Higher Education
https://doi.org/10.1007/s10734-025-01538-5

Community engagement in African agricultural universities: challenges to the institutionalisation of engaged scholarship

Carsten Nico Hjortsø[1] · Gergana Romanova[1] · Bisan Abdulkader[2,3] · Kenza Aitelkadi[4] · Augustin Aoudji[5] · Alice Bonou[6] · Anthony Egeru[7] · Elisha Otieno Gogo[8] · Patience Mshenga[9] · Basil Mugonola[10] · Maria Sassi[11] · Joseph Ssekandi[12]

Received: 27 September 2024 / Accepted: 1 September 2025

Abstract
Community engagement in Africa outside South Africa has attracted relatively limited scholarly attention, and there continues to be limited documentation of how African universities engage with external communities and institutionalise community engagement practices. In this study, we scrutinise how agriculture university schools enact community engagement. We conducted a longitudinal multi-case study from 2021 to 2023 of eight agricultural schools located in East, West, and North Africa. The study used a multi-methodology research strategy applying document analysis, two surveys, five group interviews, and 42 individual semi-structured interviews. Survey data were analysed using descriptive statistics, and document and interview data were transcribed and analysed using thematic analysis. The findings show that agriculture-related community engagement is a highly diverse phenomenon, implemented with varied breadth and depth across the eight cases. Students' attachment, internships, and entrepreneurship teaching and support constitute important means of community engagement across the eight cases. We identify several factors facilitating and hindering the institutionalisation of community engagement. External funding can provide both opportunities and barriers, depending on whether projects are strategically leveraged for further institutionalisation. A major barrier to adopting engaged scholarship practices is that community engagement is equated with the traditional outreach function of agricultural universities. We contend that enhanced conceptual clarity and methodological awareness may be necessary to embrace and institutionalise more contemporary engagement practices to deal with the hyper-complexity that African rural communities face.

Keywords Community engagement · Engaged scholarship · Institutionalisation · Agriculture · University · Africa

Extended author information available on the last page of the article

Introduction

Universities are increasingly recognised not only as institutions of education and research but also as key actors in addressing complex societal challenges. Among the many ways in which they contribute to this goal, community engagement (CE) has gained growing attention as a means of fostering reciprocal relationships between academic institutions and external communities. Rather than prescribing a singular model, CE encompasses a range of practices that reflect the contextual, historical, and disciplinary characteristics of institutions and their environments. It fosters the ability of institutions to be receptive to the external world as well as to facilitate internal learning and self-reorganisation. This paper explores how CE is institutionalised and practised in situ—within the specific institutional and disciplinary contexts of African agricultural universities.

The concept of CE is highly variable across national and institutional settings, shaped by diverse policy environments, traditions of scholarship, and societal expectations (Benneworth et al., 2016; Van Schalkwyk & Erasmus, 2011). In many African settings, CE has become a key element in discussions about the role of universities in development, particularly in light of the sector's potential to contribute to poverty reduction, rural transformation, and climate resilience. Yet, how CE is organised, supported, and institutionalised across African universities remains underexplored. While a considerable body of research addresses CE in South Africa (e.g., CHE (Council on Higher Education), 2010; Kruss, 2012; Lazarus et al., 2008), there is a marked lack of comparative empirical research from other parts of the continent (Koekkoek et al., 2021; Mugabi, 2015).

One notable gap in this literature is the lack of attention to how CE has been institutionalised within the fields of agriculture and natural resources management. These disciplines are especially important in the African context due to their direct connection to rural livelihoods and sustainability challenges, yet their engagement practices have been understudied. Despite their historical tradition of outreach through extension services and community-based research, little is known about how these universities currently define, support, or sustain CE in an institutional sense. This is a critical omission, as CE in agricultural universities has the potential to act as a bridge between scientific expertise and the kinds of practical, locally grounded knowledge needed to address development challenges effectively. In particular, CE has the potential of accelerating how universities create value and wealth in the economy.

Our study aims to contribute to this gap by examining how CE is practised and institutionalised within eight agricultural universities across the African continent. By institutionalisation, we refer to the extent to which CE is embedded into the formal structures, routines, and reward systems—including governance, staffing, resourcing, and strategic planning—and becomes the established norm in the university. As Sandmann (2008) and others have noted, institutionalising CE involves more than individual commitment or isolated projects; it requires sustained structural support and a cultural orientation that legitimises engagement as scholarly work. Without such embeddedness, CE risks being marginalised or treated as an optional add-on.

Against this backdrop, it becomes important to explore how such institutionalisation is taking shape in practice. In this article, we therefore ask the following research question:

- How is community engagement practised and institutionalised in African agricultural universities?

To answer this question, we conducted a multi-case study of eight African agricultural universities participating in a European Union-funded higher education capacity-development project between August 2021 and December 2023. Data were collected in multiple phases over this period, allowing for an extended, temporally-aware understanding of institutional community engagement practices. Using a mixed-methods approach (Teddlie & Tashakkori, 2009), we drew on survey data, interviews, document reviews, and observations gathered over 2 years. Our case selection reflects a diversity of institutional histories and geographies, from long-established national universities to more recently established regional institutions. This design enables us to explore how CE practices are shaped by local contexts, institutional settings, and broader development agendas.

The paper proceeds as follows: we begin with a review of the literature on CE and its institutionalisation, followed by an overview of our methods and data analysis. We then discuss our findings and their implications and conclude with recommendations for policy and practice.

Background

Institutionalisation of community engagement

The concept of community engagement in higher education has evolved significantly over the past few decades, moving from peripheral notions of service to more integrated and strategic relationships between universities and society. This shift is rooted in a broader understanding of universities as civic institutions with a public mission. Ernest Boyer's (1990, 1996) seminal work on "the scholarship of engagement" marked a major turning point in this discourse, calling for the academy to reconnect with the public and to conduct scholarly work that is simultaneously rigorous and socially relevant (Rice, 2016; Sandmann, 2008). Boyer argued that universities should be vigorous partners in addressing societal challenges and that engagement must be recognised not as auxiliary, but as core to academic life. More than a call to action, Boyer's work challenged universities to reconsider their epistemological assumptions and reward structures, prompting a shift from insular knowledge production to practices grounded in mutual benefit and public accountability. This reorientation requires not only curricular reform or outreach initiatives, but a more profound transformation of how academic legitimacy is defined and operationalised and valued.

Recent literature has continued to interrogate this transformation, moving beyond Boyer's foundational claims to explore the institutional, cultural, and political conditions that shape the potential for engaged scholarship. Scholars have questioned how academic norms and power structures often marginalise engagement, despite rhetorical commitments to its value (Benneworth et al., 2016; Saltmarsh & Hartley, 2011). In this view, engagement is not simply an added function of the university but a mode of knowledge production that challenges conventional hierarchies of expertise and authority. It calls for relational accountability, ethical collaboration, and institutional reflexivity—principles that are not always easily accommodated within traditional academic reward systems. These developments extend Boyer's vision by linking CE to broader debates about knowledge, democracy, social justice, and the purpose of higher education in a globalised world.

