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Key words: Africa, customary land, customary tenure, land restoration, land tenure, tenurerestoration nexus, tenure security

SUMMARY

Land degradation has tremendous direct and indirect negative impacts on the health and wellbeing of more than 3.2 billion people around the world. Therefore, land restoration, as a means of achieving land degradation neutrality, lies at the core of all countries' commitments to achieving better living conditions for their people. To avoid, reduce and reverse the trends in land degradation in Africa, successful restoration depends on a range of enabling factors, including secure land and natural resource tenure. However, majority of the literature on land tenure and restoration focuses on quantifying losses and assessing the costs of inaction on land degradation. The only research on land degradation neutrality's tenure and restoration aspects is a yet-to-be-released Working Paper of the United Nations Convention to Combat Desertification, entitled Strengthening Tenure and Resource Rights for Land Restoration. In this current paper, the authors shift towards creating a specific understanding of the customary dimension of the tenure-restoration nexus in Africa. Methodologically, the paper adopts a narrative literature review approach. The authors focus on pooling evidence from identified studies. This paper answers the following questions: What do we know about tenure's enabling and disabling influence on land restoration? What are the customary enablers, and disablers of tenure in land restoration in Africa? Furthermore, the paper explores the role of land tenure security at the local level in Africa to answer these questions. Notably, its influence on land restoration by describing and identifying the links between customary land tenure and land restoration, and how secure tenure is needed to avoid, reduce or reverse land degradation. The findings highlight enabling and disabling tenure-restoration nexus scenarios within Africa in general, and with a focus on Cameroon, Central African Republic, Nigeria, Kenya, Guinea, Tanzania, Ethiopia, São Tomé and Príncipe, Somalia, Malawi and Ghana. The more significant outcome of the study is a generic approach used by countries in creating local actions that support land restoration based on the restorative experiences from across Africa.

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Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

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Tenure-restoration nexus for local action in Africa: Identifying customary enablers and disablers of tenure in land restoration

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1. BACKGROUND: WHY LAND RESTORATION MATTERS AROUND THE WORLD AND IN AFRICA

Land degradation (LD) is one of our century's most pressing environmental challenge. It has a direct and indirect impact on the health and well-being of 3.2 billion people (Fagan *et al.*, 2020). It also contributes to existing challenges such as poverty, food insecurity, tenure insecurity, environmental risks due to human activities, and climate change. People will continue to face these challenges (whether as individuals, groups, communities, or nations) unless governments, and communities scale up actions for solving LD. To date, 122 of the 170 countries affected by land degradation have committed to achieving land degradation neutrality (LDN) (UNCCD, 2020). Doing this requires understanding existing knowledge at various land tenure levels (including customary land tenure systems). However, the Economics of Land Degradation (ELD) Initiative and UNEP, 2015: p. 12) note that much of the literature focus only on *"quantifying losses and assessing the cost of inaction, the cost of action, and benefits of action against land degradation."*

Successful restoration depends on a range of enabling factors such as financial and human resources. Land tenure (of which resource right is a part) and its security are critical enabling factors for restoration (Blignaut and Aronson, 2020). Apart from its well-documented environmental benefits, land restoration is worth financial investments. On a global scale, "land restoration is a proven and cost-effective strategy that can jumpstart a green economic recovery. It creates green jobs, uplifts rural communities, and delivers significant co-benefits for human health, biodiversity, and climate change" (UNCCD, 2021: p. 7). Existing data suggest that with an estimated cost of USD 2.7 trillion per year, it would be possible to transition the world's economies through a combination of ecosystem restoration, regenerative agriculture, and circular business models (Larbodière *et al.*, 2020.). While this may sound costly, the global economy will have created millions of new jobs within a decade, generating over USD 10 trillion in annual business value (World Economic Forum, 2020). Further evidence suggests that every USD 1 invested in restoring degraded forests can yield USD 7–30 in economic benefits (UNCCD, 2021) and that restoring 150 million hectares of degraded agricultural land 2

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could generate USD 85 billion in net benefits to national and local economies, with the potential for USD 30–40 billion a year in additional income for smallholder farmers and increased food security for close to 200 million people (Ding *et al.*, 2017).

Continental level empirical analysis done on a cropland area of 105 million hectares (accounting for 45% of total arable land in the continent) across 42 countries in Africa over 15 years reveals that data on the economic costs of soil erosion related to land degradation is demining in Africa (ELD Initiative and UNEP, 2015). Land restoration lies at the core of Africa's commitments to achieving LDN. It is about avoiding, reducing, and reversing the trends in LD (UNCCD, 2020). It happens along with a progression of nature-positive events (Chigbu *et al.*, 2022). This ranges from reducing societal impacts to improving ecosystem management, repairing ecosystem functions, and partially recovering native ecosystems. There is evidence that the prevention of the loss of topsoil could generate nearly USD 1 trillion over the next 15 years in Africa alone, while the cost of not doing anything could be as high as USD 2 trillion over the same period (ELD, 2015).

The consequences of land degradation have devastating impacts in Africa. "Desertification affects around 45% of Africa's land area, with 55% of this area at high or very high risk of further degradation" (ELD Initiative and UNEP, 2015). This high rate of degradation in Africa has been linked to poor agricultural ecosystems and low crop production (a scenario that retards food security and reduces livelihoods options). The importance of land restoration has motivated the search for innovations that will have long-lasting impacts. Sustainable land restoration can be achieved by adopting mechanical and biological measures and improving land productivity" (ELD Initiative and UNEP, 2015). There are several other ecosystem services, on-site and off-site, that can help broaden the understanding of land restoration in Africa, but due to the lack of available data, it is difficult to locally ensure certainty in tackling it. The paper is based on the premise that an understanding of the enablers and disablers of tenure in land restoration is crucial for ensuring that land restoration is done sustainably.

2. METHODS AND DESIGN OF THE STUDY

This study is a part of a broader study commissioned by the UNCCD (on the effects of land tenure on land restoration) from July to December 2020. This extended research, done between July and December 2021, focuses on the customary tenure dimension of the same subject. It explores the role of land tenure security (at the local level in Africa) on land restoration. It draws on evidential case studies from broader literature. Hence, this paper is structured to answer two key questions: What do we know about tenure's enabling and disabling influence on land restoration? What are the customary enablers and disablers of tenure in land restoration in Africa? Methodologically, this study adopted a literature review approach based on narrative 3

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review (Dachaga and de Vries, 2021), which is less discriminatory in the identification, assessment, and inclusion of studies. The authors deviated from Dachaga and de Vries (2021) by focusing on pooling evidence rather than outrightly focusing on the narratives. The research design involved six key steps (Figure 1).

