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Higher Education Reforms: A Crux in The Gambia's National Development Agenda

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Abstract: The development of a nation is positively correlated to the human capital in the development sectors, and only the right higher education system can spur such development. Thus, for any nation to rise to the challenges of its development imperatives, it has to have the requisite structures in place for its human capital formation. The Gambia has made numerous attempts to reform its education system, purposely to address its development challenges but policy implementation cycle after implementation cycle has proven futile and until today the country continues to yearn for a shift from a low-income economy to a middle-income economy. This paper attempted to look at the national development policy initiatives, the link between human capital formation and national development programs, and the education system, human capital dimension for national development and higher education reform agenda and strategies along the four (4) highlighted thematic areas. The reform was in response to the realization of the need to strengthen the engineering and technology base of the education sector as well as the foundation for STEM education and promote a 65 percent turn around in the sciences in the tertiary and higher education system. For these to be achievable, it was suggested that the right educational infrastructure such as the state-of-the-art laboratories and other equipment must be provided. Training of the drivers of the sector in content and pedagogy as well as effective planning and management of the educational system must also be a priority. Finally, the need for strong collaboration with industries and other higher learning institutions at the national, regional and international levels was recommended.

Keywords: National development; Human Capital formation; Higher education reforms

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Introduction

The Gambia is a small West African nation which is located between latitudes 13º28N and 16º34W. It shares border with Senegal on three sides and the Atlantic Ocean on the West. According to the 2013 Population Census Report, the country has a total population of 1.9 million inhabitants with the average annual growth rate of 3.2 per cent, with 65 per cent under the age of 25 years (The Gambia Bureau of Statistics [GBoS], 2015). It is estimated that the Gambia has an average life expectancy of 53.8 years; and from the recent Gambia Public Expenditure Review of the education sector, there is a youth (15 years and above) literacy rate of 50.8

per cent by 2015 (Ministry of Finance and Economic Affairs [MoFEA], 2017). The country has a total area of 11,300km^2 (4388 sq. miles). Of this, 1,300 sq. km is water bodies (MoFEA, 2017).

The percentage of households living below the poverty line (US$1.25/day) was estimated at 48.4 per cent in 2010 and 48.65 per cent in 2015, which the average GDP growth stood at 3 per cent in 2015, while at the same time, as evidenced from the 2013 Census results, poor and inadequate education continues to limit the youth's productivity and acquisition of skills (MoFEA, 2017).

The Gambian economy is limited to a small, undiversified market with tourism and agriculture as the main drivers. While tourism services accounted for 55 per cent of growth, agriculture, which employs about 70 per cent of the population, accounted for only 28 per cent of GDP (MoFEA, 2011).

The formation of human capital in any developing nation has a correlating effect with its national development (Olaniyan & Okemakinde, 2008). It is for this reason that the competitive nature of economies is dictated by workforces with requisite tertiary and higher education. Therefore, the call for The Gambia to reform its education system in order to build its human capital through an efficient and effective tertiary and higher education and training will stimulate growth, leading to the achievement of the National Development Plan – 2018-2021 (MoFEA, 2017). Rena's (2006) argued that the human resource of a nation plays a valuable role in the reconstruction of its economy. In fact, researchers (Bloom, Canning, & Chan, 2005; Olaniyan & Okemakinde, 2008; Rena, 2006; Wadda, 2000) reportedly underscore the use of higher education as a strategy for national development. However, even as social mobility, adaptation to product needs and productivity of investment can all be increased by education as in Bronchi's assertion (cited in Olaniyan & Okemakinde, 2008). According to the World Bank and major donors (Bloom *et al*., 2005) this must be supported by cost expanding and reformation of university curricula in response to expanding scientific knowledge and the changing economic opportunities.

Earlier on, some studies on education instigated more investment towards primary education (Varghese, 2012) at the detriment of higher education and national development with the argument that workforces need basic literacy and numeracy for productivity while the stark reality was that limited values were being placed on the formation of human capital through advanced education and training. This only succeeded in rendering developing nations much more dependence on foreign financial and expert assistance for their development initiatives, and sadly enough, the assumption was based on studies that did not consider private direct cost to education (McEwan, 1998). As a result, manpower planning for socio-economic development in low-income countries has become more elusive and equitable distribution of resources among the education sectors remains a far-cry, thus, a good number of developing nations lost to themselves while some developed nations that invested in their human capital by promoting their higher education systems (Foxley & Sossdorf, 2011) managed to transit to higher levels of socio-economic development.

Post-secondary education in The Gambia includes tertiary and higher education institutions which run both general and technical vocational education and training (TVET) programs. However, there is a third level that falls short of the tertiary education. This is referred to as post-secondary non-tertiary education. This is a decentralized system and it is neatly connected to the various boards of tertiary and higher education institutions as well as the National Accreditation and Quality Assurance Authority (NAQAA) which ensures their compliance. The tertiary and higher education policy have been designed to include an overall coordination and supervision mechanism for post-secondary education in the country.

Given the size of the post-secondary education landscape, the country's human capital formation has not been quite impressive. University education in The Gambia was formalized in 1995 with an extension program from St. Mary's University of Halifax, Canada, which was later transformed into a fully-fledged University in 1999. Earlier on, Rural Development Institute, Management Development Institute, Gambia College, and Gambia Technical Training Institute were the main public tertiary institutions running programs at certificate and diploma levels.

Today, the University of The Gambia is the center-piece of human capital formation at degree level and together with the tertiary institutions like Management Development Institute, Gambia College and Gambia Technical Training Institute, it is

part of a reformation of the country's education and training system to respond to the need for greater relevance and production of an informed, skilful and disciplined workforce. This has been underscored in The Gambia Education policy, 2004-2015 (Republic of The Gambia Department of State for Education 2004) as well as in the Gambia Tertiary and Higher Education Policy 2015-2022 (Republic of The Gambia Ministry of Higher Education, Research, Science and Technology [MoHERST], 2015), the Education Sector Policy, 2016-2030 (Republic of The Gambia Ministries of Basic and Secondary Education and Higher Education Research Science and Technology [MoBSE & MoHERST], 2016).