Recent studies have also emphasised the tensions between engagement and traditional academic norms, highlighting how deeply rooted metrics of scholarly prestige

often marginalise public-facing work (Fitzgerald et al., 2016). This ongoing tension suggests that fully realising Boyer's vision requires structural change at the levels of governance, incentives, and academic identity. Contemporary scholarship has since taken up this challenge, linking engagement to broader institutional questions about equity, inclusion, and the civic purposes of higher education (Post et al., 2016). These perspectives deepen Boyer's original proposition by emphasising that meaningful engagement demands a reconfiguration of institutional culture and recognising the diverse ways knowledge can be produced and valued. Recognising the need to embed CE within higher education, scholars have developed frameworks that explore how CE can be institutionalised in university systems. Holland (1997) was among the first to outline key organisational dimensions that shape a university's engagement orientation, including mission alignment, faculty roles and rewards, curricular integration, and community partnerships. She emphasised that engagement cannot be sustained if it is left to individuals' initiatives without structural support. When CE is siloed, underfunded, or driven by fragmented agendas, universities struggle to achieve meaningful or measurable outcomes, and its contribution to institutional missions is diminished. For engagement to be effective, it must be regarded not as an optional or peripheral activity, but as a core institutional function—central to scholarship and the civic responsibilities of higher education (Bringle & Hatcher, 2000; Holland, 1997; Weerts & Sandmann, 2010).

Sandmann (2008) extended this thinking by framing institutionalisation as a cultural and systemic process that unfolds over time and requires strategic commitment across university functions. She defined institutionalisation as the "deep and pervasive integration of engagement into the structures and norms of higher education institutions" (p. 97), emphasising that meaningful CE cannot be sustained through isolated efforts or informal initiatives alone. Instead, engagement must be anchored in institutional routines and supported at multiple levels. According to Sandmann, six key elements are essential to this process: leadership commitment, strategic planning, reward systems, curriculum integration, community partnership infrastructure, and evaluation and assessment mechanisms. Among these, leadership is pivotal in creating alignment between engagement and institutional priorities. Effective leaders, she argues, must "create pathways" to embed CE into university policies and operational structures and communicate its value as both a scholarly and civic endeavour (p. 100). Without such structural and cultural embedding, CE risks remaining a marginal or symbolic activity, disconnected from the university's core academic teaching and research missions.

This understanding has been further operationalised through frameworks that assess how embedded CE is within institutional systems. One influential approach, developed through the Carnegie Foundation's community engagement classification, outlines key indicators of institutional commitment—such as alignment of mission statements, formal faculty incentives, systematic assessment practices, and the active involvement of community partners (Driscoll, 2009; Sandmann & Driscoll, 2011). These criteria are not merely descriptive; they aim to guide institutions in building a cohesive engagement strategy that is both mission-driven and evidence-informed. Driscoll (2009) emphasised that for engagement to be fully institutionalised, it must be embedded in the policies and structures that govern academic life—from how faculty are hired, supported, and promoted, to how teaching and research are evaluated and rewarded. She argued that supportive infrastructure alone is not enough unless accompanied by an institutional culture that values community-engaged scholarship as legitimate academic work. The classification framework, therefore, also serves as a developmental tool—encouraging

self-assessment, strategic reflection, and continuous improvement in how engagement is integrated into the fabric of higher education institutions.

While these frameworks have provided crucial guidance for embedding CE into the organisational fabric of universities, the process of institutionalisation is far from uniform across different contexts and institutional types. Scholars of higher education have noted that engagement is shaped not only by institutional strategy and leadership but also by historical missions, local policy environments, and disciplinary traditions (Braxton et al., 2002; Godonoga & Sporn, 2023; O'Meara, 2005; Thornton & Jaeger, 2008). Institutionalisation, therefore, involves a complex negotiation between top-down structures and bottom-up practices, where academic values, incentive systems, and community relationships must align. Engagement must therefore be cultivated as a democratic practice, grounded in reciprocity and mutual benefit, rather than simply expanded through additional programming or administrative oversight (Saltmarsh & Hartley, 2011). This calls for a deeper examination of the organisational cultures that support or inhibit CE, especially in under-researched contexts such as African universities.

Contextual challenges and disciplinary perspectives

Most definitions of university-based CE suggest mutual benefits for both the university and the community, although the specific benefits may vary (Fitzgerald et al., 2012). For the university, this means that CE involves engaging an outside community in the university's knowledge creation activities and valorisation, i.e., teaching, research, and translation. For the community, benefits may come in a multiplicity of forms, resulting in, for example, citizens' empowerment, increased well-being, and local socio-economic development (Mulligan & Nadarajah, 2008). CE involves a "productive interaction" in which the partners jointly engage in the decision-making that shapes activities that ensure mutual benefits. In practice, the degree of engagement may vary depending on the activities conducted. Benneworth et al. (2018) propose a typology of increasing intensity of CE activities going from voluntarism at the lowest level, over outreach/extension, service learning, knowledge and technology transfer, and knowledge exchange, to holistic civic engagement as the highest level of engagement. Traditionally, outreach and extension services have been the mainstream conceptualisation of CE in many agricultural schools. Still, this predominant "one-way" communication perspective (Weerts & Sandman, 2008) is increasingly replaced by more participatory approaches drawing on joint problem solving, co-creation, co-production, and co-research concepts.

The institutional dimension of CE includes various aspects of organisational governance, structures, and systems, and cultural norms and values, which are crucial prerequisites for establishing and maintaining sustainable CE practices within an organisation (Braxton et al., 2002). Lazarus et al. (2008) summarise the experiences with the institutionalisation of CE in South African HE institutions. They emphasise the integration of CE as core components of the vision, mission, and organisational structures of the university; integration of CE into academic programmes; support for and recognition of the staff's CE engagement; and allocation of resources as important dimensions for organisational institutionalisation. The South African experiences highlight that establishing a clear governance structure is an essential enabler of successful CE. Mtawa et al. (2016) show that the success of university CE in fostering social and economic development depends on the importance of engagement practices in the universities' core policy and practice. However, structures are not sufficient. Mugabi (2015), in a case study of Makerere University in Uganda,

finds that institutional structures are in place, but CE activities remain unsupported, and participating staff are not rewarded.

Jongbloed et al. (2008) draw attention to institutional barriers caused by historical and legislative trajectories. Research agendas are often driven by institutionalised norms within scientific disciplines, which may align little with themes concerning communities. Similarly, education is framed by national accreditation, traditions, and administrative norms that may lack the flexibility to incorporate CE activities. At the intra-organisational level, Jungbloed et al. (2008) argue that CE may often be at odds with other organisational agendas, such as internationalisation or securing high enrolment numbers. Moreover, internal reward structures emphasising publications or teaching performance limit academic staff's motivation for CE. Mugabi (2015) identifies the absence of an explicit budget allocation as a crucial limitation for CE. Furthermore, Jungbloed et al. (2008) attribute a limited willingness among staff to engage with business and industry to the lack of an entrepreneurial culture within universities. Dube and Hendricks (2023) mention the lack of institutional guidance, neglect, and the uncertainty of who should conduct the CE as additional barriers. According to Johnson (2020) and Olowu (2012), the lack of conceptual clarity of what CE entails adds to the uncertainty and constitutes a barrier to staff engagement. At the individual level, the lack of incentives may be accompanied by a lack of time due to teaching obligations, inability to identify external partners considered relevant, and limited institutional support (Naranjo-Africano et al., 2023). Mtawa and Wangenge-Ouma (2022) illustrate the relationship between institutions and individuals' behaviour, discussing the public good vs. private good character of CE practices. They find that due to a lack of public funding and low salary levels, the traditionally perceived public good nature of university CE activities has been replaced by transactional university-community relationships focused on consultancies and based on 'projectification' leading to donor dependency, limited impact on the university's core missions, and minimal or no meaningful benefits to the involved communities.

