

Structural Holes in Academic Networks: Lessons from Bridging Competency Gaps in Land-Related Education and Learning in Africa

Uchendu Eugene CHIGBU (Namibia), Elias Danyi KUUSAANA (Ghana) and Menare Royal MABAKENG (Namibia)

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SUMMARY

Higher-level competencies in adopting innovative land management approaches are becoming more critical in Africa amidst existing complex neo-liberalized land markets and globalization. In response to the exigencies of emerging land governance systems within Africa, many academic networks have been formed at various institutional and informal levels for capacity development among land administrators and land governance researchers to address pertinent challenges. Even though there are currently over five (5) such academic networks, they are yet to operate at their full potential and achieve their desired goals due to existing structural holes and competency gaps. This situation has arisen because these academic networks are constrained in diverse ways, including funding constraints, low levels research capacities, restrictions about institutional statutes, and poor publicity. To consolidate the modest gains so far and materialize the prospects of these land governance networks in Africa, this study explores the structural holes in academic networks in Africa. It interrogates the challenges and examines the lessons learnt in bridging competency gaps in curriculum development, spearheading policy analyses, and co-creating knowledge. The study is relevant for two reasons: (1) understanding the urgency of academic research networks will position them as more compelling within Africa; (2) understanding the challenges of and prospects for capacity development among land-related education and learning in Africa.

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1. RATIONALE FOR LAND-RELATED KNOWLEDGE NETWORKS IN AFRICA

The *Framework and Guidelines on Land Policy in Africa*¹ is an Africa-wide official land document produced based on continental consensus on land issues and now serves as a basis for commitment of African governments in land policy formulation and implementation and a base for informed participation in improved land governance (AUC-ECA-AfDB Consortium, 2010). The document states that “the importance of land rights across and within African countries underscores the need to support the development of civil society actors and networks with knowledge of land issues (AUC-ECA-AfDB Consortium, 2010: 27). The document clearly emphasized that “building partnership for tracking monitoring and assessing the effects of land policy on livelihoods, economic growth and sustainable use of natural resources require the active collaboration of different institutions, with each playing a specific role” (p. 38). Further, it went on to conclude that “networking is thus critical if these efforts are to be sustained. Another useful tool is collecting and processing geospatial data on land issues and transforming them into thematic maps. The value of this particular tool is that it provides a visual opportunity for updating land information as frequently as possible” (p. 38). These statements shape the perspective of networking in the context of African land policy aspirations. They denote the catalytic importance of networks in knowledge-generation, knowledge-sharing, and knowledge-transfer on Africa’s land issues. This makes it crucial for all actors within the land sector to engage in healthy networking as a necessity for participatory engagement in various land interventions across the continent. These land-related networks can occur at different levels, including inter-state cross-border collaborations, inter-institutional collaborations or academic researchers operating both institutional and individual levels.

Within academia, network structures in the generation of land-related knowledge and its many related nodes cannot be emphasized enough. Nevertheless, only a small number of studies have focused explicitly on academic networks in Africa. This does not in any way allude to a lack of academic networks in Africa, but structural loopholes and existing competency gaps tend to

¹ As stated in the document: The Framework and Guidelines on Land Policy in Africa is the result of a three-year road map of activities that involved intense reflection, rigorous consultations, and exemplary collaboration across the continent. These activities involved African continental and regional institutions, governments, prominent African land experts from all regions of the continent, and representatives of land stakeholders and development partners. The activities of the road map were implemented by a tripartite consortium of the African Union Commission (AUC), the United Nations Economic Commission for Africa (ECA) and the African Development Bank (AfDB), through a Land Policy Initiative (LPI). The AUC provided overall leadership for the functioning of the Initiative, with ECA and AfDB providing technical support and mobilizing effective partnerships to ensure its success.

stifle the full potentials of Africa-centred academic networks. There are several academic networks in Africa, and they exist in the form of exoinstitutional (with ties to academic institutions) and endoinstitutional (without ties to academic institutions) ties (Nicolaou & Birley, 2003; Chigbu et al., 2019; Kuusaana et al., 2021). There are variations in academics' involvement (especially university-based academics) in knowledge networks on land and related issues (see Chigbu et al., 2020). Inconsistencies in network framing, strategic orientation, and membership definition, among others, plague the practice of how academic networks are conceived, sustained, and promoted.

