

Transforming Higher Education: Lessons from the Egerton University TAGDev Program

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1.0 Background on the university

Higher Education institutions (HEs) play an important role in research and technology transfer, teaching, professional training, cultural and community development. However, quality graduates remain a pressing issue in HEs as a result of mismatches between university education and economic needs translating into high levels of unemployed graduates (UWN, 2022). A transformative change is necessary for higher education to meet the needs and expectations of stakeholders who include students, employers, civil society, and the wider community. African governments, regional economic organizations and civil societies have recognized the need to reshape higher education to meet the ever-changing skills needs in Africa for sustainable development (Mbithi *et al.*, 2021). McCole *et al.*, (2014) further suggested that time and resource investment into education helps create sustainable systems important in transformation of higher education.

Egerton University is the oldest institution of higher learning in Kenya founded as a farm school by a British settler, Lord Maurice Egerton of Tatton in 1939. The farm school was upgraded into an agricultural college in 1950 and later in 1986 it was gazetted as a constituent college of the University of Nairobi. In 1987, Egerton University was established through an Act of Parliament, in 2013. This Act was repealed, and the university chartered under the Universities Act no 42 of 2012. Egerton University has two campuses, the Main Campus in Njoro and the Nakuru City Campus College. The university envisions a world class university for advancement of humanity with a mission to generate knowledge and offer exemplary education and training to society for national and global development. Egerton University has 51 academic departments with a current population of over 17,000 undergraduate and 560 postgraduate students and graduates approximately 3,000 students annually.

In line with its mission, Egerton University has established a series of local and international partnerships and linkages in research, teaching, and industry. Among these partnerships is the 'Transforming African Agricultural Universities to meaningfully contribute to Africa's growth and Development' (TAGDev) Program. TAGDev is an 8 years (2016-2024) program implemented at Egerton University, Kenya, and Gulu University in Uganda in partnership with Mastercard Foundation through the Regional Universities forum for capacity building in Agriculture (RUFORUM). Inception of TAGDev program was designed to offer an innovative education

model of experiential learning, community engagement and entrepreneurship aimed at educating change agents for rural transformation. Building on the university's strength in these focus areas, the program was keen on addressing gaps in the key academic areas of agriculture and related studies; agri-business and entrepreneurship; enhancing teaching and research; preparing students for transition; and improving farmers practice and livelihood. The aim was to bring transformation at individual, institutional and community levels. This paper seeks to highlight lessons emerging from the implementation of the TAGDev model of education at Egerton University for the last six years (2016-2022).

2.0 Description of Egerton Education Model

2.1 Primary pedagogical model

Egerton University adopted a practical oriented approach in providing quality education. This model of education is keen on producing graduates who are competent for effective transition into the job market and impacting the communities they interact with. Academic programmes offered at the university are competitive and aligned to market needs. Field attachment (FA) is a key component of undergraduate studies at Egerton University and is an example of the practical-oriented approach adopted by the university. Currently, more than 70 different academic programmes across all faculties have the FA component, mostly as a core unit. The coordination of field attachment is done through the Board of Undergraduate Studies that facilitates the posting and supervision of students in all academic programmes that have FA. During field attachment, students are expected to engage with the industry for a minimum of 8 weeks to gain workplace experience and training that prepares them for dynamics in the labour market.

For agricultural programmes such as agronomy and horticulture, the university has adopted field experience projects where students are allocated plots of land to manage from the first year to the fourth year of study. Students learn by doing all the aspects of crop production, management, harvesting, postharvest handling and storage. Further, there is implementation of a Farm Attachment Programme where students are attached to farms for a minimum of 8 weeks. The students work with the farmers and are expected to gain hands-on skills and implement relevant projects and activities on the farm. Egerton University partnered with Arava International Agricultural Training Centre (AICAT) in Israel that provide hands-on skills and technology transfer to students who participate in the farm attachment programme. This 11-months attachment programme provides selected students with an opportunity to be attached to various farms and farmer organizations in the Arava region of Israel. The students work for five days a week on the farms and one day a week in class at AICAT. Alumni of the AICAT programme have been instrumental in creating interest of young university graduates in agricultural enterprises in the country with quite a number successfully establishing their own farming enterprises.

