals.

1 This chapter is partly drawn from the thesis submitted by Kaßner in 2024 in partial fulfilment of the requirements for the Master of Laws (LLM) degree at Stellenbosch University.

Chapter contents

Summary

This chapter finds that while the African Union (AU) has shown an increasing awareness of environmental issues, soil protection remains insufficiently addressed in its treaties and conventions. Among its legislative instruments, the revised African Convention on the Conservation of Nature and Natural Resources emerges as the only one explicitly focused on soil protection, revealing a significant gap and highlighting the pressing need for a comprehensive soil protection framework. Other AU environmental treaties and conventions, although not primarily targeting soil issues, provide valuable insights and inspiration for shaping such a framework, particularly through stakeholder involvement, youth participation, and effective monitoring systems.

The AU recognises the pivotal role of sustainable soil management in Africa's development, as reflected in initiatives such as the Draft Framework for the Soil Initiative for Africa (SIA) and the accompanying Action Plan. However, as a developing continent, Africa faces the ongoing challenge of balancing sustainability with economic growth. The capacity to implement actionable steps towards this balance remains uncertain, given the complexities of development and environmental stewardship.

It further finds that while the AU has demonstrated commitment to soil health through soft law instruments, the absence of legally binding frameworks presents a significant obstacle. The revised African Convention on the Conservation of Nature and Natural Resources is the sole treaty explicitly addressing soil protection, leaving substantial gaps in binding obligations. This raises the question of whether soil protection provisions should evolve from policy statements to enforceable commitments. The chapter examines research suggesting that although compliance with legally binding agreements is generally high, their practical impact on behaviour may be limited. Conversely, non-binding agreements often see lower compliance rates but exert a more substantial influence on behaviour due to their flexibility and adaptability. This dynamic challenges the traditional preference for binding frameworks and suggests that non-binding instruments, while reliant on voluntary adherence, may allow for

innovative and locally tailored approaches. However, the lack of mechanisms to ensure adherence risks reducing even the most ambitious non-binding policies to mere statements of intent without tangible impact.

To enhance the legal framework for soil protection, the AU should consider developing a dedicated protocol or convention that comprehensively addresses soil protection. Such an instrument should build on existing soft law instruments, incorporating stakeholder engagement, youth participation, and robust monitoring systems. Effective implementation also requires a clear institutional setup. The AU Commission (AUC) leads the SIA, providing strategic direction while adhering to the principle of subsidiarity, delegating responsibilities to the appropriate levels of authority. The AU also relies on a wide network of partnerships, such as CA4SH and TerrAfrica, which operate at both continental and national levels. These partnerships facilitate resource mobilisation and ensure that the diverse needs of African populations are integrated into soil protection strategies. However, the chapter notes that the broad spectrum of partners introduces complexity in coordination, with success dependent on establishing effective communication mechanisms. Without these, a streamlined approach may become necessary to optimise financial resources and reduce oversight demands.

This chapter finds that while the AU has integrated its soil protection agenda into broader priorities such as Agenda 2063, it faces significant challenges in transitioning from soft law to binding regulations, implementing these regulations effectively, and ensuring coordination across diverse initiatives. The AU's inability to bind member states and its lack of supranational authority exacerbate these challenges. Establishing specialised courts for environmental and land matters could address gaps in legislation and enforcement, though such initiatives would require substantial funding. Lessons from the European Union (EU), which also primarily focuses on aspirational goals rather than comprehensive frameworks, offer some guidance. The EU's proposed soil protection directive, particularly its soil monitoring provisions, provides a useful reference, though its success remains uncertain. Recommendations for the AU are, therefore, drawn from shared principles in the soft laws of both unions, such as cross-sectoral soil management and stakeholder engagement.

The chapter emphasises that the AU faces an urgent and complex task in establishing a robust soil protection framework. Healthy soils are fundamental to food security and climate resilience, yet land degradation continues to pose a critical threat. While the AU's treaties and conventions broadly address environmental concerns, few prioritise soil protection specifically. The African Convention on the Conservation of Nature and Natural Resources is a notable exception, but most efforts remain within the realm of non-binding policies such as the Draft Framework for the SIA and the ten-year Action Plan. These documents highlight the AU's dedication to integrated soil management, including regenerative agriculture, marking a shift from earlier strategies focused mainly on fertiliser use.

This chapter finds that the AU's strength lies in its long-term vision and its ability to collaborate with non-governmental organisations and international bodies, which are vital for resource mobilisation and knowledge sharing. Nevertheless, significant challenges persist, including funding limitations, capacity constraints, and the absence of a robust monitoring system, all of which hinder the ability to evaluate and refine soil protection strategies. Lessons from the EU underscore the value of detailed frameworks, even as both unions share a vision for cross-sectoral soil management and stakeholder engagement. However, the AU's unique context, marked by linguistic diversity, security concerns, and financial limitations, necessitates tailored solutions distinct from those of the EU.

The chapter concludes that the AU must prioritise transforming soft law policies into binding regulations with clear definitions, soil health indicators, and inclusive monitoring systems to ensure effective implementation and adaptability. By building on its existing initiatives and learning from international best practices, the AU can make soil protection a cornerstone of its environmental and development agenda, securing a sustainable future for Africa.

1 Introduction

Fertile soils are essential for securing food supplies and play a key role in mitigating climate change. Soil degradation, however, poses serious threats, leading to challenges such as hunger, famine, migration, and, in some cases, even conflict. Sustainable soil management is, therefore, vital for humanity's future.[2] Yet, land-use practices and climate change continue to place an enormous strain on soils. Hazards including sealing, erosion, compaction, pollution, salinisation, and loss of organic matter impair soil's ability to store nutrients and absorb water.[3] Despite the soil's crucial role, it has historically received limited attention as a standalone environmental asset within the European Union (EU) and the African Union (AU).[4]

Recently, however, both the EU and AU have shown greater interest in coordinated soil protection efforts. Nonetheless, neither region has established a cohesive soil protection framework, and this gap is compounded by limited literature on the subject. Addressing these challenges involves identifying the current state of soil protection within the AU, analysing the EU's approach, and exploring how AU policies can evolve. This perspective not only connects environmental law, agricultural policy, and science but also offers valuable insights for policymakers in the AU and its member states.

2 Ruppel & Ginzky (2021: 17).
3 Regarding soil threats and functions see Glæsner, Helming & De Vries (2014).
4 Häusler (2022: 22-23).

2 The African Union

The AU was established in 2002 as a successor to the Organisation of African Unity. It comprises 55 member states dedicated to promoting unity across the continent advancing socio-economic integration and fostering sustainable development.[5]

2.1 Functions, institutions, and legal systems

To fully understand the roots of the shortcomings of the current soil protection framework, one needs to look at the general layout of the AU.

2.1.1 Functions

The objectives of the AU, as laid out in Article 3 of the Constitutive Act, include the promotion of greater unity and solidarity between African countries, the defence of sovereignty, and the acceleration of political and socio-economic integration. In terms of soil protection, the goals of sustainable development (Article 3 [j]), the protection of human and peoples' rights (Article 3 [h]), the promotion of good health (Article 3 [n]), raised living standards (Article 3 [k]), and advancement in science and technology (Article 3 [m]) are especially pertinent.

2.1.2 Institutions

The supreme policy and decision-making organ of the AU is its Assembly.[6] The Assembly consists of heads of state and government from all member states. It determines the AU's policies and monitors their implementation. Besides, it elects AU Commission officials and other key officeholders. The decision-making process typically involves consensus building among member states through dialogue, negotiation, and compromise. When consensus cannot be achieved, voting will take place. Usually, a two-thirds majority is necessary, but matters of procedure are decided by a simple majority.[7]

The AU Commission serves as the AU's administrative arm, responsible for implementing AU policies and programs. The Commission is composed of the Chairperson (elected by the Assembly), Deputy Chairperson, and six Commissioners. One of

5 See https://au.int/en/overview, accessed 14 September 2024.
6 Ruppel (2022: 133).
7 African Union Handbook (2023: 32-35).

the functions of the Commission is to implement policies of the AU's policy organs. It also coordinates AU projects and represents the AU in external engagements.[8]

The Pan-African Parliament (PAP) is the legislative body of the AU, representing the African people. It is intended as a platform for people from all African states to be involved in discussions and decision-making on the problems and challenges facing the continent. The PAP members are all members of their domestic legislatures, rather than being elected directly by the people. The election mechanisms are determined by the national legislatures of AU member states. Typical election processes are direct election by national parliaments, appointment by national governments or nomination by political parties or civil society organisations. The aim is for the Parliament to be an institution with full legislative powers, whose members are elected by universal suffrage. Until such time, the PAP only has consultative, advisory, and budgetary oversight powers within the AU.[9]

In terms of soil protection, the Economic, Social, and Cultural Council (ECOSOCC) is also worth mentioning, since it advises on economic, social, and cultural issues, including those related to soil management.[10]

A comprehensive overview of all institutions is provided in the current version of the AU handbook.[11]

2.1.3 Legal instruments

The AU has several types of legal acts that govern its operations. Treaties and conventions are commonly used in the AU.[12] The signature of a state creates an obligation, but a binding agreement is only created once ratification takes place.[13] Mechanisms to enforce these treaties and conventions include the African Court of Justice and Human Rights, the Peace and Security Council, and other international dispute-resolution mechanisms established by treaties.

Furthermore, the AU can enact protocols. These are supplementary agreements that add to or amend existing treaties. Examples include the Protocol on the Statute of the African Court of Justice and Human Rights and the Protocol on the Pan-African Parliament.[14]

8 Ibid.: 92-94.
9 Ibid.: 116-118.
10 Ibid.: 120-121.
11 Ibid.: 32-198.
12 The terms "treaty" and "convention" are synonymous in their generic meaning, see https://treaties.un.org/Pages/overview.aspx?path=overview/definition/page1_en.xml#conventions, accessed 31 May 2024.
13 See https://treaties.un.org/doc/source/events/2010/Press_kit/fact_sheet_5_english.pdf, accessed 2 June 2024.
14 See https://africanlii.org/legal-instruments/, accessed 2 June 2024.

Charters, on the other hand, are formal documents outlining the rights and responsibilities of the AU and its member states.[15] An example is the African Maritime Transport Charter.

While these are all binding agreements, the AU is also capable of issuing non-binding decisions and resolutions, which provide guidance and set standards for member states.[16] The same goes for soft law instruments, including declarations, guidelines, and plans of action.[17]

This shows that the AU, theoretically, has a vast set of legal instruments to choose from to establish a comprehensive soil protection framework.

2.1.4 Legal system

To later compare the AU approach to soil protection with comparable issues in EU law, the preliminary question arises, in how far the legal system of the AU and the EU are comparable.

The EU is by far predominantly categorised as a supranational organisation.[18] One key feature in this regard is the shared sovereignty. EU member states have given up their sovereignty to a certain extent while delegating decision-making powers to EU institutions. Thus, the EU can make decisions that bind all member states, even if they do not agree on every issue.[19] Common institutions such as the European Parliament, the European Commission, and the Council of the EU complement this structure. Furthermore, the supranational jurisdiction of the European Court of Justice can make decisions binding on all member states, which enables the EU to enforce its laws and regulations.[20] Other attributes of the supranational character include a common market and a single currency.[21]

Similar to the EU, the AU also promotes unity and cooperation among its member states (see Article 3 of the Constitutive Act). It, moreover, mirrors the institutional structure of the EU with institutions such as the Assembly, Commission, and the PAP. This suggests that the AU was influenced by the EU model when it was established.

On the other hand, the AU also shows major differences from the EU. Despite the similar institutional layout, the AU has a weaker legal and institutional framework with less supranational authority and enforcement mechanisms. Contrary to the vision articulated in its Constitutive Act, the AU's legislative, judicial, and technical organs

15 See https://www.britannica.com/topic/charter-document, accessed 2 June 2024.
16 See https://au.int/decisions/assembly, accessed 2 June 2024.
17 See https://achpr.au.int/en/category/soft-law, accessed 2 June 2024.
18 Lopez-Claros, Dahl & Groff (2020: 65-78).
19 See https://www.cfr.org/backgrounder/how-does-european-union-work, accessed 2 June 2024.
20 See https://european-union.europa.eu/institutions-law-budget/institutions-and-bodies/search-all-eu-institutions-and-bodies/court-justice-european-union-cjeu_en, accessed 2 June 2024.
21 Usherwood & Pinder (2018: 56-69).

remain weak, especially relative to the Assembly. The PAP and the ECOSOCC—designed to give civil society organisations a voice within AU institutions—remain consultative bodies with no power.[22] Rather than granting the Parliament the ability to make binding laws, the amended PAP Protocol only gave it the powers to make "model laws", which are no more than recommendations. The same applies to the AU Commission, which cannot compel member states to comply with its decisions. Thus, the AU cannot bind its member states and has no way to exercise supranational powers.[23]

Regarding the establishment of a soil protection framework, these findings suggest, that enforcement mechanisms in the AU will likely be less effective than in the EU already because of the more limited powers of its institutions. Compliance with soil protection regulations, therefore, relies more on the will of each state. This also infers that the actual soil protection standard may vastly differ from state to state, whereas the standard across the EU might be more homogenous. Furthermore, enforcement mechanisms of the EU will only be limitedly transferrable to the AU, due to the different extent of institutional powers.