In some cases, academic networks in Africa are plagued by a lack of self-awareness or self-identification as networks. Hence, little efforts are invested in promoting these functional networks and positioning them as anchors for knowledge generation and dissemination. Therefore, they also suffer from “structural holes” in practice (Burt, 2002; 2009). Besides, only a few studies have tried to investigate the structure of networks in the continent (see Ezeh et al., 2010; Bankole & Assefa, 2017; Chigbu et al., 2018; Ahoba-Sam & Charles, 2019; Duran et al., 2019). Notwithstanding the significant roles that academic networks (especially on land issues) stand to play in knowledge (co)creation, dissemination, and promotion, very few studies have studied the structural holes that militate against their efficient performance.

Academic networks play a leading role in many aspects of knowledge building and capacity development, including its (co) conceptualization, (co)production development, (co)application and (co)dissemination. These constitute essential avenues for the development of information and knowledge and the resources to operationalize these avenues. We argue that rather than representing a unique or undifferentiated pattern, there are many ways in which the academic networks serve as agents of land-related education and lifelong learning opportunities. Hence, we argue using academic networks as the epicentre of land-related knowledge building — i.e., knowledge-generation, knowledge-sharing, and knowledge-transfer on land issues — in Africa. Our contention in this article is to show that academics' embeddedness in African networks — based on the few that exist — has prospects and challenges in the context of land. In other words, we aim to (considering the need to improve knowledge and capacity in the sustainable management of natural resources in Africa) investigate the challenges and lessons from efforts at improving land-related academic networks in Africa. Our study is relevant for understanding the challenges of these networks to grasp the opportunity for capacity development among land governance researchers in Africa.

2. ACADEMIC NETWORKS AND LAND-RELATED EDUCATION: THE STRUCTURAL HOLES IN AFRICA

Efforts at achieving the Sustainable Development Goal 4 (SDG-4) in the context of land professionals' education is an essential path to ensure that the knowledge base for developing land resources is continuously built and updated. This means providing inclusive and equitable quality education and promote lifelong learning opportunities for all.² Land-related education that urgently requires consistent improvement includes knowledge capacities in land

² This is the SDG-4.

administration, land management, land governance, land policy, land valuation and related areas. Doing this requires continual effective capacity building and exchange of land-related knowledge among scholars in Africa. In many cases, existing educational capacity building must also robe in political leadership and professionals responsible for implementing land policies and operationalizing land laws. Building formidable synergies between academic researchers and practitioners is a critical opportunity to realize significant gains in land management in Africa.

Academic networks in Africa help build land-related knowledge and disseminate such knowledge within the continent and to the rest of the world. They also play essential roles in sharing knowledge across institutions, individuals, and geographical regions. Networks also allow scholars to do more collaborative research and innovate ways to convert their research results into practical products with policy relevance and socioeconomic and environmental values. Understanding the challenges and lessons from efforts aimed at improving land-related academic networks in Africa is essential to scale up education and skills necessary for the efficient use and management of land and natural resources in Africa. This makes a constructive critique concerning how networks have performed in Africa crucial. The roles of academic networks in Africa's land sector are either poorly documented or even non-existent. cursory views on land-related academic networks appear in the works of Chigbu et al. (2020) and Kuusaana et al. (2021). Still, we have been unable to identify any in-depth studies on this subject. This may be because Africa-wide responses to the challenge of achieving innovative research and documented land policies are relatively new (Chigbu et al., 2019). According to Kuusaana et al. (2021):

“At the continental level, a formidable structure exists as African Land Policy Centre or ALPC (and its Network of Excellence for Land Governance in Africa or NELGA initiative. The ALPC provides guidance on building the knowledge base on land governance in the continent. The ALPC is the first institution to launch a holistic and comprehensive programme in generating and disseminating land governance knowledge in Africa [...]. This is what makes research networks relevant to land governance education and capacity development in Africa.”