Although CE has gained prominence in African higher education policy discourse as a pathway to address poverty, inequality, and sustainable development (Mtawa et al., 2016; Mugabi, 2015), its practical implementation remains uneven. Outside of South Africa, where CE has received relatively more policy and institutional attention, comparative research across the continent remains scarce. Studies suggest that CE initiatives in many African universities often suffer from fragmentation, lack of strategic alignment, and weak institutional support structures (Akoojee & Nkomo, 2007; Mawoyo, 2012). These limitations point to a persistent gap between rhetorical commitment and operational reality. CE activities often take the form of uncoordinated outreach, driven by individual academics or short-term projects rather than embedded institutional mandates. The literature has underscored the need to move beyond ad hoc and externally motivated models towards more sustained, systematic, and contextually relevant approaches to CE.

Yet, an underexplored aspect of the CE literature is the influence of disciplinary context on how engagement is conceived and enacted. Agricultural universities, particularly in Africa, have long-standing mandates to contribute to rural development through applied research, extension services, and farmer education. Their disciplinary orientation naturally aligns with many of the goals of CE, such as practical knowledge production, stakeholder collaboration, and responsiveness to societal needs. However, few studies have examined how this alignment influences the institutionalisation of engagement within these institutions. The historical emphasis on outreach in agriculture—often driven by traditional top-down and technology transfer-focused extension service models—may predispose institutions to see CE through narrow, unidirectional lenses unless broader cultural and structural

shifts are made. At the same time, agriculture as a discipline offers a fertile terrain for examining CE as co-produced knowledge. Engagement in this field frequently entails collaborative research with farmers, integration of indigenous knowledge, and long-term partnerships with communities and policy actors. This raises important questions about how agricultural universities negotiate academic and local epistemologies and whether their institutional systems formally recognise and support their engagement activities. Moreover, these practices often emerge despite the lack of formal incentives, suggesting that discipline-based logics can serve both as enablers and constraints in the pursuit of institutional CE.

Taken together, this background provides the conceptual foundation for our inquiry. It positions CE as a scholarly and institutional imperative while pointing to the need for empirical research that is context-sensitive, discipline-aware, and attentive to the unique structural conditions of African agricultural universities.

Methodology

Case description

The research applies an explorative research design based on a multiple-case study (Yin, 2009) involving the eight universities that constituted the African partners in the Strengthening Agri-Entrepreneurship and Community Engagement Training in East, West, and North Africa project (AgriENGAGE). The AgriENGAGE project was funded through the EU Erasmus+ Capacity Building in Higher Education (CBHE) Action and implemented from 2021 to 2023. The project aimed to enhance university staff's teaching competencies, increase access to CE training programmes, and enhance collaboration between universities and industry. The eight African universities are located in Kenya and Uganda in East Africa, Benin in West Africa, and Morocco in North Africa. The direct project beneficiaries represented 12 agriculture-related university schools and 25 different departments, including, for example, agronomy, forestry, food science, soil science, rural development, and community development studies. We briefly summarise key figures for each of the eight case university in Table 1.

The universities were selected based on their involvement in the Erasmus+ project, i.e., based on convenience sampling (Saumure & Given, 2008). Therefore, no claim of statistical representativeness of African universities in general is made. However, we believe that the eight universities illustrate the significant variation observed in HE organisations across the African continent. Both between-country and within-country variations are significant in terms of age, size, and, to some extent, ownership form and location. Furthermore, the sample includes universities representing very different educational systems and traditions.

Data collection and analysis

Having the university as the unit of analysis, we applied a multiple-level strategy for data collection, obtaining data from individuals through interviews and from department and university levels through surveys and dialogue workshops. We used surveys, semi-structured interviews, and document review. In August 2021, two surveys about university/school-level and department-level organisational characteristics and CE practices, with 28 and 29 questions, respectively, were distributed to the eight AgriENGAGE partner teams.

Table 1 Information about the eight African universities included in the study

Organisation	Abbr	Country	Founding year	No. of schools	No. of students	No. of academic staff	Ownership form	Location
Egerton University	EGU	Kenya	1987	12	27,180	547	Public	Rural
Pwani University	PU	Kenya	2007	7	10,000	200	Public	Rural
Gulu University	GU	Uganda	2002	7	5000	250	Public	Rural
Uganda Martyrs University	UMU	Uganda	1993	13	5070	171	Private	Rural
Institut Agronomique et Veterinare Hassan II	IAV	Morocco	1966	7	2021	150	Public	Major city
Mohammed VI Polytechnic University	UM6P	Morocco	2013	13	3358	300	Private	Rural
National University of Agriculture	NUA	Benin	2013	10	1390	88	Public	Rural
University of Abomey-Calavi	UAC	Benin	1952	41	64,686	914	Public	Capital city

To capture the nature of CE practices and their degree of organisational integration, the survey was designed based on the seven thematic dimensions in Table 2 suggested by Farnell et al. (2020).

In addition, we asked questions about factors promoting or limiting CE. The local project teams were asked to identify questionnaire responses to university/school-level questions by involving the relevant university authorities, such as the local Department of External Affairs or the Technology Transfer Office. For survey questions that required judgmental responses (e.g., factors limiting or promoting CE), local partners were asked to involve colleagues in a dialogue workshop to reach sufficient agreement to justify the aggregation of individual-level responses. The questionnaires were administered using Google Forms. The first two authors regularly monitored the responses and engaged with the local teams to improve data quality and clarify ambiguous responses. Only data from the university and school-level surveys are reported in this article, whereas the data from the department-level survey responses were used as focus points during the interviews. Survey responses are found in Table 4 in the Appendices.

From November 2022 to November 2023, the first two authors conducted 42 individual and five group interviews with project participants. Semi-structured research interviews (Brinkmann & Kvale, 2018) addressed individual-level perceptions of topics such as interpretation of the CE concept, institutional frameworks and practices, organisational CE culture, methodological experiences, challenges and factors enabling organisational integration and institutionalisation of CE, and the need for the development of CE practice. The interviewees were encouraged to elaborate on specific themes that emerged during the interviews. On average, each interview lasted about 45 min on average. All interviews were recorded and transcribed verbatim. We apply descriptive statistics for the analysis of survey data and thematic analysis (Clark & Braun, 2017) to analyse interview transcripts.

Table 2 The seven thematic dimensions of community engagement in higher education as defined by the TEFCE project (based on Farnell et al., 2020)

Dimensions	Brief description
Teaching and learning	The extent to which study programmes reflect societal needs, include community-based learning and involve external communities in teaching and learning
Research	The extent to which research is carried out about and with external communities
Service and knowledge exchange	The extent to which academic staff are involved in joint initiatives supporting external communities' development and empowerment
Students	The extent to which students lead their own projects and initiatives with external communities (outside the framework of their study programmes)
Management (policies and support structures)	The extent to which the university management reflects its commitment to community engagement in policies and institutional support structures
Management (partnerships and openness)	The extent to which the university establishes mutually beneficial partnerships with external communities and provides them with access to facilities and resources
Supportive peers	The extent to which the academic and administrative/professional staff actively support community engagement

Finally, CE policy documents and guidelines from the case universities were collected and reviewed as part of the analysis.

