THE CONVERSION OF POLYTECHNICS TO TECHNICAL UNIVERSITIES IN GHANA

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2 PRESENTATION OUTLINE

- Introduction | Historical Background
- Crisis of Polytechnic Identity
- Rationale and Justification for Establishing the Technical Universities
- Mission and Mandate of the Technical Universities in Ghana
- Findings: Differentiation | Programs | Enrolments | Graduate Employability | Funding
- Promise, Prospects and Peril
- Recommendations
- Conclusion

3 INTRODUCTION | HISTORICAL BACKGROUND

- The Technical Universities have their origin in the erstwhile polytechnics
- The polytechnics became tertiary institutions in 1992 under PNDCL 321, following the report of the Universities Rationalization Committee, which recommended an expansion of the tertiary education sector to partially accommodate the increasing number of secondary school graduates
- Under PNDCL 321, the then sub-tertiary polytechnics became tertiary institutions with a mandate to offer Higher National Diploma (HND) programs and other lower level TVET programs
- The upgrading of the polytechnics to tertiary status was based on a strategy of ***elevation*** or ***re-designation*** or by simple ***government pronouncement***
- No well defined criteria or qualifying benchmarks to become a tertiary institution, leading to a crisis of identity
- The 10 years from 1993 to 2013, were the turbulent years of polytechnic education in Ghana, with the polytechnics (staff and students) agitating for "proper" recognition as tertiary education institutions

4 CRISIS OF IDENTITY OF THE POLYTECHNICS

- A crisis of identity was created by upgrading the polytechnics to tertiary institutions in 1992 (PNDCL321) without differentiating them from the traditional universities
- The Government White Paper on the Reforms to the Tertiary Education System which upgraded the polytechnics attempted to equate the polytechnic HND qualification to a university first degree:

"…. programmes and courses (in the polytechnics) are to be offered at the higher middle level of technician training leading to the award of higher diplomas ***equivalent to first degree*** *level but not departing from syllabi dedicated to practical technician training"* [Govt. White Paper, 1991]

- In an attempt to clarify this controversial clause in the White Paper, the Ministry of Education issued a statement that the "HND is next to a degree"
- The mishandling of the elevation of polytechnics to tertiary status led to the wave of student and staff demonstrations that rocked the polytechnic landscape and the country for close to 10 years: ***recognition*** of the HND; ***academic progression*** of HND graduates, comparable **conditions of service** for polytechnic staff, etc.
- Something had to be done to restore sanity and clarity in the tertiary education system
- Converting the polytechnics to technical universities was a partial response to the crisis of identity

5 RATIONALE & JUSTIFICATION FOR ESTABLISHING THE TECHNICAL UNIVERSITIES

- Repositioning the polytechnics as strategic institutions for the training of a highly skilled workforce to drive industrialisation, value addition to primary resources, and economic transformation
- Achieving parity of esteem with the universities but with different mandate
- Contribution to a differentiated HE space
- A differentiated HE system offers the flexibility to address the changing needs of students and industry
- The availability of alternative institutions differentiated in terms of mission, curricular emphasis, admission requirements, duration of training, governance, cost of provision, etc. could be an appropriate response to the increasing demand for access to HE
- Creation of logical progression pathways at the tertiary level for TVET students and HND graduates
- Enhancing the image and attractiveness of TVET

6 DIFFERENT MANDATES, SIMILAR PERCEPTION

Technical University (University of Applied Sciences)	Traditional University (Comprehensive University)
Teaching and practice-oriented	Theory and research oriented
Applied or strategic research with focus on solving practical problems and providing technology solutions that make production systems more efficient	Integration of research and teaching in a largely broad-based interdisciplinary curriculum
Skills-driven and acquisition of career focused employable skills	Knowledge-driven or quest for new knowledge, focusing on a broad array of transferable skills
Focus on technology development, innovation and technology transfer	Focus on fundamental research and cutting-edge technology development
Emphasis on what must be learnt to respond to industry needs and learner interests	Emphasis on mainly disciplinary approach to learning and promotion of scholarship