As in the cases of many countries like China, India and Korea, the government of The Gambia has been proposing a reform of its higher education system to create the needed balance between the different levels of education in accordance with country situation.

In the face of the understanding that the country's higher education system should shoulder the responsibility of developing an informed and skilful workforce, several policies, over the years, (including education policies) have been pronounced bordering on issues such as greater national unity, democracy, self-reliance and modernization. These commitments, at least, are indicators of policy makers' concern to align to national goals with sound human capital formation practices. For instance, the emphasis on the establishment of a relevant higher education system (Republic of The Gambia, Department of State for Education, 2006), is in that direction. It is rather unfortunate, however, that even after implementing the previous education policies, the challenges of equitable access and quality and relevance remain. The government went an extra-mile to establish a separate Ministry on Higher Education, Research, Science and Technology in 2007 to focus more on the formation of human capital and utilization of science, technology and innovation. That notwithstanding, the Education Sector Policy (2016-2030) has been quite vindictive of the failing policies and their implementation in addressing issues of mismatch and equitable access in the Gambia's tertiary and higher education sub-sector, and has thus set targets which would translate to a need for reform and its resultant strategies.

Agreeably, it is the mandate of a country's education system to maximize quality delivery in order to align national development with knowledge, skills and attitudes that are relevant, which goes on to ascertain that the right education reform in any country should ensure the adoption of better education and training strategies; thus creating the opportunity for educators, trainers in the country's education and training system to deliver content more efficiently and effectively, as well as addressing challenges such as equitable access, quality and human resources in related development spheres.

An education system that responds to the production need of key development sectors of the country has not been available and the National Development Plan (2018-2021) lays a particular emphasis on a general human capital plan for the country but planning the higher education landscape along the lines of national development needs has always been a daunting challenge. Budgets are based on annual projections which are not realistic due to its characteristic nature of consistent virement and low utility rate of certain budget lines. Also, all the development sectors, as outlined in the National Development Plan (2018-2021) would require a consistent churning out of graduates from the tertiary and higher education institutions during the period of the plan.

It is therefore apt to rationalize a reform of a nation's higher education system as a major driver of workforce productivity and a leading imperative for a transition from a low-income economy to a middle-income economy. To this end, various attempts to reform the country's education system should address the human capital needs for the various development sectors (DoSE, 2004; DoSFEA, 2006; DoSE, 2006; MoFEA, 2011, 2017; and others) and this is possible through a redirection of priorities.

The implications of the reform have been outlined as credible policy options and implementation strategies in creating an ideal medium that will make easy and possible the provision of informed policy making environment to aid the implementation of government's aspirations and policies.

National Development Policy Initiatives

The Gambia, as a nation has been concerned with the development of its people and has gone through several development plans that are geared towards addressing economic and social development. The country entered a second republic in 1994 which

marked the year of its first specific Strategy on Poverty Reduction (SPA I). This plan suffered implementation setbacks due to its lack of pro-poor and macro-economic framework advocacy (Department of State for Finance and Economic Affairs [DoSFEA], 2006). Hence, in 1996, the government developed a highly ambitious long-term vision for socio-economic advancement meant to:

> Transform The Gambia into a financial center, a tourist paradise, a trading export oriented agricultural and manufacturing nation, thriving on free market policies and a vibrant private sector, sustained by a well-educated, skilled, healthy, self-reliant and enterprising population, guaranteeing a well-balanced ecosystem and a decent standard of living for all under a system of government based on the consent of the citizenry (The Gambia Government, 1996).

Later, SPA II, which took the name 'Poverty Reduction Strategy Paper (PRSP I) (2003-2005) was developed after The Gambia was forced into a program with IMF in 1999 and this later provided the opportunity for a second PRSP (DoSFEA, 2006), implemented between 2007 and 2011. Challenges associated with implementation of PRSP I and II related to fiscal discipline, reporting, privatization, budget priorities and human capital formation (DoSFEA, 2006 and MoFEA, 2011). During these implementation periods, economic development remained a major challenge, with a characteristic low HDI.

Upon the closure of PRSP II, a new National Development Blueprint on Program for Accelerated Growth and Employment (PAGE) was developed, which, like PRSP II, recognizes the fact that Vision 2020 echoes the need for transition from a low-income to a middle-income economy (DoSFEA, 2006 and MoFEA, 2011).

Vision 2020 illustrates the demand for high competitiveness or transition to a middle-income economy (GoTG, 1996) hinging on the acquisition of requisite knowledge and skills in the development sectors. It was not out of place therefore, that The Gambia planned on providing effective and efficient public services, and designed a reform program for implementation, which centers on institutional capacity building, especially in professionalism to implement policies with efficiency and effectiveness (DoSFEA, 2006). However, the institutional quality that is meant to lean on sound technical and administrative supports continue to malign the country's competitiveness, and hence, economic development. For instance, public service has been characterized by high attrition (brain-drain), ineffective training policies and inadequate human capital (DoSFEA, 2006).

Economic growth and social wellbeing are enhanced by infrastructural development (World Economic Forum, 2012). In the Gambian case, emphasis is placed on power supply, transport and ICT infrastructures (MoFEA, 2011) which have been some major achievements associated with both PRSP I and II. However, the needs for ICT professionals remain a major challenge (MoFEA, 2017).

In the same vein, health service provision in The Gambia remains quite elusive, despite its necessity for competitiveness and productivity. The issue of quality service provision becomes pertinent to reducing mortalities, incidences of disease infection, malnutrition and generally, low life expectancy (MoFEA, 2011; GBoS, 2012; & MoFEA 2017).

As for the basic education, there have been substantial improvements in terms of access for the younger generation; however, quality remains a major challenge, more so in the secondary sector (MoFEA, 2011; MoBSE, 2011; MoBSE & MoHERST 2016).