To enhance study credibility, the two first authors developed early familiarity with the CE culture of participating organisations through informal talks during project activities. Moreover, we benefited from the multi-case study design, which allowed iterative interviewing of key informants, mainly the local project coordinators and debriefing sessions within the project team (Shenton, 2004).

Findings

Forms and functions of engagement in agricultural universities

Activities

The survey and follow-up interviews showed that the agriculture schools practised a wide range of CE activities, even though the level and characteristics of engagement varied significantly across the universities. Table 5 in the appendices shows these activities mapped according to the framework proposed by Farnell et al. (2020). In the following sections, we examine how some of these activities contribute to or intersect with the processes of CE institutionalisation.

In the agricultural domain, university CE is closely tied to teaching and learning, focusing on professional capacity building through diverse forms of in-service training. This training, often in the form of short education modules, targets various recipients, including rural communities, smallholder farmers, public officials, and private sector actors. The educational activities extend beyond the campus to diverse settings like public schools, non-governmental organisations (NGOs), public institutions, field trials, experimental plots, and on-farm environments. Generally, this kind of CE activity is highly institutionalised and mainly delivered through traditional training and outreach formats.

Student internships[1] constitute an institutionalised CE activity and an integrated element in agriculture-related study programmes across all case universities. Typically, students undergo 2–3 internships during their bachelor's education, with increasing complexity and level of engagement with local stakeholders. For instance, undergraduate students at UAC and NUA complete three internships between their first and third years, each with increasingly challenging engagement in problem solving together with societal actors.

In recent years, universities across Africa, including the AgriENGAGE universities, have actively promoted student entrepreneurship and enterprise development. Several universities, such as EGU and GU, are establishing entrepreneurship training activities for both students and community members. The Student Enterprise Scheme (Kalule et al., 2017), developed by EGU and GU, is an illustrative example of encouraging co-learning among students and the community. Students engage in innovation and development of business concepts, which they discuss in roundtable sessions called 'Kabake' (meaning 'come, we talk' in Acholi) or 'Baraza' (meaning 'public meeting' in Swahili) to align their

[1] In the study context, 'internships' and 'attachments' are used somewhat interchangeably by informants to describe activities where students are associated with an external partner (e.g., farmer, community, enterprise, or public organisation), typically for a period of 2–3 months.

solution prototypes to the communities' needs before potentially establishing local start-ups. Moreover, the Student Challenge programme, also pioneered by EGU and GU, offers both a curricular and extracurricular platform for agriculture and agribusiness students to address challenges provided by stakeholders. This involves analysing problems, conducting research, providing recommendations or concrete solutions, and offering capacity building in host organisations if needed. Although the mentioned examples are not mainstream activities across the case universities, they constitute practices that all case universities aspire to implement.

Other forms of community involvement in learning activities—such as the inclusion of industry practitioners as guest lecturers—vary considerably across different cases. However, such use of external knowledge sources is very limited, with budget restrictions often mentioned as the reason, because guest lecturers expect financial compensation for their time. However, the lack of teachers' experience with such pedagogical approaches or a culture for involving external actors also seems to play a significant role. Typically, externally funded capacity-building projects, such as, for example, EU Erasmus + projects, introduce new pedagogical methods and involve training in university–industry or university–community collaboration approaches. However, such projects rarely address the institutional framework beyond, for example, developing a few new course curricula.

Collaborative problem-solving is evident in various research, innovation, and development collaborations across all eight case universities. Examples include its incorporation into PhD projects and MSc student thesis research. The nature of these research interactions varies, with different levels of stakeholder engagement. While more traditional university–industry research collaboration with established agri-enterprises or larger commercial farmers is limited, all universities are actively involved with smallholders and rural communities, including marginalised and vulnerable groups.

Methodological frameworks like Participatory Action Research (PAR) (Swantz, 2008) used at GU and Farmer Field Schools (FFS) (FAO, 2016) used at PU have been introduced through international capacity-building initiatives, international PhD scholarships, and research collaboration projects. These frameworks are gaining traction in some universities. Interviews revealed that some researchers, while not explicitly familiar with PAR terminology and theoretical concepts, were engaged in activities with smallholders or rural communities that could be characterised as participatory approaches. For example, when asked to describe their interaction with farmers, one interviewee explains:

> It is a bottom-up approach, we don't take a top-down approach anymore. We come to the village; together, we make a diagnosis to see what they are looking for. Based on that, now, we can go back to the laboratory, we can find the solution, bring it to them, and easily adopt the solution. Before, let's say 30 years ago, it was a top-down approach. It did not work. Nowadays, everybody has a bottom-up approach. All faculties of agronomy work like that. [Researcher 6, West Africa]

However, as the quote illustrates, such participatory processes may still be grounded in a traditional epistemology where the university assumes a dominant expertise-provider role. Examples of application of contemporary co-creation, co-production, and co-research methodologies are very rare, and in the participatory processes encountered, the element of joint ideation is often limited.

Traditional agricultural outreach activities like agriculture clinics, field days, community training, and advisory services are prominent in most universities. According to the school-level survey, staff members engage on average in CE activities 2.5 times yearly (for an overview of survey results, see Appendix Table 4). While some staff members engage

in consultancy and policy advice, most often as independent experts, a few universities have institutionalised consultancy services into their business model. In general, the case universities have very limited engagement in or structures for knowledge and intellectual property rights commercialisation, university spin-offs, and joint ventures with established industries. On the other hand, seven of eight AgriENGAGE universities have established agri-business incubators, providing services to community members, students, and alumni. EGU went even further by establishing an Agro-Science Park in 2017 aimed at creating links between teaching, research, and commercialisation. Several informants mention that a general policy trend across Africa promoting smallholder farmers' 'business thinking' has changed the traditional production-focused agricultural outreach towards a more integrative knowledge exchange based on seeing farming as a business activity. This perspective has led to an increase in CE activities that integrate agribusiness and production-focused disciplines.

Student-led initiatives play an important role at some universities, such as PU, where students actively contribute to the university's societal engagement by participating in social and environmental restoration activities. Similarly, at IAV, students are crucial in taking the initiative to invite and involve entrepreneurs and professional experts in their curricular activities. UMU showcases student involvement through voluntary faith-based groups dedicated to sharing agricultural knowledge with local communities. Additionally, UMU students are involved in 'phone-based' consultancies as explained by an interviewee:

> […] students in our faculty may assist farmers who face a pest problem but don't know what sort of herbicides to use. [Farmers] would call, and the students would go and have a look at the problem and advise. Maybe [the farmer] would meet their transport cost, [and] give them some extra Shillings that they can spend at school. [Researcher 18, East Africa]

In general, student-based initiatives seem ad hoc and without any foundation in institutional structures.