7 MISSION AND MANDATE OF THE TECHNICAL UNIVERSITIES

- Practice-oriented curriculum
- Education and training for the world of work
- Strong links with industry and business
- Emphasis on engineering, technology, and business but not humanities
- Skills training at all levels: certificate, diploma, first degree, master's degrees but not PhDs
- Faculty imbued with both academic and professional or practical qualifications / competencies
- Applied research and provision of technology solutions and innovation support for MSMEs
- Learning partnerships and linkages with similar institutions abroad
- Integration of WEL, internships, and entrepreneurial culture into the curriculum | CBT

FINDINGS: HOW ARE THE TECHNICAL UNIVERSITIES RESPONDING TO THE CONCEPT OF DIFFERENTIATION?

- Noticeable appetite for recognition as traditional universities
- Rector or Vice Chancellor or President or Principal & CEO?
- Isomorphism: tendency of newer tertiary institutions to behave like the older ones in the system
- Isomorphism is an inhibitor of differentiation
- Easier to align with governance structures of older universities
- Differentiation requires more specialised resources, innovation, and adequate funding
- Research orientation?
- Student and learner profiles?
- Staff qualifications and competencies?
- Absence of explicit national policies and support to differentiate the TUs from the older universities

9 FINDINGS: DIFFERENTIATED ADMISSION REQUIREMENTS?

- Admission grades are similar to those of the traditional universities
- A1 – C6, aggregate 24, no matter the programme of study
- D7 grade recently and reluctantly approved by GTEC for some TU programmes
- Similar admission requirements mean that the public traditional universities remain the institutions of first choice for applicants
- Consequently, the unfortunate perception that "rejects" or "left-overs" from the public universities admission system are the candidates for the TUs
- Identifying aptitude for TVET not explicitly factored into the admission criteria
- On a positive note, technical Institute graduates are gaining admission into TUs to pursue HND programs

FINDINGS: STAFF DESIGNATIONS, SCHEME OF SERVICE, APPOINTMENTS & PROMOTIONS, RESEARCH FOCUS

- Same designations as for traditional universities
- Similar schemes of service
- Similar appointments and promotions criteria
- Absence or limited emphasis on industry or workplace experience in the A&P criteria
- Number of publications weighted more in the promotions criteria
- Lecturers without workplace experience cannot impart industry-oriented practical skills to their students
- Not clear if research activities and publications are industry-related and designed to modify, modernise, or improve upon industrial products, processes and services