On the Gambia's macro-economic front, it is reported that agriculture (including fisheries) and the tourism industry are the main drivers of the Gambian economy. However, 70 per cent of the workforce engaged in agriculture, cultivating about 30 per cent of total arable land and contributing less than 30 per cent of GDP (MoFEA, 2011, 2017). It is obvious that there is income disparity (and iniquity) between those in this sector and the rest of the workforce. The 2010 household survey (GBoS, 2011) reported the highest poverty incidence among households whose heads are in the agriculture and fisheries sector. A plausible explanation is that they have poor vessels and limited managerial and technical skills.

Considering the deliberations above, problems of institutional development must be relatively anchored to human capital formation and utilization; hence, higher education reform in the New Gambia (MoFEA, 2017). It should be noted however that, even as De Grauwe (2009) cautions the sensitivity of incentives, he draws attention to

the relevance of individuals, given their incessant interaction with all sectors of development, more so, organizations and institutions.

Today, in the NDP, agricultural and natural resources sector plans prioritizing increased agriculture and natural resource outputs and make maximum and balanced utilization of rain-fed and irrigated agriculture (MoFEA, 2017). This is achievable through human capital formation strategies along the line of providing extension services, research and development, water resource management, private sector participation and micro-financing. Reforms in the fisheries sub-sector include capacity building of the Gambian fishermen with storage and preservation facilities, surveillance to ward-off poachers, packaging and manufacturing, marketing, research and micro-financing (MoFEA, 2017). Also, the tourism sector, which is a key player in the country macro-economic framework strategies include promoting quality standards through human capital formation (MoFEA, 2011, 2017).

The industrial policy, as at 2006, aims at encouraging private sector participation and maximizing gainful employment, and strategic priorities such as public-private-partnerships in areas such as power supply; reducing bureaucratic bottlenecks; and expanding goods and financial markets have been outlined. The human capital formation strategies of this sector place emphasis on skills training in management, product development and ICT (DoSFEA, 2006; MoFEA, 2011, 2017).

It could be noted that while these national strategies recognize the weakness of the factor-driven pillars, mainly in the areas of competencies (human capital). The policies and strategies of the various sectors outline framework for building these competencies through education and training. The strategies may not show the focus and consistency required and may also have deficits in outlining a sound capacity- building plan; but the need for capacity building came out clearly. This goes on to justify that human capital formation should lay a solid foundation for pillars such as higher education and training, goods and labour market efficiency, financial market development, technology enhancement and enlargement of market size. The argument is that development aspirations will remain mere wishful thinking if higher education sector is not reformed.

Human Capital Formation and National Development

In a book entitled "There is no Development without Capacity", De Grauwe (2009), outlined four levels of capacity development: individual capacity, organizational effectiveness, public management and political, social and economic context. What underpins De Grauwe's proposition is the need to address the mismatch in our education system. A year earlier, Olaniyan and Okemakinde (2008) cautioned on issues of quality and relevance even as the duo strived to justify the positive correlation between educational investment and growth. Education therefore, is a capital good and a calculated development of skills is an important factor in any production activity (Olaniyan & Okemakinde, 2008). In a similar note, Becker (1962) argued that a typical investor in human capital is more impetuous and thus more likely to err than is the typical investor in tangible capital. Over time, human capital theory has been retooled under the pretext of evident economic stagnation and underemployment, quality of schooling and diminishing number of commensurable jobs, among issues (Livingstone, 1997). Human capital is therefore, the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic wellbeing (Organization for Economic Co-operation and Development [OECD], 2001).

Along this line of thought, Psacharopoulos and Woodhall (1997), cited in Olaniyan and Okemakinde (2008), opined that human beings are the active agencies in the accumulation of capital and that all other factors of production are passive. Earlier on, Roberts (1991) came up with a model that shows that technological and labor productivity differences we see in the world are the result of human capital formation; and in the World Bank 1993 report, the East Asian economic boost has been associated to their human capital formation, building up the point that those countries in the forefront of technology have the most educated population (Becker, 1993; Van-Den-Berg, 2001) (cited in Olaniyan & Okemakinde, 2008). It is a common understanding therefore that there are varying drivers of development, but notably, human capital is a "robust determinant of… growth" even though policies aimed at addressing skills gaps should agree with relative needs (OECD, 2012).

According to Livingstone (1997), the retooling attempt of human capital theory and its associations could not negate the fact that there is a "general gap between learning efforts and knowledge bases and diminishing number of commensurable jobs to apply increasing knowledge investment. Livingstone argues that the breakdown of the learning-earning connection cannot be blamed on quality and he even acknowledges greater knowledge accumulation using organized educational institutions. He explains that even though a large number of people do work-related learning on the job, a relatively good number are not given the opportunity to relate their knowledge to their jobs, and if otherwise, they may not be compensated for it and that due to the diminishing rate of commensurable jobs, a good number of the unemployed and the underemployed continue to see very little on the ground even as the advocates continue to echo more prospects for the highly educated (Livingstone, 1997). In a similar tune, Bowles and Gintis (2003) observed that the production of better workers cannot be understood by a simple reference to how individual worker skills are related to individual worker productivities.

Livingstone (1997) and Bowles and Gintis (2003) critique the theory as a likely prospect of competitiveness for the greater private enterprises, which mimics a somewhat "intellectual reserve army of labor and the continuing wastage of investment" and refer to it as an avenue for the capitalists to maximize profit by exploiting the labor power of workers and by holding down the value of labor power. Bowles and Gintis (2003) further argue that our education system forestalls the development of working-class consciousness and legitimizes the economic inequality by providing an open, objective and ostensibly meritocratic mechanism for assigning individuals to unequal occupational positions. Earlier on, Coomb (1970) wrote that a good deal of our education did not appear to produce development-minded people with the appropriate skills, knowledge and attitudes that will promote national development.

Marshall (2005) defended that human capital formation may not be the overall remedy but it is necessary for improving labor standards. His argument portrays that there are other factors that determine development and that in a developing, low-income country, for instance, the type of human capital should correspond to the demand. Ultimately, a competitive nation requires greater attention to human capital formation at every level – individuals, family, enterprise and society (Marshall, 2005). For instance, Brown (2010) enumerated high illiteracy and low adoption of science and technology as main causes of poverty, low per capita income and low economic development in developing countries.