Despite the ongoing academic network efforts, there are various gaps at the regional-to-local levels in terms of impacts in building research capacities in land governance (Kuusaana et al., 2021). African academics, with their strength in local experiences, need to drive the land-related education and learning agenda to offer Africa-context solutions. However, this is only possible by identifying impediments that work against smooth academic networking in the continent and making appropriate steps to enable academic networks to fulfil their potentials in and on Africa. We use the concept or theory of the structural hole to explain these gaps.

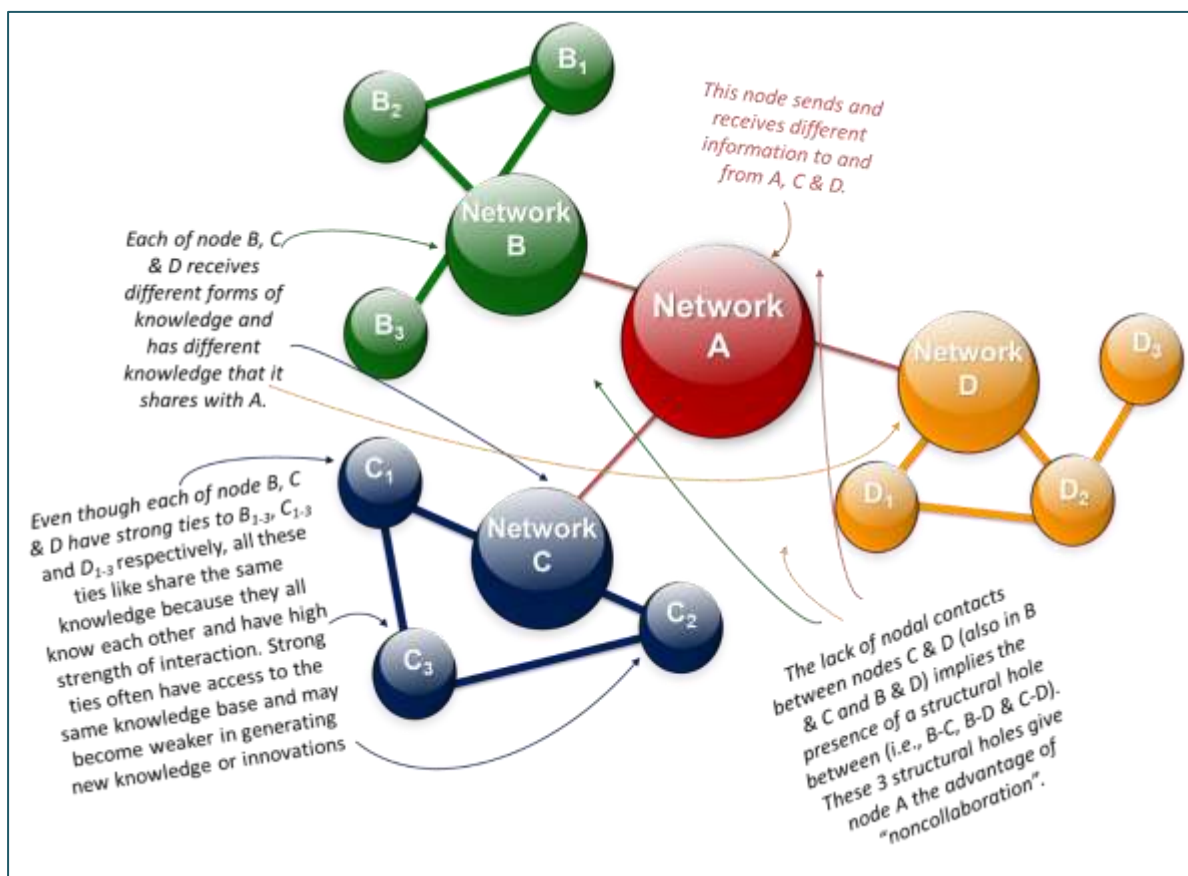
2.1 Theorizing and Conceptualizing Structural Holes in Academic Networks in Africa