2.2 Innovation and Entrepreneurship

The Egerton University focus on producing graduates who can transform society led to the introduction of entrepreneurship as a core course taught to undergraduate students pursuing agricultural related programmes. The course was aimed at inculcating entrepreneurial spirit, intention, and ability for self-employment among the graduates in the different programmes. In 2020, a study examined the impact of this entrepreneurship training on graduates who graduated between 2008 and 2015 on their intention to start a business. The key findings showed a significant positive relationship between attitude toward entrepreneurship, proactiveness, risk-propensity, and self-efficacy on graduates' intention to start a business. Furthermore, multi-group analysis showed that the same four attributes significantly predicted entrepreneurship intention among business and non-business graduates to start businesses. Finally, business graduates had significantly higher scores than nonbusiness graduates in terms of self-efficacy and subjective norms (Mshenga et. al, 2020).

The University also invites industry players to offer entrepreneurial training and mentorship to students for enhanced creativity and mindset change for job creation. Implementation of student enterprise projects has adopted a revolving fund approach. A call for business ideas is made, following a series of assessments, the most innovative ideas with higher probability of success are funded. The businesses so established pay back the seed money while ploughing back the profit into the business.

2.3 Community Engagement to enhance learning

Egerton university has adopted students-community engagement in its training model. This is aimed at improving students' learning through actively meeting the needs of the local community. For instance, through the Department of Applied Community Development Studies, the University has developed an extensive community outreach model. Students are trained in the modalities of community engagement right from community entry, needs assessment, resource mobilization, execution of the intended plan, monitoring and evaluation and sustainability plan. The students are at the center of all the activities as they help the communities identify their needs, come up with possible solutions together, develop an execution plan and actualize the execution to solve the identified needs. The Faculty of Veterinary Medicine on the other hand, offers community outreach to livestock farmers by offering a range of services including trainings on management practices for different livestock, vaccinations, and sensitizations on animal welfare issues. Students are actively engaged in the outreach activities to ensure they learn by doing as they address real life challenges faced by community.

The University community engagement is further strengthened by community action research projects conducted through the Division of Research and Extension. For example, the agricultural based research projects such as Seed Potato Value Chain, Cassava Value Chain, Sorghum and Pulses projects have ensured that the farming community have access to high quality seeds and developing high yielding varieties suitable for varied agro-ecological zones. Students are involved

in conducting adaptability studies, adoption, and socio-economic aspects of the value chains among others. Part of the requirement for postgraduate students' graduation is publication and presentation of research findings in an international conference. This approach is key in dissemination of research finds and linking students to industry players, important in their transition. Further, students are actively engaged in training farmers on important aspects of the value chains from production to postharvest handling and marketing. The skills gained by the students are paramount in their career professions to bring changes to the communities they interact with.

2.4 Role of Extracurricular activities to enhance and reinforce learning and graduate profile

The university not only focuses on academic progress of the students but is also concerned with the social wellbeing and how the students are able to balance their academic and social life. The university has a well-established Dean of Students office which coordinates students support services including orientation of first year students, counselling, career advice and guidance, sports and games, students financial aid, registration of student's clubs and oversees the Egerton University Students Association. As the students undertake the training, they gain the skills of balancing their time and commitments as they exercise leadership and participate in co-curricular activities, a skill that continues to help them long after they graduate. Through TAGDev, equipping students with 21st century skills of creativity, collaboration, digital literacy, critical thinking, and problem-solving has been enhanced.

