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## *Occasional Paper 1*

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# **CONVERTING POLYTECHNICS IN GHANA INTO TECHNICAL UNIVERSITIES**

**A POLICY PROPOSAL TO HASTEN SLOWLY**

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## Introduction

The system of education in Ghana appears to fall along two pathways. Some students go through Grammar/General Secondary Education (GSE) to prepare them for higher education, though in reality only a small selection enter tertiary institutions. Others go through the Technical and Vocational Education and Training (TVET) with the expectation of ending up in the polytechnics, where they are trained to acquire specific skills to provide the needed middle manpower human resource for the economy. It is too often the case that the TVET at the secondary-level is seen as the domain for people whose academic capabilities are considered inferior.

At present, the Government of Ghana has decided to convert the ten (10) polytechnics into technical universities along the pathway of the German technical universities. This decision has received mixed reactions from the public including relevant stakeholders. While some think it will improve the image of technical education and training and encourage more young people to pursue it, there are others who fear that this could aggravate the prevailing situation where polytechnics are losing their focus and offering more courses in the humanities instead of concentrating on the science-related courses. This paper critically traces the history of technical and vocational education and training (TVET) in Ghana, highlights significant challenges of polytechnic education and makes

policy recommendations to ensure that the intended conversion of the ten (10) polytechnics into technical universities achieve its purpose. The paper argues that the process should be hastened slowly, given the failures of several reform agendas in Ghana.

## Background of Technical and Vocational Education in Ghana

Historically, TVET started in Ghana (then Gold Coast) as far back as 1844 when the Basel Missionaries introduced craft in the elementary schools at the Christiansburg Castle at Osu, and simple farming techniques at Abokobi<sup>1</sup>. In particular, boys were taught book binding, lock and blacksmithing, bricklaying and carpentry so that they could undertake repair works for the missionaries since there were no masons and carpenters who met the expectations of the missionaries. On the other hands, Girls were taught cookery, needle work and home management skills by the wives of the missionaries<sup>2</sup>. Even though the idea of technical and vocational education dates back to the early years of the missionaries, it wasn't until the period of Governor Gordon Guggisberg that it received the needed attention.

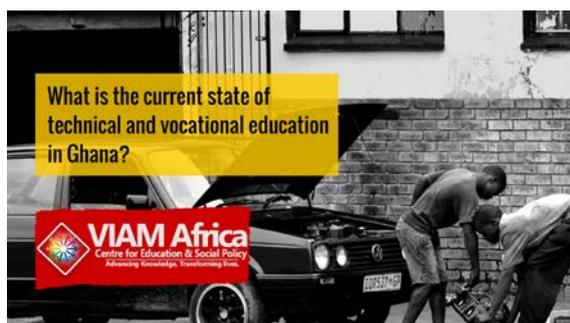
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By 1909, the Government had established agricultural stations in

Aburi, Asuansi, Tarkwa and Kumasi to run courses for teachers and students. Accra

Technical School was opened around the same period to provide courses in engineering, motor vehicle mechanics and building construction. Several other government trade schools were subsequently opened in Yendi, Mampong, Kibi and Asuansi by 1922 to provide training in masonry, carpentry, metal work and woodwork. The Yendi School was later moved to Tamale while the training school at Kibi could not survive the trade meltdown of the 1930s. This followed the release of the British government's reassessment of the status of education in its colonial territories in 1925<sup>3</sup>.

Fast forward to the early 1950s, Dr Kwame Nkrumah formulated several policy interventions with the view to particularly strengthening TVET delivery in Ghana. Through the Accelerated Development Plan (ADP) for Education, widely described as the first comprehensive education plan pre-independence, the government

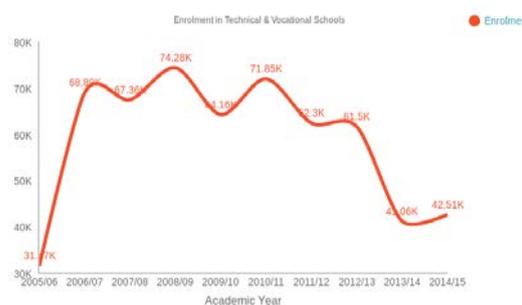


established the Kumasi College of Technology (now Kwame Nkrumah University of Science and Technology-KNUST) in 1952 to provide courses in technological and vocational training to students. More institutions for vocational skills training were opened in Accra, Kumasi, Takoradi, Tarkwa and Kpando

during this period. With the introduction of the 1987 Educational Reform, Pre-vocational training programmes were introduced, comprising subjects such as technical drawing, vocational skills and basic agricultural science<sup>4</sup>.