2.2 African soil: Main challenges?

Africa's economy largely depends on the agricultural sector.[24] This is why soil is a very important resource on the continent, which makes it even more important to identify the most important challenges for the soil to find targeted solutions.

One challenge of a continental soil protection framework is that one can find very differing local climates throughout Africa, such as an equatorial climate, tropical climate, arid and semi-arid conditions and subtropical conditions in the highlands.[25] Furthermore, economies in the different African countries have developed differently. While in some countries, industrialisation is already relatively well-established, others are still under development. Yet, most of them have in common that their gross domestic product (GDP) is mainly based on agriculture and most farmers practise on a small scale, which makes them vulnerable to external shocks. Foreign investments are also an important economic factor all over the continent, whereas high levels of debt hinder the ability of states to advance economic development on their own.[26]

The main drivers of soil degradation are primarily agriculture, secondly mining, industrialisation and infrastructure, thirdly urbanisation. Furthermore, the rural poor in Africa often rely heavily on natural resources for survival but lack the financial funds

22 Nantulya (2024).
23 See https://theconversation.com/the-african-union-is-weak-because-its-members-want-it-that-way-experts-call-for-action-on-its-powers-224191, accessed 2 June 2024.
24 Ginzky & Ruppel (2022: 2).
25 See https://kids.britannica.com/students/assembly/view/228153, accessed 2 June 2024.
26 Ginzky & Ruppel (2022: 2).

to invest in sustainable practices. That is why poverty, as well as population growth, are among the contemporary drivers of increased soil erosion.[27]

2.3 Soil protection: Law and policy

2.3.1 Relevant African Union law and policy

2.3.1.1 Constitutive Act

The basis of the AU is its Constitutive Act. While it does not specifically mention "soil", it does outline some key objectives that are relevant to soil management. As seen above, Article 3, which regulates the objectives of the AU, aims for sustainable development (Article 3 [j]), the protection of human and peoples' rights (Article 3 [h]), and the promotion of good health (Article 3 [n]), raised living standards (Article 3 [k]), and advancement in science and technology (Article 3 [m]). These goals are all at least indirectly tied to healthy soils.

Article 13(1)(c) of the Constitutive Act names "food, agriculture and animal resources, livestock production and forestry" as an area of common interest to the member states. These sectors are closely related to the topic of soil protection. Yet, "soil", as such, remains unmentioned. This may reflect broader legislative priorities that emphasise immediate economic and agricultural outputs over the intrinsic value of soil as a resource. It also suggests that member states were more focused on the possible uses of soil (food, agriculture, animals) rather than the medium itself while drafting the Act. This may encourage sectoral approaches to soil protection rather than comprehensive soil management strategies.

Sectoral approaches can be insofar problematic as they may lead to fragmented efforts, lacking overall coherence. Furthermore, they may cause specific issues within a sector to be overemphasised, while potentially neglecting broader soil concerns.

On the other hand, sectoral approaches can provide tailored solutions to specific soil protection challenges within each sector. This would also be more cost-effective since solutions could be provided in a more targeted manner.

Overall, both sectoral and comprehensive approaches have their advantages and disadvantages. Thus, an ideal soil protection framework would combine both elements to ensure targeted sectoral strategies within an overarching comprehensive framework. Therefore, it would have been advisable to explicitly mention "soil" as an area of interest in Article 13 of the Constitutive Act, especially because "water" is specifically mentioned in Article 13(1)(d).

27 Wynants et al. (2019: 1915).

2.3.1.2 Agenda 2063

Agenda 2063 is a strategic framework adopted by the AU in 2015 to guide the continent's development over the next 50 years.[28] It aims to achieve several goals such as economic development and political integration. It acknowledges "soil erosion" as a threat and "soil fertility" as a good worth protecting but does not determine a goal specifically aimed at soil protection. Yet, other goals touch on soil protection in a wider sense.

These are goal 1.1 "a high standard of living, quality of life and well-being for all citizens", especially its priority area 1.1.2 "poverty, inequality and hunger", goal 1.3 "healthy and well-nourished citizens", priority area 1.4.1 "sustainable and inclusive economic growth", goal 1.5 "modern agriculture for increased productivity and production", and goal 1.7 "environmentally sustainable and climate resilient economies and communities".

Agenda 2063 is not binding in a classical sense and is more akin to a strategic framework for Africa's development. The implementation is supposed to be achieved through the execution of ten-year plans, for whose adaptation the Regional Economic Communities (RECs) and member states are mainly responsible.[29] For soil protection efforts, Agenda 2063 can only serve as a guideline, yet should be taken into consideration, to ensure that soil protection regulations fit into the broader vision, that the AU has developed for Africa.

2.3.2 Soil relevant environmental conventions

2.3.2.1 Phyto-Sanitary Convention

The Phyto-Sanitary Convention for Africa was introduced in 1967 as the first comprehensive regional attempt to address environmental concerns.[30] It deals with the prevention of diseases, insect pests, and other enemies of plants, which may become a danger within Africa.

The Convention explicitly mentions "soil" but only as a good, against which measures such as quarantine, certification or inspection can be taken to protect Africa's agriculture. Yet, measures against contaminated soil serve the protection of so far uncontaminated soil. Thus, the Convention somewhat aims for soil protection in a broader sense. Article II allows member states to take measures of quarantine, certification, inspection, or other measures as necessary to prevent the introduction and spread of pests and diseases that threaten agriculture in any part of Africa. This

28 AU Agenda 2063 – The AFRICA We Want – Framework Document (2015).
29 Ibid.: 120.
30 Negm (2024: 9).

provision can be applied to soil protection by ensuring that soil is free from pests and diseases. The same goes for Article IV, which grants member states the right to prohibit the importation of any living organisms, plants, plant material, seeds, soil, compost, or packing material that could introduce pests or diseases into Africa. Furthermore, Article V demands member states to take action to deal effectively with diseases, insect pests, and other enemies of plants in its territory.

Yet, it is questionable, whether soil protection is in the spirit of the creators of the Convention as it seems to focus on plant protection and not soil protection. This can be concluded from the preamble of the Convention. Moreover, it recognised the cooperation amongst African states in controlling "pests and diseases of plants and plant products". Furthermore, Article VII regulates the establishment of a panel of scientific consultants, which shall advise the AU on various technical problems related to "plant health and protection". This suggests that the term "agriculture" used in the Convention mainly refers to plants.

Another limitation is that the terms under the Convention are general and do not contain specific measures that should be undertaken to ensure the implementation of the Convention.[31] This makes it challenging to implement measures to specifically address soil protection concerns.

Overall, the wording of the Convention allows for indirect measures for soil protection. The *ratio* of the Convention, however, seems to be geared more towards the protection of agricultural produce, specifically plants.

2.3.2.2 African Convention on the Conservation of Nature and Natural Resources

The African Convention on the Conservation of Nature and Natural Resources of 1968 (Algiers Convention) regulates the conservation, utilisation, and development of soil, water, flora, and faunal resources according to Article II. Article IV specifically focuses on the protection of soil. According to it, the contracting states shall take effective measures for the conservation and improvement of the soil and shall combat erosion and misuse of the soil. To do so, states shall establish land-use plans based on scientific investigation. Besides, soil conservation measures to combat erosion and sustainable farming measures to ensure the long-term productivity of the land are foreseen.

The Convention can serve as a model for a comprehensive soil protection framework insofar as it takes a holistic approach to conservation by covering soil, water, flora, and faunal resources, which all are essential for maintaining ecological balance. It also emphasises the importance of scientific principles in conservation and, thus, encourages targeted solutions rather than scattered general measures.

31 Ibid.: 6-7.

On the other hand, the holistic approach to the conservation of natural resources may not fully address the complexities of soil protection. It also does not provide specific guidelines for soil protection, which can make it challenging for member states to develop effective soil conservation strategies. Besides, it relies on member states to implement its provisions (Article XV), thus, opening the possibility of inconsistent enforcement.

Other shortcomings include that parties to the Conventions are not required to submit regular reports on implementation. It also lacks financial mechanisms for the implementation of the Convention and does not establish an administrative body, most likely due to the financial implications. Hence, the Convention is criticised for failing to provide effective means of implementation.[32]

Finally, it must also be considered that the Convention was adopted over 50 years ago. Since then, our understanding of soil science and conservation has significantly advanced, and the Convention may not fully reflect these advancements. Therefore, it was replaced by a revised version.[33]

2.3.2.3 Revised version of the African Convention on the Conservation of Nature and Natural Resources

The revised version was adopted in 2003 and entered into force in 2016. It developed the initial version (Algiers Convention) by further detailing conservatory measures. Moreover, it imposes more obligations on member states and establishes institutional structures and mechanisms to facilitate its implementation and encourage the state parties' compliance and enforcement.[34]

Similar to the Algiers Convention, the revised version dedicates a provision explicitly to "land and soil" (Article VI). However, the scope of the revised version is broader, covering not only soil but also other land resources, such as vegetation and hydrological processes (Article VI 1.).

Furthermore, it provides for more specific measures for soil conservation, which not only include preventative but also rehabilitation measures (Article VI 3. d). This aspect has not been taken into regard by the Algiers Convention. The same goes for the consideration of the rights of local communities (Article VI 4.). The Algiers Convention was criticised for duplicating the policies of previous colonial treaties, as well as Western ideas about the environment and the means of its protection. Thus, emphasising utilitarianism as against protectionist preservationist conceptions of the environment.[35] Yet, it is important to take the rights of local communities into account when

32 Ibid.: 19-20.
33 Ibid.: 12 & 20.
34 Ibid.: 21.
35 Ibid.: 19.

designing a soil protection framework for the AU. Local communities have traditional knowledge and practices that have been developed over generations, which are essential for understanding the local soil conditions, climate, and ecosystem.[36] This knowledge can be used to develop effective soil conservation strategies. Furthermore, local communities are the primary stakeholders in soil protection, as they are directly affected by soil degradation and erosion. If their needs are addressed, they are more likely to adopt and implement soil conservation practices. This, in turn, leads to long-term sustainability.

Unlike the Algiers Convention, the revised version provides for strong institutional mechanisms for its implementation. This includes the creation of the Conference of the Parties in Article XXVI, which will be its decision-making body. Furthermore, the Convention emphasises state cooperation, which is important for the implementation of national measures since actions undertaken in one state may have an impact on the natural resources of another state.[37]

Overall, the revised version shows good approaches to soil protection. Especially its comprehensive approach to environmental protection, monitoring mechanisms, and the inclusion of local communities, might serve as a model for a future soil protection framework.

2.3.2.4 Convention for the Establishment of the African Centre for Fertiliser Development

The Convention for the Establishment of the African Centre for Fertiliser Development was adopted in 1985. According to Articles I and II, the general objective of the Convention is to create an African Centre for Fertiliser Development. To achieve the specific objective mentioned in Article II, the Centre has the functions regulated in Article II(2). Although the Centre was established, it has been lying dormant for years.[38]

The Convention does not address soil protection directly. It even gives little regard to the protection of the environment in general, as there is no mention of "environment" or "sustainable development". It only focuses on the development of the fertiliser industry while overlooking the damage it may cause to the environment, which may include soil degradation.[39]

Yet, the Convention has the potential to indirectly contribute to soil protection. If the fertilisers developed and promoted by the Centre are environmentally friendly this helps to maintain soil health. Besides, the Centre could research sustainable soil

36 Mustonen et al. (2022).
37 Scholtz & Pallangyo (2016: 5-10).
38 Mugiyo (2024).
39 Negm (2024: 46).

management practices, which could support soil protection efforts. This would be following its objectives and functions (Article II) since research on soils goes hand in hand with research on fertilisers. This possible synergy may be taken into regard when developing research facilities for soil protection.

2.3.2.5 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

The Bamako Convention was adopted in 1991 and entered into force in 1998. It was created out of fear of the shipment of hazardous wastes from industrialised nations for cheap disposal in inadequately prepared sites in developing countries.[40] For this reason, it unconditionally prohibits the transboundary movement of hazardous wastes into Africa. On the other hand, it allows the transboundary movement of hazardous wastes within Africa and exports from African countries.[41] Article 2 regulates the scope of the application.

The Convention does not specifically regulate soil protection but can indirectly contribute to soil protection by preventing soil pollution through hazardous waste.

2.3.2.6 African Maritime Transport Charter and the Revised African Maritime Transport Charter

The original Maritime Transport Charter was adopted in 1993, whereas the revised version was adopted in 2010. Similar to the original Charter, which was ratified by only thirteen member states, the Revised Charter has not yet entered into force since only ten member states have ratified it even though 23 have signed it.[42] Article 3 of the Revised Charter aims at developing and promoting mutual assistance and cooperation between state parties in maritime safety, security, and protection of the marine environment. It does not regulate soil protection.

2.3.2.7 The African Nuclear-Weapon-Free Zone Treaty (Pelindaba Treaty)

The African Nuclear-Weapon-Free Zone Treaty was adopted in 1996. Its main purpose is to establish Africa as a nuclear-weapon-free zone (Article 2(1) in conjunction with Annex 1). While it does not have any direct provisions related to soil protection, it

40 Negm (2024: 47).
41 Ibid.: 50-51.
42 Ibid.: 68.

indirectly protects soil health by prohibiting nuclear weapons, which would potentially contaminate soils.

