

# Enhancing Research Skills And Experiential Learning

## *A Case Study of Egerton University Staff and Students*

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Research is a systematic way of filling existing knowledge gaps and finding solutions to society's problems. It is a key mandate of universities because it helps to build practical research skills of students, especially at the postgraduate level. Traditionally, university students and faculty have relied heavily on published literature to establish knowledge gaps and formulate interventions, expecting to implement their research recommendations within communities.

Consequently, there are often mismatches between what communities need and what research endeavours to provide as solutions. This model of research practice has created a "project syndrome" scenario in communities, where people become dependent on handouts from researchers, and are always waiting for the next project to engage.

A paradigm shift is needed where by communities are involved in research undertakings right from the conceptualization stage through to planning, implementation and evaluation. With this shift, communities will be involved in problem identification and investigation of interventions. They can then decide on viable solutions and the final implementation through a participatory learning process. Such inclusive processes enable community members to learn together with students and faculty, document lessons, jointly collect data, analyse it and interpret results, hence creating ownership of the research process and results.

Involving communities as active partners in practical research processes and tracking results accruing from the research process

is the idea envisaged in the concept of Community Action Research. The concept seeks to involve community members in participatory knowledge development through a structured research process and the implementation of attendant solutions to the researched problems. Further, the concept seeks to involve students and faculty in the research process through experiential learning, which is a "learning by doing" model. It enables learners to both apply theory into practice, as well as reflect on practice to inform theory.

### **About Community Action Research Project Plus**

In early 2017, the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) proposed the adoption of Community Action Research Project Plus (CARP+) model for implementing projects in Africa, as a component of the Transforming African Agricultural Universities to meaningfully contribute to Africa's Growth and Development (TAGDev) program. The program is funded by the MasterCard Foundation through a partnership with RUFORUM. The CARP+ project development and selection was done through a competitive call for proposals for pilot projects at Egerton University, Kenya and Gulu University based in Uganda

The CARP+ projects, were expected to enhance research skills and experiential learning among students and faculty in collaboration with technical, and vocational education and training (TVET) institutions and other actors using a market driven approach. Two CARP+ projects were awarded to Egerton University targeting the seed potato value chain and cassava value chains in Nakuru County.

## The Problem

There is a lot of research going on in universities, most of it involving conventional approaches. Research gaps are identified mostly from the available literature, without community involvement. Community members simply serve as subjects in the research process. Students and faculty formulate hypotheses and go on to collect and analyse data and then make recommendations. As a result, most of the recommendations lack impact as they do not effectively address societal problems.

This is why problems persist in our society while research reports continue to accumulate and gather dust on our shelves. Furthermore, students and faculty often lack sufficient exposure to 'hands-on' practical research experience. This is mainly due to the tendency by faculty to use theoretical approaches in teaching because they lack adequate resources to expose their students to action research. The students struggle in carrying out their research work while the faculty lack sufficient practical skills and confidence to effectively guide students. This results in 'half-baked' graduates who lack adequate practical skills and competency.



The CARP+ model emphasizes on stakeholder participation through an action research approach that enables all stakeholders to learn through experiential learning. Implementation of the two CARP+ projects at Egerton University therefore involves high stakeholder participation. Farmers (beneficiaries), academic institutions (students and faculty), state agricultural extension staff, input suppliers, market off-takers, processors and other development partners are involved in participatory problem and solution identification, implementation of the solutions and evaluation of results. Using the community action research approach, the cassava and seed potato CARP+ projects at Egerton University conducted baseline surveys at their inception. The students and faculty worked closely with farmers and other partners to identify and prioritize problems and interventions. The cassava CARP+ project used the participatory approach to collect cassava varieties from key growing areas and brought them for experimentation in Nakuru County.

The cassava seed trials will evaluate and select adaptable, fast maturing varieties (12 months) and those suitable for farmers' consumption (food security) and those with potential for up scaling into value addition businesses. Nine demonstration plots were identified and established in three sub-counties namely; Solai, Subukia and Njoro. These plots were established jointly with farmers in selected farms. The farmers provided labour and the partners supported with training and cassava cuttings. Farmers were responsible for taking and recording data for analysis during the implementation. They learnt with the students and staff and together they made collective decisions. The Seed Potato CARP+ team identified availability of quality seed as the weakest link in the potato value chain.

The multi-stakeholder project team led by Egerton University consists of the Nakuru Small holder Farmers Association (NASFA), the National Potato Council of Kenya, Agricultural development Corporation (ADC) Molo, the State Department of Agriculture and Baraka Agricultural College. The team identified five farmer groups in different locations, and supported them to establish demonstration farms for seed potato multiplication. The groups provided land and labour. They were supported with inputs like fertilizers, certified seed potato and agro-chemicals. Practical trainings were conducted on farms with students, farmers and faculty. All participants learnt as farmers and students collected and recorded data for analysis during implementation.