3.0 Successes of innovative education model

3.1 Improving access to quality higher education

Public universities in Kenya are funded partly by the government and partly through charging fees. This requires students to pay certain fees including tuition, registration and accommodation. In addition, students pay for their own meals and supplies and so require substantial amounts of pocket money during their course of study. The government partially supports students in institutions of higher learning through the Higher Education Loans Board where students can apply for loans, which they pay back after graduating and attaining employment. However, the majority of bright students still face challenges in accessing higher education due to inability to raise the required fees. TAGDev program at Egerton University has contributed to enhanced access to higher education to students who are bright but hailing from economically disadvantaged backgrounds across Africa. Currently, one hundred and twenty-two (122) students have been recruited on full scholarship to pursue agricultural related programmes at undergraduate and master's levels. In addition, 37 undergraduate students and 22 postgraduate students are on partial scholarship for research and tuition support. The total of 181 TAGDev supported students (Fig 1) from 14 African countries surpasses the program's target of training 110 students by the year 2024. The countries from where the students were recruited include Kenya, Uganda, Tanzania, Ethiopia, Somalia, Rwanda, Malawi, Lesotho, Cameroon, Nigeria, Ghana, Liberia, Benin and Zimbabwe.

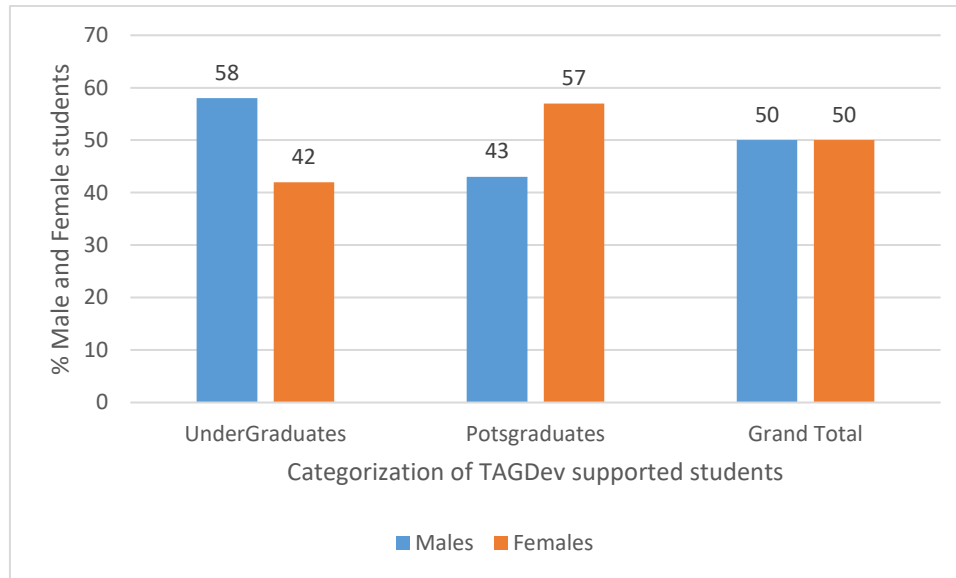


Figure 1: TAGDev supported students at Egerton University by Gender and level of study

The TAGDev training model aims to produce quality change agents who are ready for the job market or with the capacity to establish stable career paths. Innovative skills enhancement programs including leadership trainings, mentorship support, internships, entrepreneurial projects, and linkages to agricultural value chains and finance through placement in the community action research projects are core to the TAGDev training model. This is in line with RUFORUM’s theory of change that recognizes youth as Africa’s major asset, modern technology as having the potential to radically transform Africa, and education as the key to bringing them together (<https://www.ruforum.org/ruforum-theory-change>).

The TAGDev program has graduated 63 students out of 181 with the remaining bulk of students expected to graduate by 2023. The students upon completion of studies are linked with the industry through the internship support programme for a period of 6 months. Some of the students have been retained by internship host organizations as employees while others gain skills that help them establish their own firm/farms and end up creating jobs and impacting the community. Others have acquired necessary skills enabling them to compete for various job positions in relevant organizations. Figure 2 provides a summary of the transition of TAGDev supported at Egerton University.