2.3.2.8 African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa

The AU Convention for the Protection and Assistance of Internally Displaced Persons in Africa was adopted in 2009 and entered into force in 2012. It primarily deals with the protection and assistance of internally displaced persons and does not regulate soil protection. Yet, it contains some provisions regarding the general protection of the environment.[43] Article 3(1)(i) obliges state parties to ensure the accountability of non-state actors involved in the exploration and exploitation of economic and natural resources leading to displacement, and Article 9(2)(j) obliges state parties to take necessary measures to safeguard against environmental degradation in areas where internally displaced persons are located.

2.3.2.9 Agreement for the Establishment of the African Risk Capacity (ARC) Agency

The Agreement for the Establishment of the African Risk Capacity (ARC) Agency was adopted in 2012. Since then, it has been applied provisionally but has not entered into force.[44] The Agreement establishes the ARC as a specialised agency of the AU, intending to assist member states in reducing the risk of loss and damage caused by extreme weather events and natural disasters (Article 3). Article 1 defines "natural disasters" as a sudden calamitous event caused by natural forces that result in serious disruption of the functioning of a community or a society causing widespread human, material, economic and/or environmental losses that exceed the ability of the affected community or society to cope using its level of resources. "Extreme weather event" is defined as a weather phenomenon that is at the extreme of historical distribution.

Thus, the question arises as to whether ground-related events are also covered. Common soil threats include desertification, erosion, wildfires, and floods. While wildfires and floods are usually sudden events and, therefore, "natural disasters", desertification and erosion happen over a longer period and can, therefore, neither be qualified as "natural disasters" nor "extreme weather events" in the sense of the Agreement. Thus, the Agreement does not provide for comprehensive risk management in terms of soil threats. Furthermore, the basic concept of the Agreement is not aimed at

43 Negm (2024: 74).
44 African Union Handbook (2020: 185).

environmental "protection" but rather at managing and reducing the financial impact of natural disasters and extreme weather events (Article 4). Hence, it is mostly unrelated to soil protection.

2.3.2.10 African Charter on Human and Peoples Rights (ACHPR)

The African Charter on Human and Peoples Rights was adopted in 1981. It does not directly regulate soil protection but foresees general provisions for environmental protection. According to Article 16(1), every individual shall have the right to enjoy the best attainable state of physical and mental health. Soil degradation can lead to reduced crop yields and malnutrition,[45] while soil contamination causes increased health risks.[46] Thus, efficient soil protection mechanisms help to safeguard this right. Article 24 regulates the right to a generally satisfactory environment, which includes soils. Therefore, together these provisions should suffice to acknowledge the right to healthy soils and, hence, establish a legal basis and obligation to protect soils as a fundamental right. This also highlights that soil conservation is to be pursued not only as a technical or economic issue but also as a matter of human rights and environmental justice.

2.3.2.11 Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol)

The Maputo Protocol was adopted in 2003 as a supplement to the ACHPR. It calls for the protection of women's rights, which had not been included in the ACHPR.[47] According to Article 18(1), women shall have the right to live in a healthy and sustainable environment, which includes healthy soils.

2.3.2.12 African Charter on the Rights and Welfare of the Child

The African Charter on the Rights and Welfare of the Child was adopted in 1990 and sets out the criteria that govern the status of children.[48] In the present context, Article 11.2(g) is particularly relevant as it states that the education of the child shall be directed to the development of respect for the environment and natural resources. Thus,

45 Santillán (2022).
46 See https://openknowledge.fao.org/server/api/core/bitstreams/fe5df8d6-6b19-4def-bdc6-62886d824574/content/src/html/chapter-04-3.html, accessed 20 June 2024.
47 Negm (2024: 66).
48 Negm (2024: 72).

states are required to provide children with sufficient knowledge of the environment. This implies the need for environmental protection.

2.3.2.13 The African Charter on the Values and Principles of Decentralisation, Local Governance, and Local Development

The African Charter on the Values and Principles of Decentralisation, Local Governance, and Local Development was adopted in 2014. Although it primarily deals with centralisation, local governance, and local development in Africa, it also contains provisions relating to environmental protection. According to Article 10(5), local governments and local authorities must have regard to sustainable development. Article 16(4a) states that state parties shall adopt national legislation and establish mechanisms which include, *inter alia*, sustainable use of natural resources at the local level. Provisions directly related to soil protection are not included.

Stakeholder participation in environmental matters is important to ensure effective implementation of regulations and to increase transparency. Different to other environmental mediums, such as air and water, soil can be divided into regional sections, which, in turn, are allocated to local communities or private owners. Thus, soil protection depends on their willingness and cooperation. Moreover, stakeholder participation provides opportunities for knowledge sharing, especially regarding local issues related to soil protection, which is essential for building a robust and effective soil protection framework.

2.3.2.14 The African Youth Charter

The African Youth Charter was adopted in 2006. Article 19 contains provisions for sustainable development and protection of the environment. In terms of soil protection, Article 19(2)(c) obliges state parties to support youth organisations in instituting environmental preservation programs such as tree planting programs. Article 19(2)(e) refers to the regeneration of forests and Article 19(2)(f) states that state parties shall initiate intensive actions to prevent the expansion of deserts. The Charter does not only foresee obligations for state parties but also responsibilities of the youth, which include the protection of the environment and conservation of nature (Article 26 [o]).

Soil protection is also a matter of intergenerational equity.[49] As a precondition for high-yield agriculture, healthy soils provide food security and, therefore, are necessary for the survival of future generations. Soils also play a crucial role in the preservation of healthy ecosystems, which safeguard long-term environmental sustainability.

49 See Brown Weiss (2008).

Furthermore, intergenerational equity is also a matter of sustained economic prosperity. Thus, soils not only need to be protected due to environmental reasons but also to offer future generations the same economic opportunities since soil degradation can undermine the economic potential of the land.

The consideration of the youth and future generations seems to be recent in the environmental context since older environmental treaties have not considered intergenerational equity as a reason for environmental protection. When drafting a comprehensive soil protection framework they should be considered, to increase its acceptance among the population and to ensure a sustained implementation of its provisions.

2.3.2.15 The African Charter on Democracy, Elections, and Governance

The African Charter on Democracy, Elections, and Governance was adopted in 2007. It primarily deals with democracy, elections, and governance. However, it contains several provisions relating to sustainable development and environmental protection. According to Article 9, state parties need to adopt policies and programmes that promote sustainable development and human security. According to Article 42, they, furthermore, need to protect the environment to achieve sustainable development for the benefit of the present and future generations. The latter picks up the idea of the African Youth Charter that the environment is a good, which needs to be preserved for future generations.

Good governance and sustainable development go hand in hand.[50] Good governance is necessary to prioritise sustainable management of resources over short-term profit. This requires clear responsibilities when it comes to the implementation of regulations for environmental protection. Weak enforcement and lack of accountability could enable corrupt practices that undermine protection efforts. By establishing participatory governance mechanisms, a soil protection framework would increase transparency and, thus, promote good governance. Furthermore, monitoring and evaluation systems would serve the same purpose.

2.3.2.16 The Agreement Establishing the African Continental Free Trade Area (AfCFTA)

The Agreement Establishing the African Continental Free Trade Area (AfCFTA) was adopted in 2018 and entered into force in 2019. The main document of the Agreement deals with trade in goods, trade in services, investment, intellectual property rights,

50 Negm (2024: 105).

and competition policy. The Agreement also includes annexes and protocols regarding each sector. Paragraph 8 of the Preamble notes the protection of the environment, while Article 3(e) embeds the concept of sustainable development. Furthermore, the protocols contain some environmental provisions. For example, Article 3(2-b) of the Protocol on Trade in Services incorporates the concept of sustainable development. "Soil" is not mentioned in the Agreement.

Trade in general is known to negatively impact soil through increased soil degradation due to intensive agricultural practices, such as monoculture farming and the use of pesticides, which farmers use to achieve high yields. This also causes a loss of biodiversity.[51] Furthermore, trade requires the movement of goods and services from one country to another, causing soil pollution.[52]

On the other hand, trade can positively influence soil protection. Increased economic activity can increase investment in sustainable agriculture practices and soil conservation. Moreover, trade can facilitate the exchange of technologies and innovations that can help improve soil health.[53]

A soil protection framework for the AU should, therefore, promote sustainable trade practices by encouraging trade in sustainably produced agricultural commodities, and environmentally friendly technologies and promote fair trade practices that have regard to the needs of small-scale farmers. Tariff and non-tariff measures that promote the import and use of sustainable agricultural inputs would also be beneficial, although provisions such as these might be more appropriately regulated in trade-specific legislation and not within the soil protection framework itself. Besides, such a framework should include mechanisms to monitor the potential effect on soil health of large-scale agricultural projects or infrastructure development.

2.3.2.17 Conclusion

Many treaties and conventions within the AU consider environmental matters. Yet almost none of them directly address soil protection. The (revised version) of the African Convention on the Conservation of Nature and Natural Resources is the only piece of legislation that explicitly deals with soil protection. Thus, the need for a comprehensive soil protection framework in the AU is evident.

Although the other conventions and treaties mentioned do not mainly address soil issues, they can serve as inspiration, when drafting a soil protection framework. As seen above, it would be advisable to include regulations that, *inter alia*, deal with stakeholder involvement, participation of the youth, and monitoring systems.

51 Balogh (2021).
52 Athanaspoulu et al. (2014: 393).
53 See https://www.oecd.org/trade/topics/trade-and-the-environment/, accessed 23 June 2024.

2.3.3 Soft law

Although it does not provide for any binding regulations, soft law is crucial for soil protection as it provides a framework for guiding the actions of states and other stakeholders.[54]

2.3.3.1 Decision on the High-Level Work Programme on Climate Change Action in Africa

The Decision on the High-Level Work Programme on Climate Change Action in Africa was adopted by the Assembly in 2014. According to Article 9(1-a) of the Constitutive Act, the Assembly can take decisions to determine the common policies of the AU, which it made use of here.

The Decision does not explicitly mention soil protection. However, it does address climate change and sustainable development, which are closely related to soil protection. It reiterates that international support for means of implementation, in particular finance and technology, in the context of the Climate Change Convention is key for Africa (Nr. 3) and confirms continued participation in global efforts for climate change mitigation actions that support sustainable development on the continent (Nr. 8). Finally, it urges member states to complete the development of their National Adaptation Plans (NAPs) and put in place systems and structures for Africa to take full advantage of the global mechanisms in support of climate change mitigation and adaptation measures (Nr. 13).

2.3.3.2 Draft AU Strategy on Climate Change

The Draft AU Strategy on Climate Change outlines the AU's approach to addressing climate change in Africa. It is designed to support the realisation of Africa's Agenda 2063 by providing Africa and its stakeholders with a single source of strategic guidance that enables them to address the climate-caused challenges that may hinder the attainment of Agenda 2063 goals. Specifically, the strategy aims to contribute to the attainment of SDG 13 'Take urgent action to combat climate change and its impacts,' the goal of less than 2°C global temperature rise by the year 2100, and the seven targets of the Sendai Framework on Disaster Risk Reduction.[55]

It aims to achieve five key outcomes: effective institutional capacities to implement climate change strategies, harmonised climate change strategies, a unified voice for

54 Ahmed & Mustofa (2016).
55 AU Draft AU Strategy on Climate Change 2020-2030 (2020: 48).

Africa, enhanced resilience and reduced vulnerability, and increased access to finance. These goals will be pursued through activities such as education and research.[56] Responsible for doing so are the stakeholders and partners that the Strategy addresses. This shall be achieved through consultative, validation, and approval processes.[57]

The Strategy mentions "soil" twice. The first time it recognises that climate change is projected to decrease biodiversity and wetland regions leading to loss of soil and trees, which mostly affects poor and vulnerable communities.[58]

The second time it is mentioned in the context of "Result 4: Resilience built; vulnerability reduced". In this context, the Strategy acknowledges that droughts are a result of climate change and, *inter alia*, soil protection as part of a well-managed natural environment. Thus, the interdependency between climate change and ecosystem degradation shall be further investigated and an integrated approach to climate change adaptation and ecosystem management developed.[59]

Furthermore, the Strategy aims at defeating hunger and improving food security through climate-smart sustainable land and water use, agricultural practices, and ecosystem management.[60] For this, the five designated Regional Climate Centres shall be networked into a continental early warning system and inform the appropriate agricultural systems to adopt for food and livelihood security.[61]

The Strategy also states the need to securitise land tenure because guaranteed security of tenure gives an incentive to implement sustainable agricultural practices as farmers can be sure of reaping benefits over the longer term.[62]

Although the proposed activities remain vague, the Strategy succeeds at pointing out soil-related issues and, thus, hopefully triggers more concrete initiatives.