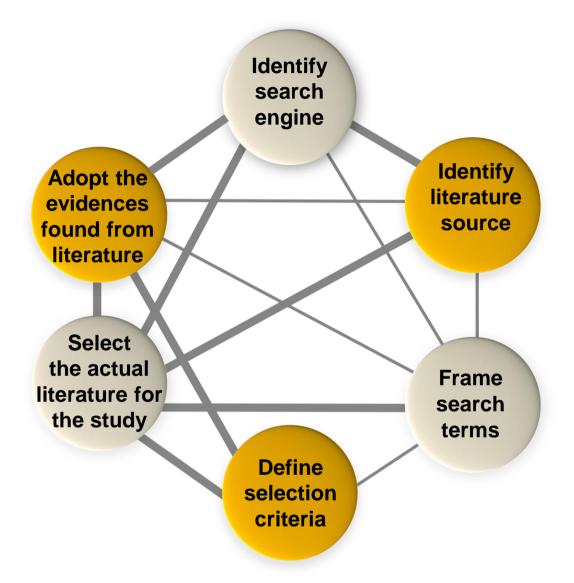


Figure 1: The six-stage literature review and research process for this study

The Figure 1 has been depicted using diagrammatical technique to enable a stage-by-stage understanding of research process. Diagrammatically depicting a research process allows for grasping the cause-and-effect relationship between variables or stages or steps involved in such a process. In this regard, the literature review started with *search engine identification*, leading

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to identifying *literature sources, framing the search terms, the definition of selection criteria, the actual selection of literature sources, and adopting evidence from the selected literature sources.* These different stages were highly interlinked processes. The intensity (directness or indirectness) between the specific stages of the six-stage literature review is highlighted (in Figure 1) by the line width. The bolder line widths reflect direct influence while the thinner line widths reflect indirect influence.

Literature sources were identified to answer the research questions, and relevant data were derived from the identified literature. In determining the literature sources for the study, multiple databases were used. *Google Scholar* was used to sample the articles available on this subject: the tenure-restoration nexus studies focusing on customary land tenure in Africa. *Google Scholar* was used as a single search engine because it provides a broad array of scholarly works more than any other search engine available on the internet. It is a robust academic search engine that combs "through every academic study in existence" (You, 2014). The broad search terms (or keywords) used for the search include "*tenure restoration nexus*," "*customary land tenure*", and "*Africa*." The searches were combined in various ways with "*and*," "*on*," "*in*," "*for*," and "*or*" commands. Each search word was framed based on their appropriateness on the subject.

In addition to the *Google Scholar* search, some articles were located through snowballing methods. The literature sources were identified and analysed according to three chosen criteria. These criteria are: First, the sources had to focus about the study and at least address one of the research questions. Second, they must be primary sources. And third, the sources had to come from either peer-reviewed papers or institutionally commissioned studies from agencies specialised in the subject of the study (These criteria seem to me as just an inclusion and exclusion criteria and shows no analysis approach). The relevance and credibility of all sources were considered in the literature review, emphasising the credibility of authors and institutions, and focusing on literature published within the last 10 years. The 10-year publication timeline was adopted due to not finding a lot of recent literature on the subject. In adopting the 10-year timeline, it was necessary to consult earlier literature (through snowball method) gain in-depth view of themes raised the key documents accessed through the original search. The list of criteria for evaluating the identified literature include: Is this the actual author of the paper (credibility)?

Taking note of the literature reviewed (see Green *et al.*, 2006) allowed for documenting an overview of themes linked to the study and identifying emerging evidence on customary enablers and disablers of tenure in land restoration in Africa. The search process involved

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defining categorising various studies into relevant (for adoption) and non-relevant literature (for exclusion) (see Figure 2 for details).

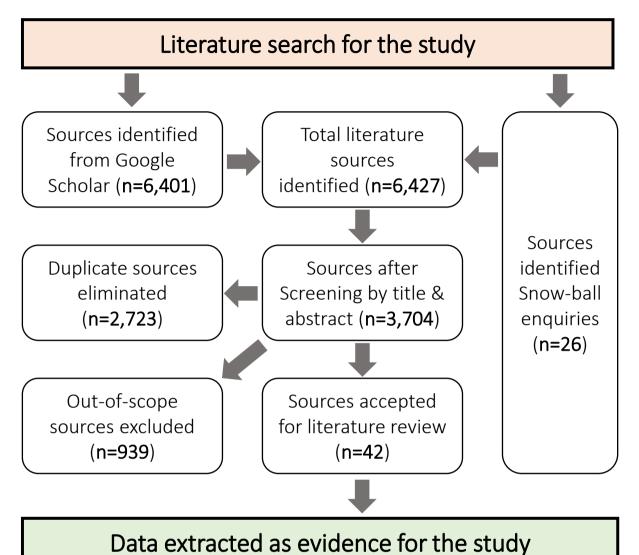


Figure 2: Flowchart of literature search process

The Google Scholar search yielded **6401** records (additional 26 sources were collected via expert recommendation or snowballing method). Using *Endnote*, duplicates were removed during the importation of citation text data, which brought the number of records to **3704** (after eliminating duplicates and out of scope sources). Finally, **42** papers were reviewed, of which the snowballed papers constitute **18** (about 43%).

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In the succeeding sections of this paper, we used the emerging narrative from literature to deconstruct the tenure relations in the context of tenure-restoration nexus, then explore the enabling and disabling influence of tenure on land restoration in general, before identifying the customary dimension of tenure-restoration effects in Africa.

3. CONCEPTS AND EVIDENCE EMERGING FROM LITERATURE

3.1 Deconstructing tenure relations in the context of tenure-restoration nexus

"It has been argued that customary land tenure systems in Africa have undergone changes and continues to change in various ways and forms. It is not a static type of tenure system" (Chigbu *et al.*, 2021: p. 3). The truism or falsity of this assertion is no more a bone of contention in land tenure studies. It is now evident that today's customs are not necessarily those of yesteryears. What demands scientific enquiries is (and should be) whether this changing tenure system is (or has been) having an impact on the way communities improve their land and its associated components (such as air, soil, water, and forest properties). In this regard, not much has been done in terms of research. The few that exist are fragmented between disciplines and geographies.