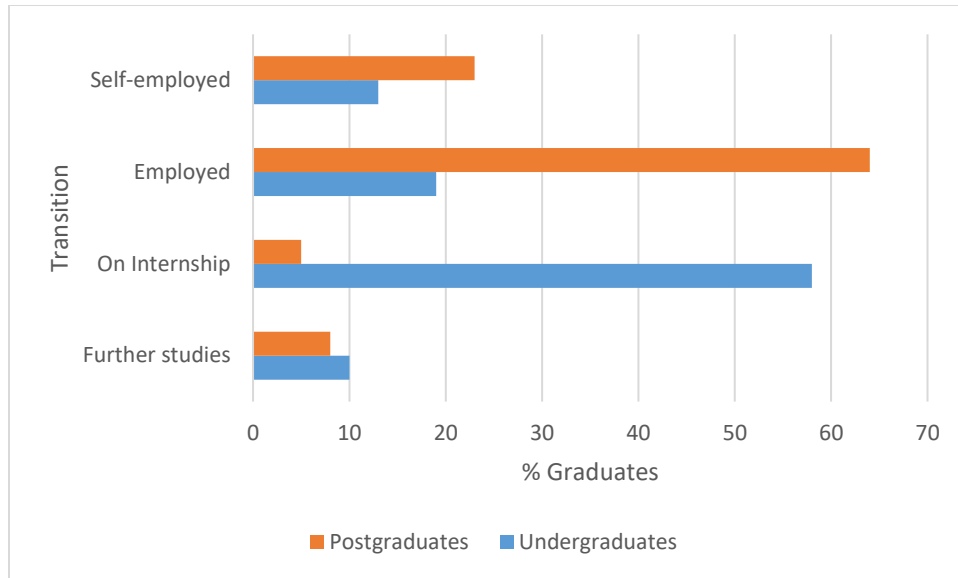


Figure 2: Egerton University TAGDev graduates' transition as of July 2022 (Total number of graduates is 63 that is 32 undergraduates, 3 Ph.D. and 28 Master's students)

3.2 Change agents at individual student level

TAGDev program has the culture of giving the newly recruited students a head-start in their academic journey. This starts with an orientation program held jointly for Gulu and Egerton University students which provides them with a package of leadership, entrepreneurship, and life skills enhancement training. By the end of the training programme, students understand themselves better and are able to set goals for their career journey. This is important in making them more visionary in their transformative journey as change agents for their communities. The impact has been seen in students' ability to exercise leadership. Currently, 49 out of 181 students are in different leadership positions with some holding senior positions in the University student body. For instance, the president of the Egerton University Students Association (student body) for the period between 2022-2023 is a TAGDev supported student. Other positions held by the students include faculty congress, Chairs of regional associations, Chairs of religious groups, peer counsellors, class representatives among others.

The TAGDev Program mid-term evaluation was conducted in 2020 to assess the impact of the program at individual, institutional and community levels. At the individual level, the students showed growth in confidence, better understanding of small-scale farming, broader world view through interacting with students and other international communities, growth in empathy, leadership, sensitivity, responsiveness to family and community, optimal study habits, knowledge, creativity, innovativeness, empowerment and influence on others. At the family level, the students through the stipend they receive from the program have impacted their immediate families in a number of ways including purchasing land to settle their families or for farming, construction of houses, renovation of houses, establishing businesses for family income generation, electricity connections in their homes, installing water harvesting facilities, paying fees for siblings and close

relatives to safeguard on future dependency among others. This has brought about transformation at the family level considering the fact that the students are recruited from economically disadvantaged backgrounds.