2.3.3.3 Climate Change and Resilient Development Strategy and Action Plan for Africa

The Climate Change and Resilient Development Strategy and Action Plan for Africa (2022-2032) also serves the realisation of Agenda 2063's aspirations. Its goal is to provide a continental framework for collective action and enhanced cooperation in addressing climate change issues. This way livelihoods and well-being shall be improved, adaptation capacity promoted, and low emission, as well as sustainable economic growth, achieved.[63]

56 Ibid.: 48-74.
57 Ibid.: 49.
58 Ibid.: 27.
59 Ibid.: 64.
60 Ibid.: 32 & 68.
61 Ibid.: 62.
62 Ibid.: 73.
63 AU Climate Change and Resilient Development Strategy and Action Plan (2022) III, IV.

The Plan recognises land degradation as a major constraint to raising the continent's agricultural productivity and food insecurity as another challenge.[64] In terms of concrete actions, it dedicated intervention area 8 of the section "managing and protecting land-based ecosystems" to food security, land-use rights, and protection of biodiversity in projects for ecosystem-based approaches to carbon removal. For this, it strives to integrate full community impact assessments into projects for afforestation, soil enhancement, coastal wetland expansion, and others, which are driven by goals of carbon dioxide removal for either credits or payment (suggested action 8a).[65] Within the section "building low-emission, resilient urban areas", suggested action 1g calls for the promotion of soil biodiversity and soil organic carbon management as vital elements to ensure the land's ability to produce food, store water, control soil erosion and dust, maintain soil stability during extreme rainfall events, reduce carbon losses, among other benefits.[66]

The implementation of the strategy shall be accompanied by a monitoring and evaluation (M&E) Plan, which is yet to be developed. It will, *inter alia*, track schedules and timelines, level of success, and monitor key indicators.[67]

The Plan is guided by different principles. One of them is the "whole of economy approach". It applies an integrated, cross-sectoral and holistic approach to climate change.[68] Applied to the topic of soil protection, the advantages of such an approach lie within the comprehensive coverage of soil issues and the usage of synergies. A cross-sectoral approach can also facilitate the integration of soil protection consideration into broader policy frameworks, such as national development plans and climate change strategies. Furthermore, drawing on expertise from different sectors can help understand soil-related challenges and mobilise financial resources from a wider array of sources.

On the other hand, a cross-sectoral approach can make decision-making processes complex and, thus, slow down the implementation of soil protection measures. Besides, it can be challenging to define clear roles and responsibilities. When designing a soil protection framework for the AU, these advantages and disadvantages should be weighed to decide on/against a cross-sectoral approach.

Another guiding principle of the Plan is "intersectionality", meaning that the Plan recognises that vulnerabilities overlap in multiple ways (climate, gender, poverty, age groups, etc.).[69] The prioritisation of vulnerable groups is also necessary in the context of soil protection as it is often vulnerable communities, such as small-scale farmers and indigenous groups, that directly depend on soils for their livelihoods.

64 Ibid.: 12.
65 Ibid.: 43.
66 Ibid.: 50.
67 Ibid.: 74.
68 Ibid.: 9.
69 Ibid.: 9.

Despite the sound basis of the framework, there is still a lot of work that needs to be done, especially around translating the commitments and priority areas outlined in the Strategy into tangible and meaningful actions.[70] One of the challenges is the need to further coordinate the continent's climate strategies. Furthermore, sensitisation and communications regarding its goals are urgently needed. The document needs to be made more accessible to the public and other relevant actors so that they can understand their responsibilities in the implementation. Besides, an emerging technical gap remains between the continent's climate agenda and the efforts to improve and conserve soil health. Both are intrinsically connected, and Africa needs to explore how to align soil health more closely with the UNFCCC processes.

2.3.3.4 Nairobi Declaration on Climate Change

The Nairobi Declaration on the African Process for Combating Climate Change was adopted in 2023 by the African Heads of State and Government. It was adopted to be the basis for Africa's common position in the global climate change process to COP 28 and beyond.[71]

While it mainly refers to decarbonisation, it also has regard to soil-specific issues. In Nr. 27 of the Declaration the African leaders commit to strengthening actions to halt and reverse biodiversity loss, deforestation, and desertification, as well as restore degraded lands to achieve land degradation neutrality. Nr. 31 calls for redoubling efforts to boost agricultural yields through sustainable agricultural practices, to enhance food security, while minimising negative environmental impacts. In Nr. 44 the African leaders recognise the need to enhance drought resilience systems to shift from crisis management to proactive drought preparedness and adaptation, to significantly reduce drought vulnerability of people, economic activities, and ecosystems.

Overall, the declaration emphasises the importance of climate protection but also highlights the need to balance this with economic growth and development goals. It refers to "climate-positive growth",[72] "climate-positive investments",[73] "green growth",[74] "green production and supply chains",[75] and "green industrialisation".[76] This highlights that Africa is still a developing continent and still needs to pursue economic growth to reduce poverty and improve living standards. For this, it relies on

70 See https://aiccra.cgiar.org/news/making-africa-climate-strategy-reality-through-strategic-partnerships-and-investment, accessed 25 September 2024.
71 See https://www.un.org/africarenewal/magazine/september-2023/africa-climate-summit-nairobi-declaration-makes-strong-push-accelerated, accessed 25 June 2024.
72 AU Nairobi Declaration on Climate Change (2023: Nr. 54).
73 Ibid.: Nr. 20 & Nr. 57.
74 Ibid.: Nr. 23 & 28.
75 Ibid.: Nr. 24.
76 Ibid.: Nr. 29.

external support, which is why the Declaration points out the need for technical and financial support.[77] On the other hand, developed nations have more flexibility to prioritise climate action over economic growth. This must be kept in mind for the subsequent comparison with EU law.

A soil protection framework should also consider the specifics of Africa as a developing continent. It should incorporate mechanisms that enable climate-positive economic growth, such as sustainable agriculture methods. In this context, the transfer of knowledge and technology is especially important. Furthermore, funding mechanisms to ease the transition to more sustainable farming mechanisms would need to be established.

As mentioned, the inclusion of vulnerable groups should not be neglected, when navigating climate change/soil protection efforts. The Declaration includes corresponding provisions. In Nr. 38 it highlights the need to support smallholder farmers, indigenous peoples, and local communities in the green economic transition. Nr. 42 emphasises the importance of embracing indigenous knowledge and citizen science in both adaptation strategies and early warning systems. Finally, Nr. 45 calls for an inclusive approach including engagement and coordination with the children, youth, women, persons living with disabilities, indigenous people, and communities in climate-vulnerable situations.

While the Declaration outlines clear goals and commitments, translating these into actionable plans at national levels remains a challenge. It urges world leaders "to rally behind the proposal for a global carbon taxation regime including a carbon tax on fossil fuel trade, maritime transport and aviation, that may also be augmented by a global financial transaction tax".[78] Such mechanisms, including global carbon taxation, have not been put in place yet, which shows that the Declaration has only been of limited success so far.[79]

2.3.3.5 African Fertiliser and Soil Health Action Plan

The African Fertiliser and Soil Health Action Plan (AFSH Action Plan) 2023-2033 establishes the vision of reversing soil degradation, increasing fertiliser consumption and efficiency, accelerating inclusive agricultural transformation, and ending hunger, malnutrition, and poverty on the continent.[80] This way, Africa's agricultural production shall be increased without increasing the area of land under cultivation. According to the Plan, this requires an improvement of soil health across all agricultural subsectors through a combination of sustainable agricultural practices and the use of

77 Ibid.: Nr. 48 & Nr. 49 iii.
78 Ibid.: Nr. 57.
79 le Roux & Ciliers (2024).
80 AU African Fertiliser and Soil Health Action Plan (2023: 1).

fertilisers.[81] In terms of the latter, the Plan aims at improving markets for fertilisers, access and affordability of fertilisers, greater efficiency and sustainable use of fertilisers.[82] Although, the Plan highlights the general need for "sustainable soil management practices"[83], it focuses on the use of fertilisers to achieve soil health.

This might be criticised as quite a one-dimensional approach and even counterproductive. The use of fertilisers risks further endangering food security and biodiversity by depleting seed diversity. It often requires the use of hybrid seeds, which are specially designed to perform in enhanced soil conditions. Seed variety does, however, form the cornerstone of food sovereignty and ecological resilience. Thus, the use of fertiliser causes dependency.[84] Farmers might not be able to cope with the price of fertilisers and might not withstand competition in the agricultural market. The need to support vulnerable groups, as demanded by the Nairobi Declaration, is subsequently not met. Moreover, the purchase of fertilisers diverts funds from more sustainable, local agricultural investments.

On this basis, the focus on fertilisers appears to be rather short-term thinking. Once again, Africa is working to surpass its status as a developing continent by focusing on economic growth.

Furthermore, the formulation of the Plan has largely excluded farmers, civil society organisations, and agroecology practitioners, who are essential to sustainable agriculture in Africa. This is also not following the Nairobi Declaration on Climate Change, which emphasises the need to rely on indigenous knowledge.

In terms of a soil protection framework, it would be better to focus on alternative means to sustainably increase food security. Accordingly, research efforts and funding in this regard would need to be intensified, while following a participatory approach.

2.3.3.6 Draft framework document of the Soil Initiative for Africa

While the African Fertiliser and Soil Health Action Plan has a ten-year horizon, the Framework document of the Soil Initiative for Africa (SIA) establishes a long-term horizon.[85] It aims at improving the health and productivity of Africa's soils by scaling locally adapted technologies, and fertiliser application and putting in place policies, programs, and institutional structures needed to improve and maintain soil fertility.

To serve this goal, the document identifies four priority areas for investment. Priority Area 1 calls for an optimisation of integrated soil health and water management

81 Ibid.: 4.
82 Ibid.: 1-2.
83 Ibid.: 11.
84 Tadele (2024).
85 AU Draft framework document of the Soil Initiative for Africa (2024: i).

planning and implementation.[86] Priority Area 2 emphasises the importance of research, development, education, and institutional capacity in terms of sustainable soil management.[87] Per the vision of the Climate Change and Resilient Development Strategy and Action Plan for Africa and the Nairobi Declaration on Climate Change, it encourages the use of indigenous knowledge and feedback mechanisms for farmers and local communities.[88]

Priority Area 3 focuses on the optimisation of data and information for effective planning and monitoring. It proposes the development of standards for soil information systems, national soil information systems, regional institutions, a continental soil information centre, and indicators for tracking the implementation of the SIA.[89] According to the Food and Agriculture Organization of the United Nations (FAO), the main soil health indicators are nutrient availability, workability, oxygen availability to roots, nutrient retention capacity, toxicity, salinity, and rooting conditions.[90] In the interest of a harmonisation of global standards, the AU could use these indicators as a guideline as well. Such harmonisation is important because it enables meaningful comparison of soil data across different regions and enhances knowledge sharing and collaboration worldwide.[91] This way, the AU could benefit from research on soil health conducted by other nations, as it currently lacks curated, easily accessible, and findable information on soil health. This is made worse by weak financial support and investments in the soil health sector.[92]

Harmonisation is important not only on a global level but also across different sectors. This is emphasised by Priority Area 4 of the framework document, which ensures the enabling of policy, legal, and regulatory frameworks.[93]

For its implementation, the SIA, *inter alia*, aims to support farmers and communities to be agents of change and wants to build on existing planning systems and processes.[94] Overall, the AU Commission will have the leadership of the SIA, but a coordination mechanism as support may be considered.[95]

In terms of financing, the document acknowledges that the public budgets to improve soil health are insufficient. Thus, smallholder farms often do not have the financial resources to make investments in soil health.[96] This is especially problematic since

86 Ibid.: 7.
87 Ibid.: 8.
88 Ibid.: 9.
89 Ibid.: 10-11.
90 See https://www.fao.org/soils-portal/soil-degradation-restoration/global-soil-health-indicators-and-assessment/global-soil-health/en/, accessed 26 June 2024.
91 See https://www.fao.org/global-soil-partnership/pillars-action/5-harmonization/en/, accessed 26 June 2024.
92 AU Draft framework document of the Soil Initiative for Africa (2024: 5).
93 Ibid.: 11.
94 Ibid.: 13.
95 Ibid.: 15.
96 Ibid.: 17.

the framework regards farmers and local communities as a major factor for its implementation. It remains vague on how to solve the financial issue, only stating that "investment from a variety of funding sources" is necessary and "concrete funding areas" need to be defined.[97] The African Fertiliser and Soil Health Action Plan has a more concrete approach in this regard. It suggests the operationalisation of a soil health fund within the existing Africa Fertiliser Financing Mechanism (AFFM).[98]

Regarding the question of whether the SIA (draft framework document and Action Plan) has achieved its goals, it is too early to form a conclusion since the Plan has only been established in 2023 and is set out for a ten-year timeframe.