Becker (1993) accepts that 'credentialism' exists but there is little evidence that explains the difference between earning and schooling. The understanding, according to his view, is that the demands of work life are not in conformity with school life and that the former goes beyond mere academic success. Becker (1993) and later OECD (2012), acknowledged those lower virtues of capital that are generally associated to income gained over time through other factors of production but places more significance to higher virtues associated to human intellect and wellbeing as a result of quantitative and qualitative increment through investment in schooling, training and medical care.

Ultimately, both contending sides agree that investment in education can potentially increase the labor power of individuals and that schooling facilitates the extraction of labor power from an employee. The argument centers around the increase in the labor power as a cause of increased worker skills or simply through the credentials bagged from schooling and whether the extraction of labor power is done through the class-based structure or incentives (Bowles & Gintis, 2003). In the midst of this lack of clarity, it can still be argued that human capital formation recognizes both private and public gains from investment in intellectual capital. It is likely that some of the issues discussed by critics are a result of inequality because Marshall (2005) decries that the rich may resist human capital formation for the poor or the deepening of markets for education and capital, thus impeding social capital formation; and by extension, socio-economic development for the low-income economies.

The Gambia Education System

The Gambia has four levels in its education system. These are Basic Education (nine years of uninterrupted learning – made up of lower and upper basic education); Senior Secondary Education; Tertiary Education and Higher Education.

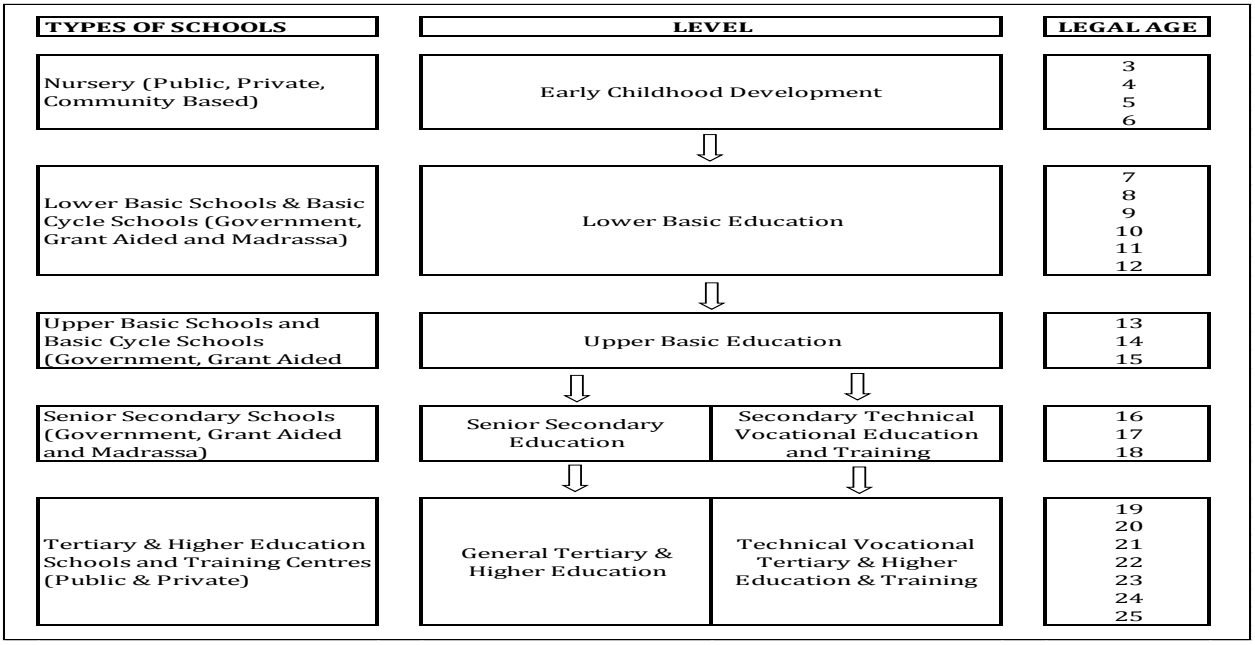
There used to be one education ministry responsible for the provision of general education from early childhood development (ECD) to higher education.

This ministry of education, one time referred to as department of state for education, has also kept the basic and secondary education portfolios, including early childhood development and adult and non-formal education as part of the expanded vision of basic education. However, in 2007 the Ministry of Higher Education, Research, Science and Technology (MoHERST) was created to assume the responsibility for post-secondary education" (MoBSE, 2011). The mandate of post-secondary education has been coupled with research, science and technology and the parent ministry was renamed the Ministry of Basic and Secondary Education (MoBSE).

The Gambia has a four-year early childhood development, a nine-year basic education and a three-year senior secondary education. Technical Vocational Education and Training (TVET) and other non-tertiary post-secondary education consist of courses ranging between the span of three years, depending on the specialization. TVET has been the mandate of the defunct National Training Authority (NTA), which is under the supervision of MoHERST and later transformed into the National Accreditation and Quality Assurance Authority (NAQAA). In The Gambia, adult and non-formal education are project-driven and cater for community improvement skills (MoBSE, 2011).

According to policy pronouncements, the Gambia's tertiary education is understood as a level of post-secondary education but not degree awarding and covers both general education and TVET systems and admits students with entry requirements from grade nine or twelve while the higher education deals with all forms of degree awarding institutions (MoHERST, 2014). During the recent education sector-wide policy development, The Gambia's education system was reviewed and a new structure has been proposed (MoBSE & MoHERST, 2016) as seen in figure 1.

Figure 1: Proposed Structure of the Gambian Education System



Source: The Gambia Education Sector Policy, 2016-2030

The Gambia has six education regions; namely: Region One- the Capital City and Kanifing Municipality; Region Two- the West Coast Region; Region Three- the North Bank Region; Region Four, the Lower River Region; Region Five, the Central River Region and Region Six, the Upper River Region.