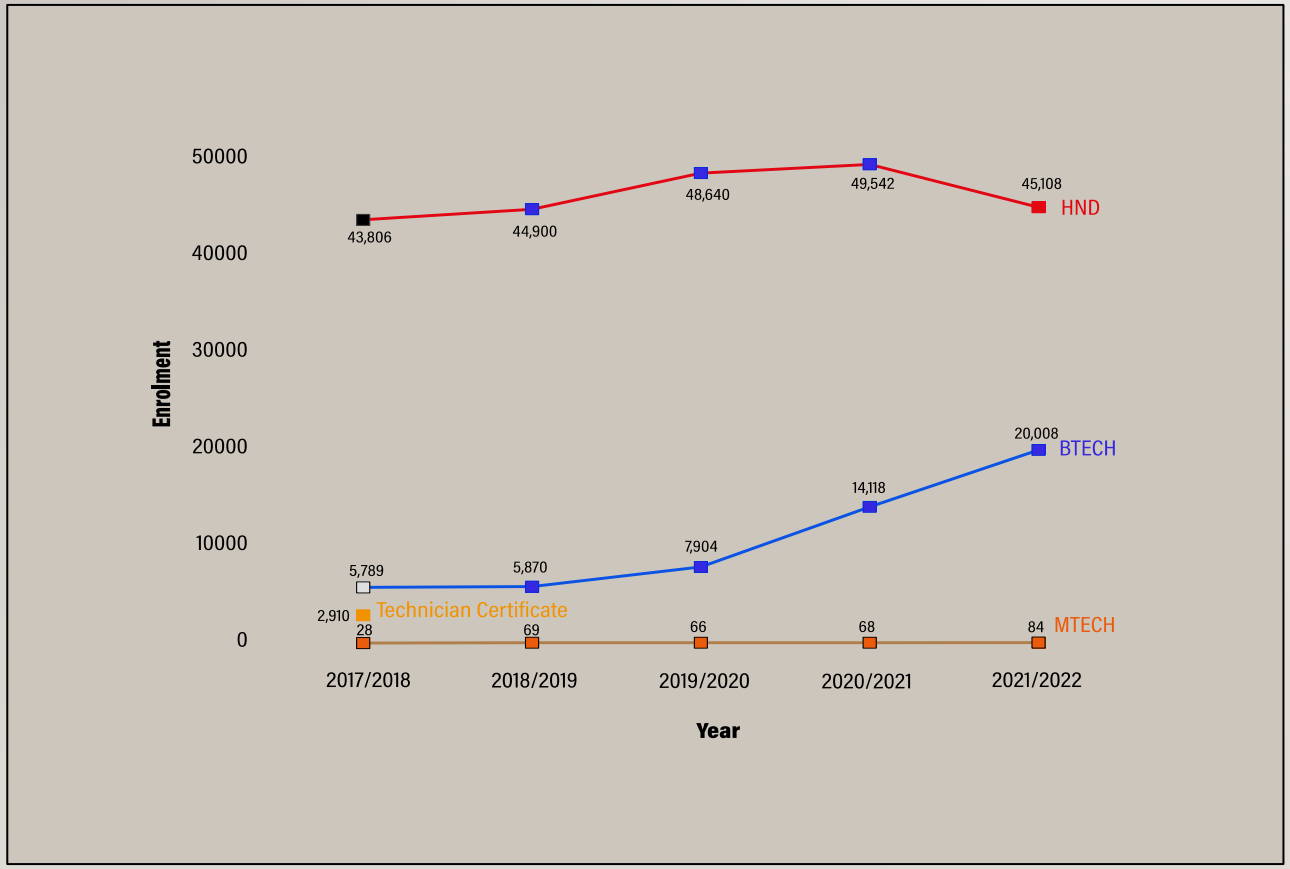
FINDINGS: PROGRAMMES & COURSES

- Certificate, HND, BTech, MTech
- National Proficiency Certificates benchmarked on the National TVET Qualifications Framework for traditional apprentices are also offered by some TUs
- The TUs are therefore responding to their mandate of offering skills training across all levels of the skills development spectrum
- The TUs therefore do not appear to be losing their identity as practical skills development institutions, as some had feared
- However, there is little information on the quality dimension of the programmes and courses: internal, external and industry-mediated quality assurance mechanisms, and benchmarking?
- Courses and programs show little diversification and innovation in alignment with new technological trends: 4IR, STEM, and climate sensitive courses
- Need to integrate digital skills training into all programmes