2.3.3.6 Draft Nairobi Declaration on Africa Fertiliser and Soil Health Summit

The Draft Nairobi Declaration on Africa Fertiliser and Soil Health Summit was adopted at the Africa Fertiliser and Soil Health Summit organised by the AU and the Government of Kenya in May 2024. It endorses the Fertiliser and Soil Health Action Plan and the SIA Framework as key guiding documents and requests the development of an implementation roadmap for the Action Plan conforming with the SIA.[99]

In line with the above criticism of the focus on fertilisers, the Declaration recognises that focusing on fertilisers alone cannot stop land degradation nor boost the productivity of Africa's soils and their agricultural yields.[100]

Otherwise, it mainly takes up points that were already addressed in the Action Plan and the Draft framework document of the SIA. This includes the call for increased fertiliser use,[101] development of tools for assessing soil health,[102] general research in this area,[103] the creation of a soil health fund within the AFFM,[104] and the formulating and harmonisation of policies and regulations.[105]

Furthermore, it highlights the importance of subsidies to encourage soil health investments[106] and to enlarge access to fertilisers.[107] This point has not been included in the Draft framework document of the SIA but has been raised in the Action Plan. The Action Plan recognises that input subsidies have been adopted by several African countries to supply fertilisers to farmers at reduced prices. However, the viability of

97 Ibid.: 17.
98 AU Fertiliser Plan (2023: 12).
99 AU Draft Nairobi Declaration on Africa Fertiliser and Soil Health Summit (2024: 4 & 7).
100 Ibid.: 2.
101 Ibid.: 4.
102 Ibid.: 5.
103 Ibid.: 5-6.
104 Ibid.: 5.
105 Ibid.: 6.
106 Ibid.: 5.
107 Ibid.: 3.

most subsidy programs has been limited due to poor planning and implementation.[108] Thus, it requests the improvement and repurposing of existing subsidy programs.[109]

Before implementing new subsidies, it would be advisable to thoroughly analyse the shortcomings of already existing subsidy mechanisms to ensure a targeted approach to the implementation of new subsidies. Moreover, periodic review mechanisms should be established, so that the effectiveness of subsidies can be regularly checked and ineffective expenditures avoided.

2.3.3.7 Conclusion

The AU increasingly recognises the importance of sustainable soil management for the continent's development. Especially the Draft framework document for the SIA and the Action Plan demonstrate the AU's commitment to addressing soil degradation. Yet, it remains clear that Africa is still a developing continent and, thus, aims at striking a balance between sustainability and ongoing economic growth. How the implementation of actionable steps will advance in this regard is yet to be seen.

While the soft law instruments demonstrate the AU's commitment to addressing soil protection, the lack of legally binding frameworks remains a concern. Only the revised version of the African Convention on the Conservation of Nature and Natural Resources explicitly deals with soil protection.

This raises the question of whether the legal quality of the soil protection provisions should be moved from mere policy towards more legal impact. Studies have shown that compliance with legally binding agreements has been high, but oftentimes the influence of binding commitments on behaviour is low. On the other hand, compliance with non-binding agreements has been low, but the influence on behaviour is higher. This challenges the traditional view that focuses on the need for legally binding agreements.[110] Although the non-binding nature of policies may limit the effectiveness in ensuring consistent implementation among member states due to relying heavily on voluntary adherence to its principles, it also provides certain flexibility since stakeholders can modify approaches based on evolving scientific understanding or local conditions without the constraints of legal obligations.[111] Moreover, non-binding agreements typically require fewer resources for compliance monitoring and enforcement compared to legally binding regulations, making them more accessible for financially weak institutions such as the AU.[112] Besides, non-binding agreements are often

108 AU Fertiliser Plan (2023: 10).
109 Ibid.: 4-6, 9 & 15.
110 Victor (1997: 241).
111 Ecologic (2017: 76).
112 Victor (1997: 243).

more ambitious, which might contribute to a higher standard of soil protection.[113] Yet, the higher ambition is not of much value if it does not translate into measurable outcomes on the ground. Without mechanisms to ensure adherence, even the most well-intentioned policies risk becoming mere statements of intent rather than catalysts for meaningful change. Ultimately, the challenge lies in finding a middle ground that encourages innovative practices while ensuring that soil protection goals are met effectively and consistently across all member states.

To strengthen the legal framework for soil protection in Africa, it would, therefore, be advisable for the AU to consider developing a dedicated protocol or convention that addresses soil protection comprehensively. This instrument should incorporate the approaches outlined in the soft law instruments, such as stakeholder involvement, youth participation, and robust monitoring systems.

2.4 Soil institutions and stakeholders

2.4.1 Continental level: African Union Commission as the main actor

The African Union Commission (AUC), through its Department of Agriculture, Rural Development, Blue Economy, and Sustainable Environment, has ownership and leadership of the SIA.[114] However, the SIA will involve a wide variety of actions, so that the relevant authorities at each level will ultimately have responsibility for leadership of each action. This serves the principle of subsidiarity.[115] However, the involvement of many different actors requires effective coordination mechanisms, which shall be established during the implementation of the Action Plan.[116]

2.4.2 Local level: Inclusion of beneficiaries

The direct beneficiaries of soil health initiatives include farmers and communities. The inclusion of these key stakeholders is a critical success factor, which will enhance awareness, ownership, and knowledge of the SIA objectives and strengthen collective commitments.

113 Ibid.: 241.
114 AU Draft framework of the Soil Initiative for Africa (2024) 15.
115 Ibid.: 16.
116 Ibid.: 16.

2.4.3 National and regional level

The need for effective partnership is, however, not limited to the local level. It also requires the involvement of institutions on a national level, such as governments, interest organisations, and community groups.

On a regional level, the RECs play a crucial role in translating continental frameworks such as the SIA and the Africa Fertiliser and Soil Health Action Plan into regionally tailored strategies and policies.[117]

2.4.4 Private sector

Furthermore, the Draft framework document of the SIA and the Action Plan highlights the importance of private-sector investments.[118] The private sector can contribute expertise on soil management and aid in financing the initiative.[119] Although, public and private partnerships can provide benefits, such as increased economic efficiency,[120] the AU needs to make sure that the collaboration considers the social interest in healthy soils and ensures the integration of marginalised groups. It should regularly assess whether the collaboration serves the goal of sustainability.

2.4.5 AUDA-NEPAD

The AU Development Agency–New Partnership for Africa's Development (AUDA-NEPAD) has taken the lead in developing the SIA framework document and worked closely with the AUC, particularly the Department of Rural Economy and Agriculture, in developing the Action Plan. Its mandate is to coordinate and execute priority regional and continental projects to promote regional integration towards the accelerated realisation of Agenda 2063 and to support AU member states and regional bodies.[121]

The AUDA-NEPAD has partnered with the Government of Norway to launch a three-year program, which is designed to support AU member states in implementing the resolutions of the Africa Fertiliser and Soil Health Summit.[122] Besides, it will

117 Ibid.: 17.
118 AU Draft framework of the Soil Initiative for Africa (2024: 16-17); AU Fertiliser Plan (2023: 5, 7 & 16-17).
119 AU Fertiliser Plan (2023: 7).
120 FAO Public-private partnerships for agribusiness development – A review of international experiences (2016: 127).
121 See https://www.nepad.org/microsite/who-we-are-0, accessed 27 June 2024.
122 Akolo (2024).

coordinate the different stakeholder organisations within and outside the continent to ensure effective implementation of the Action Plan.[123]

2.4.6 Partnerships

Numerous partnerships have been launched to promote soil health. The Global Soil Partnership is a voluntary partnership established in 2012 under the FAO to improve soil governance. It is open to governments, regional organisations, institutions, and other stakeholders at various levels.[124] One of the regional soil partnerships established under the Global Soil Partnership is the African Soil Partnership, which was launched during two sub-regional workshops, the Western and Central Africa Soil Partnership (WCASP) and the Eastern and Southern Africa Soil Partnership (ESASP).[125] Another regional partnership is the Near East and North Africa Soil Partnership.[126] The overall goals of the Global Soil Partnership remain relevant and have informed the development of the SIA Framework.[127]

The Coalition of Action 4 Soil Health (CA4SH) is another initiative that brings together various partners to improve soil health globally by addressing critical implementation, monitoring, policy, and investment barriers that constrain farmers from adopting and scaling healthy soil practices. Its members include governments, the private sector, research and academia, farmers, and international organisations.[128]

Furthermore, the TerrAfrica partnership between FAO, the World Bank, the New Partnership for African Development (NEPAD), and other implementing agencies develops tools and learning materials for scaling up and mainstreaming sustainable land management on the ground in Africa. Based on assessments of land degradation, it aims to provide incentives through targeted financing and policies.[129] The Draft Framework Document for the SIA recognises the TerrAfrica Partnership as a key program to learn from and build on. Despite its successes, it failed to turn around Africa's declining soil health. Thus, the Draft Document identifies the following lessons learned: 1) the need for adequate human resources and systems within the Secretariat to support the program in achieving its objectives; 2) the importance of effective monitoring and evaluation systems; and 3) the necessity of investments that are aligned

123 AU Fertiliser Plan (2023: 18).
124 Hannam (2022: 8).
125 See https://www.fao.org/global-soil-partnership/en/, accessed 27 June 2024; https://openknowledge.fao.org/server/api/core/bitstreams/53fccd94-b001-412d-b803-474724057b6c/content, accessed 24 July 2024.
126 See https://www.fao.org/global-soil-partnership/en/, accessed 27 June 2024.
127 AU Draft framework (2024: 3).
128 See https://static1.squarespace.com/static/62333c8fff349d7ad5226804/t/660ece6d8cf0cc68e47f0410/1712246389887/CA4SH+Flyer_03_04_24.pdf, accessed 29 June 2024.
129 See https://www.fao.org/land-water/land/sustainable-land-management/terrafrica/en/, accessed 29 June 2024.

with the program's objectives.[130] Evaluation of other already existing partnerships and their achievements before creating new policies and regulations would be advisable to ensure a targeted and effective approach to soil protection.

2.4.7 African Minerals and Development Centre

Although not involved in soil protection in a strict sense, the African Minerals and Development Centre deals with minerals as a component of soil. Its purpose is to promote good governance in mineral resources and implement environmentally and socially responsible mining practices.[131]

2.4.8 African Observatory for Science, Technology, and Innovation (AOSTI)

AOSTI was established as a Specialised Technical Office of the AU. Among its specific objectives are the monitoring of AU science, technology, and innovation (STI) policymaking and support for evidence-based STI policymaking.[132] It does not seem to be involved in the soil protection efforts of the AU, since neither the Draft Framework Document of the SIA nor the Action Plan mention the Observatory in any way. It could be useful to consider its implementation in the SIA to avoid redundancies and use synergies, thus, saving costs. Furthermore, the collaboration between research facilities and governmental decision-makers could be strengthened this way, which is important to develop efficient, up-to-date soil conservation strategies.

2.4.9 Conclusion

To truly realise the AU's vision for soil protection, a well-performing institutional setup is required. The AUC has ownership and leadership of the SIA, therefore, providing the overall vision and strategic direction. Yet, the principle of subsidiarity is applied, which means that authorities at the appropriate level take responsibility for the implementation of specific actions. Furthermore, the AU aims to promote soil protection through collaboration with a wide spectrum of partners. These partnerships act on a continental/national level (such as CA4SH, which promotes the implementation of policies) and on a local level (such as TerrAfrica, which interacts more closely with local farmers). This diverse partnership network recognises that land degradation is

130 AU Draft framework (2024: 2).
131 See https://au.int/en/amdc, accessed 29 June 2024.
132 Statute of the African Observatory for Science, Technology, and Innovation, Art 3.

overall a global challenge, but the sustainable management of soils needs to be achieved at a local level.[133]

Another advantage of having a broad array of partners is that the AU can build upon the gathered knowledge of these partners and ensure that the diverse needs and interests of African people will be reflected in its soil protection efforts. Besides, numerous partners also provide higher financial support.

On the other hand, the broad spectrum of partners increases the complexity of coordination and decision-making processes. Hence, the successes of the soil protection endeavours will significantly depend on, whether the AU manages to establish effective communication and coordination mechanisms. Otherwise, a more streamlined approach to collaboration on soil protection matters might save financial resources by causing less need for oversight.

2.5 Role of AU courts

Although specific soil-related case law is absent, AU courts can potentially play a significant role in addressing soil protection issues. Currently, the AU has one principal judicial organ, which is the African Court on Human and Peoples' Rights (AfCHPR). It is tasked with interpreting and applying AU treaties and ensuring the protection of human rights in Africa. Its decisions are binding and can include orders for compensation or other forms of reparations.[134] It exercises two main jurisdictions: contentious and advisory. The contentious jurisdiction extends to all cases concerning the interpretation and application of the African Human Rights Charter, the Protocol to the African Human Rights Charter, and other relevant human rights instruments ratified by AU member states (Article 3). Direct access to the court is only granted to the African Commission on Human and Peoples' Rights, state parties, and African inter-governmental organisations. NGOs and individuals can bring cases directly to the court only against state parties that have deposited a declaration accepting the jurisdiction of the court (Article 5).

Courts are important for the strong enforcement of soil protection legislation. By enforcing rights, such as access to information and participation, courts can improve public involvement in soil-related decision-making, which is crucial for identifying local soil challenges and creating solutions that are accepted by the local communities. The AfCHPR primarily focuses on the protection of human rights. It can, therefore, adjudicate cases where soil degradation affects human rights, such as the right to health, food, or a healthy environment. Especially cases of soil contamination are

133 Ginzky & Ruppel (2022: 1).
134 AU Handbook (2023: 126).

closely linked to human health and are, thus, of human rights relevance and could be judged by the AfCHPR.[135]

However, the court's effectiveness in directly enforcing soil protection laws may be limited. It does not have jurisdiction over environmental law per se unless it is linked to human rights violations. Additionally, only twelve out of 34 member states have allowed individuals and NGOs direct access to the court under Article 34(6) of its Protocol, which restricts broader public participation in environmental justice.[136] As a solution, specialised courts on environment and land matters have been suggested to improve access to justice, as well as strengthen the expertise of judges on soil and land topics.[137] Even in the absence of a coherent soil protection framework, these courts could interpret existing legal frameworks (such as the revised version of the African Convention on the Conservation of Nature and Natural Resources) in a manner that could recognise the right to healthy soils. This way, courts could hold governments and corporations accountable for soil degradation and accelerate the creation of more comprehensive policies aimed at soil conservation.