A structural hole refers to the voids that exist in peoples or organizations' network. It arises in situations where people organizations do not interact closely, “though they may be aware of one another” (Labun & Wittek, 2014). It can also be viewed as a gap between two persons or organizations because they either do not know each other or know each other but do not share

any relationship or share a noncommitted relationship. Actors on either side of a structural hole have access to different information flows but do not leverage this interaction's potential. This makes the existence of structural holes not only a challenge posed by the presence of gaps within network systems, but it presents a chance to enable the flow of knowledge between people and control its flow. The structural hole theory evolved as a confluence of three critical studies done to understand the absence of ties (i.e., gaps) (White, 1961; 2002) and the strength of ties (i.e., weak ties or strong ties) (Granovetter, 1973) between individuals or organizations; and the opportunity or motivation these ties present in human or organizational interactions (Burt, 1982; 1992:35; 2004). The concept originated from sociology, based on Burt's (1982; 1992) propositions which is highly applicable in the management and administration sciences. It is based on the premise that people and organizations can use their positions in a network to act as brokers for other people or groups to provide value to existing knowledge or benefits.

We apply structural holes in this article on the premise that academic networks on land-related education consist of organizations (networks) who can use their positions as networks to act as brokers of knowledge to provide value to existing knowledge in universities and higher education. Applying structural holes propositions to academic networks in Africa helps us explain why academic networks are interactional hubs that stimulate the collaborative generation and disseminate knowledge but are fraught with challenges that impede their success or prospects in knowledge generation.

Figure 1: The typical structural holes that exist in land governance networks in Africa



The point of this article, at this juncture, is to use the theory of structural holes to identify the challenges of academic networking in Africa and provide an alternative means for understanding ways to bridge or fill those holes. We use a network graphic (Figure 1) to illustrate how networks (each represented by a node) in Africa are connected.³ Figure 1 is an attempt to employ the theory of structural holes to explore how the nature of ties that are inherent in networks in their effort to generate knowledge. It illustrates what happens in the network structure where there are networks. Nodes B, C and D, have weak ties with node A but share no ties. However, they (nodes B, C and D) have strong ties with their corresponding nodes B₁₋₃, C₁₋₃ and D₁₋₃, respectively. Each node of B, C and D receives different forms of knowledge from node A and has different knowledge that it shares with A. The strength of this weak tie between A, B, C and D comes from the fact that they are part of different networks, and therefore have access to new and valuable knowledge, which are more likely to lead to

³ The “nodes” represent speculative networks organisations that exist in Africa and which represent specific knowledge bases or interests in land-related education and learning. The “edges” show the relationships relationship between nodes. Important is to note that size of connecting edges reflect weak and strong link (thick link-lines are strong ties and light link-lines are weak ties). The arrows point to specific location relative to descriptions provided. Degrees of centrality (including closeness and betweenness) do apply to this diagram. The diagram is a mere illustration of immediate relationships that shape the structure of networks.

innovations. Strong ties often have access to the same knowledge base and may be less likely to generate new knowledge or innovations. For instance, even though nodes B, C & D have strong ties to B₁₋₃, C₁₋₃ and D₁₋₃, respectively, all these ties like to share the same knowledge because they all know each other and have high strength of interaction. Strong ties often have access to the same knowledge base and may become weaker in generating new knowledge or innovations.

2.2 What Do All These Mean to Academic Networks in Land-Related Education in Africa?

Academics engage knowledge-sharing through teaching and research via networks, usually consisting of multidisciplinary individuals (Stuck et al., 2016). Networks are hubs with which academics engage with industry actors, policymakers, and government agencies (Ramos-Vielba et al., 2016). The process of building and managing networks is an “entrepreneurial activity that involves unpredictability and often goal ambiguity” (Ahoba-Sam & Charles, 2019: 143). Academics engage in various aspects of land-related education (including land administration, land management, land governance and land policy) through their involvement in networks involved in land management activities and collaborations. In this article, we also view these engagements as entrepreneurial activities which are susceptible to structural problems. So, what do all these mean to academic networks in land-related education in Africa? It means that the nodal linkages among networks are affected by the strength of the ties of relationships they share. These relationships are shaped by the (ir)rational interests (both individual, organizational, national, and continental), personalities, and fiscal capacities. They, directly and indirectly, affect these networks’ abilities to recognize the gaps they have and apply efforts to fill them. Kuusaana et al.’s (2021) position on the value of peer-to-peer networks captures our position of this article:

