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Research Application Summary

University-BTVET-Community Convergence in promoting pig production amongst smallholder farmers in Northern Uganda

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Abstracts

Business, Technical and Vocational Education and Training (BTVET) has the potential of increasing productivity and incomes. In an education system whose curricula favours white collar jobs over blue collar jobs, technical and vocational training has long been seen as a path for failures and school drop-outs from the academic path. This attitude diminished the importance of BTVETs as the engine to drive workforce productivity and employment. However, recent transformations have re-emphasized the importance of BTVETs to economic development. Current challenges to BTVETs relate to the mismatch between the training curricula and the labour market needs, limited financing and limited access to BTVET education by the poor and vulnerable groups. These limitations has meant that most BTVETs delivers poor quality training that ultimately generates under-trained technicians that do not meet the market needs for the graduates. To address some of these limitations, Northern Uganda Youth Development Centre (NUYDC) was established to offer quality, and subsidised technical and vocational training to vulnerable youths in Northern Uganda. Further, NUYDC is collaborating with the Faculty of Agriculture and Environment at Gulu University to provide the link between knowledge generation, dissemination and uptake by farmers. The collaboration with Gulu University also involves the design and implementation of targeted agricultural trainings that meet the needs of smallholder farmers. The expected outcome is a trained workforce with relevant skills to contribute to community development.

Key words: Artificial insemination, community engagement, Gulu University, indigenous micro-organisms, pig production, Uganda, University – BTVET collaboration,

Résumé

L'enseignement commercial, technique et professionnel (BTVET) ont le potentiel d'augmenter la productivité et les revenus. Dans un système éducatif dont les curricula favorisent les emplois de cols blancs par rapport aux emplois de cols bleus, la formation technique et professionnelle a longtemps été considérée comme un chemin vers les échecs et abandons scolaires. Cette attitude a diminué l'importance des BTVET en tant que moteur de la productivité et de l'employabilité. Cependant, des transformations récentes ont de nouveau souligné l'importance des BTVET pour le développement économique. Les défis actuels des BTVET sont liés à l'inadéquation entre les programmes de formation et les besoins du marché du travail, au manque de financement à l'accessibilité à l'éducation BTVET

par les pauvres et groupes vulnérables. Ces limites sont indicatrices de ce que la plupart des BTVET offrent une formation de mauvaise qualité, livrant des techniciens sous-formés qui ne répondent pas aux besoins du marché. Pour remédier à certaines de ces insuffisances, le Centre de développement des jeunes du nord de l'Ouganda (NUYDC) a été créé pour offrir une formation technique et professionnelle de qualité et subventionnée aux jeunes vulnérables du nord de l'Ouganda. En outre, NUYDC collabore avec la Faculté d'agriculture et de l'environnement de l'Université de Gulu pour établir le lien entre la production, la diffusion et l'adoption des connaissances par les agriculteurs. La collaboration avec l'Université de Gulu implique également la conception et la mise en œuvre de formations agricoles ciblées qui répondent aux besoins des petits exploitants agricoles. Le résultat attendu est une main-d'œuvre bien formée avec des compétences pertinentes pour contribuer au développement communautaire.

Mots clés: Insémination artificielle, mobilisation communautaire, Université de Gulu, micro-organismes indigènes, production porcine, Ouganda, collaboration Université - BTVET

Introduction

Business, Technical and Vocational Education and Training (BTVET) has the potential of increasing productivity and incomes of households as well as the economy of Uganda (MoES, 2012). This is because vocational education and training equips trainees with the necessary skills required by the job market. In Uganda, BTVET has undergone a number of reforms in the last decade, the most recent being the development of the BTVET Strategic Plan 2012/3 – 2021/2 titled "Skilling Uganda". This plan aims at transforming BTVET from an educational sub sector to a comprehensive skilling programme for the job market, for increased labour productivity and growth. Uganda has a youthful population of 30% and a working age-group of 51.2% (UBOS, 2017). In Uganda unemployment rate stands at 11% for the youths and 25% for the working population in 2012/3 (UNDP, 2015). Skilling Uganda has the potential of bridging the skills gap for self-employment and to meet the labour market needs. The skilling Uganda strategy is implemented through formal and non-formal training programmes delivered through public and private training providers.