The 2004-2015 education policy, which was premised on Vision 2020, seeks to reduce poverty by mapping out a policy framework that was meant to provide responsive, relevant and quality education for Gambians (DoSE, 2004). This was the third education policy since independence. The two other policies had very little reference to higher and tertiary education, or a realistic human capital formation plan for the country. Also, the pressure exerted on state resources by the growing population and level of poverty further necessitated the need for responsive education policy

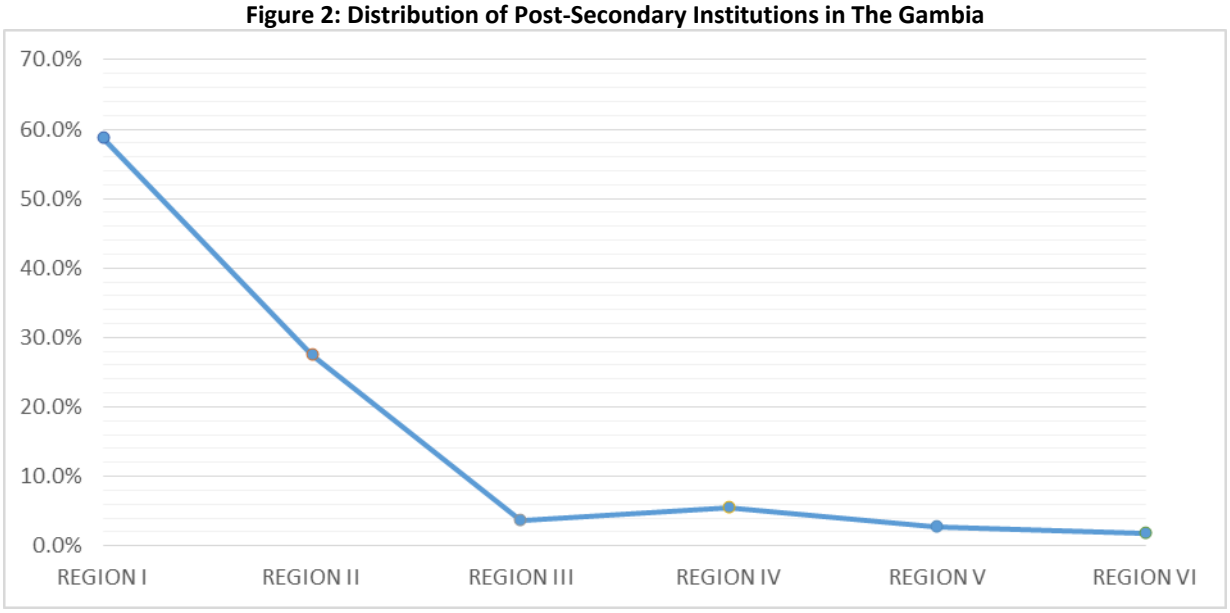
pronouncements in relation to the drive to meet Vision 2020 targets.

Tertiary and Higher Education in The Gambia

In post-secondary institutions, access to programs beyond level 4 of the International Standard Classification of Education (ISCED) is limited. Out of the 109 post-secondary institutions reviewed between 2010 and 2016, Higher Education institutions (universities), constitute only 5.5 per cent; tertiary institutions represented 7.3 per cent and post-secondary non-tertiary education (institutions offering certificate and diploma programs that could not provide progression into degree programs) constituted 87.2 per cent.

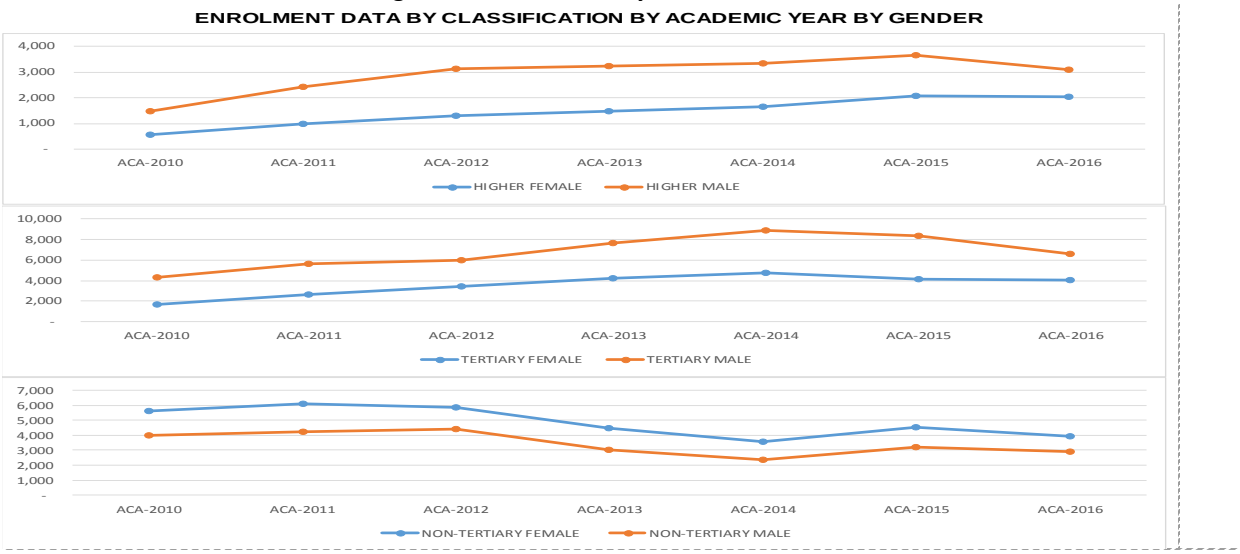
Access to post-secondary education for students graduating from Grade 12 in the Rural Regions is a major concern with 86.2 per cent of the post-secondary institutions situated in Regions 1 and 2, with insignificant number of tertiary and higher education institutions located beyond these two regions. See figure 2.

Figure 2: Distribution of Post-Secondary Institutions in The Gambia



Source: MoHERST Database, 2016

Figure 3: Post-Secondary Student Enrolment



Source: MoHERST Database, 2016

There has been an unprecedented attendance growth rate. However, the participation of female students in science and technology-related fields remains extremely low, and participation ratios also remain low, as indicated in figure 3.