“The value of social capital created among individual academics and their respective organizations builds the network power that allows participants in the network to gain first as individuals, second, as organizations, the network as a whole, the society, or a combination of these. Thus, around land governance, the growing population and rapidly expanding urban settlements and economic activities in the African continent compound the land problem, which cannot be fully understood from a myopic perspective [...]. It will require the combination of multi-level competencies to critically understand some of the emerging complexities in the land question to be able to proffer functional solutions. As embraced by the constructivist theory, collaborative research has become an imperative tool for the researchers in the field of land management to be able to tap into the knowledge and experiences of colleagues across the globe.”

Given the vital role of institutional and individual actors in knowledge, the teaching and building of competencies in land-related education (which may happen in teaching, research, and capacity development) requires identifying existing structural holes and bridging them to ensure enhanced learning and bridging or filling structural holes in academic networks. With these in mind, we aim to identify the structural holes (i.e., challenges) and opportunities (i.e.,

prospects) of academic networks in the aspect of land. Then we demonstrate how the African setting can leverage academic networks' role to assuage the difficulties it has in low research outputs in land-related issues, thus rendering the continent in a more advantageous position to generate local knowledge for its governance of land resources. We embark on this task by tracking the lessons from previous (and ongoing) efforts at building competencies among land governance researchers in Africa.

3. LESSONS FROM EFFORTS AT BUILDING COMPETENCIES AMONG LAND GOVERNANCE RESEARCHERS IN AFRICA

3.1 Methodological background

Our methodological approach involved five (n=5) unstructured interviews done with five persons from five different networks. Unstructured interviews were used to ensure that interviewees can raise important concerns during the interview (McCann & Clark, 2005). This allowed for gathering expert experiences from persons directly involved in land-related academic networks in Africa. These interviews focused on discerning their opinions concerning the prospects and challenges of academic networks in Africa. The interviews were further augmented by online Focus Group Discussions (e-FGD) conducted on ResearchGate.⁴ The expert interviews used were conducted with persons from the five key land-related academic networks. These include the following networks: EALAN, AUPRN, NELGRA, NELGA, and AAPS. Table 1 presents the full names of these networks, their location, purpose, and subject areas.

Table: 1 Description of five key land-related academic networks in Africa⁵

Network	Location	Purpose	Focal Area
Eastern African Land Administration Network (EALAN) - 2013	East Africa – Tanzania, Ethiopia, Rwanda, Uganda, Kenya, RDC, Burundi and South Sudan	Academic and knowledge exchange	Country/Institutional
African Urban Planning Research Network (AUPRN) - 2013	South Africa, with 17 partner institutions	Urban research and capacity building	Multiple partners – researchers, planners, policymakers,

⁴ ResearchGate was chosen for the e-FGD because it is a social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. The website is www.researchgate.net

⁵ These networks are the most active academic networks in Africa. Being the most active and well-known, we were confident that data derived from these networks would provide a more representative understanding of the network scenarios in the continent.

Network of Land Governance Researchers on Africa (NELGRA) - 2018	African-wide with individual memberships from 10 African countries	Peer-to-peer land governance knowledge exchange	Individual collaborations
Network of Excellence for Land Governance in Africa (NELGA) - 2016	Africa-wide with over 50 partner institutions	To strengthen human and institutional capacities	Institutional Focus – Universities and institutions of higher learning
Association of African Planning Schools (AAPS) - 1999	57 planning schools in 18 African countries	To facilitate the exchange of knowledge among African planning schools	Institutional focus – university institutes and departments.