**Recent trends in Technical and Vocational Education and Training (TVET)**

It is argued that the purpose of technical and vocational education at the non-degree level in Ghana is to provide young men and women with skills training (in addition to general education) in order to enable them fulfill the country's technical manpower needs including self-employment up to middle level in the field of industry, business, and agriculture<sup>5</sup>. However, this objective has largely not been achieved due, partially, to the decrease in enrolment levels over the period of time. Figure 1 presents the enrolment pattern of students in TVET schools from the 2005/2006 academic year to 2014/2015.



**Figure 1: Enrolment in Technical and Vocational Education and Training (TVET) from 2005 - 2015**

From Figure 1, it is evident that there has been a considerable decline in enrolment into TVET schools since

2010/2011 academic year with 2013/2014 recording the lowest in the last ten years. This trend, if persistent, could potentially impact negatively on the enrolment of students in the proposed technical universities.

The 2007 education review committee report made strong recommendations about technical and vocational education. The report, among others, strongly advocated technical training with the view to producing craftsmen at intermediate, advanced and technician levels for the job market. It advised interested technical training graduates to further their education at the polytechnic level, which indeed appears to define the focus of polytechnic education in Ghana<sup>6</sup>.

In 2013, the Government of Ghana expressed its intention of converting the ten (10) Polytechnics into Technical Universities, through the State of the Nations Address in Parliament by the President, John Dramani Mahama. According to the President, this policy will strengthen TVET areas and produce a more technically skilled labour force for the country's economic and national development agenda. This is in consonance with the Polytechnics Law (Act 745) of 2007 which highlights the aims of polytechnic education as follows:

1. To provide technical education in the fields of manufacturing, commerce, science, technology, applied social sciences and applied arts etc.

2. To provide opportunities for skills development, applied research and publication of research findings.

Since then, six (6) polytechnics in Ghana have been approved to be converted while the remaining four (4) are still going through reviews.

It should be noted that Ghana will not be the first African country to convert polytechnics into Technical Universities. In fact, other countries like South Africa and Kenya have gone through a similar reform process. However, the South African

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and Kimathi Institute of Technology have been upgraded to public universities over the last six years. However, various stakeholders have argued strongly that the converted Polytechnics which used to produce good artisans and engineers, are now churning out graduates with degrees which are more theoretical. In the UK, there seems to be widespread, and growing, regret in political and academic establishments that polytechnics were ever converted into

universities. The situation in Ghana may not be different. Presently, there appears to be a disparity between the curriculum objectives at the technical and vocational schools and that of the polytechnics. This observation has been loudly re-echoed by several education stakeholders including one Professor Joseph Atsu Ayee of the University of London, and the Ghana Employers' Association.

**G**iven the career-oriented focus of polytechnic education in Ghana, people who go through this system are expected to acquire a repertoire of technical and vocational skills necessary to make them readily employable either in the formal sector or informal sector. This could likely equip trainees to be self-sufficient and can start up their own business after school, thereby reducing unemployment rate in the country. Several authors have equally argued that, polytechnic education is meant to produce middle level manpower for the development of the economy. The first question to ask is "was Ghana able to achieve this?" We argue vociferously that the polytechnics in Ghana have to a large extent failed to live up to this expectation for several reasons.

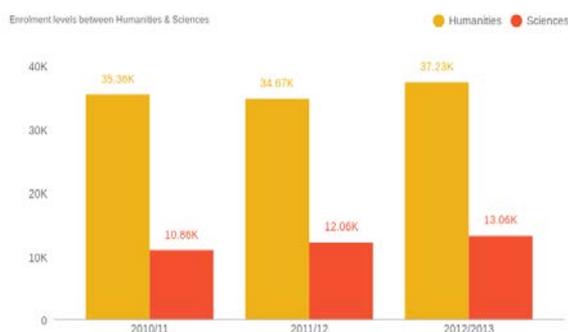
First, they are confronted with myriads of challenges. These include poor funding, inadequate staffing, inadequate accommodation for students and staff, insufficient infrastructure, outmoded curriculum, no consistency in career progression, poor remuneration, inadequate linkage between the polytechnic education and

industry. Second, there appears to be a mismatch between the curriculum of the TVET and that in the polytechnics, resulting in a mismatch of skills and career choices for graduates. More importantly, available data from the National Accreditation Board (NAB)<sup>7</sup> indicates a very worrying trend. The three – year average growth rate for HND enrolment was 5.3%. The Bachelor of Technology programmes which started more recently (in 2011/2012) highlights a decrease from 897 to 871 in 2012/2013 academic year, representing a negative growth of .02%. This is very worrying given that the focus of a technical university appears to gravitated towards the sciences more than the humanities. A further look at the enrolment levels from 2010 to 2013 aggravates the problem.