Northern Uganda Youth Development Centre (NUYDC) is a Government of Uganda funded public institution. It was established with the mandate to empower youth affected by the over two decades (1987-2008) of conflict in Northern Uganda by rebuilding their lives through knowledge based and market oriented vocational skills. Accordingly, NUYDC offers competency based skills training to prepare youths for various opportunities. One of the focus areas for the skills training is vocational agricultural training at certificate levels. However, the current training curricula for the National Certificate in Agriculture at NUYDC broadly address the basic skills in crops and animal production, with minimal emphasis on specific crop and animal enterprises, as well as production technologies. Consequently, this leaves a gap in practical handling and management of specific enterprises and technologies given the changing trends in agricultural production. Additionally, the current curriculum does not encompass entrepreneurship skills training and mentorship for the students, and yet, the need for entrepreneurship training has become very important, given the need to equip young people with the skills that can enable them become job creators.

To improve on the relevance of its training and training programs, NUYDC entered into collaboration with the Faculty of Agriculture and Environment (FAE) at Gulu University (GU). This collaboration

was facilitated by the Transforming African Agricultural Universities to Meaningfully Contribute to Africa's Growth and Development (TAGDev) project. This engagements covers the following key areas: 1) strengthening agribusiness/entrepreneurship skills amongst NUYDC and Gulu University students; 2) broadening support to smallholder farmers through joint activities; 3) capacitating NUYDC and Gulu University students to engage in agricultural development support; 4) development and institutionalization of agri-business/entrepreneurship curriculum and short courses; and 5) piloting innovative programs/ projects that link agribusiness and private sector.

Two specific project activities are currently being implemented under this collaboration: 1) Enhancing Pig Production and Marketing for Smallholder Farmers in Northern Uganda. This is a community action research project (CARP) in which NUYDC is piloting research and dissemination of the use of indigenous micro-organisms (IMO) in foul smell reduction in pig production and the use of artificial insemination (AI) in pig breeding. 2) NUYDC received a US$26,000 grant from the TAGDev project to support capacity building in IMO and AI technologies as well as support and mentor staff and students in practical entrepreneurship training. As an extension of the CARP project, this funding is meant to facilitate NUYDC to impart IMO and AI technologies and skills to students and farming communities in Northern Uganda. Additionally, NUYDC will acquire mentorship and backstopping from Gulu University in the implementation of Students Enterprise scheme (SES) model of entrepreneurship training (Kalule *et al.,* 2016).

Project implementation. The project implementation follows the students centred outreach model of Gulu University (Kalule *et al.,* 2014). Consequently, the project is being implemented at NUYDC and in surrounding communities of Oilango and Pabala in Koro Sub Counties in Omoro District. To date, the key activities that have been implemented include review of pig production curriculum, conducting a Train the trainer (ToT) workshop, training of NUYDC students on IMO and AI technologies, training of farmers in the use of AI and IMO technologies, and establishment of AI and IMO demonstration centers both at NUYDC and with farmers. These activities are briefly described in the subsequent sections.

Review of pig production curriculum. A curriculum review meeting was held to review existing training curricula on pig production and management. The purpose of the review was to determine comprehensiveness of coverage on the use of IMO and AI in pig production. The review team comprised of subject matter specialists from Gulu University, instructors of agriculture from NUYDC, representative of the directorate of industrial training (DIT), District extension workers, and practicing AI and IMO technicians and private sector practitioners. The review process revealed that the existing curricula broadly cover animal production, and pig production and management. Coverage on pig breeds was limited to natural breeding methods. The use of IMO in foul smell production was conspicuously missing, probably because it is a new development in pig management that was not extensively documented. The process recommended that based on the DIT-ATP modular format, the curriculum be revised to incorporate models on IMO and AI. A team of subject matter specialist was therefore engaged to revise the curriculum to incorporate IMO and AI in the pig production curriculum. This task was successfully completed and the revised curriculum is now awaiting accreditation by DIT.

