

Research Application Summary

Building integrated post-secondary education networks to meet Africa's labour requirements: Strengthening Technical and Vocational Education and Training (TVET)

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Abstract

Strengthening the tertiary education sector is critical for enhancing competitiveness of the African continent in the global economy, and for addressing the skill needs of the continent. The ongoing efforts by the World Bank and RUFORUM to strengthen the linkage between Higher Education and Technical and Vocational Education and Training (TVET), will facilitate development of the needed human resource capacity to champion development in Africa. This paper argues for greater focus to strengthen the TVET sector.

Key words: Africa, Higher Education, SHAEA, RUFORUM, TVET

Résumé

Le renforcement du secteur de l'enseignement supérieur est essentiel pour améliorer la compétitivité du continent africain dans l'économie mondiale et pour répondre aux besoins de compétences du continent. Les efforts continus de la Banque mondiale et du RUFORUM pour renforcer le lien entre l'enseignement supérieur et l'enseignement et la formation techniques et professionnels (EFTP) faciliteront le développement des capacités en ressources humaines nécessaires pour promouvoir le développement en Afrique. Ce document plaide pour une plus grande concentration sur le renforcement du secteur de l'EFTP.

Mots clés: Afrique, Enseignement supérieur, SHAEA, RUFORUM, EFTP

Background

The demand for a technically skilled and business savvy African labour force, which is essential to stimulate equitable development, generate well-paying jobs and raise living standards, has triggered the rapid development of African tertiary education (Bloom *et al.*, 2006). The need to transform post-school education has been recognized by RUFORUM, a consortium of 105 agricultural universities, the World Bank, and Governments across

Africa. A new 5-year initiative, Strengthening Higher Agricultural Education in Africa (SHAEA), is being launched to transform higher education in Cameroon, Côte d'Ivoire, Ghana, Kenya, Malawi, and Mozambique. The results of these efforts will be disseminated to the rest of the continent through the RUFORUM network. The initial goals of SHAEA as part of its focus on better linking universities to respond to the needs of the agri-food system in Africa, include making entrepreneurship a core part of post-secondary curricula to stimulate business development, enrolling more students in agriculture without compromising academic quality, ensuring that Africa's universities are staffed by adequate numbers of well-qualified faculty and reforming curricula to provide students with skills needed for employment in the 21st century. The SHAEA team now is determining the steps needed to transform post-secondary institutions so that university graduates acquire needed skills and values to contribute to life-altering changes in African development. The initiative SHAEA will focus not only on the nuts and bolts issues of how tertiary educational institutions are run and funded, but also on how they can be transformed to broaden and deepen the impacts that universities have on agricultural development and African society.

While much emphasis has been placed on universities that award bachelor's and postgraduate degrees, the demand for workers with technical expertise gained through Technical and Vocational Education and Training (TVET) programs are essential, but often overlooked (Eicker *et al.*, 2017). In addition to ensuring that TVET programs provide graduates with needed technical expertise and business skills, these technically-oriented programs must be an integral part of the tertiary education landscape with clear articulation agreements among institutions, promotion pathways and access to professional development programs to ensure that workers at all levels can stay abreast of developments in their field and that economic development is not hindered by an inadequately trained work force. Vocational education will lead to faster transition into the workplace.

Technical and Vocational Education and Training (TVET)

The focus of this paper is on the challenges facing TVET programs that must be overcome to enable the TVETs to fulfill their educational missions and to ensure that the TVETs are an integral part of the tertiary education system. The TVETs must be actively involved in planning of post-secondary education to ensure that all sectors of the labour force acquire an appropriate balance of theoretical, technical and implementation skills to assure innovation and vibrant economic development. Because the educational needs of those doing technical work on the shop floor are as important as those of people working in laboratories or the executive suite in the development of a profitable job-generating private sector, the TVETs must have a seat at the post-secondary education planning table. This is not to say that all post-secondary institutions share a common mission: they do not, and these differences must be recognized and respected during the educational planning process (see section below on academic hierarchy).

Current Challenges: TVETs and other institutions face various challenges: financial, organizational, reputational, issues related to educational quality, and poor apprenticeship system (Wheelahlan and Moodie, 2016). For TVETs to receive the adequate sustainable funding they desperately need, plans must be developed on how key organizational and educational issues will be addressed and they must provide evidence that these plans can be implemented. There needs to be a clear pathway for TVET graduates to upgrade their

qualifications towards more academic qualifications should they so wish. Governments must also put in place incentive systems to ensure that TVET graduates are recognized as professionals including the need to rationalize salary structures. The TVETs must also provide opportunities for continuing students to be able to upgrade their skills.