Institutionalisation of CE: structures, policies, and strategic embedding

Strategies and plans

All eight universities refer to the third mission (i.e., economic and social engagement) in their mission statements. At NUA, for example, part of the mission is to "… carry out the promotion, valorisation and scientific popularisation of research results, and indigenous knowledge." Moreover, the specific objectives mentioned in the strategic plan for 2018–2023 (NUA, 2018) refer to the NUA's role in "agricultural development". Another example is EGU Strategic Plan 2018–2023, which sets the following five specific objectives for the university's engagement in research, consultancy, and community outreach: "(1) increase research outputs and disseminate findings; (2) increase registrable innovations; (3) increase consultancy and public policy analysis undertaken by staff; (4) increase community outreach and extension projects and programmes; and (5) undertake monitoring and evaluation of research and extension projects and programmes." While all universities in this study reference societal development in their mission, vision, or value statements, the East African universities appear to articulate the third mission most prominently. Only UMU and GU explicitly use terms like 'community transformation' or 'community engagement' in their strategy documents. Notably, the three universities with dedicated

CE policy documents (EGU, GU, and UMU) are all situated in East Africa. Among the AgriENGAGE university schools, six out of eight indicate having specific school-level CE-related goals or objectives. Six out of eight universities indicate that they are engaged in efforts to institutionalise their CE practices further. The reported activities vary significantly but express a general trend towards increased formalisation through elaboration of dedicated CE strategies, top-level ratification of developed strategies, establishment of university-level CE departments or offices, employment of support staff, formulation of CE guidelines, and formalising annual planning for CE activities.

History and location

Several informants allude to the age of the university organisation as a moderating factor influencing the development and institutionalisation of CE activities:

> Things are easier to change in the younger and less established universities. There is more room for innovation. Less bureaucracy, can move faster, […] Budgets are approved more easily, MoUs are easier to get established. [Researcher 12, East Africa]

Higher flexibility and potential for organisational change can also be caused by historical and geographical factors influencing universities' mission and culture. Older, national comprehensive universities are typically located in the capital or major cities and are stronger proponents of the traditional legacy of academic traditions. Several informants argue that driving change in such institutions is very difficult. On the other hand, younger, regional, and rural universities are often explicitly established to cater to a particular region's social and economic development. Six agricultural schools in this study are located in rural settings with a clear mission to support the surrounding agricultural community. However, whether this potential is turned into embedded CE practices currently depends on engaged and persistent 'grassroots' academic staff who seek and use opportunities to introduce and sustain new practices.

Employment policy

An essential organisational mechanism for driving change is employment policies. In four out of the eight universities, CE activities are considered a requirement for promotion. In two of the four, CE is considered a requirement in specific departments or employment levels, for example, for staff in the Department of Applied Community Studies at EGU and full professorship at NUA. At IAV, CE is not explicitly evaluated but considered an integral duty for all staff. Even if not explicitly assessed, interviewees argue that CE activities may indirectly contribute to promotion by providing a basis for scientific publications. For those universities where CE is included in the promotion criteria, it typically weighs 5% of the total evaluation score.

Structures and resources

Our survey showed that CE is typically incorporated into the universities' organisational structures, resource allocation, and reward systems, for example, in the form of dedicated support units. The number of full-time equivalent CE support staff ranges from zero to 20, with an average of 38 and a median of 44 academic university staff

per CE support person. Seven universities allocate resources for CE activities, including financial support, transportation, equipment, auxiliary personnel, community connections, and moral support. However, the support is often limited to curricular activities, and overall financial backing tends, in most cases, to be minimal. None of the eight universities provides self-funded CE training opportunities for their academic staff. Due to limited resources, externally funded projects become crucial for training and engagement. However, excluding AgriENGAGE, only two universities obtained externally funded CE training opportunities during the previous 3 years.

Externally funded projects

The number of active externally funded projects in the case universities over the 2-year period from August 2019 to August 2021 that explicitly incorporating CE-related objectives varies significantly, ranging from ten projects at EGU to zero at UM6P, PU, and UMU, with a median of two. On average, less than 20% of the case agricultural university schools' projects integrating CE elements. GU stands out by prioritising the incorporation of CE-focused objectives in almost all its externally funded projects. Over the last decade, GU and EGU have jointly secured CE-related project funding based on their reputation for successful project implementation. One example is the development and upscaling of the previously mentioned Student Enterprise Scheme. Building on their initial experiences, GU and EGU have, in collaboration with RUFORUM, a pan-African university network, secured funding to scale the scheme to 26 additional regional universities (Egeru et al., 2023).

The contribution of external projects to the institutionalisation of CE varies significantly. External projects can include explicit support to further the process of institutionalising CE. For example, at GU, an international collaboration supported the drafting of a CE policy, staff capacity building, and implementation of CE activities. After the project closure, GU staff continued advocating for the policy, which was subsequently approved by the university senate. The approval of the policy enabled budgeting for and establishing a permanent university-level CE coordinator position. The examples show that institutionalisation is possible when academic staff persistence is coupled with leadership commitment and willingness to allocate resources. In the GU case, internal interests leveraged external opportunities to facilitate the creation and embedding of new CE practices. In situations where CE is more peripheral to the university's culture and identity, established structures may quickly vanish when external funding ceases. UMU illustrates this situation. The university engaged with an external donor in a rural community development project but entered the relationship as a service provider conducting baseline studies, diagnosis, and training. Despite a longer engagement in CE activities, no attempt was made to leverage this de facto consultancy experience to develop the university's CE practices, and the project left no signs of improved practices. Both donor mission and expectations, as well as how a project is managed internally within the university structure, play a role in the potential of an external project to support organisational development. Informants argue that projects with a broad and distributed ownership that integrates multiple departmental and disciplinary areas, engages top-management level authorities, and aligns with the university's mission and vision are more likely to create sustained changes.

Stakeholder relations

The main societal stakeholder groups identified by the respondents include individual smallholders, micro-enterprises, farmer cooperatives, commercial farms, agroindustry, agribusinesses, extension service providers, agricultural banks, microfinance institutions, insurance agencies, municipalities, NGOs, public agencies and ministries, and other research and education organisations. Typically, the universities sign a memorandum of understanding (MoUs) with their community partners and in the AgriENGAGE schools; the number of active MoUs varies from 0.09 to 1.11 per academic staff member, with a median of 0.22 and an average of 0.42 MoUs per academic staff member. Although MoUs may affirm an official institutional bond, their realisation is typically highly dependent on individual staff members' interest and engagement, providing limited means for institutionalising engagement practices. An example of a more institutionalised practice is the widespread involvement of external stakeholders in curriculum development and revision processes, which all universities practice because such involvement is typically required by national accreditation schemes. In terms of top-level institutional engagement, some universities have community representatives on their Board of Governors. All universities have regular activities where they invite community members for seminars, conferences, or similar events. Several universities offer community members access to on-campus facilities such as business incubators or business development services, but examples of access to other types of resources are rare.

Stakeholder pressure is forcing universities to professionalise their CE activities. For example, one informant emphasised the growing fatigue experienced in communities and individuals being approached by a growing number of educational institutions seeking internship hosts for their students. Ensuring that the local hosts experience the clear value of hosting interns is becoming increasingly important to secure continued collaboration in this competitive context. This has triggered the institutionalisation of norms and procedures that secure professionalised internship management, stakeholder expectation management, and formalised partnership agreements as important elements to maintain engagement with motivated communities.