Over 30 per cent of programs offered in post-secondary institutions are science and technology-related, but over 70 per cent of these programs are offered by the post-secondary non-tertiary – exclusively at diploma and certificate levels. Consequently, post-secondary institutions do not offer the desired opportunities for higher learning in the sciences.

Keys policy desirables are the concentration of government on science and technology-related programs, research and development and adoption of relevant TVET programs to promote empowerment of youth.

Higher Education: The Human Capital Dimension for National Development

Education, in its formal context, is a significant factor of human capital not only because of the ease of measurement associated with it but also its systematic nature, as well as its assumed responsibility in addressing development. Two issues that are associated with formal education are the level that most affects development and the relevance of the curricula to labor market needs.

Earlier, in developing countries, the structural adjustment programs succeeded in maintaining the education budget by reducing the share of higher education (Varghese, 2001). This policy in top financing institutions exacerbated the dependence on foreign experts to solve local problems. As similarly argued by the United Nations Educational, Scientific and Cultural Organization (UNESCO) (1998) (as cited in Varghese, 2001), the justification on the basis that economies were becoming more private, and by extension training responsibilities should be taken up by these private entities, is derogatory to national governments' social responsibility. In fact, the bigger picture can be linked to the concerns raised by big financial institutions about reducing the cost of public service delivery (World Bank, 1995) (cited by Carnoy, 1999). Subsequently, higher education suffered massive budget cuts in developing countries. According to Carnoy (1999), the pay-off for higher education has driven the shift of economic productions to knowledge-intensive products and processes. The strengths underlying international competitiveness, as provided by the national pool of professionally trained human resources and the knowledge-driven production of goods and services increase the demand for people educated to higher levels (Varghese, 2009). Also, reforms driven by competitiveness asked for improved economic productivity, which translated into expanding the educational attainment of the labor force, and of course the quality and relevance (Carnoy, 1999).

In the process of gaining higher competitiveness, economies place emphasis on drivers of growth, which in many cases are the industries. Industries, through their process, help maintain sound macro-economic framework, which also plays a central role in the accumulation of wealth for individuals. Therefore, based on both the assumption and empirical evidence of the central role of higher education in production, which are closely industrial in nature, the relationship between the two – industry and higher education – becomes a very hot agenda in the realm of national policy formulation on development (Hernes & Martin, 2000). Bloom, Canning and Chan (2006) re-echoes similar sentiments in their revelation that sub-Saharan Africa was 23 per cent below its productivity, and a minimal raise in investment on higher education will raise the continent's output due to technological catch-up, and that, if this could be sustained, then Africa will reach the world-wide technological or productivity frontier.

Around the same time, Carnoy (2006) presented the same argument on evidences that higher education increases output of labor forces, and even draws conclusions that different levels of education also explain the various levels of economic development. That is, basic education is quite important for agricultural sector, awareness on infectious diseases, planning the family, etc. However, quality basic education has entered the realm of science and technology and requires advanced training to ensure quality delivery by instructors. Also, delivery of quality health care cannot be divorced from qualitative preparation of those service providers at the higher education level. Even the so-called agricultural nations with over 70 per cent of the labor force would still need some extension services which would require vigorous training of extension workers to deliver appropriate services. This argument can be substantiated by Varghese's (UNESCO IIEP Publication, January-March 2007), citation of studies that attributes higher inequality to lower higher education enrolment; and his argument along this line explains why low higher education enrolment and income disparities characterized the early stage of development in many countries (UNESCO IIEP, January-March 2007).

It is based on such sentiments that the former UN Secretary-General, Kofi Annan, visualized the university as the remedy to Africa's numerous problems ranging from lack of expertise, weak institutions, governance, conflicts and human rights abuses, to the continent's low presence in the global community of scholars (Bloom *et al.*, 2006).

A report of UNESCO and the World Bank Task Force on Higher Education and Society as well as the World Bank report on Constructing Knowledge Societies: New Challenges for Tertiary Education call for increased investment on higher education in developing countries (cited by Bloom *et al.*, 2006). After all, productivity is the basis for sustained economic growth and wealth accumulation (and therefore), higher-level skills, knowledge and technology are indispensable for competitiveness in the global economy" (Chakroun, Holmes & Marope, 2015).

Higher Education Reform Agenda

Higher education in The Gambia has not been a priority of the colonial masters and for forty years of self-rule since independence. Besides the certificate and diploma programs administered by institutions such as the Gambia College (teacher training), Management Development Institute (civil service training), Gambia Technical Training Institute, Rural Development Institute and the Hotel School (now The Gambia Hotel and Hospitality Institute, there was no formal higher education system until 1995 when the country's first and only public University started as an extension program of St Mary's University of Halifax in Canada through the Nova-Scotia Gambia Association (NSGA). In 1999, University of The Gambia (UTG) was fully established and started offering degrees in several undergraduate programs such as medicine and agriculture. Today, Masters' degree programs have been introduced in many fields and Doctoral programs in Public Administration, Law and Agronomy.

In a Round Table Conference, organized in London (February 2008) it was reported that access, quality improvement, human and intellectual resources and physical infrastructure relating to higher education in The Gambia have been outlined in the PRSP II, Millennium Development Goals (MDG), Education Policy 2004-2015 and the Education Sector Strategic Plan 2006-2015, geared towards the realization of the country's '2020 Vision'. In accordance, a new Department of State for Higher Education, Research, Science and Technology was established through a Presidential Pronouncement in 2007 to oversee technical, teacher and university education in The Gambia, with the specific objectives of creating a dynamic and flexible system of education. In the Education Policy (2004-2015), UTG is to:

- Offer graduate programs with the cooperation of foreign universities
- Reduce dependence on expatriate lecturers
- Enhance the integration of higher and tertiary institutions in The Gambia, and to collaborate with other universities and programs that are relevant to The Gambia; and,
- Be responsible for the accreditation and validation of qualifications which will reduce the dependency on external institutions.