TAGDev supported students are also taking the lead in establishment of initiatives that are impacting on communities for rural agricultural transformation. For instance, Evans Murei a BSc. Natural Resource Management final year student at Egerton University, through mentorship and a number of short courses in agriculture stirred in him an interest to transform the way agriculture is conducted in rural areas. He is involved in community outreach activities that spearhead capacity building on sustainable agriculture and entrepreneurship skills. Currently, Evans works for Boresha Organic Kiranda in Migori County as associate consultant and farmers' trainer in agroecology. He also serves as lead consultant for Books for Trees Initiative where he has interacted with over 100 farmers. Moreover, the entrepreneurship skills he acquired has recently enabled him to work for the World Vision-Kenya chapter to train 200 rural women from pastoral and Female Genital Mutilation (FGM) spotlight zones on business startups and management skills. Additionally, Emily Kimaru, a fourth-year student undertaking Bachelor of Agribusiness Management is among 32 students engaging with the community through the Kilimo Bora Show which is a program aired on Egerton Radio every Saturday from 10:00am – 1:00pm. The program is a way of disseminating agricultural knowledge to farmers and other agricultural stakeholders on various topics. Emily spearheads the follow up farm visits to selected farmers to assess the impact of the knowledge disseminated through the Radio Show. The program has reached over 10,000 farmers within Nakuru County.

Other community level impacts of the students include development of mobile-based applications (Apps) to address the pressing needs of the communities. Examples include MyFarm App developed by students that provides extension services to the farmers in Uganda and the Comrades App customized to help secondary school teachers and students access learning materials in Malawi for academic excellence. Students have also been innovative in establishing agrovets and consultancy services to support smallholder farmers improve agricultural productivity and livelihoods. Further, other students have started companies that have created job opportunities for members of the community. Farmers have also benefitted from trainings conducted by students on good agricultural practices, value addition on agricultural produce, marketing and environmental conservation.

3.3 Institutional transformation through Staff Capacity building

TAGDev program at Egerton University upholds student-centred model of training. Thus, the program in its focus on institutional transformation, is keen on staff training and development for better performance in services delivery. As speculated by Long *et al.* (2016), staff trainings and development enable staff to learn new ideas while strengthening the already existing skills and knowledge in the education process. The last six years of implementation of the TAGDev program has contributed to staff capacity building through various trainings in line with enhancing

experiential learning, community engagement, entrepreneurship, leadership and governance among others. On leadership and governance, 21 senior university staff participated in a seminar on leadership and accountability facilitated by EARTH University which emphasized the need to assimilate the university strategic plan for effective implementation. Further, the TAGDev program partnered with the National Treasury to train 18 senior university staff on ‘finance for non-finance managers’ in a bid to support governance for institutional transformation.

Ninety-one staff (91) participated in retooling workshops on innovative approaches in community engagement and experiential learning and the use of case studies in teaching. An additional 57 staff were trained in agripreneurship & innovation delivery methodologies and dual career entrepreneurship in preparation for retirement. In enhancing completion of postgraduate studies, 7 staff were facilitated to pursue a short course on doctoral supervision offered by Stellenbosch University. The program is also keen on the quality of research conducted by students and how research findings are presented. As such 77 postgraduates and early career researchers benefitted from a four day training course on Scientific Writing and Proposal Development facilitated by the Training Center in Communication Africa. The training was practical involving output-based development of proposals and concepts targeting active guidelines for publications and specific audience research communication needs.

TAGDev program has also contributed to personal development and staff promotion. Among the criteria for staff promotion in higher education institutions is the number of students supervised and the number of publications. For some of the faculty staff at Egerton University, their supervisory work in TAGDev program was positively considered in their promotion. This include promotion into various senior management positions (2 males and 1 Female), full professor (2 Males and 3 females) and associate professors (5 males and 3 females).

3.4 Addressing gaps in the Curriculum

A curriculum offers a guide on scoping the learning content and assessment of students learning progress. Curriculum review therefore becomes important to identify gaps and weaknesses in the efforts to increase curriculum effectiveness and improve students learning experiences. TAGDev program in its focus on institutional transformation upholds curriculum review and development activities with an aim of enhancing a learner-centered curriculum that is also adaptive to the changing needs of the students. The desired outcome is to have proactive graduates who are able to apply the acquired knowledge, skills and attitude to situations they encounter in everyday life hence becoming useful members of the society. Focusing on its three pillars of experiential learning, community engagement and entrepreneurship, the TAGDev program has facilitated a number of curriculum review and development activities. The approach taken usually involves baseline surveys and tracer studies to identify the gaps, followed by commissioning a curriculum review process for the concerned academic programmes.