Nevertheless, some works with a focus on Africa exist. Otsuka *et al.* (2003) put efforts into unravelling the relationship between land tenure and the management of land trees in Ghana. Mwase *et al.* (2007) have investigated the role of land tenure in the conservation of tree and shrub species diversity in Malawi. Unruh (2008) has invested in carbon sequestration in Africa. Although not based on Africa, Suyanto and Otsuka's (2020) work also provides clues about deforestation in customary land tenure. From all these works, one thing is notable. The impact or influence of land tenure (especially customary tenure) on restoration efforts is very much dependent on the overall land governance system or ensuing land governance (re)arrangements within tenure jurisdictions. Land governance (re)arrangement is the specific structuration of the governance systems that drive land-based decisions for development purposes (Lee *et al.*, 2019). However, Chigbu *et al.* (2022) provides a figurative angle of a summary of what is known about the customary dimension of tenure-restoration nexus. This relationship is illustrated in Figure 3.

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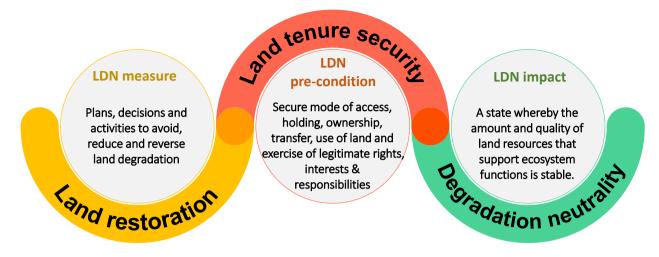


Figure 3: Land tenure as a linkage concept between land restoration and LDN

The relationship between land tenure and land restoration is that land tenure, when secure (i.e., tenure security) can impact land degradation neutrality (LDN). This means that land restoration functions best as an intervention for achieving LDN objectives when catalysed by land tenure security. This happens because land restoration entails plans, decisions, and activities to avoid, reduce and reverse land degradation; tenure security protects the mode of access, holding, ownership, transfer, use of land and exercise of legitimate rights, interests, and responsibilities; which leads to a state whereby the amount and quality of land resources that support ecosystem functions are stable (i.e., LDN). Put differently, land restoration is a measure for LDN. Land tenure security is a precondition for LDN. And LDN impacts the interplay of land restoration and land tenure security. The questions that arise are: how does tenure catalyse restoration activities for the sake of LDN? What does tenure do to restoration?

Land tenure is part of the system of broad land development (Dachaga and Chigbu, 2020). Land-based decisions are driven by various factors, including the growing demands from urbanisation, biodiversity conservation, food, mining, and infrastructure, among many others (Lee *et al.*, 2019). All these factors have various tenure-related elements that are crucial aspects of land restoration. This is possible because restoration is also a behavioural and decision-driven issue (Chigbu *et al.*, 2022). Land tenure procedures have a considerable impact on the legitimate tenure rights of the land users and those who have interests (whether legal or social, or paralegal) on land. Tenure affects land users' behaviour in restoration activities regarding structure, institution, process, and outcome (see Figure 4).

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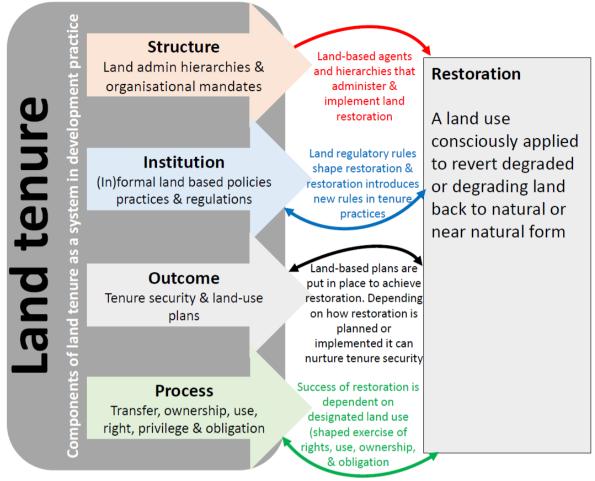


Figure 4: Land tenure as a provisioner of restoration structure, institution, process and outcome

Tenure has structure due to land administration hierarchies and organisational mandates put in place for policy objectives. It is process-driven because it involves activity-oriented issues such as property transfer (including ownership and use of land, to mention a few). It is an institution because it is a set of rules that frames the nature of land-to-people-and-people-land relationships. It is outcome-oriented because it enables conditions such as tenure security and land use plans. From the perspective of being a structure and institution, land tenure provides an agency and regulatory frame for restoration actions. As a process and outcome, it shapes the activities for exercising land rights and restoration planning, respectively. Therefore, in this article, land tenure has been considered a provisioner of structure, institution, process, and outcome for land restoration. These structures, processes, outcomes, and institutional role of land tenure make land tenure capable of determining the responsible or irresponsible application of land management, or land administration in development practice (de Vries and Chigbu,

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2017). Another crucial question that comes to mind from all of these is, what are those features that enable (or disable) tenure in land restoration processes?

3.2 The enabling and disabling influence of tenure on land restoration

Whenever a theory of change is to be put into practice, the "enabling environment" issue is bound to rear its head up (Stanturf, 2021; Becken and Loehr, 2022: p. 1). Why? The answer is simple. It is because appropriate conditions must be met for any change to happen. Following this logic, land restoration is an intervention to achieve a type of change, e.g., LDN. Hence, having appropriate conditions are necessary to actualise the expected change. That is why ensuring that an enabling environment for land restoration is crucial to achieving LDN. Land tenure can help to create that enabling environment for land restoration. When it successfully creates such an environment, it serves as an enabler. And when it distorts such an environment, it serves as a disabler. In this regard, Ghebru and Lambrecht (2017) have identified drivers of land tenure that influence tenure security. They identified some of the drivers to include land plot holding and plot size as the other factors that determines tenure security. Chigbu et al. (2016) and Gwaleba and Chigbu (2020) pointed to local governance and participation, respectively, as crucial factors of property formation and land-use planning that creates enabling environment for tenure improvement. However, focusing on restoration, three tenure issues that are most directly influential on restoration include tenure decisions, land access, and payment of ecosystem services (Chigbu et al., 2022).