According to the same report of the Round Table Conference, seven result areas were identified in the drive to achieve the aforementioned objectives:

- Adherence to standards of professionalism by both staff and students in tertiary and higher education institutions;
- Improved management in all tertiary and higher education institutions;
- Highly qualified and motivated academic staff;
- Improved regular maintenance of structures and resources for improved access to quality tertiary and higher education;
- Adequate and timely funding of tertiary and higher education institutions;
- Improved relevant quality education in tertiary and higher institutions; and,
- Improved access to tertiary and higher education.

To this end, UTG became a center stage in the production of requisite human capital for the development sectors of the country and has since been producing graduates in several disciplines such as public health, nursing, medicine, natural and physical sciences, humanities and social sciences, business and public administration, education and agriculture. Of late, there have been improvements in the graduate production in areas such as computer sciences, and law. However, given the absorptive capacity of the institution, as well as area specificity and efficiency in terms of graduations, there are growing concerns as to whether the University can rise above its challenge of churning out the required human resources for a middle-income economy, thus, the higher education reform.

It is reported in the NDP that capacity gaps and development needs are pervasive in the Gambia's public sector institutions. In its reform process, MoHERST, as stipulated in its medium-term expenditure framework, 2017-2019, will collaborate with other sectors to ensure the establishment of a labor market-driven education and training system, enhanced research and development, as well as promote and utilize science, technology and innovation to steer the development process of the nation.

This gives the Ministry the vision of playing a central role in the transformation of The Gambia into a knowledge-based economy and society through the establishment of a tertiary and higher education system of reputable (world-class) institutions and centers of excellence that will produce well-educated and skilled citizens with the requisite competencies to lead fulfilled lives and compete nationally and globally and to also establish a coordinated scientific research and technological development skills system for advance socio-economic development.

As stipulated in the NDP (MoFEA, 2017), The Gambia's higher education sector reform centers around four main areas:

- Expanding access and equity
- Deepening and scaling up support for a quality education agenda
- Undertaking the demand-side interventions by building market-relevant skills training among the youth
- Enhancing research and development through University-Industry linkages

Expanding Access and Equity

In its 2018-2021 National Development Plan (NDP), the government of The Gambia proposed establishing at least one TVET institution in each educational/administrative region of the country while continuing its programs on the construction and/or rehabilitation of existing training institutions in the country. The UTG (Faraba Banta Campus), upon completion by the end of the NDP period will have an enrolment capacity of 6, 000; a 100 percent increase from its current enrolment capacity. An up-country campus on climate change (the West Africa Science Service Centre for Climate Change and Adapted Land Use (WASCAL) will be scaled up to include other programs of agriculture, environment and related programs. The private sector that is constituting almost 85 per cent participation of the education establishments will be encouraged to turn their attention to the rural communities and collaborate with the government through public-private partnership initiatives to embark on scholarships and loan schemes for students, especially those in their respective disciples.

Along this line, the NDP proposed increasing gross enrolment in post-secondary institutions from 9.7 per cent to 11 per cent and that those graduating from the three levels of post-secondary institutions should be redistributed thus: higher education: 30 per cent; tertiary education: 50 per cent and non-tertiary: 20 per cent. It could be noted that the reform intends to transform some of the tertiary institutions into universities which will address the desire to increase graduating targets from 14 per cent to 30 per cent. Also, the qualifications framework will outline a system that will enforce compliance towards meeting the required credit hours and competence characteristics for each level of qualification, and institutions will be accredited along these lines. That way, it is envisaged that most of the programs in the so-called post-secondary institutions would be upgraded and the institutions would meet the tertiary standards, especially with the target of getting the accreditation target to 100 per cent. It is on this basis that the target for the non-tertiary graduates was reduced from 42.7 per cent to 20 per cent.

Deepening and Scaling up Support for a Quality Education Agenda

As reported in the MoBSE and MoHERST (2016) and MoFEA (2017), weak teaching skills and inadequate materials are a contributing factors to poor quality of education, though other factors include poorly developed tertiary and higher education structure.

The Ministry has established an accreditation and quality assurance authority mandated through an Act of the Gambia National Assembly to regulate all aspects of public and private education in the country (MoFEA, 2017). This body checks institutions to ensure compliance, review curricula and ensure their compliance with the national qualifications framework. The Ministry's reform agenda on quality touched on teacher issues as well as the development of a scheme that would include training, licensing and health and safety programs for staff of the institutions.

In the 2004-2015 Education Policy, it was stipulated that an Observatory would be established to promote and maintain academic standards in

education, learning and knowledge associated with the UTG. This observatory was to serve as an advisory body (DoSE 2004). In the recent policies, this has taken a new dimension in the establishment of the Accreditation body. However, the finalization of the qualifications framework remains on top of the agenda (MoHERST, 2014; MoBSE & MoHERST, 2016). This is synonymous to China's educational democratization to improve its governance structure by using educational legislations to ensure the effective implementation of policy in a way that administrative Acts continue to serve as the core (Muju & Nanzhao, 2008). India, like other countries, adopted a learner-centered approach and became more flexible in its teacher recruitment and incentivized the profession through a tenure system that would retain the best talents. Also, the curriculum introduced a more industry-oriented programs that would promote employability and entrepreneurship (FICCI, 2013).

Notably, the NDP lumped the quality targets under the accreditation process (MoFEA, 2017). Since the accreditation body will monitor the institutions and ensure their compliance with the already developed minimum standards, these institutions will have to be assessed based on all the parameters of quality education and those who meet the minimum standards will be awarded accreditation, which would be at both program and institutional levels. A target of 100 per cent has been indicated in the NDP (MoFEA, 2017).

Undertaking the Demand-Side interventions by Building Market-Relevant Skills Training among Youth

A review of the country's situation reveals that to this day, poverty in The Gambia remains deep and endemic, more so in the rural areas of the country and unemployment and underemployment continue to remain major concerns for youth and women**,** and this led to the dangerous and perilous journey these youth take through the Sahara desert and the Mediterranean Sea.

It is today argued that part of this problem is traced to the education system that has not made the required effort to ensure challenges of quality and relevance do not continue to be the push factor of the youth in the labor market. It was reported in the 2011 Gambia Education Sector Report (MoBSE, 2011) that 43 percent of higher education graduates find formal work and 13 percent are unemployed, and a vast majority of those employed were in the informal sector, showing that the formal sector has not been doing well in terms of job creation.