Transparency

Ensuring transparency through communication of CE policies and efforts to the public through institutional websites or publishing regular accounts of CE activities is less prevalent. Six of the eight universities do not comply with one or both of these transparency indicators. In terms of accountability, which may serve external relations as well as internal management purposes, only half of the universities have established monitoring and evaluation (M&E) procedures as a means of documenting and learning from their existing CE practices. In the following, a researcher explains the M&E procedure at his university:

> Each department is mandated to do a community outreach service. For example, we usually do farm clinics in the crop science department. […] We provide manuals, brochures, exhibit crops and animals. After the activity, we share our experience with colleagues and write a report to the Division of Research and Extension. [Researcher 25, Dept. Head, East Africa]

This procedure seems to represent the typical level of M&E (and learning) among the case universities. Nevertheless, the content and quality of the plans and M&E frameworks vary substantially. None of the eight universities has a corporate social responsibility policy.

Drivers and constraints to institutionalisation: individual and organisational dynamics

Drivers

Staff motivation, necessary skills, and opportunities are necessary conditions for the adoption and institutionalisation of CE. Across all eight cases, most of the academic staff interviewed expressed significant enthusiasm and professional satisfaction from engaging in CE activities. These activities are often associated with meaningfulness and a sense of giving something back to society. Informants also associate CE activities with access to new and compelling professional experiences, expanded local networks, social recognition, and opportunities for research and publication. Informants identify external funding as a significant driver of the diffusion of CE practices because it enables alignment between institutional objectives and individual staff members' career and disciplinary interests. In addition, an incentive and opportunity for staff to enhance competencies in CE is the rare but valuable prospect of securing externally funded national or international cooperation projects involving CE. External projects often offer opportunities to develop educational systems, and some informants see curricula development as a central means of integrating CE practices into the university:

> The best way to ensure staff involvement in CE activities is to integrate them into the curriculum. Then it's part of their job, and being a formal element in the teaching, the university must also find the funding to implement it. [Researcher 12, East Africa]

Such integration simultaneously aligns the teaching staff's personal and the university's institutional interests, at least partly, because teaching is the main raison d'être of the universities and therefore also an important performance measure in renewing individual employment contracts and promotion.

Barriers

However, informants identify a range of barriers to their CE involvement and institutionalisation. Typically, they refer to a lack of funding as the main reason for the limited embeddedness of CE in their universities. The lack of funding to cover travel and subsistence costs limits the ability to conduct scientific fieldwork, bring students in contact with rural and distant communities, and engage in community-based research and teaching activities. Other barriers to adoption include a lack of time because of teaching load. For example, one interviewee explains:

> […] the beginning of every semester, each staff member is allocated a full teaching load by the Head of Department, but nobody allocates research load or community engagement load. Mm hmm. Nothing. It is entirely up to you to do it. [Researcher 18, East Africa]

Other factors limiting staff engagement include physical insecurity during fieldwork, limited accessibility to rural communities, and communication barriers. For example, staff members may not always master the local languages. At the institutional level, a significant demotivating factor is the lack of significance given to CE performance in career promotion. Several informants identify this as a major factor in reproducing the traditional academic culture focused on education and research and devaluing engaged scholarship activities. In conclusion, many factors coincide that limit the individual staff members' motivation for and ability to be involved in CE.

None of the case universities offer regular professional development activities focused on CE practices. The lack of opportunities for organised CE training means that many staff members are uncertain about what CE involves. Interviewees suggested that conceptual ambiguity, indiscriminate use of the concept, and lack of awareness and knowledge about CE also form barriers to staff engagement, adoption, and institutionalisation. One repeated observation was that informants equated their involvement in traditional outreach activities, i.e., conventional knowledge transfer, to CE. Conceptual sensitisation, competence development, and sharing exemplary showcases to enhance understanding of processes and outcomes are strategies for remedying the cognitive barriers mentioned above. However, none of the eight case universities had institutionalised approaches to secure such activities consistently. Several examples of institutionalised conceptual 'decoupling' of CE were also observed. For example, participating in a funeral of a community member or sitting on a university committee would count as CE activities when such were required in a promotion process.

Table 3 summarises factors identified through the university and school-level surveys and interviews that respondents deem to facilitate or constrain university staff engagement in CE.

Discussion

This study explores how community engagement is practised and institutionalised in African agricultural universities. Grounded in a conceptual tradition that frames CE as a core academic function (Boyer, 1990), and building on institutional frameworks

Table 3 Factors that facilitate or discourage university staff involvement in community engagement

Factors facilitating community engagement	Barriers to community engagement
• External and internal funding opportunities • Integration in the curriculum • Alignment of personal and university interests and objectives • Consideration in promotion • Community engagement experiences can lead to publications • Social recognition • Communities express interest and request collaboration • Opportunities for developing societal networks • Establishing linkages with stakeholders • Formal partnership agreements with stakeholders	• Lack of funds for operational costs • Lack of incentives for academic staff • Lack of time because of administrative or teaching load • Language barrier (local language) • Unrealistic expectations from the community • Lack of knowledge about community engagement approaches and opportunities • Insecurity in the intervention area • Difficult (physical) access to communities

developed by Holland (1997), Sandmann (2008), and Driscoll (2009), our findings illuminate both the diversity of CE activity and the unevenness of its institutional support. We contribute to these debates by highlighting how CE unfolds in practice within agricultural disciplines and under resource-constrained, project-driven African higher education environments.

Community engagement is a core but contested practice

Our findings affirm that CE in agricultural universities is not marginal but often tightly interwoven with teaching, research, and service activities. The integration of challenge-based learning, student consultancies, and participatory research practices reflects a form of CE that aligns with Boyer's vision of engaged scholarship and supports more recent calls for academic work to serve both intellectual and civic functions (Fitzgerald et al., 2016; Post et al., 2016). These engagement forms also support the co-production of knowledge, with staff and students actively working alongside community partners to identify and address real-world problems.

However, our data complicate the assumption that CE naturally progresses towards more collaborative and reciprocal models. Traditional extension and outreach approaches—characterised by unidirectional knowledge transfer—remain prevalent, often operating alongside more participatory practices. This duality challenges the linear progression implied by some CE typologies (Benneworth et al., 2018). Instead, our findings suggest that disciplinary history—particularly the legacy of agricultural extension—shapes how CE is enacted, reinforcing Benneworth et al.'s (2018) typology and highlighting a need to contextualise engagement practices within specific academic traditions.

Agricultural disciplines have long maintained strong traditions of outreach, often influenced by traditional technology transfer logics and expert-driven approaches that emphasise technology diffusion and knowledge provision over co-creation. While such traditions can serve as an enabling legacy for CE, they can also constrain its development by reinforcing technocratic approaches that limit reciprocity and community agency. In this sense, our findings support Saltmarsh and Hartley's (2011) critique that CE must move beyond performative or instrumental logics and embrace democratic principles of knowledge exchange. The cases in our study illustrate that while agriculture offers fertile ground for CE, realising its full potential requires deliberate shifts in institutional and epistemic cultures. Therefore, the institutionalisation of CE will also require disrupting existing institutions (Leca et al., 2009), i.e., deliberate efforts to change existing norms and practices—a dimension which seems to be an understudied theme in the engaged scholarship literature.