The enrolment level for the humanities exceeded the enrolment in the sciences by 24,507 in the 2010/2011 academic year. Again, in the 2011/2012 academic year, there was a drop in the enrolment of students in the humanities by 698, the difference between the number of students who enrolled in the humanities exceeded those in the sciences by 22,601. It is instructive to note that enrolment in the sciences increased by 1,208. The situation is not different in the subsequent years. This implies that, the number of students who are enrolled in humanities in the polytechnics exceeds those who are enrolled in the sciences. This undermines the purpose of polytechnic education in Ghana and requires the government to first take measures to

bring the focus of polytechnic education back on track.

Figure 2 presents a bar graph showing the level of enrolment in the polytechnics from 2010 to 2013. It can be observed that, the enrolment in humanities (depicted by the gold bars) is higher than the level of enrolment in the sciences (depicted by the red bars). This huge difference in the level of enrolment between these two programmes should be a cause of worry to all stakeholders. The trend shows that, gradually the polytechnics are being turned into traditional tertiary institutions offering programmes in the arts and humanities.



**Figure 2: A bar graph showing the enrolment levels between Humanities and the Sciences for 2010/2011 to 2012/2013 academic years.**

Regardless all these challenges which have made it difficult for the polytechnics to achieve their goals, the Government has gone ahead with its plan of converting them to the so-called technical universities. We contend vehemently that converting a polytechnic to a technical university in itself is not a bad idea. However, given the numerous failures in implementing reform agendas in Ghana, there is the need to proceed cautiously, with the

view to safeguarding the purpose of this policy imperative. In this way, the process may not be considered as a mere rebranding, as was the case of the conversion for Junior Secondary Schools into Junior High Schools in 2007.

One of the fundamental policy issues raised by the Technical Committee set up to advice government on the conversion is that, the technical universities should provide admission slots for graduates of senior high technical schools and technical institutes. By implication, the technical universities must admit students from the various TVET schools. The questions then are: what is the current state of TVET in Ghana? Would it have served Ghana better to invest more in TVET which currently receives 0.3% of the Education budget? How does this fits into the 200 community day general secondary education (GSE) project of the government?

Significantly, the Committee<sup>8</sup> highlighted four strategic steps in the conversion roadmap including the enactment of an enabling Act in consonance with the laws on establishing tertiary institutions in Ghana. Presently, institutional and programme accreditation requirements of the National Accreditation Board, together with other statutory institutional affiliation arrangements have not been concluded. For this reason, we question the premature conversion of Takoradi and Koforidua Polytechnics into technical universities, when their University statutes appear

not to have been enacted by Parliament as required by law.

Again, the report of the technical committee on conversion of the polytechnics indicated that the German system served as the model for this process. However, the German education system acknowledges that some students are uninterested in traditional studies; some do not have the aptitude for the humanities for which reason they would rather prefer to work with their hands. The German system also recognizes that not everyone would benefit from the pure academic type of education. Consequently, every student is seen as potential asset who, when matched with the right vocation can succeed. In this regard, there is a partnership arrangement between employers and unions on one side and the government on the other side that undertakes the matching processing in order to provide the necessary training and skills development. This is termed as the dual study-courses, where vocational training and practical placements are integrated, making the study courses highly application-oriented and of great practical relevance<sup>9</sup>. The technical universities in collaboration with companies undertake to provide the training or traineeships. The dual study courses lead to two qualifications for entry into a profession: graduates are awarded the Bachelor's degree or a Diploma, to which the word "Fachhochschule" is added, and, at the same time, they obtain the vocational training leaving certificate. In study courses which integrate practical placements, the students do more

practical placements on a bigger scale<sup>10</sup>. This is a core aspect of the German technical university system which Ghana seeks to copy. The implication is that, the first point of call in converting the polytechnics into technical universities should have been an overhaul of the entire curriculum of polytechnic education in Ghana to give it the right focus and direction, whilst addressing the apparent weaknesses in the second cycle education system particularly the TVET sub sector.

### *Policy Recommendations*

The following policy recommendations are made to be considered if truly Ghana wants to achieve the aims stated by the committee for the conversion of the polytechnics.