A survey conducted by NAQAA (2014), as cited by MoFEA (2017) indicates limited access and uneven distribution of TVET institutions in The Gambia. The Labour Force Survey (2012), as cited by MoFEA (2017), reports youth unemployment at 38 per cent and proposes a synergy of stakeholders to reduce this percentage by nine in 2021.

The national planning is committed to promoting inclusive vocational and entrepreneurial skills training to match economic opportunities and the needs of the labor market and calls on the use of multisectoral platform to provide young people with an education that improves their basic numeracy and literacy, managerial, leadership and business skills, and introduce them to sector specific knowledge such as agriculture (MoFEA, 2107). The report calls for a connection of UTG and other major TVET institutions to broaden knowledge and increase research and development dissemination, enhance local problem-solving and recommended the scaling up of post graduate attainment for youth in alignment to community action research (MoFEA, 2017). As it is, the inequitable distribution of TVET institutions and low learning outcomes limit the effective preparation of youth for the job market and as the reports further elaborates, it could be noted, three in 100 completed post-secondary education and one in ten of the labour force (15-64 years) has benefited from some form of vocational training (MoFEA, 2017).

This reform focused on promoting TVET and other skills enhancing initiatives to match the job market and to take measures to enhance access to non-formal education in order to build a more skilled and productive workforce (MoFEA, 2017). By this, the government recognized the critical position occupied by informal learning through apprenticeship programs. This is like borrowing ideas from China where higher education reform was designed around employment demands with the understanding that standards of higher education quality are the social recognition and acceptance for graduates; meaning colleges and universities shall consider the social demands to promote their graduates' employability and satisfy the demands of scientific innovation and industrialization (Muju & Nanzhao, 2008).

The NDP sold out a reform program on TVET Revitalization in Gambia to development partners in the last resource mobilization in Brussels. This program places emphasis on the transition from advanced diploma to degree programs in the technology and engineering programs. The reform intention was to address the issue of inadequate skills by providing skilled education through sustained entrepreneurship, innovation, and skilful employment, as well as mitigate migration through provision of skills and jobs for the youth (MoFEA, 2017). Another program of the reform is to establish at least two agribusiness institutes in the country.

While agriculture is the biggest employer for the youth with 70 per cent of the labor force, these workers constitute 72 per cent of the poor and 91 per cent of the extreme poor. Therefore, output has not been able to keep pace with Gambians' growing demand for food, which is due to a range of factors such as inadequacy of professionally trained agriculture specialists and low level of educated food and agricultural producers, difficulties to access modern inputs, ineffective advisory services or lack thereof. The Ministry did not hesitate to respond to this in its reform program by providing a system that would promote the generation of science-based agricultural knowledge by tapping and utilizing a large pool of readily available or easily adaptable productivity-enhancing technologies on the shelves of West African countries' agricultural research centers, and elsewhere in the world to be shared through network of agricultural research and development institutions. Also, the Ministry proposed an agribusiness institute that would promote knowledge transfer and human capital development by investing in agricultural education and training (including in-service training) to help translate knowledge into increased productivity, and to maintain a feedback loop from producers to researchers to enhance the relevance, quality and efficacy of research activity and results.

Enhancing Research and Development

In The Gambia lack of technological innovation has challenged the industrialization process (MoFEA, 2017) and as such priority was given to "technology transfer, the encouragement of adaptive research in production and process technologies and to enable expert qualified Gambians to temporally come back to share their knowledge as a way to contribute to the development of their R & D sectors (MoFEA, 2017).

While Gambia working with the World Bank and the African universities that are considered centers of excellence, by 2021, the government worked to build up its research capacity by training researchers in various disciples of science, technology, engineering and mathematics (STEM): 32 doctoral researchers; health: 10 doctoral researchers and agriculture: 10 doctoral researchers. In addition, the reform targeted developing and implementing a framework on a science park and incubation centre for effective academia-industry collaboration, promotion of innovators and budding scientists, and providing support to entrepreneurship (MoFEA, 2017). This is also like borrowing idea from China and India. China, for instance, promoted research through a mentor model which allowed international institutions to collaborate with the local institutions.

The Chinese reform featured strong industry-academia collaboration and interaction at all operational levels which aligned the country's higher education system with the requirements of the industry. Also, competitive research grants and corporate endowments were encouraged (Muju & Nanzhao, 2008). In the case of India, it established communication with other countries, regions and international organizations, including developing countries to promote the importation of foreign intellectual resources (FICCI, 2013).

Conclusions and Recommendations

Overall, the higher education reform program focus was on how to strengthen the engineering and technology base of the sector and to this end, Gambia Technical Training Institute (GTTI) is being transformed into a technical university under the new World Bank project having been gazetted to become the University of Applied Science, Engineering and Technology (USET) focusing on applied aspects (hands-on), while the University of The Gambia will look at the design aspects and teaching beyond the bachelor's degree. The engineering training will specifically address the mechanization challenges of agriculture and other drivers of growth. For instance, manufacturing and maintenance of equipment, scientific utilization of water and land and seed science and plant breeding technologies, among others. The reform also targeted how to strengthen the foundation for STEM education and promote a 65 per cent turnaround in the sciences in the tertiary and higher education landscape. The reform also placed emphasis on the award of scholarships in specialized

areas of national development, more so in areas such as health, engineering, agriculture, computer science, mining/petroleum, urban planning and data science.

It is imperative to recommend that the right educational infrastructure which will include the state-of-the-art laboratories and related engineering equipment be provided to promote quality teaching and learning in the institutions. It is also essential that the drivers of the sector are trained in content and pedagogy/andragogy for effective delivery. Following this is the need for effective planning and management of the education systems which must include the building of the capacity of staff in both the institutions and the Ministry and giving adequate support to undergraduate education in the STEM disciplines. Finally, there is need for strong collaboration with industries and other higher learning institutions at the national, regional and international levels.

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