In the last six years, the TAGDev program has supported the Faculty of Agriculture in curriculum review and development. Practical course units for horticulture, agronomy, and soil science

undergraduate programmes were reviewed where the need to harmonize the course outlines for practical based course units was found necessary to improve on course delivery. Thirteen (13) practical course units have been harmonized. Additionally, a field attachment strategy has been developed as a guide on the management of the field attachment programme with regard to student placement and assessment. With the growing number of students enrolled in institutions of higher learning and competing for the same field attachment places, the TAGDev program facilitated an assessment of existing and potential field attachment host farms with the aim of identifying more field attachment places and to improve the existing database for effective student placement. The database for field attachment host firms/farms currently being implemented has been improved and the inclusion of an additional 60 new host farms/institutions done. The database has eased the students placement for farm/firm attachment

In addition, the Egerton model of education includes academic trips as an element of enriching and expanding the curriculum. The academic trips help the students relate what they learn in class with real life situations. The catalogue for various academic programmes provide a description of course units that require academic trips. The TAGDev program upholds academic trips in its approach to enhancing students' experiential learning while creating linkages with industry for student transition upon graduation. In the last six years over 2,600 students have benefitted from academic trip support.

3.5 Entrepreneurship for Job Creation

Egerton University, like most higher education institutions, has introduced entrepreneurship courses as a way of enhancing graduates' self-employment through business creation. The University introduced an entrepreneurship common course unit which is undertaken by all students in the Faculty of Agriculture. To assess the impact of this course unit on the entrepreneurial intentions of Egerton's agricultural science graduates, TAGDev program supported a tracer study conducted by Mshenga et al., (2020). The study concluded that taking the course unit greatly increases chances for graduates to start businesses and be financially independent. The TAGDev program focuses on producing graduates with requisite skills for job creation and appreciation of rural community transformation thus supported curriculum review activities to integrate changes necessary for instilling an entrepreneurial mindset among students. This is because the program upholds entrepreneurship as one of the key pillars to achieving the program's objectives. The Department of Agricultural economics also introduced a Master's course in Agrienterprise Development aimed at training entrepreneurs in the agricultural sector. The course is designed in a manner that the students are required to start and run a business successfully as part of the course work. This is aimed at equipping them with the necessary skills to succeed in the business world by focusing on agriculture as a business hence creating employment. All entrepreneurship activities are conducted through the 'Empowering Kenyan Youth through Agrienterprise Incubation for Improved Livelihoods and Economic Development'(AGLEAD) project under TAGDev. The focus is to stimulate the establishment and growth of agri-enterprises by students undertaking agricultural - based sciences, to improve their agripreneurship skills and to enhance

collaboration between the university and the private sector. Students participate in workshops and seminars on business plan development, agri-enterprise management, marketing, financial management and personal development. Once students develop innovative business ideas, they are facilitated with start-up loans from TAGDev to allow them to implement their business ideas. They are mentored and coached to enhance the success of their businesses. The young entrepreneurs are able to repay their start up loans by the time they are graduating hence ensuring a revolving fund to support more entrepreneurs. Key achievements include; the incubation of 24 student businesses sponsoring 60 students; the creation of 150 job opportunities; six trainings on incubation and entrepreneurship benefitting 256 students have been provided; 168 farmers trained in agribusiness management and agripreneurship; and 2 agribusiness clinics have been conducted in Nakuru County focusing on educating poultry farmers on different production and marketing aspects.

3.6 Enhanced Experiential Learning through Field attachment

Field attachment is an opportunity given to students to gain practical skills by joining a working environment while still studying. The students work under the guidance of a supervisor and the opportunity gives them a feel of the real work environment. This is meant to prepare them for life after graduation as they enter the job market. Generally, the students can join farms or companies or even government institutions for their attachment. At Egerton University, field attachment is a mandatory course unit for more than 70 undergraduate programmes and students have an opportunity to go for a farm attachment or an industrial attachment depending on their choice. The mandatory field/farm attachment is done at the end of their 3rd year of study. TAGDev programs have contributed to enhancing this model of training by providing additional attachment support to students at the end of their 2nd year of undergraduate studies. The additional attachment in relevant farms/industry also engages students for a minimum of 8 weeks. In the last six years, the program has supported 181 undergraduate students on farm and field attachment.