12 LIST OF MAJOR PROGRAMMES & COURSES | 2021/2022

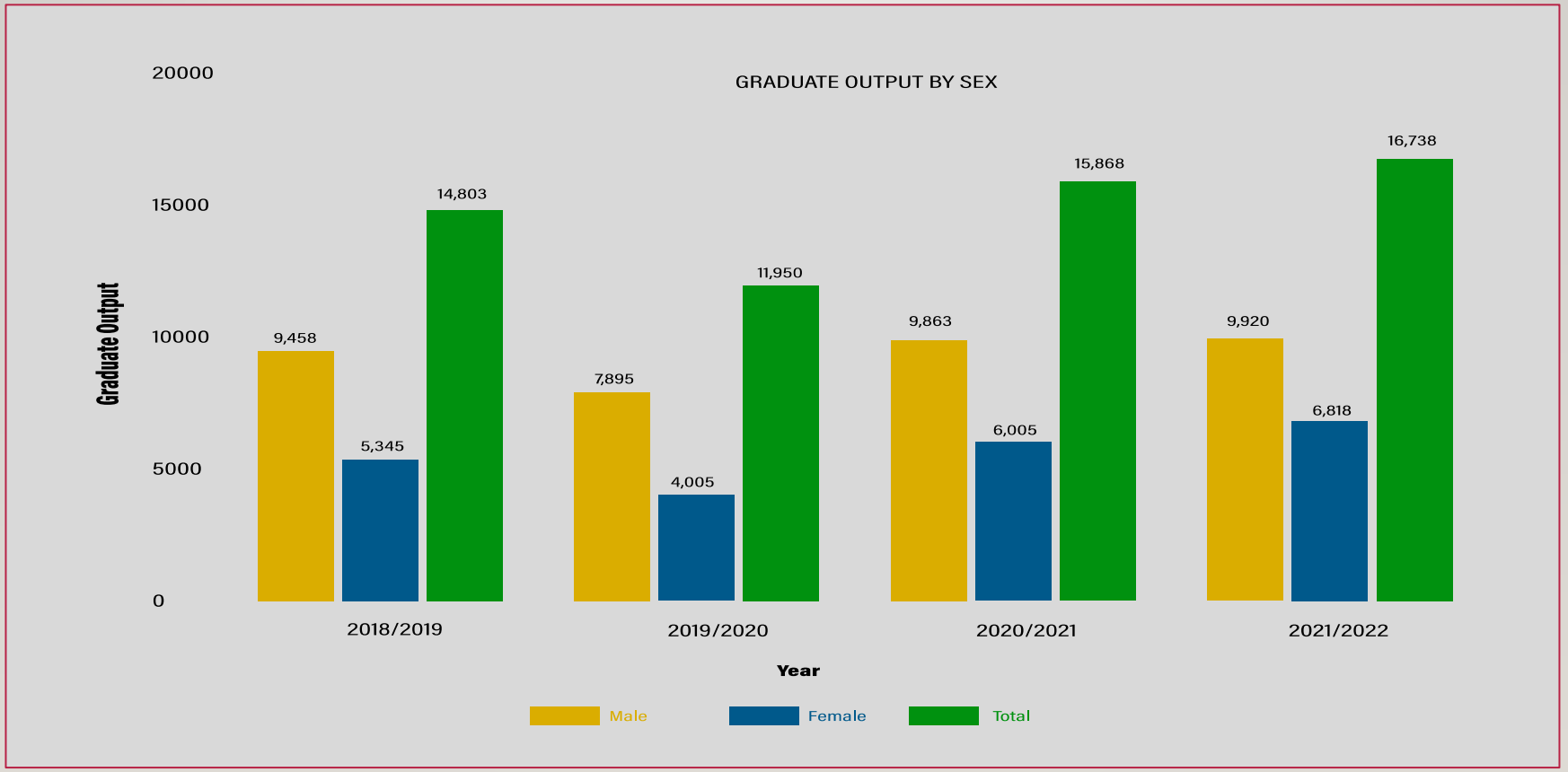
HND	BTech	MTech	Non-Tertiary Courses
Mechanical Engineering	Food Technology	Automobile Engr	Construction Technician
Electrical/Electronic Engr	Electrical/Electronic Engr	Production Engr	Mech. Engr Technician
Building Technology	Building Technology	Refrigeration & AC	Motor Vehicle Technician
Civil Engineering	Civil Engineering	Agric. Engineering	Electrical Engr Technician
Interior Design & Technology	Agric. & Environmental Engr	Graphic Design	Refrigeration Technician
Furniture Design & Production	Agro Enterprise Development	Textiles	Science Lab. Technician
Science Lab Technology	Science Lab. Technology		Catering
Statistics	Statistics and Finance		Dip. in Business Studies
Computer Science	Computer Science		Advanced Fashion
Hotel, Catering & Inst. Mgmt.	Hospitality Management		Dressmaking (NP I & II)
Accounting	Accounting & Taxation		Garment Making (NPII)
Marketing	Marketing & IT		Cosmetology (NP I & II)
Purchasing & Supply	Procurement & Supply Chain		Electronic Engr (NPII)
Sec. & Mgmt. Studies	Sec. & Mgmt. Studies		Auto Mechanic (NPII)
Fashion Design and Textiles	Fashion Design and Textiles		Welding &Fabrication (NP)
Plumbing Technology	Water & Sanitation Engr		Furniture Works (NPII)