The central question of the e-FGD was “What are the prospects and challenges of academic networks in Africa?”⁶ We derived distinctive statements from the interviews, which we term vignettes, highlighting prospects and challenges of networks. We adapted these vignettes (where necessary) as both data and evidence in our arguments. Following the information gathered from respondents representing the above mentioned five networks (and the e-FGD), we were able to draw vignettes representing the subject of our study. The subject is the challenges of academic networks in building competencies among land governance or related researchers (based on the structural holes identified). Our findings and emerging discussion are presented below.

3.2 The challenges

The challenges of academic networks in land governance competency building are diverse and multi-faceted. They manifest at different levels of the life cycle of the networks from its objectives, focal areas (land management, water management, urban land use planning, among others), location, membership (countries, institutions, or individuals), roles, leadership, financing (project financing, membership contributions, joint grantsmanship), partners (locally or internationally), channels of communication and future growth aspirations. These challenges can also be structural or can be basic, depending on the context. For instance, according to the Association of African Universities (n.d) report on *Riding the National Research and Education Networking Train in Africa*, internet access and speed among African Universities was pivotal for research networking. In their view:

⁶ Although the question was left broad and open, efforts were put only to draw relatable responses that apply to Africa. Interview helped to check the accuracy of e-FGD responses.

“This allowed for improved collaboration between researchers in the two countries. Scientists, researchers and students in Africa can now work effectively with each other, are able to share data quickly and collaborate more efficiently” (AAU as cited in Makoni, 2016).

The emphasis on leveraging ICT is because technology is critical for quality education and research. And since Africa is already lagging in terms of its development of research and educational networks, any intervention that is geared towards improving the situation is fundamental. More critically, research and education networks are relevant in raising African leaders in research institutions and Universities.

Notwithstanding these critical roles that research networks stand to perform, several challenges militate against their efficient functioning. From our finding, the challenges of academic networks may include the following: difficulty in sustaining the networks through resource mobilizations, the improper definition of roles and responsibilities within a multi-sectorial network, institutional centeredness and not the researchers themselves, operations within a centralized system and applications of funders priorities, failure to recognize allied networks that reach out to local partners, poor information management/flow and lack of strategic trust for post-funding sustenance. In addition, academic networks are constrained in diverse ways, including low levels of research capacities, restrictions pertaining to institutional statutes, limited platforms for collaborations, and poor publicity.

From the e-FGDs hosted on *ResearchGate*, one respondent acknowledged the principal role of academic networks and their role in promoting academic quality in both teaching and publications. However, he emphasized that resource constraints and difficulty may underscore these academic networks' ideals. Notably, he was of the view that:

“Principally, academic networks intend to improve the quality of academic products/services including graduates and scholarly works such as publications and knowledge dissemination. The main challenge is understanding the value of the network and keeping it going while resources are meagre. When resources are plenty, everyone wants to be in, but no one wants to keep the network once it is gone. Establishing research/academic network is one thing and keeping it going is completely another thing” [e-FDG response, 21-02-2021].

Emerging academic networks born from more significant research projects are easily sustained within the project period because the networks are sometimes viewed as a product/outcome of the project. In addition, funding support for the networks' activities easily stimulates broader interest among researchers to actively participate in its activities. Where the future and/or strategic direction is poorly defined, it quickly vanishes into thin air as soon as project funds ran out. The formation of academic networks and their operational future go beyond just resource available. Promoting the future of academic networks may require direction and commitment in leadership to be actively involved themselves or to steer the affairs of the network and drive everyone along. This leadership they can provide by developing rules of engagement, volunteering time and money, and establishing a functional medium of communication. Channels of publicity and communication have become more pivotal since

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they can be operationalized through formal and informal media -including social media. Internet-based communications sources remain relevant in the functioning of research networks during the Global Corona-19 pandemic period. According to another respondent from the e-FGDs on ResearchGate, the application of technology as a communication channel may come with its challenges. However, these can be resolved with teamwork and collaborative efforts. In his view:

“Networking and collaborative projects help develop and maintain information exchange! Knowledge acquisition, retention, and transfer are crucial and should be considered. Communication channels and technology applied could be challenging but feasible with teamwork and collaborative collective efforts” [e-FGD response, 21-02-2021].