Train the Trainer (ToT) workshop. Upon completion of the revised pig production manual, a ToT was organized. The purpose of the TOT was to ground practitioners on the use of the revised manual, with emphasis on AI and IMO technologies as well as create a team of trainers capable to disseminating the AI and IMO technologies to the wider community of pig farmers. The training drew 15 participants from NUYDC, Gulu University, Bobi Community Polytechnic (BCP), extension workers from Gulu and Omoro district local governments, and private sector players.

ToT training conducted at NUYDC for two days

Training of students and farmers in IMO technology. Identification of project beneficiaries started with a sensitization meeting with local leaders of the two communities (Oilango and Pabala villages) that NUYDC targeted to work with. The major criterion was that participants should be practicing pig farmers. A total of 54 farmers were registered (26 in Oilango; 28 in Pabala villages) and qualifying and willing farmers were registered. Of these, two host farmers were identified to host the training and demonstration sites. At NUYDC centre, 71 second year students of agriculture were identified to participate in the training. The selection was based on the fact that this group had already completed the module on Animal Production, based on their UBTEB curriculum.

Using the developed pig production and management curriculum, the ToTs conducted training for farmers and NUYDC students. Much as the training covered the entire pig production, marketing and management, and emphasis was out on the use of IMO and AI in pig production. Training approaches was hands-on, and interactive and involves sharing of farmers experiences and critically analyzing the importance of use of IMO over other management practices. At the end of the training sessions, participants had established IMO housing for the pigs. The main focus of the training was on preparation of IMO solution, laying of IMO bedding, application and storage of IMO solution. As a way of ensuring ownership, communities and trainees mobilized resources for the training including bedding materials, training venue, lunch, excavation of a 1 meter deep of IMO floor measuring 3 m x 3 m, and construction tools that were used during the training. In total, 112 farmers and 76 NUYDC students were trained.

Training on IMO at NUYDC and community sites. During monitoring visits, we observed that communities had started adopting the use IMO technology in pig housing. This was evidenced by the fact that the beneficiary farmers had organized themselves into groups. Within this group, 19 members had dug an IMO bed and were due to start construction of the structures before moving their pigs into the units.

Training on pig management, AI and IMO at demonstration Farmers' homes

Establishment of IMO and AI demonstrations Upon completion of the trainings, three (3) IMO demonstration units were constructed at three sites. These IMO demonstration sites have been stocked with 12 piglets and are now fully functional. Additionally, One (1) AI demonstration unit was constructed at NUYDC to accommodate three boars, a training room and a semen processing room.

Established IMO Demonstration Units at two host farmers and one at NUYDC

Piglets and Feeds received at Demo units. Weights of piglets and feeds were recorded

Key Lessons/conclusions. In the implementation of this project so far, three key lessons/conclusions can be drawn:

1. The collaboration between NUYDC and Gulu University has demystified the fear for University amount BTVET students and farmers. Trainees were very excited to train and learn alongside university students. For instance, while 56 farmers were registered for the training, 112 turned up for the training. When asked why the came to the training, they indicated that they do not want to miss the opportunity to be trained by "the University".
2. We also observed that the community action research had enabled the communities to appreciate the role of appropriate pig housing in management of pig farming. This has been demonstrated by the fact that 19 farmers have already established their own IMO housing.
3. Through this intervention, a network of trainers had been created. This network which involves

private sector, local government extension workers, BTVET instructors and University staff is now jointly involved in the dissemination of appropriate technologies in pig production and management.

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