Institutionalisation: Partial, uneven, and often externally driven

The literature on CE consistently emphasises the need for structural and cultural embedding (Driscoll, 2009; Holland, 1997; Sandmann, 2008), and our findings reinforce this imperative. CE in the studied universities is most firmly embedded in institutions with clear strategies, dedicated support units, and leadership commitment. However, even in these settings, institutionalisation remains partial and often symbolic. A gap between

formal commitments and operational realities—what Sandmann and Driscoll (2011) might describe as "mission drift"—was evident in the limited presence of reward structures, M&E systems, and training opportunities. As Holland warned, when CE is enacted by a "self-selecting group" with fragmented infrastructure and limited funding, its sustainability and strategic impact are undermined. Furthermore, findings provide empirical validation for Sandmann's (2008) six institutionalisation elements—leadership, strategic planning, reward systems, curriculum integration, partnership infrastructure, and evaluation—and illustrate how each element is variably developed across contexts. Leadership emerged as particularly crucial: in universities where CE gained traction, it was often because committed academic staff partnered with supportive senior leaders to institutionalise externally funded initiatives. Conversely, in institutions lacking leadership engagement, CE remained fragmented or dependent on individual initiative.

One of our key contributions lies in showing how external funding can both enable and distort institutionalisation processes. On the one hand, externally funded projects have played a pivotal role in establishing CE structures, training staff, and demonstrating impact. For example, the partnership between GU and EGU illustrates how project-based engagement can catalyse long-term change. On the other hand, these efforts often remain unsustainable without internal buy-in or alignment with institutional priorities. The UMU case exemplifies how donor-led CE initiatives can become isolated consultancy arrangements with little residual institutional benefit—what Mtawa and Wangenge-Ouma (2022) critique as the "projectification" of CE. Although donor-funded projects have helped establish CE units and scale initiatives at several universities, these efforts often remain project-based rather than systemic and dependent on the alignment between external priorities and internal vision. In the absence of institutional ownership, engagement risks becoming transactional and temporary.

This finding complicates the dominant institutionalisation frameworks, which typically presume relatively stable, well-resourced higher education environments. In the African context, institutionalisation is often "semi-formalised"—driven by projects, shaped by donor agendas, and variably internalised by academic staff. Such an interpretation echoes Lazarus et al. (2008) and Jongbloed et al. (2008), who highlight the tensions between CE and established university norms and suggest the need to rethink what institutionalisation looks like in resource-constrained, development-oriented university systems.

Individual agency, organisational culture, and structural constraints

Beyond structural dynamics, our study also underscores the interplay between institutional conditions and individual academic behaviour. As O'Meara (2005) and Thornton and Jaeger (2007) have argued, CE participation is shaped not only by incentives but also by academic identity, workload, and perceptions of institutional support. Staff in our study cited motivations linked to pedagogical relevance, research visibility, and societal contribution. CE was also associated with tangible professional benefits, including research publications, external funding, and curricular enrichment.

However, these motivations are often undermined by institutional disincentives. The most frequently cited barriers were high teaching loads, lack of time, and insufficient

support. Even where CE is mentioned in policy documents, a gap often exists between institutional rhetoric and operational support. In many cases, CE was not explicitly included in promotion criteria, or only marginally so (e.g., 5% weight), reducing incentives for meaningful engagement. This reinforces earlier findings (Mtawa et al., 2016; Mugabi, 2015) that institutional ambivalence, rather than outright resistance, is a key barrier to engagement. Our cases show that in the absence of clear guidance, CE becomes individually driven and inconsistently valued—an "extra duty" taken on by committed individuals without structural support. As Brexton et al. (2002) argue, to become institutionalised, the object of institutionalisation needs to become part of the standard operating procedures of the university. Engaged scholarship activities will remain peripheral to the university practice without explicit time allocation and incentive structures for the staff.

A recurring issue was the conceptual ambiguity surrounding CE. Staff frequently conflated CE with outreach or public relations; in some cases, routine administrative duties or ceremonial events were labelled as CE in promotion dossiers. This conceptual uncertainty aligns with the critiques by Johnson (2020) and Olowu (2012), who state that a lack of definitional clarity contributes to institutional inconsistency and individual disengagement. Although outreach and CE share similarities (1998) emphasises the importance of distinguishing between the concepts because CE involves both outreach and 'inreach' into the university. As language shapes reality, terminological ambiguity may hinder the establishment of new, more efficient and inclusive CE practices. Our study shows that CE becomes vulnerable to being co-opted or diluted without shared understanding and institutional guidance—its normative and epistemological foundations compromised.

Importantly, we found that agricultural disciplines both enable and constrain engagement. While their applied orientation and history of field-based work make CE a natural fit, these same traditions can entrench technology and expert-driven models that undervalue reciprocity and community agency. Still, several cases demonstrated that agricultural universities are experimenting with more integrated and locally responsive models of CE, often linking it with entrepreneurship and indigenous knowledge systems. This suggests that disciplinary identity, rather than being a fixed determinant, can be reshaped through strategic and reflective engagement practices.

Conclusion

Agricultural universities in Africa are involved in a diverse range of CE practices, many of which are still shaped by historical service and knowledge exchange approaches or closely linked to the university's educational mission. The most common CE practice observed across the eight cases in this study involves reinterpreting student attachments to become more participatory and farmer centred. Another important trend involves establishing entrepreneurship education and support activities, which include various forms of university-society interactions. Other types of CE, i.e., participatory research, university-industry collaboration or student-led activities, are

more infrequent and ad hoc, and systematic integration of these CE practices is limited in most universities.

Agricultural universities' well-established legacy of outreach can be an important starting point for faculty aiming to institutionalise more contemporary CE practices because it entails a historical practice of close engagement with the farmers and communities they serve. This relationship affords alignment between university missions and the integration of CE practices. However, incongruency between mission and practice is often observed. We identify several contributing factors to this situation, including limited internal funding constraining programmatic opportunities, insufficient managerial emphasis on developing relevant competencies and methodological expertise, and a lack of strategic incentives and leadership commitment to prioritise CE within the organisational agenda.

We find that externally funded projects that offer engagement opportunities, resources, and capacity building can be an important means of overcoming institutional limitations and fostering organisational change. However, to ensure that projects contribute to systems-level institutionalisation of engaged scholarship, strategic leadership must leverage external support to create lasting CE policies, structures, and functions. Universities can use external projects strategically to accumulate knowledge and experience, build supporting structures and functions, and create the credibility necessary to attract subsequent funding. However, our findings show that few universities were able to consistently implement such a strategy.

This study makes several key contributions to the literature on CE. First, it extends existing institutionalisation frameworks by illustrating how CE unfolds in resource-constrained, project-driven African higher education environments—contexts often overlooked in mainstream CE scholarship. Second, it highlights the dual role of the agricultural disciplines' legacy as both enablers and barriers to engaged scholarship, shaped by their historical outreach traditions and embedded technology-focused and expert-driven logics. Third, examining how external funding interacts with internal institutional dynamics shows that while donor-driven projects can catalyse CE structures and practices, their long-term impact depends on strategic leadership and deliberate efforts to integrate engagement into core university systems. Finally, our study foregrounds the need to rethink what institutionalisation means under conditions of limited resources, suggesting that more flexible, adaptive, and contextually grounded models of CE are required for sustainable change in African universities.