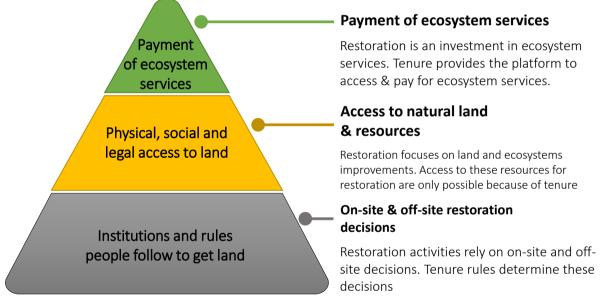


Figure 5: The enabling and disabling influence of tenure on land restoration

As Figure 5 shows, tenure decisions are born out of the institutions (including rules people follow to get land). This provides the foundation for governance (decision support) and related issues in a restoration process. With the governance foundation in place, the next level involves applying governance (through appropriate decisions) to access to land (and natural) resources. 10

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This is determined by the availability of physical, social and legal conditions that enable access to land. When access is achieved, the final level entails benefits that enhance flora and fauna, wildlife or other forms of ecosystems which help to sustain human lives and livelihoods. Whether in direct or indirect ways or with small or large impacts, this positive-benefit scenario relates to the payment of ecosystem services (Zhao *et al.*, 2020; VanderWilde and Newell, 2021). The ecosystem services come with trade-offs which emerge in ecological, social, economic and institutional forms (Aryal *et al.*, 2022). The payment of ecosystem services is possible when tenure presents such a platform. For instance, when the restoration is viewed as an investment in ecosystem services, tenure can enable the platform to access and pay for them. Tenure also creates a platform for physical, social, and legal access to land and associated natural resources. These enables restoration to thrive on land and ecosystems improvements, based on the access to land resources made possible because of tenure. Tenure, being a set of institutions and rules people must follow to access and secure land, embodies on-site and off-site restoration decisions that determine the actual outcome of the restoration process, be it a positive or negative outcome.

The enabling and disabling influence of tenure on land restoration is possible because tenure and restoration are interlinked as a continuum. The process of participation is necessary to cause the restoration to produce LDN. The concept of a tenure-restoration continuum means that both tenure and restoration operate within each other in a progressive way (Chigbu et al., 2022). Tenure, being the rules that determine land use, is part of all restoration activities at various scales. Restoration—being the action plan to avoid, reduce, and reverse land degradation—is exercisable as both right and responsibility that subsists on landholding. The tenure-restoration relationship shapes the continuum of different land uses, manifesting in different spatial scales. In broad terms, participation in land governance activities has statutory and customary dimensions. Formal and traditional actors' engagement processes in land use can be understood from deliberative, conflictive, and collaborative lenses (Chigbu et al., 2022). In the context of resource tenure, it is a scenario that is embedded in tenure interactions. Hence, secure tenure can have an enabling and disabling influence on land use, including putting land into restorative aims. What motivates participation in restoration is the exercise of land and resource rights or the interest and privileges that come from exercising or holding such rights. The interests of stakeholders (e.g., individuals, households, governments, corporate firms, and communities) to restoration can evoke tenure relationships. Such tenure relations can be legal, or social or international convention induced. Therefore, any framework for action on restoration requires integrating elements of secure tenure at any level of implementation.

3.3 Customary enablers and disablers of tenure in land restoration in Africa

To identify how customary land tenure influences restoration in Africa, a starting point should be to find key areas where customary land tenure contributes to land administration and management. Many scholars have identified the role of customary tenure in this regard. Dlamini (1991) explored the general role of customary law in meeting social needs and went as far as warning against its abolition in Africa. Yaro (2010) identified the land access potentials of

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exercising customary tenure systems in Northern Ghana. Chigbu (2019) identified the role of gender-based culture repositioning in improving tenure security to elicit the potential of women to manage land in the most appropriate ways in Nigeria. Rignall and Kusunose (2018) noted how customary tenure helps govern livelihood and land-use transitions in southeastern Morocco. On both the positive and negative terms, Onyebueke et al. (2020) linked customary tenure practices to urbanisation-induced displacements in the peri-urban areas of Enugu, Nigeria. Mawere et al. (2021) linked it to the changing agroforestry practices in South Africa. Ingwani (2021) identified its role in peri-urban development in Zimbabwe. Alden Wily (2021) linked to the saving and expanding forests in Kenya. In addition, a recent investigation by Chigbu et al. (2021) noted the influential contributions of customary practices in land administration in Africa to include community land conflict management and mediation approaches, collective land ownership and titling (for tenure security), engagement in local custom-based land transfers; and land use allocation and community land recordation at the local or grassroots level of land development. With these roles of customary land tenure identified, specific data derived through integrative review of literature-which explores the strength of the customary land tenure system on restorative activities—allowed for identifying some evidence of how customary tenure practices influence restoration by enabling or disabling the environment for restoration in Africa. Some of these customary practices that enable and disable land restoration were identified.

Below are the identified land restoration enabling practices connected to customary land tenure in Africa:

- Before the advent of chemical fertilisers, local farmers depended on organic farming, which helps reduce Green House Gas (GHG) emissions (Nyong *et al.*, 2007).
- The application of customarily based governance of artisanal and small-scale mining in Guinea is a key social and environmental practice leading to restorative outcomes (Huntington and Marple-Cantrell, 2021).
- In Tanzania, customary practices that promote enclosures and natural regeneration are common in areas associated with overgrazing. This management and restoration practice is common in degraded landscapes of Eastern Africa. There is ample evidence to show that this customary method of natural and assisted natural regeneration has proven successful in Ethiopia, Tanzania, and Uganda (Chirwa *et al.*, 2015).
- Creation of water-use rules and regulations have been found to help with water restoration in Kenya and Nigeria (Kuruk, 2004; Chigbu *et al.*, 2018). This allows for clearly defined regulations (including village bylaws) and traditional practice of periodical (e.g., only morning and evening) water use practices. This is common in southeastern Nigerian villages in Nigeria.
- While bush burning is considered bad for the soil and forest all over Africa, it is traditionally used to tackle insects' problems (locust attack and disease) (Kimmerer and Lake, 2001). The use of fire on uncultivated land/forest forced locusts to not settle on specific locations (e.g., nearby farms).

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- Natural mulches moderate soil temperatures and extremes, suppress diseases and harmful pests and conserve soil moisture (Nyong *et al.*, 2007).
- A restoration plan (in the Central African Republic) led to identifying tenure rights and the implications of the plan on people's land rights and livelihood options to enable herders to make informed decisions to avoid overgrazing and forest/grassland fires and to reduce their impacts (IUCN *et al.*, 2020).
- The use of enclosures has been reported to be used in the Somali Region Pastoral Areas of Ethiopia (Napier and Desta, 2011). In this custom, the pastoralists' traditional enclosures, considered protected grazing for calves, are strategies for forest regeneration.
- The use of indigenous means of land disputes ensures the tenure security and protection of land from conflict-driven devastation and degradation. This scenario is inherent in sub-Saharan African communities' customary land use management (Quinn, 2014).
- Customary land use planning in Borana rangelands in Ethiopia uses indigenous institutions to exert some control over the natural resources by keeping the rangelands as common property (Lwoga *et al.*, 2020).
- Local farmers in the Sahel have been known to conserve carbon in soils using zero tilling practices in cultivation, mulching and other soil management techniques (Osunade 1994).
- Tree-planting is a customary rite in many traditional communities in Africa. It is wellknown that trees-planting play an essential role in the global carbon cycle by sequestering and storing carbon (Chigbu and Klaus, 2013).
- Local farmers have practised the fallow system of cultivation, which encouraged the development of forests (Nyong *et al.*, 2007).
- In Ghana, farmers in forest reserves received 5-year intercropping guarantee contracts. They engaged in co-sharing rights to ensure sustainable water and forest use, which helped to restore degraded portions of the forest area (African Development Bank, 2016).