The bulk of the farmers in Kenya are small to medium scale producers who practice mixed farming with the majority facing certain common challenges like limited farming skills, farm inputs and appropriate technologies, declining access to agricultural extension services, limited access to credit facilities, and limited access to markets, as well as unverified agri-based information in the market. Attaching students to stay with and work with farmers helps to boost knowledge transfer and sharing, synthesize and consolidate available agri-based information, enhance farm skills (e.g., farm planning and budgeting), and help integrate farmers for bulk purchasing and selling. On the other hand, students stand to benefit from the programme by experiencing practical hands-on and field-based learning, skills useful in the transition of graduates to the job market. Since the introduction of Farm Attachment Program in 2017, six hundred and seventy-one (671) students at Egerton University have benefitted (Mungai et. al., 2018; Mungai et. al., 2016). They have termed the attachment opportunity as useful in their transition to the job market and/or establishment of their own farming enterprises.

3.7 Initiatives for strengthening University-Community Engagement

The Egerton University community engagement model is designed to train students at the same time help communities through providing unique opportunities of experiencing immediate community needs and contributing towards meeting those needs. The model focuses on community entry, participatory needs identification and assessment, analysis of suitable solutions, development of an action plan and implementation of the plan to address the identified need. In a study conducted to determine the farmers' perception regarding Egerton University community engagement activities, it was reported that students facilitated 97% of the engagements (Mutuku *et al.*, 2017). TAGDev supported students are contributing to this trend through leading unique initiatives that are impacting farming communities.

Among the initiatives is the 4-Pillar Give Back Project that is offering extension services to 65 horticultural farmers within Egerton Environs. The project is coordinated by 4 master's students who through their participation in community engagement and experiential learning trainings facilitated by the TAGDev program, they decided to use part of their monthly stipend not only for their upkeep but for community transformation through promoting sustainable agricultural approaches. The main objective of the 4-Pillar Give Back Project is to prioritize farmers as the main agents for community transformation through the promotion of seed production, farmer groups, nurturing of entrepreneurial skills, networking, mentorship (youth inclusive farming), and mind set change. They are supported with technical backstopping from the Department of Crops, Horticulture and Soils to drive their community engagement agenda. Farmers have shared their experiences working with students and technical staff from Egerton University indicating the revival of the long-time relationship that once existed between the university and the farming communities. One farmer quoted that *'I wish the engagement with students had started long time ago. Initially we used to view students as enemies of progress especially when they would hold demonstrations causing looting and destruction of properties from communities around. But now things have changed, and the students are coming to us with development agenda to improve the livelihood of the farming communities. If this engagement had started earlier, we would be far much better than we are today.'*

An additional 30 students (11 males and 19 females) are engaged in the TAGDev supported *Community Engagement and Experiential Learning Skills Development and Mentorship (CEELSDM)* programme, a three months' short course for students in their final year of study. It is a three-phase course involving training workshops, outreach, and field visits. The short course is aimed at extending the university outreach model to other departments where outreach is not a mandatory course. The students under this initiative are equipped with requisite soft skills in executing a community outreach and education session, important skills in preparing them for transition. They participate in a community needs assessment, prioritize the needs, and thereafter plan and execute community outreach activities. Two community outreach activities have been conducted in the Mauche community (Njoro subcounty) reaching over 100 farmers. Areas covered

included the management of potato crop and potato value addition, milk value addition, agroforestry and energy conservation, formation of cooperatives and record keeping.