1. In the long term, a comprehensive secondary education system in which general secondary education (GSE) and technical and vocational education and training (TVET) are delivered in the same school should be pursued, with the view to stimulating a 'parity of esteem' between GSE and TVET. Examples may be found in Sweden and in Scotland.
2. In the short to medium term, there should be a reassessment of TVET in Ghana with specific focus on technical and vocational institutions. The reassessment should focus on:
  - i. A realignment of the senior high technical and vocational curriculum to be in line with the programmes to be mounted in the technical universities.
  - ii. A streamline of the educational progression of those who attend technical and vocational institutes.

The level of progression of these students appears cumbersome and long winding as compared to those who go through the senior high school (SHS). In particular, students from the SHS can progress steadily to the tertiary institutions unlike those coming from the TVET sub sector. In fact, several authors have attributed the collapse of technical and vocational education in Ghana to this problem.

3. There should be a clear focus of the apprenticeship system in Ghana and properly located within the overall programme of technical and vocational education.

4. The problems of funding and infrastructure inadequacy should be addressed as early as possible. This means the provision of enough lecture rooms, adequate and relevant teaching learning resources to enable students go through the practical lessons as enshrined in the aims of the technical universities.

5. There should be the provision of current ICT infrastructure and internet connectivity to these schools and the consistent training of the faculty to keep them abreast with global technology and innovation trends.

6. The recruitment and retention of qualified staff with both practical and theoretical knowledge should be strictly adhered to if the aims of these technical universities are to be realized.

7. Efforts should be made to create national awareness on the importance of technical and vocational education. This can be done through advertisement and outreach programmes to clear the negative

perception of the populace on technical and vocational education that such type of education is the preserve of the academically weak.

8. There should be a deliberate effort by government to create the conducive atmosphere for both the public and the private sectors to enable the graduates of these technical universities enter into industry as early as practicable after graduating.

### *Conclusion*

In conclusion, the success or failure of a technical university apart from all other factors identified relies prominently on the nature of the curriculum and the system of technical and vocational education in Ghana. We would advise government to slow down the conversion process, until at least two years. This would allow for a complete review of their curriculum and ensure they meet proper accreditation requirements, whilst addressing the structural weaknesses (e.g. progression) in the technical/vocational training system. In our view, such hasty policy interventions have often undermined the quality of our education system. The implementation of the 1987 and 2007 education reform recommendations are few examples.

## About VIAM Africa

**VIAM Africa Centre for Education and Social Policy** is one of Africa's leading progressive think tanks that provide independent reviews of education and social policies in Sub-Saharan Africa. We are an independent registered charity with more than 20 staff members including paid and unpaid interns, volunteers and visiting fellows. Our head office is in Aberdeen-United Kingdom, with VIAM Africa (Ghana), VIAM's dedicated think tank for Ghana, operating out of offices in Accra. Our purpose is to conduct and promote research into, and the shaping of public opinion in crime and victimization, education and social stratification, education and climate change, education finance, governance, gender issue, corporate social responsibility and social policy (health & social care, welfare and poverty).



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- <sup>9</sup>German Academic Exchange Service (2012)
- <sup>10</sup>German Higher Education System (2013)

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Dr. Prince Armah is the Executive Director of VIAM Africa Centre for Education and Social Policy. He founded VIAM Africa with the view to providing timely research to inform education and social policy decisions. VIAM Africa has since become a leading voice in shaping public discourse on education and social reforms through its research, social media platforms and advocacy programmes.

His scholarship centres around intersections of education policy and practice, focusing on educational achievement, instruction, and reform. He has been widely published in the Ghanaian media for his insightful suggestions and opinions for improving students learning outcomes, and has several reform-oriented feature articles to his credit. Through statistical complexities and modelling techniques, as well as qualitative studies of classrooms, his work explores social psychological models of behaviour and how they can be applied in developing the capacity of schools to implement reforms with fidelity. He has particular interest in constructing and validating latent variables using factor analytic and the Rasch models, and applying data analytic techniques such as Structural Equation Modelling (SEM) to study the relationships among such variables. He has an extensive knowledge and experience in quantitative research methods having received trainings from the Doctoral Training Centres (DTCs) of the Universities of Nottingham, Edinburgh and Manchester with funding from the Economic and Social Research Council of the United Kingdom.

Over the past 10 years, Dr Armah has worked as a business founder, educator and elected representative. He was a secondary school teacher in Ghana and the United Kingdom spanning a period of nine years where he held numerous leadership roles on various boards and committees. He has served as a session chairperson of the Asian Conference on Education, Osaka, Japan. He is currently a reviewer for the Comprehensive Journal of Educational Research, a Senior Lecturer at the University of Education, Winneba (IEDE) distance education programme in Accra, and the CEO and Senior Partner of Greenfield Education Consulting. He holds a PhD, M.Ed. and B.Ed. in Mathematics.



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