13 FINDINGS: ENROLMENT NUMBERS | 2017 - 2022



Progr.	2017/18	2018/19	2019/20	2020/21	2021/22
HND	43,806	44,900	48,640	49,542	45,108
BTech	5,789	5,870	7,904	14,118	20,008
MTech	28	69	66	68	84
Total	52,533	50,839	56,610	63,728	65,200

14 FINDINGS: GRADUATE OUTPUT



FINDINGS: GRADUATE EMPLOYABILITY & EMPLOYMENT

- About 15,000 students graduate from the TU system each year, on the average
- Where are they?
- Not enough data
- No sustained tracer studies
- Student and employer satisfaction data?
- High employment rate can be a unique selling point for the TUs
- GTEC may factor the employment data into their supervision and funding mechanism and for monitoring the performance of the TUs
- Performance contracts?

16 PUBLIC FUNDING

- Goods and Services allocation only GHS 20,000 per institution in 2021 and 2022
- Woefully inadequate for procurement of training materials, teaching practice-oriented courses, and maintenance of training equipment and machines
- For a total enrolment of 65,200 students in 2022 and total funding allocation of GHS 515 million, the estimated unit cost is about GHS 7,900
- This unit cost is misleading when translated into actual cost of training, as staff emolument is included in the unit cost
- A minimum unit cost of GHS 9,000 was recommended for the TUs in 2016, which should work out to about GHS 30,000 in today's cedi value

17 PROMISE, PROSPECTS, PERIL

- The popularity of the technical universities is growing as evidenced by the increasing enrolments and different qualifications offered: Certificate, HND, BTech, MTech. The technical universities are therefore contributing to making TVET education more attractive
- However, there is no evidence, in the absence of regular tracer studies or graduate tracking tools, that the growing enrolments and graduate outputs are translating into greater graduate employment outcomes
- Need for the TUs to maintain their iconic identity as high level, vocationally-inclined, employment-oriented skills training institutions, supported by adequate public funding
- Actively develop horizontal and vertical articulation linkages with other learning institutions in the knowledge and skills ecosystem
- Greatest peril is mission drift and isomorphism

18 RECOMMENDATIONS

- Strengthen mandate of the TUs and ensure enforcement by GTEC to prevent mission drift and a shift towards isomorphism
- Industry and professional or workplace experience should be accorded a higher premium in the appointments and promotions criteria to ensure that teaching and learning activities are practice-oriented
- GTEC and CTVET should support the TUs to strengthen niches or specialisms in alignment with the country's skills needs and emerging economic growth sectors to promote efficiency in resource allocation
- TUs should introduce new programs in the area of green energy and green skills for environmental sustainability and in emerging technologies: renewable energy systems; robotics; AI; cyber and data security; waste management and recycling; railway engineering; smart agriculture, etc.
- GTEC should initiate performance-based funding for the TUs, based on agreed performance contracts which may include graduate placement in employment, the use of adjunct lecturers from industry, and female participation in science and technology programmes
- For now, the TUs should be limited to the award of HND, BTech, MTech and lower level technician certificate qualifications. In future, the enrolment of Doctor of Technology (DTech) students may be done in collaboration with relevant well-established research or comprehensive universities in Ghana and abroad

19 CONCLUSION

- Ghana is not alone in promoting TUs in Africa: Kenya, South Africa, Rwanda
- Initial concerns and misgivings regarding the conversion of the polytechnics to TUs stem from assimilating them to traditional comprehensive universities and the potential danger of mission drift
- TUs should be seen as universities of applied sciences that can and do coexist within the same HE ecosystem but with differentiated mandates, as is the case in some countries of Europe
- No single HE institution type is capable of producing graduates with the diversified skills sets required in a modern economy
- Policy contextualisation within the country's history of HE, TVET education, the needs of industry and the labour market, graduate employability, and the country's human capital development priorities should inform the size and shape debate of the tertiary education landscape
- TUs should promote their unique selling points and market their contribution to national development

Thank You

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