2.6 Conclusion

The analysis of AU law on soil protection has shown that little binding regulations on soil protection exist. Yet, the AU has recently developed many soft law regulations on soil protection (Draft framework document for the SIA, Action Plan). This not only shows an increasing awareness of the matter within the AU but also suggests that the current institutional setup is sufficient to promote policy changes in terms of soil protection. Furthermore, the AU successfully integrated its soil protection agenda within its broader priorities, such as Agenda 2063.

Major challenges will be the conversion of soft law into binding regulations, the implementation of these regulations, and the coordination among the various initiatives and institutions working on soil protection in Africa. The fact that the AU cannot bind its member states and has no way to exercise supranational power is especially problematic in this regard. The creation of specialised courts on environment and land matters could help bridge gaps in legislation and enforcement. However, the financing of soil protection efforts remains taxing.

135 See https://www.eea.europa.eu/publications/zero-pollution/health/soil-pollution, accessed 19 September 2024.
136 AU Handbook (2023: 127).
137 Ginzky & Ruppel (2022: 4).

3 Comparative analysis of EU law on selected issues

The comparison of the AU and EU is particularly interesting because of the different governance structures and developmental contexts. While the EU represents a region with well-established environmental regulations and robust enforcement mechanisms, the AU comprises diverse African nations with varying levels of economic development and environmental governance.[138] The aim is to highlight the similarities and differences, while the focus lies on the frameworks for soil protection, institutional structures, monitoring, and stakeholder approaches.

3.1 Comparability of AU and EU

The AU and the EU are not directly comparable in all aspects, as they have distinct levels of economic and political integration. The AU consist of extremely diverse regions, being composed of low, lower-middle, upper-middle, and high-income countries.[139] While the EU currently has 27 member states, the AU has 55 member states.[140] Generally, the EU has greater economic stability than the AU and can, therefore, prioritise environmental protection to a greater extent. African countries, on the other hand, often face development issues including poverty and food insecurity, which they need to address at the same time.

Furthermore, the AU's total land area is approximately 30.365.000 km^2, while the EU covers only 4.000.000 km^2.[141] Being a larger geographical region, the AU exhibits a more diverse range of climate types. This requires the AU to show greater flexibility in the implementation of soil protection regulations so that member states can tailor strategies to their specific needs and soil conditions. However, this will also cause monitoring to be more complex.

Moreover, debt is a major challenge for Africa.[142] This affects the ability of AU member states to invest in enforcement mechanisms compared to the generally wealthier EU member states.

138 Trivedi (2003: 49).
139 See https://www.worldbank.org/en/region/afr/overview, accessed 30 June 2024.
140 See https://www.destatis.de/Europa/EN/Country/EU-Member-States/_node.html, accessed 30 June 2024; https://au.int/en/member_states/countryprofiles2, accessed 30 June 2024.
141 McMaster (2024); See https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu_en, accessed 30 June 2024.
142 de Kluiver (2024).

3.2 Legal and policy frameworks

The AU has only a few binding regulations on soil protection and no "hard law", which is exclusively dedicated to soil protection. Yet, it has established a few soft law instruments on soil protection over the recent years.

The EU also has a relatively wide net of soft law instruments in terms of soil protection with the Resolution on Soil Protection,[143] the EU Action Plan "Towards Zero Pollution for Air, Water and Soil",[144] and the EU Soil Strategy 2030.[145] Furthermore, it has proposed a Directive on Soil Monitoring and Resilience in 2023.[146] It had already proposed a directive on soil protection in 2006, which was, however, formally withdrawn due to a blocking minority.[147]

The Resolution on soil protection, *inter alia*, calls for the establishment of a legal framework with a robust monitoring system and stakeholder engagement.[148] The EU Action Plan stipulates the broader vision of zero pollution for 2050 with the main objective of providing a compass for including pollution prevention in all relevant EU policies. To serve this goal, it sets out zero pollution targets for 2030.[149] It, furthermore, calls for a framework to regularly assess the status of EU soils and act at all levels to address soil pollution and degradation.[150]

The EU Soil Strategy 2030 provides a framework for the protection, restoration, and sustainable use of soils. It sets out the long-term vision that all soils should be in a healthy condition by 2050.[151] Besides the long-term objectives for 2050, it includes medium-term objectives for 2030.[152] To achieve these aims, it proposes voluntary as well as legislative actions.[153] Furthermore, the Strategy announces that the Commission would propose a Soil Health Law.[154]

143 European Parliament resolution of 28 April 2021 on soil protection (2021/2548(RSP)).
144 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil' {SWD(2021) 140 final} - {SWD(2021) 141 final}.
145 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, EU Soil Strategy for 2030, Reaping the benefits of healthy soils for people, food, nature and climate (SWD(2021) 323 final).
146 Proposal for a directive of the European Parliament and of the Council on Soil Monitoring and Resilience (Soil Monitoring Law) {SEC(2023) 416 final} - {SWD(2023) 416 final} - {SWD (2023) 417 final} - {SWD(2023) 418 final} - {SWD(2023) 423 final}.
147 See https://www.lexisnexis.co.uk/blog/built-environment/why-was-the-soil-framework-directive-withdrawn, accessed 1 July 2024.
148 Resolution on soil protection, Nr. 10-11 & 49.
149 EU Zero Pollution Action Plan (2021: 3).
150 Ibid.: 8.
151 EU Soil Strategy 2030 (2021: 2).
152 Ibid.: 3.
153 Ibid.: 2.
154 Ibid.: 5.

The proposal for a directive is the first step towards that commitment. It outlines the objective, scope, and definitions. Furthermore, it focuses on the monitoring and assessment of soil health (chapter II), sustainable soil management (chapter III), contaminated sites (chapter IV), and financing (chapter V). It does not include any legally binding targets. In terms of sustainable soil management, the proposal leaves the member states a large margin of discretion by, *inter alia*, prompting them to define sustainable soil management practices, define practices that negatively impact soil health, promote awareness of the benefits of sustainable soil management, and promote research and implementation of holistic soil management concepts.[155] Thus, it leaves it up to the national legislatures to transform the proposal into an effective tool for change.[156] The intrinsic value of the proposal, therefore, lies mainly in its provisions for monitoring.

Moreover, soil protection provisions exist in other binding regulations of the EU. The Industrial Emissions Directive (2010/75/EU) regulates soil protection measures for industrial activities. Article 14(1)(b) requires member states to ensure that a permit includes all measures necessary for the appropriate protection of soil. Article 14(1)(e) further requires the permit to include the need for periodic monitoring of soil. The monitoring requirements can be found in Article 16. Moreover, it requires that in cases of activities, which involve hazardous substances, a baseline report needs to be created. According to Article 22(2)(b), this needs to include information on soil that reflects its state at the time of the report. After the cessation of the activities, the state of the soil needs to be assessed again (Article 22 [3]). An exchange of information, *inter alia*, on techniques, which have the least potential effect on soil, is regulated in Article 64. The Directive even provides for a definition of soil in Article 3(21).

Other binding regulations are the Water Framework Directive (2000/60/EC) and the Groundwater Directive (2006/118/EC), which indirectly address soil protection by regulating water quality. Furthermore, the Environmental Liability Directive (2004/35/EC) holds operators financially responsible for preventing and remedying environmental damage, including soil contamination.

This shows that the EU is one step ahead of the AU as it has more binding provisions on soil protection than the AU with ongoing efforts to develop a Soil Framework Directive. The EU expressly recognises that a legislative rather than a non-legislative approach is needed to meet the long-term objective of healthy soil in the EU. The AU's non-binding policies do not directly indicate that binding regulations are being pursued. However, this should also ultimately be the goal for the AU member states.

155 Proposal for a directive on soil monitoring and resilience, Art 10.
156 Heinzel (2023).

3.3 Consistency of policy provisions

Soil is a cross-cutting resource that is impacted by a wide range of sectors, including agriculture, water management, and urban development. Thus, it is important to align soil protection measures with policies in these related domains.

With the Proposal for a Directive on Soil Monitoring and Resilience, the EU aims at providing a comprehensive regulatory framework for soil protection by taking already existing provisions into regard.[157]

In the AU, the Draft AU Strategy on Climate Change and the Climate Change and Resilient Development Strategy and Action Plan for Africa, are part of the bigger picture of Agenda 2063. The African Fertiliser and Soil Health Action Plan mentions that its implementation will need to align with future developments under Agenda 2063.[158] The Draft Framework Document for the SIA highlights that soil health is important to achieve the goals of Agenda 2063, CAADP, the Malabo Declaration, Africa's Climate Change Strategy, and more.[159]

This shows that the EU, as well as the AU, aim to harmonise their soil protection efforts with other provisions. However, the EU also takes binding provisions into regard, while the AU only refers to other soft law policies, of which many have not yet been fully implemented. This might be because of a lack of analysis of hard law provisions but might also be because only a few hard laws in terms of soil law exists in the AU. It also highlights, once again, that the EU already has more binding provisions, which directly/indirectly serve soil protection, in place than the AU. Therefore, ensuring consistency is more complex for the EU.

3.4 Approach to soil protection

The Climate Change and Resilient Development Strategy and Action Plan for Africa (2022) applies an integrated, cross-sectoral, and holistic approach to climate change. On the EU level, the Proposal for a Directive on Soil Monitoring and Resilience does not directly address its approach to soil protection. However, Article 2 states that the Directive applies to all soils in the territory of the member states. Its scope, therefore,

157 In terms of soil contamination: the Industrial Emissions Directive, the Waste Framework and Landfill Directives, the Environmental Liability Directive and the Environmental Crime Directive. In terms of water: the Water Framework Directive, the Groundwater Directive, the Nitrates Directive, and the Environmental Quality Standards Directive. In terms of nature: the Habitats and Birds Directive. In terms of environmental impacts assessment: Environmental Impact Assessment Directive, the Strategic Environmental Assessment Directive. Other environmental policy initiatives considered are the EU Biodiversity Strategy 2030, the Zero Pollution Action Plan, the Circular Economy Action Plan, and the Chemicals Strategy for Sustainability. See the Proposal for a directive on soil monitoring and resilience 6.

158 AU Fertiliser Plan (2023: 19).

159 AU Draft framework (2024: 3).

covers all sectors. The Industrial Emissions Directive also proclaims an "integrated approach" to the prevention and control of emissions into air, water, and soil.[160] This shows that the EU and AU generally follow a similar approach to soil protection.

3.5 Dealing with diverse circumstances of member states

Although soil degradation has transboundary impacts, it is also partly a local issue, since soil—other than, for example, air—is generally an immobile medium. Therefore, soil protection requires an effective implementation on a national level. The AU, as well as the EU, consists of different member states, which have different struggles in terms of soil protection. Thus, both unions need to find regulations that balance the diverse circumstances of their member states.

The EU applies the principles of subsidiarity and proportionality (Article 5(1) Treaty on the European Union). The proposed directive is supposed to leave flexibility to the member states to identify the best measures for them and to adapt the approach to local conditions so that they can consider regional and local specificities, including soil variability, land use, climatological conditions, and socio-economic aspects.

The AU also applies the principle of subsidiarity to soil protection. It recognises that there are four layers—local, national, regional, and continental—for the implementation of the SIA and, at each layer, tasks need to be assigned and performed by whoever is the most efficient and effective at doing so.[161] Thus, the AU and EU generally have the same approach to dealing with the different circumstances in their member states.

3.6 Monitoring

When following the principle of subsidiarity, robust monitoring becomes especially important to ensure an effective implementation of soil protection regulations across different member states. Akin to the AU, the EU struggles with a lack of comprehensive and harmonised data on soil health from soil monitoring. Some member states have soil monitoring mechanisms in place, but they are fragmented, not representative, and not harmonised. Member states apply different sampling methods, frequencies and densities, and use different metrics and analytical methods, resulting in a lack of consistency and comparability across the EU.[162]

160 Directive 2010/75/EU of the European Parliament and the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (Recast) (Text with EEA relevance) (OJ L 334, 17.12.2010, p. 17) 3.

161 AU Draft framework (2024: 13).

162 Proposal for a directive on soil monitoring and resilience 4.

The proposed directive strives for an "integrated monitoring system" based on EU level, member state, and private data.[163] Chapter II outlines the monitoring and assessment of soil health. It requires member states to establish soil districts throughout their territory. Based on these soil districts, member states must establish a monitoring framework and assess soil health based on the collected data. Both must happen at least every five years. For the monitoring and assessment, member states shall apply prescribed criteria. The methodology for determining sampling points is also outlined in the proposed directive. The Commission shall adopt methods for sharing and collecting the valuable data, that is being collected this way. Furthermore, the Commission shall also carry out regular soil measurements, which reflects the "integrated" approach to monitoring. Yet, the proposal leaves unaddressed how the private sector is to be integrated into the monitoring system.