In conclusion, African agricultural universities struggle to promote wider adoption of CE practices among their staff, a precondition for fostering a sustained culture of engaged scholarship. Changing this situation primarily requires a systemic and strategic effort that creates motivation and opportunities and ensures the staff's necessary knowledge and capacity. A mindset change is a necessary condition, but not a sufficient condition for institutionalisation. Engaged scholarship must become a significant element of universities' value systems and be supported through their governance structures and management systems.

Appendix

Table 4 Key findings from the university/school level survey distributed to the eight AgriENGAGE project partner universities

	University							
Survey topic	EGU	PU	GU	UMU	IAV	UM6P	NUA	UAC
Formal leadership of CE established (U)[a]	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Support unit for CE exists (U)	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Number of CE support staff (U)	20	8	0	20	3	5	2	20
Resources are allocated for CE (U)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
CE is considered in staff promotion (U)	Yes	Yes	Yes	In some cases	No	No	In some cases	Yes
Regular CE training opportunities for staff (U)	No	No	No	No	No	No	No	No
Externally funded CE staff training opportunities (U)[b,c]	Yes	No	No	No	No	No	Yes	No
Number of projects with explicit CE objectives (S)[b,c,d]	10	0	4	0	2	0	2	2
Percentage of projects with CE objective out of total number of projects (S)[b,c]	< 20	-	61–80	-	< 20	-	< 20	< 20
CE is mentioned on the university website (U)	Yes	Yes	No	Yes	Yes	No	Yes	No
Regular accounts of CE are published (U)	Yes	Yes	No	No	No	Yes	No	No
CE monitoring and evaluation procedure in place (U)	Yes	Yes	Yes	No	No	Yes	No	No
Corporate responsibility strategy in place (U)[e]	No	No	No	No	No	No	No	No
Further efforts to formalise CE are ongoing (U)	Yes	Yes	Yes	Yes	No	Yes	No	Yes

[a](U) indicates that the question refers to university level. [b]Active projects during the period from August 2019 to August 2021. [c]The figures exclude the activities of the AgriENGAGE project. [d](S) indicates that the question refers to the school level. [e]The question was not included in the survey but answered in follow-up interviews

Table 5 An aggregated list of community engagement activities identified at eight African universities and categorised according to the framework by Farnell et al. (2020)

Community engagement practices
Teaching and learning
Professional capacity building (e.g., community-level tailored short courses and continuous professional training
Inviting professionals as guest lecturers
Teaching in education for sustainable development in secondary schools
Internships with private enterprises, communities, NGOs, public agencies, and smallholder farmers
Demonstration plots/learning plots through which farmers learn best practices
Field training (training activities placed in a real-life setting and involving stakeholders)
The Student Enterprise Scheme
Curricular or extracurricular problem-based learning projects enacted in and with the community (e.g., the Student Challenge)
Research
On-farm field trials
Participatory action research with communities (e.g., involving needs assessment and joint problem solving)
Research projects and technology development with private enterprises, municipalities, public organisations, and smallholder farmers
Collaborative research targeting marginalised groups (e.g., in drought-prone areas)
Farmer Field Schools projects
Service and knowledge exchange
Farmer call centre
Advisory service through local radio broadcasting and newspaper pull-out sections
Field days, agricultural trade shows, and exhibitions
Science and technology parks
University funding for the staff's popular knowledge dissemination
Communication with farmers during the staff's visits to students during internship placement
Agribusiness and agriculture clinics
Policy advice for county development plans
Staff members participate in civil society groups that, for example, lobby and advocate for environmental conservation and sustainable use of environmental resources and human rights
Consultancies (as private individuals or university employees)
Students
Student organisations' activities
Students' voluntary, ad hoc activities
Practice attachments (e.g., at a farm, agribusiness, or NGO)
Student consultancies
Policies and support structures
Formal CE policies, strategies, action plans, and monitoring, evaluation and learning systems
Directorate of Community Engagement Support Unit, including support staff
The community represented in university governance structures
Partnership and openness
Public university–community events (e.g., entrepreneurship and innovation summits)
Stakeholder involvement in curricula development and review
Signing of partnership memorandum of understandings with stakeholder organisations
Support programmes for less-advantaged students (admission preparation courses, mentorship, bursary package)
Collaborative network with community groups (e.g., farm enterprise network, nature restoration network)
Business incubation or advisory services for individuals or groups from the community
Free enrolment of local entrepreneurs in agri-business incubation centres
Supportive peers
Ad hoc collaboration and knowledge sharing

Acknowledgements We want to thank all the colleagues at the involved case universities who have kindly spent time with us to enhance our understanding of their challenging everyday professional life

Author contribution Conceptualisation and design: Carsten Nico Hjortsø, Gergana Romanova; data collection: all authors; formal analysis and investigation: Carsten Nico Hjortsø, Gergana Romanova; writing—original draft preparation: Carsten Nico Hjortsø; writing—review and editing: all authors; approved the final manuscript: all authors.

Funding Open access funding provided by Copenhagen University. The study has received partial funding from the EUROPEAN UNION Erasmus + Programme Capacity-Building projects in the field of Higher Education (CBHE) under Grant Agreement 618617-EPP-1–2020-1-KE-EPPKA2-CBHE-JP.

Declarations

Ethical approval The project was approved by the Ethical Committee at the University of Copenhagen (Case 504–0310/22–5000) as compliant with relevant Danish and international standards and guidelines for research ethics. A signed informed consent document was obtained from all participants interviewed in the study.

Conflict of interest The authors declare no competing interests.

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Authors and Affiliations

Carsten Nico Hjortsø[1] · Gergana Romanova[1] · Bisan Abdulkader[2,3] · Kenza Aitelkadi[4] · Augustin Aoudji[5] · Alice Bonou[6] · Anthony Egeru[7] · Elisha Otieno Gogo[8] · Patience Mshenga[9] · Basil Mugonola[10] · Maria Sassi[11] · Joseph Ssekandi[12]

✉ Carsten Nico Hjortsø
cnh@ifro.ku.dk

1 Department of Food and Resource Economics, University of Copenhagen, Frederiksberg, Denmark

2 Mohammed VI Polytechnic University, Ben Guerir, Morocco

3 LUISS Guido Carli, Rome, Italy

4 Department of Photogrammetry, Cartography and Remote Sensing, Hassan II Agronomic and Veterinary Institute, Rabat, Morocco

5 School of Economics, Socio-Anthropology and Communication for Rural Development, University of Abomey-Calavi, Cotonou, Benin

6 School of Agribusiness and Agricultural Policies, National University of Agriculture, Porto-Novo, Benin

7 The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Makerere University, Kampala, Uganda

8 School of Agricultural Sciences and Agribusiness, Pwani University, Kilifi, Kenya

9 Department of Agricultural Economics and Agribusiness Management, Egerton University, Egerton, Kenya

10 Department of Rural Development and Agribusiness, Gulu University, Gulu, Uganda

11 Department of Economics and Management, University of Pavia, Pavia, Italy

12 Faculty of Agriculture, Uganda Martyrs University, Kampala, Uganda