Below are the identified land restoration disabling practices connected to customary land tenure in Africa:

- In the Democratic Republic of Congo, the lack of permission for the Pygmy groups to own land and exercise their land rights stifled them from gaining access to land and protecting their indigenous land from arbitrary use and degradation (IUCN *et al.*, 2020).
- All over Africa, weak conflict-resolution mechanisms enable large-scale land acquisitions, which cause tenure insecurity, and result in the lack of the responsibility to avoid degradation caused by large-scale land investors (Roux, 2001; Cotula *et al.*, 2009; Robinson and Raven, 2020).
- All over Africa, the abandonment of customary conservation practices, such as the observation of "evil forest" and "fallow" agriculture has resulted in increasing deforestation and forest degradation (Orr *et al.*, 2017). It has also reduced actions geared towards reducing degradation and reversing past degradation.

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- In Cameroon, Nigeria, and Kenya, overlapping legal frameworks and legal pluralism create difficulties in following the customary system of tenure (IUCN *et al.*, 2020). This usually leads to inappropriate use of land, which exacerbates existing land degradation scenarios (UN-Habitat *et al.*, 2012).
- In Malawi, communities (at households' level) with tenure insecurity caused by informal short-term tenancy contracts and customary gender-biased inheritance practices are less likely to invest in soil conservation measures (Lovo, 2006).
- All over Africa, bush burning has proven to be bad for the soil and forest management when arbitrarily applied as a mechanism for clearing agricultural land (Chirwa *et al.*, 2015).
- In São Tomé and Príncipe, customary land use within reserves lead to land degradation of protected land (IUCN *et al.*, 2020).
- All over Africa, poor enforcement of customary (whether individual or collective) tenure leads to poor identification of stakeholders who can act against land degradation (ELD Initiative. 2015). This weakens actions for land restoration.

The *enabling* and *disabling* evidence mentioned above helps to inform that an approach linking tenure, resource rights and restoration (i.e., tenure-restoration nexus) are necessary for achieving LDN. These linkages are understandable in Africa, where the competition for land increases as demand for multiple land uses, and ecosystem services are rising (Otsuka *et al.*, 2003; Yaro, 2010; Ding *et al.*, 2017; Onyebueke *et al.*, 2020; Mawere *et al.*, 2021). Hence, land tenure issues influence landholders' behaviours and decisions for converting agricultural land, grassland, watersheds, and forestlands to other uses. The broader question is how to apply the enabling knowledge of customary land tenure to creating local restoration impacts in Africa. These tenure-restoration interconnections have the potential to help in "accomplishing environmental protection and sustainable natural resource management solutions (including land restoration and land degradation neutrality)" (Chigbu and Enemark, 2022: p. 43).

4. FINAL REMARKS — SUGGESTIONS TOWARDS LOCAL RESTORATION IMPACTS IN AFRICA

This paper has described the nexus (or the interconnections) between customary land tenure and land restoration by identifying evidence in the literature supporting where (to an extent, the role) customary tenure plays in avoiding, reducing, or reversing land degradation in Africa. Despite some methodological weaknesses that this study may have, it is deemed necessary because understanding the tenure-restoration nexus is essential for recommending the potential activities people must take under customary jurisdictions to positively influence restoration works (McLain *et al.*, 2018). The study identified enabling and disabling tenure-restoration nexus scenarios from Cameroon, Central African Republic, Nigeria, Kenya, Guinea, Tanzania, Ethiopia, Somalia, Malawi, and Ghana. It also presents varieties of customary tenure related restorative experiences from across Africa. These sorts of experiences are important for policymakers to become aware of to ensure that restoration activities are aligned to customary norms where necessary (Holden and Otsuka, 2014). From a customary land tenure perspective,

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it also enables identifying potential tenure-restoration nexus measures necessary for making local impacts in administrative jurisdictions under customary tenure in Africa.

Based on the literature evidence in this paper, it is indicative that Africa's customary tenure practices have an impact, not just on the administration and management of land resources but also on the health and conditions of land. The system's critical contributing factors that allow the integration of tenure in the implementation of the convention of UNCCD in Africa are many. These factors hinge on decisions and incidences or activities that protect people against loss of land rights or reduction in their enjoyment of their interests in land (i.e., tenure security). It also includes withdrawal from or restriction to rights or creation of new responsibilities or obligations on the use of land. Hence, any framework for enhancing restoration works with tenure security promotions must be a combination of measures that range from local application of tenure knowledge to restoration impact generation and monitoring (Figure 6).



Figure 6: Tenure-restoration nexus measures necessary for making local impacts

At the core of the suggested approach (Figure 6) for reaching restoration objectives (LDN) through tenure enablement should include four interventions: (1) there is need to have enough information concerning the best possible ways to access land and natural resources without creating insecurity of tenure in the use of land for restoration. (2) there must be strong commitments to restoration through purposeful participation and the engagement of stakeholders in the restorative activities. (3) there is to be collective responsibility for restoration outcomes and the willingness to be iterative in the restoration process to ensure flexibility in decision making as they relate to tenure (e.g., the arrangement or re-arrangement of tenure to achieve LDN). (4), any impact generated through tenure should be monitored to ensure that a tenure focused restoration culture is maintained going forward. The following conditions should be consistently maintained to ensure that all these measures can lead to local impacts in land restoration.

- Land-related regulations or rules at various scales must be channelled towards LDN.
- Tenure must be viewed as an enabler and disabler of land restoration this is because whether land tenure improves restoration depends on the actions that derives from the type of people to land relationship and nature.
- Values-led planning approach in grassroots spatial development (Auzins and Chigbu, 2021). This is crucial for ensuring that environmentally relevant local values are integrated into the restoration process.

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- Policy implementation is essential in a tenure focused restoration practice. For instance, policy-imposed restrictions and responsibilities can influence the state of land and its conditions.
- The relationship between land tenure and health conditions (tenure-health nexus) must be identified and innovated to broaden the options communities have in the quest to keep improving their living conditions from a land management perspective (Dachaga and de Vries, 2021).
- Leadership matters in restoration work. A tenure improvement focused leadership (both technical and political/administrative) is crucial for securing restoration efforts.