The Industrial Emissions Directive also provides for regular monitoring of soil, however, only in relation to relevant hazardous substances (Articles 14(1)(e) and 16).

To effectively monitor and assess soil health, one needs to define when a soil is to be considered "healthy" or "unhealthy". The EU Soil Strategy 2030 already outlined the attributes of healthy soil.[164] The proposed directive built upon this by providing definitions (Article 9). The analysed regulations and policies of the AU do not contain such definitions. The original and the revised version of the African Convention on the Conservation of Nature and Natural Resources only defines the term "natural resources".[165] However, the AU will likely adopt similar provisions once it starts converting its soft law on soil protection into more binding regulations.

In terms of monitoring, the AU has not created any specific regulations but has outlined key features of a yet-to-create monitoring system. Ultimately, a digital soil monitoring database shall be established.[166] An AU secretariat will be responsible for establishing modalities for monitoring and evaluation.[167] National soil institutions shall then be established/mandated to track, monitor, and evaluate.[168] The soil health monitoring system shall be based on commonly agreed soil health indicators.[169] Of further importance is the setting of soil health targets, standardisation of data, sharing of data, and developing indicators to track the implementation of the SIA.[170] For these indicators, the AU could take inspiration from the monitoring and assessment criteria as listed in the proposed directive of the EU. It could further refer to the indicators under the Monitoring and Evaluation System for the Comprehensive Africa

163 Ibid.: 4.
164 EU Soil Strategy 2030 (2021: 3).
165 Original version: Article III(a); revised version: Article V(a).
166 AU Fertiliser Plan (2023: 2) 2.
167 Ibid.: 18.
168 Action Plan Matrix 4.
169 Ibid.: 3.
170 AU Draft framework (2024: 10-11).

Agriculture Development Programme (CAADP).[171] The latter would also help to integrate the implementation of the AFSH Action Plan into the CAADP monitoring and evaluation system, as foreseen by the AFSH Action Plan.[172]

In summary, the monitoring system of the proposed directive can serve as a model for the AU. Not only would the approach to monitoring, such as the setting up of soil districts be transferrable, but also criteria for soil health and definitions for the state of soil health could serve as inspiration.

3.7 Institutional structures and coordination

As with the AUC, the European Commission has played a central role in developing EU-level soil protection policies and strategies, such as the Soil Thematic Strategy and the proposal for a Directive on soil monitoring and resilience. Within the European Commission, the Directorate-General for Environment is mainly responsible.[173] Moreover, the member states play a key role in implementing and enforcing soil protection measures, given the principle of subsidiarity, which is also a guiding principle of soil protection in the AU.

To provide the Commission services and the soil user community with sufficient soil knowledge and data flows, the EU is, furthermore, in the process of establishing the EU Soil Observatory (EUSO).[174] A similar institution has not yet been established on the AU level. Thus, it may be advisable for the AU to closely monitor the establishment of the EUSO to assess whether it could serve as a model for a similar institution within the AU.

However, the AU has not been completely inactive in this regard. It has established the EU-funded Soils4Africa project, which aims to develop an open-access soil information system for Africa by the end of its four-year duration (2020-2024).[175] Although such a system has not been fully developed yet, the project has achieved several key results, including the creation of an agricultural land map for Africa, the collection of soil samples, and the development of use cases for a soil information system, along with supporting soil quality indicators.[176]

171 See https://www.fao.org/fileadmin/user_upload/eufao-fsi4dm/doc-training/CAADP_ME_system_hendricks.pdf, accessed 4 July 2024.
172 AU *Fertiliser Plan* (2023) Action Plan Matrix 18.
173 See https://commission.europa.eu/about-european-commission/departments-and-executive-agencies/environment_en, accessed 22 July 2024.
174 See https://joint-research-centre.ec.europa.eu/eu-soil-observatory-euso_en, accessed 22 July 2024.
175 See https://www.isric.org/projects/soils4africa, accessed 22 July 2024.
176 See https://www.isric.org/news/soils4africas-lessons-learned-3-years-continent-wide-implementation, accessed 22 July 2024.

3.8 Stakeholder engagement and participation

Both the AU and EU emphasise the importance of multi-stakeholder engagement. The EU has implemented this by conducting stakeholder consultations on the potential Soil Health Law[177] and the AU has brought together a diverse range of stakeholders with its Africa Fertiliser and Soil Health Summit in May 2024.[178]

3.9 Incentive mechanisms

Incentive mechanisms are important to ensure that soil protection legislation is effectively implemented. For this reason, the EU provides subsidies through the Common Agricultural Policy to incentivise farmers to adopt sustainable soil management practices.[179] The proposed directive also aims to ensure that farmers can receive financial support for certain practices, e.g. under the Common Agricultural Policy (CAP) or the proposal for an EU carbon removal certification framework.[180] Furthermore, the EU is exploring the potential of payments for ecosystem services to reward landowners for the environmental benefits their well-managed soils provide.[181]

The AU encourages the mobilisation and allocation of financial resources to sustainable soil management. However, the Fertiliser and Soil Health Action Plan leaves the development of adequate strategies at a regional and national level.[182] The financial support on a national level has the advantage that it can be tailored to the specific needs of the country and offers more flexibility in adjusting the financing mechanisms. On the other hand, regulation on a continental level provides a more cohesive approach and may attract larger funding opportunities from international organisations and partnerships. This shows that a hybrid approach that combines financial incentives on both levels may be beneficial.

177 Proposal for a directive on soil monitoring and resilience 11.
178 See https://www.ifad.org/en/web/latest/-/africa-fertilizer-and-soil-health-summit-a-catalyst-for-change-in-african-agriculture, accessed 22 July 2024.
179 Approved 28 CAP Strategic Plans (2023-2027: 42).
180 Proposal for a directive on soil monitoring and resilience 2.
181 See https://environment.ec.europa.eu/economy-and-finance/ensuring-polluters-pay/payments-ecosystem-services_en, accessed 22 July 2024.
182 AU Fertiliser Plan (2023: 5).

3.10 Financing

The largest portion of the EU budget is derived from contributions made by its member states. These contributions are based on each country's gross national income.[183] With these contributions, the EU established environmental and climate funds to support soil protection initiatives, mainly the Common Agricultural Policy. Overall, the EU has established a climate spending target of 20% of the EU budget.[184]

The AU also relies on contributions from its member states but faces significantly inadequate funding.[185] This shortfall has led the AU to strengthen its sanctions regime regarding the payment of dues.[186] Thus, the AU relies on partnerships to receive adequate funding. For example, the Soils4Africa project.

Therefore, it can be concluded that the EU has a more structured approach to financing soil protection, while the AU's financing mechanisms are often less formalised and rely heavily on partnerships and national initiatives. Yet, this is a matter that cannot easily be changed since it would require more financial strength from its member states and their increased will to contribute to the AU. Unfortunately, this enormously impairs the AU's capability to implement effective soil protection strategies.

3.11 Novelty aspect and lack of implementation

When comparing the AU and the EU it must be kept in mind that the EU (formerly the European Coal and Steel Community) was established in 1951,[187] while the AU was only launched in 2002.[188] Thus, it took the EU almost 70 years to become what it is today. Agenda 2063 is a strategic framework to guide the continent's development over the next 50 years.[189] From a temporal perspective, the AU can, therefore, only really be compared to the EU by the end of Agenda 2063. Considering that the AU is younger than the EU and, that its soft law on soil protection closely mirrors that of the EU, it has already made notable progress in addressing the issue.

The major challenge for the AU, as well as the EU, remains implementation. The EU has identified four pillars of action in terms of European soils. These are (1) a proposal for a legally binding instrument (Soil Framework Directive), (2) the

183 See https://commission.europa.eu/strategy-and-policy/eu-budget/long-term-eu-budget/2021-2027/revenue/own-resources/national-contributions_en, accessed 22 July 2024.
184 See https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/supporting-climate-action-through-eu-budget_en, accessed 22 July 2024.
185 Iyatse (2023).
186 See https://au.int/es/node/36397, accessed 22 July 2024.
187 See https://eur-lex.europa.eu/DE/legal-content/summary/treaty-establishing-the-european-coal-and-steel-community-ecsc-treaty.html, accessed 18 September 2024.
188 See https://au.int/en/overview, accessed 18 September 2024.
189 AU Agenda 2063 – The AFRICA We Want – Framework Document (2015).

integration of soil protection into related EU legislation, (3) research and innovation on soil-related topics, and (4) awareness-raising actions to promote soil protection within the EU.[190] Since the presentation of the EU Soil Thematic Strategy, the EU has achieved important progress, especially in the implementation of pillars two and four. However, the strategy has failed in the adoption of legally binding legislation.[191] This has mostly proven to be difficult because of the strong relevance of soils to the EU member states' sovereignty. The principle of subsidiarity requires a strong justification that soils are a topic of transboundary relevance. Thus, the codification of soils within broader legal frameworks, such as the EU Biodiversity Strategy and the Common Agricultural Policy might be more realistic.[192] Should the AU encounter similar difficulties when trying to adopt binding conventions on soil protection, it might also aim to embed soil protection within its existing legal frameworks, such as the environmental conventions mentioned. The fact that the AU cannot bind its member states and has no way to exercise supranational power makes it especially difficult for the AU to implement a soil protection framework.

Both continents face challenges in not only translating soft law policies into binding regulations but also in the on-the-ground implementation of initiatives. Research indicates that poorly trained farmers often struggle to understand soil conservation measures, leading to behaviours that contradict public policies. A potential solution is to create a comprehensive strategy that incorporates knowledge from various sources, such as local expertise and scientific research. This strategy can then be gradually introduced to farmers, ensuring a more uniform approach to soil conservation practices.[193]

4 Recommendations

At present, it is difficult to formulate specific recommendations for the AU based on the EU soil protection legislation. This is because both unions have primarily agreed on aspirational goals, which, while an important first step, do not yet constitute a comprehensive soil protection framework. Although the EU's proposal for a soil protection directive offers valuable inspiration for the AU, particularly regarding the development of a soil monitoring system, it remains uncertain whether the EU will successfully achieve its goals or establish regulations that can serve as a concrete model. Consequently, the following recommendations are primarily based on the common principles found in the soft laws of both the EU and the AU.

190 Montanarella & Panagos (2021: 3).
191 Ibid.
192 Ibid.
193 Salhi et al. (2020: 13).

4.1 Transforming soft law into binding regulations

With its proposed directive, the EU is one step closer to establishing a binding soil protection framework compared to the AU. The AU should take inspiration from this and begin transitioning its soil protection soft law into binding regulations. Key to this transition are the AUC and the PAP. The Commission plays a crucial role at the continental level. However, the creation of binding regulations will require the Parliament to take a more active role in providing legislative guidance to civil society and sub-regional parliaments for implementing soil protection policies. At present, both institutions suffer from significant institutional deficits, and without reform, the effective implementation of policies remains unlikely. Therefore, addressing these institutional weaknesses is essential to fully harness the AU's enforcement capabilities and ensure the successful adoption of soil protection measures.[194]

4.2 Establishing definitions and soil health indicators

As the EU has done in its proposed directive, the AU should establish clear definitions of soil, healthy soil, and soil health indicators. This is a critical step for creating an effective monitoring system, which is essential for optimising agricultural practices in a sustainable manner. Standardised definitions and indicators form the foundation of soil protection efforts. To align with global standards, the AU could draw on the soil health indicators developed by the FAO, as well as the monitoring and assessment criteria of the CAADP, as guiding frameworks. This would not only strengthen the AU's approach to soil protection but also promote consistency in global soil management practices.

4.3 Monitoring system

For the monitoring system itself, the AU can draw inspiration from the EU's proposed directive. An integrated monitoring system that combines data from various sources, including private data, enables a comprehensive soil data set. However, this approach also requires extensive coordination among these different sources, and, consequently, significant financial resources. Therefore, the AU should assess its capacity to implement such an integrated system.

To begin, the AU could start with a smaller-scale monitoring system, assigning the responsibility for soil sample collection and assessment to a single institution at the continental level. Over time, additional data sources, including private and national

194 Ekhator (2022: 345).

data, could gradually be incorporated into the system. This approach would facilitate quicker implementation, as smaller-scale monitoring is more manageable, while also providing the AU with time to secure the necessary funding to expand the system. Moreover, it would give member states time to establish their national soil monitoring systems, in line with the principle of subsidiarity.

This phased approach would also allow for the evaluation of the system's effectiveness, providing opportunities for adjustments as the system expands. In terms of developing national soil monitoring systems, the AU would need to establish harmonised indicators, a standardised methodology for monitoring and reporting, clear targets, and measures, and secure financial resources. These would serve as essential guidelines for the member states, ensuring consistency and cohesion across the continent.

Considering the financial constraints of the AU, it would be prudent to thoroughly evaluate the capabilities of existing institutions to determine if one could take on the task of soil monitoring. By leveraging the expertise and infrastructure of an established institution, the AU could avoid the need to create a new, potentially costly monitoring body. This would not only save financial resources but also prevent unnecessary redundancies, streamlining efforts and maximising the effectiveness of the existing institutional framework. Identifying a suitable institution for this task would ensure a more cost-efficient and sustainable approach to soil monitoring across the continent.