In line with this, NELGA, AUPRN, AAPS and EALAN are all running functional websites that document and communicate their programs and achievements. These platforms are coordinated by functional web managers and network administrators at their various host countries. On the other hand, NELGRA, which is the most recent among these networks, currently operates informally on an active social media platform (WhatsApp platform) and currently develops its website.

In general, typical structural problems militating (in most cases) the operation of networks include:

- Institutional centeredness and not researchers-centeredness: Institutional centeredness is suitable for collaborative institutional networking. However, when networks with researcher-centred objectives are founded or operated on institutional dependence, the network activities' peer-to-peer aspect becomes either trivialized or de-emphasized. This is the case with networks in the continent.
- Failure to recognize allied networks to reach out to local partners and policymakers: When networks operate in isolation from each other, they tend to engage based on repetitive programs. Networks in Africa are yet to find ways of collaborating to push forward the common agenda towards fulfilling the continent's land governance vision. Currently, NELGA, EALAN and NELGRA are the key networks involved in land governance activities, but they operate in isolation.
- Poor information management/flow: The management of information (including its use and protection) is fundamental to the growth of networks in the land sector. Despite some successes recorded in NELGA, most networks have not entirely been able to use the information available to boost land research. They also have failed in sharing relevant information.
- Funding: The availability of financial resources to sustain academic networks' operations is fundamental for their formation, operations, and sustenance. The lack of strategic trust for funding for the sustenance of networks poses a fundamental problem. The funding sources mainly come from institutional contributions, development partners and governments. So,

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where these organizations do not provide fund, the networks' activities dwindle in their engagement and participation in continental and global land governance affairs.

4. TACKLING THESE CHALLENGES BY TAPPING FROM NETWORK OPPORTUNITIES: SUGGESTIONS AND CONCLUSION

Our assessments of land-related academic networks indicate that, despite the challenges identified, prospects are going forward. These networks play a significant role in career success as they can lead to increased status and influence. When they are researcher-centred, they tend to motivate peer-to-peer research (and publication) collaborations. This is particularly necessary for boosting Africa's research output in the land governance domain. The networks have prospects in inspiring individuals and institutions to invest in knowledge generation (through collaboration) in land governance issues. At the peer-to-peer level, these sort of inspirations results in collaborations in publications (including book chapter contributions, participation in special editions of journals, co-editing projects in books and journals, conference presentation invitations and collaborative project engagements. Some of these prospects are in line with Heffernan's (2020) findings that when it comes to *Academic networks and career trajectory*, "There's no career in academia without networks." Collaborative works and career growth aside, networks also have prospects for building individual and institutional capacities in the land sector, as well as in develop leadership skills of its members for future roles the land sector.

Going forward, the prospects of academic networks may anchor in their ability to properly define their members' roles and responsibilities across its multi-sectors land-related engagements. Depending on the focus and purpose of an academic network, there may be multiple memberships- regional, countries, institutional and individuals. Defining roles is very important to ensure that the operational machinery of the networks grinds smoothly. This may require a blueprint of institutional responsibilities and the contributions expected of each member.

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BIOGRAPHICAL NOTES

CONTACTS

Prof Uchendu Eugene CHIGBU

Department of Land and Property Sciences, Namibia University of Science and Technology, 13 Jackson Kaujeua Street, Private Bag 13388, Windhoek 9000, Khomas, Namibia.; Email: echigbu@nust.na; Website: www.nust.na

Dr. Elias Danyi KUUSAANA

Department of Real Estate and Land Management, SD Dombo University of Business and Integrated Development Studies, Wa, Ghana; Email: ekuusaana@uds.edu.gh; Website: www.uds.edu.gh

Ms Menare Royal MABAKENG

Department of Land and Property Sciences, Namibia University of Science and Technology, 13 Jackson Kaujeua Street, Private Bag 13388, Windhoek 9000, Khomas, Namibia.; Email: rmabakeng@nust.na; Website: www.nust.na

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