Organizational Structure: The organizational structure of African tertiary education varies by country, but, in many instances, oversight of TVET programs is conducted by the Ministry of Agriculture or provincial governments while university programs report either to the national Ministry of Education or Higher Education. The existence of different reporting structures complicates the task of developing an integrated post-secondary education system with responsibility for educating the labour force of a modern food system. Those TVETs that are administered at the provincial level have a particularly difficult task integrating their programs with those of the universities, because they are not subject to the same governance and accreditation standards. Accreditation procedures need to be more closely aligned to the long-term vision of individual countries including consideration of how to provide the skills training and capacity building at all levels mandated by the national agricultural investment plan. Budgets are developed separately, making it difficult to obtain funding for joint programs and inter-agency competition for scarce resources often is strong. Educational programs housed in a ministry that is not primarily focused on education often struggle to get resources for facilities and support for instruction. Technical programs are costly due to the need for expensive facilities and equipment, so students often learn using outdated equipment, thus acquiring outmoded skills. These technical shortcomings are apparent to those who employ TVET graduates with the result that the programs are not well-regarded, and students and employers are short-changed. The current wave that is resulting in many TVET institutions becoming universities needs to be informed by forward looking studies and analysis to support an appropriate country level structures for technical agricultural education (TAE). This will include greater differentiation of university missions and closer connections between university and the for-profit sectors.

Reorganization of the post-secondary education system to permit inclusion of TVETs is a daunting task that requires considerable team-building and often legislative action. Depending on local politics and resource availability, several options are possible. One choice is development of an integrated tertiary education system that involves transformation of existing TVETs into community colleges with strong technical programs. This option puts universities, TVETs and other formal tertiary educational institutions under a single coordinating structure and provides a flexible framework for the development of future programs. Critical to the success of this approach is respect for the diverse missions, curricula, academic cultures and faculties and student bodies of the post-secondary institutions engaged in the planning processes.

A drawback of this integrated approach is that significant commitments of time and funding are required for team-building and planning, and reorganization of the new community colleges/TVETs. In some cases, the political pressures against organizational integration and resource constraints preclude such bold transformation. In these instances, it may be possible to work within the existing structures through planning and provision of incentives for collaboration to permit different educational functions to work together

without such extensive reorganization. In many countries, Extension and Research are housed in the Ministry of Agriculture while universities are in the Ministry of Education, a situation which makes integration of education, research and extension activities very difficult. By creating local, regional and national committees to promote integration of educational functions and by providing meaningful incentives, several countries, including Brazil and Kenya, have developed systems in which education, extension and research work effectively together even though they are overseen by separate administrative entities. These experiences demonstrate that different routes may be traveled to reach functionally similar endpoints. However, it is important that steps be taken to create organizational structures that foster shared visions, teamwork and avoidance of competition for resources with careful monitoring to ensure that effective integration is occurring. Lessons can also be gleaned from experiences in other countries such as the Netherlands and Finland that have placed targeted institutions under ministries that are focused on industrialization that demand practical technical skills. In Finland, systematic efforts have been used to upgrade the quality and status of TVET with the result that this popularity of the sector has improved significantly.

Reputational issues and academic hierarchy: Even though well-trained TVET graduates frequently get secure jobs with higher salaries than graduates of 4-year programs, there is a bias against TVETs as less prestigious than universities. Aversion to doing manual work if office jobs are available may explain this mindset, but use of computers and automation are changing the nature and perception of many technical jobs. This bias is pervasive with the result that students prefer to enroll at universities and TVET students often have lower exam results than those enrolling in 4-year programs. Even more serious is the difficulty of recruiting TVET faculty with cutting-edge skills. Potential TVET faculty with considerable technical experience often earn more in the private sector than teaching at a TVET. If TVETs have adequate funding and staffing to provide high quality, contemporary programs, many of the perception issues can be dealt with by letting students know of the opportunities offered by vocational and technical programs. Publicity and promotional campaigns can be used effectively to begin to shift these wrong perceptions on TVET (Grijpstra and Papier, 2015).

Running an integrated educational system that includes programs with varying mixes of theory and practice ranging from theoretical physics and philosophy to engine repair and food technology requires mutual respect for students and faculty from all fields of study. Currently, in much of academia, hierarchy exists with more theoretical fields receiving more respect and rewards than those that are more practically oriented. At Wageningen University in the Netherlands the success of their academic reorganization, which included both their TVET equivalents and their basic science programs, hinged on team-building exercises. Initially, because the hierarchy was deeply entrenched, teams of equal size met in neutral locations until trust developed among the participants to permit freer exchanges. Finding ways to level the playing field of different sectors of academia is critical if TVETs are to provide technical education that fosters innovation and the making of high-quality products.

The approach of the SHAEA project will be focused directly on strengthening linkages between higher education and TVET institutions to ensure that a range of skills needs are

in place to support agri-food systems transformation at the national level. Initially, best practices that have been demonstrated to improve TVET will be highlighted and shared among SHAEA participants and later among agricultural universities across Africa. Bi- or multidirectional sharing will benefit ensure that lessons learned from SHAEA will be adopted broadly. The experiences of the TVET institutions with their practical curricula and experiential education will benefit universities that are attempting to provide their students with relevant skills demanded by industry. Internships and exchanges of faculty from TVETs and four-year institutions will cement partnerships among these two groups of institutions. The Regional Anchor Universities, which will serve as knowledge hubs in the SHAEA project, will disseminate the experiences, curricula and best practices which emerge from the TVET-4-year university partnerships. The collaborating institutions can work together to deliver transdisciplinary programs and emphasize the attractiveness of the TVET sector to students, faculty and industry. Additionally, SHAEA also will develop and highlight policy recommendations to strengthen post-secondary TVET education, an important step in ensuring that Africa has a labour force with the skills needed to meet the challenges of African agri-food systems.

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