The enabling and disabling factors of customary tenure practices in Africa is an indication that the customary tenure system is much more than a compendium of traditional land-based lifestyle practices. It constitutes a locally realistic land administration system because it provides African countries with the infrastructure to implement land-related (i.e., the land itself and all things on it, attached to it, or under the surface) grassroots policies and management strategies for local and development. Therefore, the customary tenure systems must be embedded in statutes and recognised as an "equal" to conventional land administration systems as a renewed innovative solution to tackling many development challenges. Doing this requires understanding the customary perspectives of land administration (in the context of land tenure) and the practicality in determining which way to engage as the solution for current and future land challenges in Africa. Efforts have often focused on the social, political, and economic perspective of the issue (Kusi *et al.*, 2022; Chigbu, 2022a-b). This article is an effort to engage readers on the environmental perspective of land tenure restoration from a land restoration cum LDN perspective.

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REFERENCES

- African Development Bank. (2016). *Ghana: public-private partnership for the restoration of degraded forest reserve through VCS and FSC certified plantations*. AfDB: Abidjan. <u>http://pubdocs.worldbank.org/en/177881538153640578/1969-FIPGhana-AfDB-Project-Proposal-Public-Document-August-2016-1.pdf</u>
- Alden Wily, L. (2021). Challenging the State: Devolutionary Tenure Transitions for Saving and
Expanding Forests. Human Ecology, 49, 285–295.
https://link.springer.com/article/10.1007/s10745-021-00231-2

Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

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¹⁶

- Aryal, K., Maraseni, T., and Apan, A. (2022). How much do we know about trade-offs in ecosystem services? A systematic review of empirical research observations. *Science of The Total Environment*, 806, 151229. <u>https://doi.org/10.1016/j.scitotenv.2021.151229</u>
- Auzins, A. and Chigbu, U.E. (2021). Values-Led Planning Approach in Spatial Development: A Methodology. *Land*, 10 (5), 461. <u>https://doi.org/10.3390/land10050461</u>
- Becken, S., and Loehr, J. (2022). Tourism governance and enabling drivers for intensifying climate action. *Journal of Sustainable Tourism*, 1-19. https://doi.org/10.1080/09669582.2022.2032099
- Blignaut, J. and Aronson, J. (2020). Developing a restoration narrative: A pathway towards system-wide healing and a restorative culture. *Ecological Economics*, 168, 106483. https://www.sciencedirect.com/science/article/abs/pii/S0921800919309127
- Chigbu, U. E. (2019). Anatomy of women's landlessness in the patrilineal customary land tenure systems of sub-Saharan Africa and a policy pathway. *Land Use Policy*, 86, pp. 126-135. <u>https://doi.org/10.1016/j.landusepol.2019.04.041</u>
- Chigbu, U.E. (2022a). Introducing land governance and gender in the context of land tenure. In Chigbu, U.E. (ed.), Land Governance and Gender: The Tenure-Gender Nexus in Land Management and Land Policy, pp. 1-16. CABI: United Kingdom. https://www.cabi.org/cabebooks/ebook/20210485346
- Chigbu, U.E. (2022b). Land governance and gender for a tenure-responsive future. In Chigbu, U.E. (ed.), *Land Governance and Gender: The Tenure-Gender Nexus in Land Management and Land Policy*, pp. 234-240. CABI: United Kingdom. https://www.cabi.org/cabebooks/ebook/20210485364
- Chigbu, U.E. and Enemark, S. (2022). Land governance and gender in support of the Global Agenda 2030. In Chigbu, U.E. (ed.), *Land Governance and Gender: The Tenure-Gender Nexus in Land Management and Land Policy*, pp. 35-50. CABI: United Kingdom. <u>https://www.cabi.org/cabebooks/ebook/20210485349</u>
- Chigbu, U. E., and Klaus M. (2013). Insecurity-generating system of land tenure and its impact on rural development: evidence from Uturu, Nigeria. *FIG Working Week*, Abuja, May 6-10. <u>https://www.semanticscholar.org/paper/Insecurity-Generating-System-of-Land-Tenure-and-its-Chigbu-Klaus/2f1591f8e6cf76b5abf2951a4aec940bc56c2569</u>
- Chigbu, U. E., Masum, F., de Vries, W. T., Siegert, F, Mekuria, Z. A, Sakaria, P., Agboeze, A. I., Assoua, K. L., Ntiador, A. M., Mulenga, C., Amelia, A., Kakulu, I. I., Faria, P., Adjue, J. and Kaghoma, C. (2016). Participatory rapid co-design for transformative resource governance research in the Gulf of Guinea. *Current Opinion in Environmental Sustainability*, 20, 15-20. <u>https://doi.org/10.1016/j.cosust.2016.04.002</u>
- Chigbu, U. E., Wanyonyi A., Achungo B., Mkumbwa S., Sylla, Oumar S., and Liversage H. (2018). Capacity Development Lessons from Tenure Security Learning Initiative in Eastern and Southern Africa (TSLI-ESA). World Bank Conference on Land and Poverty, March 19
 23, Washington DC. https://www.researchgate.net/publication/323883782_Capacity_development_lessons_from

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Uchendu Eugene Chigbu, Menare Royal Mabakeng, Laina Alexander, Mario Siukuta, Ntwala Vanessa Simataa (Namibia) and Penehafo Ricardo

Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

- Chigbu, U.E., Mabakeng, M.R. and Chilombo, A. 2021. *Strengthening Tenure and Resource Rights for Land Restoration*. UNCCD Global Land Outlook (GLO 2) Working Paper. UNCCD: Bonn. <u>https://www.unccd.int/ar/node/22279</u>
- Chigbu, U.E., Uwayezu, E., and Katjiua, M. (2021). Customary and conventional land administration in evolution — potential for a new land administration system in Sub-Saharan Africa. Conference on Land Policy in Africa, November 1-4, Hybrid format -Online and in Kigali, Rwanda. <u>https://www.researchgate.net/publication/355873122_Customary_and_conventional_land_administration_in_evolution_-</u> __potential_for_a_new_land_administration_system_in_Sub-Saharan_Africa

Chirwa, P. W., Larwanou, M., Syampungani, S., and Babalola, F. D. (2015). Management and restoration practices in degraded landscapes of Eastern Africa and requirements for upscaling. *International Forestry Review*, 17(S3). https://doi.org/10.1505/146554815816007009