Universities need to be in the forefront in addressing the growing need of providing correct, relevant, and up-to-date agricultural extension services to the farming community in Kenya. Egerton University has a Radio station with the potential to reach many farmers. The TAGDev program utilized this opportunity by commissioning a ‘Kilimo Bora’ Radio show Program that seeks to enhance the capacity of Egerton university students in agriculture related fields to deal with rural communities' agricultural challenges. “Kilimo Bora” a Swahili word translated to ‘Good Agriculture’ is an agricultural show hosted at Egerton Radio 101.7FM or online streaming at <https://www.egerton.ac.ke/radio>. The show provides a platform for enhancing students’ ability to engage with the community in addressing real life problems. A total of 32 talented, self-driven, and academically excellent undergraduate and post-graduate students from the faculties of Agriculture, Education & Community Studies, Veterinary medicine, and Environment are participating in the radio show program and are mentored by a PhD student. These students are assigned specific agricultural-related topics to prepare and present as guest experts during the shows. The first show was aired on 7th May 2022 and the show airs Every Saturday from 1000HRS to 1200HRS and continues till April 2023. A total of 12 radio shows and two field visits have been conducted, directly and indirectly reaching over 10,000 farmers.

3.8 Stakeholder involvement for enhanced linkages

The TAGDev program supports students’ linkages to industry through several platforms such as the National Forum for agricultural stakeholders, international conferences, and Community Action Research among others. Students are invited to participate in these platforms where they interact with stakeholders in their career pathways. Students have the opportunity to showcase their innovations, present their research findings, and share their transformation stories among others. The program is keen on fostering collaborations to enhance students’ experiential learning and transition into the world of work. As such, Egerton University is implementing a Memorandum of Understanding with Baraka Agricultural College and Mtakatifu Clara (TVET institutions) with regard to agricultural value chains and community engagement. The TVETs have been mentored by the university as certified seed producers to avail quality planting materials to potato and cassava farmers in Nakuru County. In addition, the university has been working closely with the Ministry of Agriculture and Nakuru County government to reach farmers through the Seed Potato and Cassava Value Chains projects. The main objective has been to improve the livelihood of the farming communities through cultivation of high yielding varieties and linking farmers to markets.

Some of the key outcomes of Egerton’s work with stakeholders include Baraka Agricultural College increased its acreage of seed potato production through collaboration with the Seed Potato Value Chain CARP+ project; clean seed potatoes have been availed to farmers from Egerton University and Baraka Agricultural College, Egerton university participated in drafting the

National Potato Strategy and potato regulations launched in 2019, six case studies have been published in collaboration with stakeholders in the potato value chain, over 3,000 farmers have been reached directly and another 3,000 indirectly, and students have been hosted for attachment at partner institutions among other outcomes. Further, Egerton University has entered into a Memorandum of Understanding on various thematic areas with several organizations including the Kenya National Farmers Federation (KENAFF), Kenya Private Sector Alliance (KEPSA), Kenya Association of Manufacturers (KAM), and Crop Nuts Africa in line with enhancing experiential learning, community engagement and entrepreneurship for our students. The Ministry of Industrialization, Trade and Enterprise Development recently confirmed its willingness to work with Egerton University in enhancing entrepreneurship among the youth.

4.0 Conclusion

The new model of agricultural education implemented at Egerton University has contributed to transformation of higher education by bringing changes at individual, institutional and community levels. At the individual level, the capacity building activities for staff and students have been important in personal and professional development. Staff have been equipped with skills that enhance a student-centered learning and entrepreneurial mindset. Students have been transformed into leaders with requisite skills for driving the changes in the communities they interact with through the TAGDev model of experiential learning, community engagement and entrepreneurship. At the institutional level, transformation of curricula and related activities including teaching, learning and research enhances the capacity of Egerton University to produce graduates with appropriate skills to engage communities, conduct research that addresses the needs of smallholder farmers, and facilitate entrepreneurship at the community level. Young entrepreneurs are addressing the challenge of youth unemployment by creating job opportunities for others. TAGDev program interventions have also contributed to enhanced university community engagement leading the university to enter into memorandums of understanding with public and private sector firms in thematic areas geared towards achieving sustainable development.

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