4.4 Stakeholder engagement

When establishing a soil protection framework for the AU, it is crucial to involve stakeholders such as farmers, environmental NGOs, and other relevant groups at every stage of the process. Initial consultations should focus on identifying soil health challenges and specific needs, helping to shape the framework's objectives and priorities. During the development phase, dialogue platforms should be established to gather input on proposed policies and strategies, ensuring the framework aligns with the needs of those directly affected. Once the framework is in place, regular forums should be set up to collect feedback and suggestions for ongoing adaptations, fostering a dynamic, inclusive approach to soil protection that evolves based on real-world experience and input.

4.5 Inclusion of minorities and youth

Numerous studies indicate that if adaptation actions do not consider age and gender in their application, the loss of future livelihoods and educational opportunities will

occur.[195] Therefore, minorities and youth should be engaged in the same way as other stakeholders.

4.6 Implementation planning

The framework should clearly outline roles and responsibilities. This ensures that all stakeholders are clear about their contributions and facilitates coordinated action. The overarching timeline for soil protection is already outlined in soft law.[196] However, time goals should also be included in binding regulations with measurable intermediate and final targets. An example of this is Article 8(5) of the proposed EU directive, which stipulates that member states need to perform new soil measurements at least every five years and soil sealing indicators need to be updated annually.

4.7 Considering practical obstacles to soil protection

An aspect that has so far not been mentioned but is among the "lessons learned" of the Soils4Africa project, is that practical obstacles such as language differences and security constraints need adequate attention.[197] Four languages: English, French, Arabic, and Portuguese prove important for effective participation within the consortium, stakeholder engagement, and the field campaign. To adequately deal with this, multilingual resources should be provided. Furthermore, the involvement of local community leaders could help with the translation of materials and facilitate discussions. Security issues are harder to handle since this requires the strengthening of local governance, which is a matter different from soil protection. Yet, community engagement can increase the acceptance of the regulations and, thus, mitigate opposition to the implementation of a soil protection framework.

Furthermore, a soil protection framework should consider the specifics of Africa as a developing continent. It should incorporate mechanisms that enable climate-positive economic growth, such as sustainable agriculture methods. In this context, the transfer of knowledge and technology is especially important.

195 Climate Change and Resilient Development Strategy and Action Plan 17-18.
196 AU Fertiliser Plan (2023: 12).
197 See https://www.isric.org/news/soils4africas-lessons-learned-3-years-continent-wide-implementation, accessed 22 July 2024.

4.8 Incentive mechanisms

Already existing incentive mechanisms for farmers should be evaluated in terms of their effectiveness and sustainability. Besides, subsidies for sustainable farming practices should be considered. A hybrid approach of incentives on a continental, as well as national level, might be the most effective solution.

5 Conclusion

The AU faces an urgent and complex task in establishing a robust soil protection framework. Healthy soils are essential for tackling food security and climate resilience, yet land degradation remains a pressing issue across Africa. Current AU treaties and conventions address environmental issues broadly, but few specifically prioritise soil protection. The African Convention on the Conservation of Nature and Natural Resources stands as a notable exception in explicitly mentioning soil, but most existing efforts remain limited to non-binding policies, such as the Draft Framework for the SIA and the ten-year SIA Action Plan. These documents highlight the AU's commitment to soil health and promote integrated soil management, including regenerative agriculture—an approach that represents a shift from earlier strategies focused mainly on increasing fertiliser use.

The AU's strength lies in its comprehensive, collaborative approach to soil health. This includes a long-term vision and active partnerships with NGOs and international organisations, both essential for resource mobilisation and knowledge sharing. However, significant implementation challenges persist. Funding limitations and capacity gaps impede progress, and the absence of a concrete monitoring and evaluation system makes it difficult to assess and refine soil protection strategies. Lessons can be drawn from the EU, which, despite similar limitations, has proposed a directive that includes specific provisions for monitoring soil health. While both the EU and AU lack fully binding soil protection frameworks, they share a vision of cross-sectoral soil management and stakeholder engagement, indicating that core principles for soil protection are universal.

Challenges in soil policy implementation are also common to both unions. Variability in member states' capacity and commitment leads to inconsistent results, and insufficient soil health data complicates monitoring efforts. However, the AU's context adds unique challenges, such as diverse languages, security concerns, and limited financial resources, making direct comparisons with the EU difficult.

For the AU, transforming soft law policies into binding regulations is the next critical step. These should include clear definitions, indicators for soil health, and a monitoring system that engages all relevant stakeholders, including local communities, to ensure effective implementation and regional adaptability. Moving forward,

prioritising a comprehensive soil framework would not only protect Africa's vital soil resources but also align with broader goals of food security and climate resilience. By building on the lessons learnt of both the AU's past initiatives and the EU's evolving soil policies, the AU has an opportunity to address soil degradation as a fundamental component of its environmental and development agenda. The urgency is clear: safeguarding Africa's soils is essential for the continent's sustainable future.

References

African Union Handbook, 2023, *Acceleration of AfCFTA Implementation.* Addis Ababa: African Union Commission.

African Union Handbook, 2020, *Silencing the Guns: Creating Conducive Conditions for Africa's Development*. Addis Ababa: African Union Commission.

Ahmed, A. & M.J. Mustofa, 2016, "Role of soft law in environmental protection: an overview". *Global Journal of Politics and Law Research* 4, 1-18.

Akolo, J., 2024, "AUDA-NEPAD, Norad partner to accelerate soil health for sustainable food systems in Africa". *KBC,* at https://www.kbc.co.ke/auda-nepad-norad-partner-to-accelerate-soil-health-for-sustainable-food-systems-in-africa/, accessed 7 July 2024.

Athanaspoulu, A., V. Kollarou & G. Kollaros, 2014, "Soil pollution by transportation projects and operations". In: Liakopoulos A., A. Kungolos, C. Christodoulatos & A. Koutsopsyros (eds), *Proceedings of the 12th International Conference on Protection and Restoration of the Environment.* Luxembourg: Publications Office of the European Union, 393.

Balogh, A., 2021, "The rise and fall of monoculture farming". *Horizon The EU Research & Innovation Magazine*, at https://projects.research-and-innovation.ec.europa.eu/en/horizon-magazine/rise-and-fall-monoculture-farming, accessed 7 July 2024.

Brown Weiss, E., 2008, "Climate Change, Intergenerational Equity, and International Law". *Vermont Journal of Environmental Law* 9, 615-627.De Kluiver, J., 2024, "Debt relief should be the African Union's focus at the G20". *ISS*, at https://issafrica.org/iss-today/debt-relief-should-be-the-african-union-s-focus-at-the-g20, accessed 7 July 2024.

Ekhator, E., 2022, "Sustainable Development and the African Union Legal Order". In: Amao, O., M. Olivier & K.D. Magliveras (eds), *The Emergent African Union Law – Conceptualization, Delimitation and Application.* Oxford: Oxford University Press, 335.

FAO, 2016, *Public-private partnerships for agribusiness development – A review of international experiences.* Rome: Food and Agriculture Organization of the United Nations.

Ginzky, H., F. De Andrade Corrêa, E. Dooley, I.L. Heuser, P. Kameri-Mbote, R. Kibugi, T. Markus & O.C. Ruppel (eds), *International yearbook of soil law and policy 2022*. Berlin: Springer.

Ginzky, H. & O.C. Ruppel, 2022, "Soil Protection Law in Africa: Insights and recommendations based on country studies from Cameroon, Kenya and Zambia". *Soil Security* 6, 100032.

Glæsner, N., K. Helming & W. De Vries, 2014, "Do Current European Policies Prevent Soil Threats and Support Soil Functions?". *Sustainability* 6, 9538.

Häusler, K., 2022, "Die neue EU-Bodenstrategie: Am Weg zu einer nachhaltigen Bodennutzung?". *Nachhaltigkeitsrecht,* 221.

Heinzel, C., 2023, "New Soil Law offers glimmer of hope for EU soil but lacks teeth". *EEB,* at https://eeb.org/new-soil-law-offers-glimmer-of-hope-for-eu-soils-but-lacks-teeth/, accessed 7 July 2024.

Humby, T., L.J. Kotzé, O. Rumble & A. Gilder, 2016, *Climate Change: law and governance in South Africa.* Cape Town: Juta & Co Ltd.

Iyatse, G., 2023, "AU'S troubled path to self-sustaining funding". *The Pan African Review,* at https://panafricanreview.com/aus-troubled-path-to-self-sustaining-funding/, accessed 7 July 2024.

Le Roux, A. & J. Ciliers, 2024, "An urgent call for a global carbon tax framework to combat the climate crisis". *ISS,* at https://futures.issafrica.org/blog/2024/An-urgent-call-for-a-global-carbon-tax-framework-to-combat-the-climate-crisis, accessed 8 September 2024.

Lopez-Claros, A., A. Dahl & M. Groff, 2020, *Global Governance and the Emergence of Global Institutions for the 21st Century*. Cambridge: Cambridge University Press.

McBride, J., 2022, "How *does* the European Union work?". *Council on Foreign Relations,* at https://www.cfr.org/backgrounder/how-does-european-union-work, accessed 8 September 2024.

McMaster, D.N., 2024, "Africa". *Britannica,* at https://www.britannica.com/place/Africa, accessed 9 September 2024.

Montanarella, L. & P. Panagos, 2021, "Soil Security for the European Union". *Soil Security* 4, 1-5.

Mugiyo, J., 2024, "Experts to be recruited at African Centre for Fertilizer Development President Mnangagwa". *Zbcnews,* at https://www.zbcnews.co.zw/featured/experts-to-be-recruited-at-african-centre-for-fertiliser-development-president-mnangagwa/, accessed 9 September 2024.

Mustonen, T., G. Peci, V.C. Broto & N. Lansbury, 2022, "The Role of Indigenous Knowledge and Local Knowledge in Understanding the Adapting to Climate Change". *Research Gate,* at https://www.researchgate.net/publication/362432216_The_Role_of_Indigenous_Knowledge_and_Local_Knowledge_in_Understanding_and_Adapting_to_Climate_Change, accessed 9 September 2024.

Nantulya, P., 2022, "The African Union at 20: Much accomplished, more challenges ahead". *African Center For Strategic Studies,* at https://africacenter.org/spotlight/african-union-20-much-accomplished-more-challenges-ahead/, accessed 9 September 2024.

Negm, N., 2024, *An introduction to the African Union environmental treaties*. Leiden: Brill.

Ruppel, O.C. & H. Ginzky (eds), 2021, *African soil protection law: mapping out options for a model legislation for improved sustainable soil management in Africa - a comparative legal analysis from Kenya, Cameroon and Zambia*. Baden-Baden: Nomos.

Ruppel, O.C. & K. Ruppel-Schlichting, 2022, *Environmental Law and Policy in Namibia* 4 ed. Baden-Baden: Nomos.

Salhi, A., T. Benabdelouahab, J. Martin-Vide, A. Okacha, Y. El Hasnaoui, M. El Mousaoui, A. El Morabit, M. Himi, S. Benabdelouahab, Y. Lebrini, A. Boudhar & A.C. Ponsati, 2020, "Bridging the gap of perception is the only way to align soil protection actions". *Science of the Total Environment* 718, 13.

Santillán, V.S., 2022, "Status and challenges of soil for nutrition" *FAO*, at https://www.fao.org/fileadmin/user_upload/GSP/GSOIL4N/Presentations/26Jul/016_vinisa_GSOIL4N_Status_and_Challenges_S4N.pdf, accessed 8 September 2024.

Scholtz, W. & D.M. Pallangyo, 2016, "Chapter 5 – Climate Change and the African Union". In: Humby, T., L.J. Kotzé, O. Rumble & A. Gilder (eds), *Climate Change – Law and Governance in South Africa.* Cape Town: Juta & Co Ltd.

Tadele, K., 2024, "AFSFA statement on the African Fertilizer and Soil Health Action Plan 2023-2033". *AFSA Africa,* at https://afsafrica.org/afsa-statement-on-the-african-fertilizer-and-soil-health-action-plan-2023-2033/, accessed 8 September 2024.

Trivedi, S., 2003, "AU and EU: A Comparative Study in Continental Integration". *India Quarterly* 59, 30-56.

Usherwood, S. & J. Pinder, 2018, *The European Union: A Very Short Introduction* 4 ed. Oxford: Oxford University Press.

Victor, D.G., 1997, "The Use and Effectiveness of Nonbinding Instruments in the Management of Complex International Environmental Problems". *Proceedings of the Annual Meeting (American Society of International Law)* 91, 241-250.

Wynants, M., C. Kelly, K. Mtei, L. Munishi, A. Patrick, A. Rabinovich, M. Nasseri, D. Gilvear, N. Roberts, P. Boeckx, G. Wilson, W.H. Blake & P. Ndakidemi, 2019, "Drivers of increased soil erosion in East Africa's agro-pastoral systems: changing interactions between the social, economic and natural domains". *Regional Environmental Change* 19, 1909-1921.