### **“Not our problem”**

*Jane is an MSc student at Egerton University. She completed her coursework and successfully defended her research proposal. Jane and her supervisor were happy that she could go ahead with data collection as scheduled. On arrival at her study area in Molo sub-County in Nakuru, she found the farmers ready to participate in the research. However, she encountered challenges in administering the data collection tools as most of the community members could not relate with her stated problem and therefore could not participate effectively. She struggled through the data collection exercise and somehow managed to complete it. Following the poor reaction by the community members, Jane was discouraged and considered changing her study area. However, she realized that a lot of time had already been lost and that this option wouldn't work.*

*Just like Jane, many postgraduate students find themselves in this same dilemma. Some get stranded and frustrated leading to abandonment of their research.*

### **Their need, their solution**

*Fortunately, this was not the case for Lamech, another Masters student at Egerton University. He had been involved in the seed potato value chain Community Action Research Project (CARP+), where he gained research and community engagement skills, through experiential learning. When he went to collect data for his research, the community members embraced his study since they had been involved in a baseline survey that identified the problem he was addressing. Lamech sailed smoothly through his data collection, and was optimistic that the findings of his study would help solve some of the community's problems.*

*CARP+ projects may be the way to go in building practical research skills of postgraduate students. By using the community action research approach, more students like Lamech will be able to complete their research studies with ease and produce results that are relevant to solving practical community problems.*

## Challenges

There are a number of challenges facing the CARP+ projects. The students and faculty in the project are also engaged in their normal activities of teaching and learning at the University, which leads to competing demand for their time. Sometimes they are unable to participate in project activities. In addition, action research and experiential learning are more demanding on the researchers' time since they have to personally participate in most of the project activities.

## Results

- Through involvement in the CARP+ projects, the students have gained knowledge and skills in the development of data collection tools, administering questionnaires and conducting interviews, data collection, data analysis, report writing, and dissemination of research results.
- They have also developed skills and confidence in engaging with communities in a participatory way. The students from science and business backgrounds have come to appreciate the social science research methods of engaging with communities through changed perceptions and paradigm shift.
- Through CARP+ projects, faculty have also come to appreciate the importance of involving farmers as research partners and not consumers of research products. They have sharpened their community engagement skills. Their capacity has been enhanced to conduct innovative research in both laboratory and social research as well as cope with unexpected field happenings that call for flexibility.
- Faculty capacity to supervise students' research effectively has also been enriched. Students and faculty have changed their perceptions towards research processes; moving from expert opinions givers to co-creators of knowledge by embracing farmer guided perspectives.
- Five of the six potato farmer groups after training and facilitation grew high quality seed potato, some of which they stored as seed and the rest bulked and sold to neighbours. In the second season, they expanded the acreage and plan further expansion in the 2019, long rain season.

The CARP+ activities being implemented among the communities are going on well because of good support and participation of the community members who feel part and parcel of the project. For example, cassava farmers greatly appreciated increased availability of more cassava varieties (germplasm). Farmers used to grow only one variety known as 'michericheri' but were introduced to 27 cassava varieties to select from the best, depending on their suitability.

## Lessons

The CARP+ projects have achieved success in enhancing research skills. This is because CARP+ emphasizes on participatory action research approach involving farmers as partners in the research process. There is ownership for the projects among the beneficiaries.

In addition, since the projects will take four-years, the activities will happen over a long period, which provides many opportunities for students and staff to learn experientially.

Another success factor is sufficient funding from the MasterCard Foundation. This means that project activities are not hampered due to financial constraints. Other stakeholders have joined or showed interest to be part of the project consortia, which will lead to scaling up of student and farmer participation, as well as the impact realized.

## Faculty Perspective

*Dr. Mariam Mwangi is a faculty staff from the Crops, Horticulture and Soils Department at Egerton University. Her engagement in the Seed Potato (SPVC) CARP+ project started when she was involved, as a team member, in writing a grant proposal to RUFORUM. The proposal writing involved literature review, consultation meetings and writing sessions. She took part in this process, as it was essential criteria for her promotion at the university and to gain new skills. The news that the project proposal was selected and funded for four years (2017-21) brought great joy. It was a result of hard work, team effort and an answer to prayers.*

*The SPVC CARP+ learning journey began with a training for team members at the RUFORUM head office in Kampala, Uganda in October 2017. She was enlightened by the outcome of the community action research project as a life changing experience for communities. It uses participatory approaches to identify needs and interventions to solve their problems and bring meaning to research. The training motivated and changed her attitude on doing community action research.*

*The entry point to the community was through the baseline survey. It was interesting to work with colleagues from the Department of Applied Community Development Studies and the Department of Agricultural Education and Extension and to support the students to pre-test the questionnaire. The rehearsal exercise before interviewing the farmers was interesting and useful practice. Some of the things she learnt were that when conducting an interview or administering a questionnaire in the farmer's house, one should prepare the setting and ensure a relaxed mood for the farmer to answer the questions as it is sometimes lengthy and time consuming. Her research skills on developing and pretesting questionnaires were improved and led her to be more inquisitive to analyse the findings and interpret the data. This was answered through a data analysis workshop that was held by the project. In this workshop, she gained skills in coding, data entry, cleaning and analysis using SPSS and STATA soft wares.*

*Dr. Mwangi's has a background in pure sciences. However, through the SPVC CARP+ project, she now incorporates social science and action research approaches. She learnt new techniques in proposal writing as certain topics were different from the scientific writing of proposals, for example, analytical framework, conceptual framework, sustainability and others. It was exciting to guide and supervise students from the Applied Community Development Studies and Agricultural Economics and Agribusiness Management departments, which broadened her knowledge base. She further attended a case study development workshop that sharpened her writing-for-development skills. She has been able to document experiences and lessons learned from SPVC CARP+ stakeholders. Before the end of the project she is looking forward to see smallholder farmers moving from being subsistence farming to agri-preneurs with improved livelihoods. Dr. Mwangi, says a big thank you to her team members, RUFORUM and MasterCard Foundation for the unique opportunity to work in the SPVC CARP+ project.*

## Recommendations

- There should be early planning and communication of project activities to all project partners and staff to enable them to organize their schedules and manage their time well. The combining of different research approaches (social and scientific) has not been easy for some of the researchers.
- The community action research and experiential learning approach should be scaled up beyond the two projects to other faculties, projects and institutions to enhance student and faculty research skills. This will lead to better research results, greater community impact and sustainability.



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