- Cotula L., Vermeulen, S., Leonard, R. and Keeley, J. (2009). *Land grab or development opportunity? Agricultural investment and international land deals in Africa*. FAO, IFAD and IIED: Rome. <u>www.ifad.org/pub/land/land_grab.pdf</u>
- Dachaga, W. and de Vries, W.T. (2021). Land Tenure Security and Health Nexus: A conceptual framework for navigating the connections between land tenure security and health. *Land*, 10(3), 257. <u>https://doi.org/10.3390/land10030257</u>
- Dachaga, W., and Chigbu, U. E. (2020). Understanding tenure security dynamics in resettlement towns: Evidence from the Bui Resettlement Project in Ghana. *Journal of Planning and Land Management*, 1(2), 38-49. <u>https://doi.org/10.36005/jplm.v1i2.21</u>
- de Vries W. and Chigbu, U. E. (2017). Responsible Land Management Concept and application in a territorial rural context. *Fub –Flächenmanagement und Bodenordnung*, 79(2), 65-73.

https://www.researchgate.net/publication/316667193_Responsible_Land_Management_-Concept_and_application_in_a_territorial_rural_context

- Ding, H., Faruq, S., Wu, A., Altamirano, J.C., Ortega, A.A., Verdone, M., Cristales, R.Z., Chazdon, R. and Vergara. W. (2017). *Roots of prosperity: the economics and finance of restoring land*. World Resource Institute: Washington DC., USA. <u>https://www.wri.org/publication/roots-of-prosperity</u>
- Dlamini, C. R. M. (1991). The role of customary law in meeting social needs. Acta Juridica, 71.

https://heinonline.org/HOL/LandingPage?handle=hein.journals/actj1991&div=10&id=&page=

ELD Initiative. (2015). *The value of land: quick guide to the report*. Economics of Land Degradation Initiative (ELD) institutional report <u>https://www.eld-initiative.org/fileadmin/pdf/Quick_guide_-_The_Value_of_Land2015.pdf</u>

¹⁸

Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

Uchendu Eugene Chigbu, Menare Royal Mabakeng, Laina Alexander, Mario Siukuta, Ntwala Vanessa Simataa (Namibia) and Penehafo Ricardo

- Fagan, M. E., Reid, J. L., Holland, M. B., Drew, J. G. and Zahawi, R. A. (2020). How feasible are global forest restoration commitments? *Conservation Letters*, e12700. <u>https://doi.org/10.1111/conl.12700n</u>
- Ghebru, H., and Lambrecht, I. (2017). Drivers of perceived land tenure (in) security: Empirical evidence from Ghana. *Land Use Policy*, 66, 293-303. https://doi.org/10.1016/j.landusepol.2017.04.042
- Green, B.N., Johnson, C.D. and Adams, A. (2006). Writing narrative literature reviews for peerreviewed journals: Secrets of the trade. *Journal of Chiropractic Medicine*, 5(3), 101–117. https://doi.org/10.1016/S0899-3467(07)60142-6
- Gwaleba, J. M. and Chigbu U. E. (2020). Participation in property formation: Insights from land-use planning in an informal urban settlement in Tanzania. *Land Use Policy*, 92, 104482 <u>https://doi.org/10.1016/j.landusepol.2020.104482</u>
- Holden, S.T. and Otsuka, K. (2014). The roles of land tenure reforms and land markets in the context of population growth and land use intensification in Africa. *Food Policy*, 48, 88– 97. <u>https://doi.org/10.1016/j.foodpol.2014.03.005</u>
- Huntington, H., and Marple-Cantrell, K. (2021). Customary governance of artisanal and smallscale mining in Guinea: Social and environmental practices and outcomes. *Land Use Policy*, 102, 105229. <u>https://doi.org/10.1016/j.landusepol.2020.105229</u>
- Ingwani, E. (2021). Struggles of women to access and hold land use and other land property rights under the customary tenure system in peri-urban communal areas of Zimbabwe. *Land*, 10(6), 649. <u>https://www.mdpi.com/2073-445X/10/6/649</u>
- IUCN, FAO and UNEP. (2020). *The Restoration Initiative Year in Review 2019*. Rome: Italy. https://doi.org/10.4060/ca9686en
- Kimmerer, R. W., and Lake, F. K. (2001). The role of indigenous burning in land management. *Journal of Forestry*, 99(11), 36-41. <u>https://doi.org/10.1093/jof/99.11.36</u>
- Kuruk, P. (2004). *Customary water laws and practices: Nigeria*. FAO and IUCN: Rome. <u>https://www.fao.org/fileadmin/templates/legal/docs/CaseStudy_Nigeria.pdf</u>
- Kusi, N.K., Mintah, F., Nyame, V., Chigbu, U.E., Mabakeng, M.R., Owusu Ansah, B. and Dachaga, W. (2022). Discourse on women and land tenure in Ghana: does a matrilineal land tenure system make a difference for women? In Chigbu, U.E. (ed.), *Land Governance* and Gender: The Tenure-Gender Nexus in Land Management and Land Policy, pp. 129-142. CABI: United Kingdom. https://www.cabi.org/cabebooks/ebook/20210485356
- Larbodière, L., Davies, J., Schmidt, R., Magero, C., Vidal, Arroyo Schnell, A., Bucher, P., Maginnis, S., Cox, N., Hasinger, O., Abhilash, P.C., Conner, N., Westerberg, V., and Costa, L. (2020). *Common ground: restoring land health for sustainable agriculture*. Gland, Switzerland: IUCN. <u>https://doi.org/10.2305/IUCN.CH.2020.10.en</u>

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Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

Uchendu Eugene Chigbu, Menare Royal Mabakeng, Laina Alexander, Mario Siukuta, Ntwala Vanessa Simataa (Namibia) and Penehafo Ricardo

- Lee, C.; de Vries, W.T.; and Chigbu, U.E. (2019). Land Governance Re-Arrangements: The One-Country One-System (OCOS) versus One-Country Two-System (OCTS) Approach. *Administrative Sciences*, 9, 21. <u>https://www.mdpi.com/2076-3387/9/1/21</u>
- Lovo, S. (2016). Tenure insecurity and investment in soil conservation. Evidence from Malawi. *World Development*, 78, 219–229. <u>https://doi.org/10.1016/j.worlddev.2015.10.023</u>
- Lwoga, E. T., Ngulube, P., and Stilwell, C. (2020). Indigenous knowledge management practices in indigenous organisations in South Africa and Tanzania. In Ngulube, P. (ed.), *Handbook of Research on Social, Cultural, and Educational Considerations of Indigenous Knowledge in Developing Countries*, pp. i81-201. IGI Global: USA. <u>https://www.igi-global.com/chapter/indigenous-knowledge-management-practices-in-indigenousorganizations-in-south-africa-and-tanzania/167481</u>
- Mawere, J., Matshidze, P. E., Kugara, S. L., and Madzivhandila, T. S. (2021). The Efficacy of Preserving Communal Tenure in South Africa. *The Oriental Anthropologist*, 0972558X211033369. <u>https://doi.org/10.1177%2F0972558X211033369</u>
- McLain, R., Lawry, S., Guariguata, M.R. and Reed, J. (2021). Toward a tenure-responsive approach to forest landscape restoration: A proposed tenure diagnostic for assessing restoration opportunities. *Land Use Policy*, 104, 103748. https://doi.org/10.1016/j.landusepol.2018.11.053
- Mwase, W. F., Bjørnstad, Å., Bokosi, J. M., Kwapata, M. B., and Stedje, B. (2007). The role of land tenure in conservation of tree and shrub species diversity in miombo woodlands of southern Malawi. *New Forests*, 33(3), 297-307. https://link.springer.com/article/10.1007/s11056-006-9029-0
- Napier, A. and Desta, S. (2011). PLI Policy Project Review of Pastoral Rangeland Enclosures in Ethiopia. United States Agency for International Development (USAID): Washington, D.C. <u>https://fic.tufts.edu/publication-item/review-of-pastoral-rangeland-enclosures-inethiopia/</u>
- Nyong, A., Adesina, F., and Elasha, B. O. (2007). The value of indigenous knowledge in climate change mitigation and adaptation strategies in the African Sahel. *Mitigation and Adaptation strategies for global change*, 12(5), 787-797. <u>https://doi.org/10.1007/s11027-007-9099-0</u>
- Onyebueke, V., Walker, J., Lipietz, B., Ujah, O., and Ibezim-Ohaeri, V. (2020). Urbanisationinduced displacements in peri-urban areas: Clashes between customary tenure and statutory practices in Ugbo-Okonkwo Community in Enugu, Nigeria. *Land Use Policy*, 99, 104884. <u>https://doi.org/10.1016/j.landusepol.2020.104884</u>
- Orr, B.J., Cowie, A.L., Castillo, V.M., Sanchez, P., Chasek, N.D. and Crossman, E.A. (2017). Scientific conceptual framework for land degradation neutrality. A report of the sciencepolicy interface, United Nations Convention to Combat Desertification: Bonn.
- Osunade, M. A. (1994). Indigenous climate knowledge and agricultural practices in Southwestern Nigeria. *Malaysian Journal of Tropical Geography*, 1, 21–28. <u>http://pascal-francis.inist.fr/vibad/index.php?action=getRecordDetail&idt=3371591</u>
- Otsuka, K., Quisumbing, A. R., Payongayong, E., and Aidoo, J. B. (2003). Land tenure and the management of land and trees: the case of customary land tenure areas of Ghana.

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Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

Environment and *Development Economics*, 8(1), 77-104. <u>https://doi.org/10.1017/S1355770X03000056</u>

- Quinn, J. R. (2014). Tradition?! traditional cultural institutions on customary practices in Uganda. *Africa Spectrum*, 49(3), 29–54. <u>https://doi.org/10.1177/000203971404900302</u>
- Rignall, K. and Kusunose, Y. (2018). Governing livelihood and land use transitions: The role of customary tenure in southeastern Morocco. *Land Use Policy*, 78, 91-103. <u>https://doi.org/10.1016/j.landusepol.2018.03.035</u>
- Robinson, D.F., and Raven, M. 2020. Recognising indigenous customary law of totemic plant species: Challenges and pathways. *Geographical Journal*, 186(1), 31–44. https://doi.org/10.1111/geoj.1232
- Roux, L. (2001). Using video imagery in land tenure information systems: A study of a communal property association in the village of Algeria, South Africa. *Geomatica*, 55(1), 47-55. <u>https://doi.org/10.5623/geomat-2001-0006</u>
- Stanturf, J.A. (2021). Forest landscape restoration: building on the past for future success. *Restoration Ecology*, 29(4), e13349. https://doi.org/10.1111/rec.13349
- Suyanto, S., and Otsuka, K. (2020). From deforestation to development of agroforests in customary land tenure areas of Sumatra. *Asian Economic Journal*, 15 (1), 1-17. https://doi.org/10.1111/1467-8381.00120
- UN-Habitat, GLTN and IIRR. (2012). *Handling land: Tools for land governance and secure tenure*. UNON: Nairobi. <u>https://unhabitat.org/handling-land-innovative-tools-for-land-governance-and-secure-tenure</u>
- United Nations Convention to Combat Desertification (UNCCD). (2020). World leaders call for global action to restore degraded land. Press Release. UNCCD: Bonn. https://www.unccd.int/news-events/world-leaders-call-global-action-restore-degraded-land
- United Nations Convention to Combat Desertification (UNCCD). (2021). Green recovery through land restoration: high-level dialogue on desertification, land degradation and drought. *UNCCD Solution Brief*, May. <u>https://www.unccd.int/convention/solution-brief-restored-land-healthy-people-green-recovery</u>
- Unruh, J. D. (2008). Carbon sequestration in Africa: The land tenure problem. *Global* environmental change, 18(4), 700-707. <u>https://doi.org/10.1016/j.gloenvcha.2008.07.008</u>
- VanderWilde, C.P., and Newell, J.P. (2021). Ecosystem services and life cycle assessment: A bibliometric review. *Resources, Conservation and Recycling*, 169, 105461. https://doi.org/10.1016/j.resconrec.2021.105461
- World Economic Forum. (2020). New nature economy report II: the future of nature and business. World Economic Forum: Cologny: Geneva. <u>https://www.weforum.org/reports/new-nature-economy-report-ii-the-future-of-natureand-business</u>
- Yaro, J. A. (2010). Customary tenure systems under siege: contemporary access to land in
NorthernGhana.GeoJournal,
75(2),75(2),199-214.https://link.springer.com/article/10.1007/s10708-009-9301-x

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Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

Uchendu Eugene Chigbu, Menare Royal Mabakeng, Laina Alexander, Mario Siukuta, Ntwala Vanessa Simataa (Namibia) and Penehafo Ricardo

- You, J. (2014). Just how big is Google Scholar? Researchers struggle to gauge size of popular academic search engine. *Science Insider*, 30 September. https://www.science.org/content/article/just-how-big-google-scholar-ummm
- Zhao, Y., Liu, Z., and Wu, J. (2020). Grassland ecosystem services: a systematic review of research advances and future directions. *Landscape Ecology*, 35(4), 793-814. https://link.springer.com/article/10.1007/s10980-020-00980-3

Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

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Tenure-Restoration Nexus for Local Action in Africa: Identifying Customary Enablers and Disablers of Tenure in Land Restoration (11304)

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