

# HIGHER EDUCATION AND THE KNOWLEDGE BASED ECONOMY IN AFRICA- SELECTED COUNTRY VIEWS

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# Countries of focus

1. Benin
2. Ghana
3. Kenya
4. Malawi
5. Uganda

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Transitions, where we have been where we are going  
global movement-

Agricultural  
Era-pre 20<sup>th</sup> C

Industrial Era  
20<sup>th</sup> C

Knowledge  
Era 21<sup>st</sup> C

# Higher Education Characteristics -World 'order'

- ❑ Increased demand for higher education
- ❑ Changing students demographics –life long learning
- ❑ Decline in public funding
- ❑ Change in educational needs/ 21<sup>st</sup> century skills
- ❑ Competitiveness of institutions- MOOCs and open source learning materials
- ❑ Rapid technological advances

# Higher Education in Africa- Characteristics

- ❑ Enrolment increased from 200,000 in 1970 to more than 4.5 million by 2008 ([UNESCO, 2010](#));
- ❑ Graduation rates have correspondingly increased- **high graduate unemployment?**;
- ❑ Gross enrolment ratio (8%) of Africans enrolled in universities vs 44% in Latin America and 95% in North America ([UNDP, 2014](#));
- ❑ Declining quality with expenditure per student falling significantly;
- ❑ Research output remains the lowest in the world at less than 1% of the world share ([World Bank & Elsevier, 2014](#));
- ❑ Returns to investment in HE are closer to 30% (Borland et al., 2000; Montenegro and Patrinos, 2013; USAID, 2014).

# Growth in the tertiary education sector

**Modelled against the colonial tertiary education systems. By 1990 all countries in the sample had one public university**

## **Status 2015**

- ❑ Ghana is composed of ten (10) universities 5 of which are public, private universities account for 5% cent of total tertiary enrolments
- ❑ Uganda has 39 universities of which 6 are public institutions. The private institutions account for 30% of university enrolment
- ❑ Malawi has five public universities and 16 accredited private universities.
- ❑ Kenya has 22 public universities 14 chartered universities and 12 with letter of interim authority
- ❑ Benin has 15 universities 7 of which are public

# Growth in the HE sector -Enrolment changes

Although varying in time frames and scope the figures below give a snapshot of enrolment trends

- ❑ 2,000 in **1970** to over 250,000 by **2012** Kenya (overall)
- ❑ 5,000 in **1970** to close to 198,066 by **2011** Uganda (overall)
- ❑ 90 in **1965** to 15,000 by **2015** Malawi (University)
- ❑ 9,997 in **1990** to 93,973 in **2007** Ghana (public universities)
- ❑ 28,000 in **2004** to 90,664 in **2013** Benin (University of Abomey-Calavi largest)



# Challenges facing universities in Africa

- ❑ The rapid expansion in enrolments and institutions makes it difficult for higher education commissions and councils to effectively undertake their role of monitoring and evaluation as well as quality assurance.
- ❑ Rampant student unrest, over diverse reasons ranging from resistance to tuition and other fee increase to the need for political and institutional governance reforms
- ❑ The universities have inadequate facilities for accommodation, lecturer rooms and laboratories or demonstration/practical facilities

# Challenges facing universities in Africa

- ❑ Limited differentiation, new universities despite the inception rhetoric end up duplicating programmes in existing institutions.
- ❑ University education as prestige / status symbol characterised by
  - Students admitted to degree courses they did not choose
  - Education is the driver of inequalities between the rich and poor, gender disparities
  - Education is one of the major drivers of social inequality & immobility
  - Socio economic access barriers

# The Agriculture Landscape, Focus & Rationale

- ❑ Agriculture is a core sector that contributes close to 30% of GDP in many developing and emerging economies.
- ❑ Advances in STI in agriculture will elevate its performance and contribution towards economic development and poverty reduction.
- ❑ Universities produce workforce to generate, translate, extend and share knowledge that will increase agricultural productivity, agribusiness and incomes.
- ❑ Trained human resources will stimulate science-based technology innovation.
- ❑ Improved linkages with industry, structured internships, and frequent review of curricula and improvement of infrastructure

# The Agricultural Higher Education Landscape

- ❑ Large number of PhDs holders in Agriculture compared to other disciplines (Malawi, Uganda)
- ❑ Agriculture ranks low as a 1<sup>st</sup> Choice programme for students are admitted to Universities and Other tertiary institutions
- ❑ agriculture graduates lack practical skills, are theoretical and end up in jobs that are non-agriculture related
- ❑ Research output ends in laboratories and publications with limited relevance to local needs
- ❑ Fragmented approach to agricultural technologies that target sections of the value chain
- ❑ Limited number of Universities concentrated on Agriculture ( Centres of Excellence)
- ❑ Conversion of Agricultural Colleges into universities and diversification (Uganda)

# The Agricultural Higher Education Landscape: Graduates disciplines of focus

	Education, Humanities & Arts	Soc Science Business & Law	Science	Eng, Manufacturing & Constrc'n	Agric	Health & Welfare	Servi ce	Other
Sub-Saharan Africa	26%	44%	12% (3%ICT)	4%	<b>2%</b>	5%	0%	7%
North Africa	22%	51%	8% (1%ICT)	10%	<b>1%</b>	6%	1%	1%
Asia	23%	30%	6%	20%	<b>4%</b>	9%	4%	4%
Latin America	23%	38%	7%	9%	<b>2%</b>	13%	3%	5%
OECD	25%	37%	10% (3%ICT)	11%	<b>2%</b>	11%	40%	1%

# Emerging trends- Areas for reform

- ❑ Existence of a legal framework that sets in place National Higher Education Commissions / Councils
- ❑ Professional bodies that ensure the relevance of curriculum- (engineers associations, international medical council, legal education board(Kenya))
- ❑ Financing proposals for a differentiated unit cost & non -enrolment performance based budgeting through a funding Body as opposed to government subvention with a uniform unit cost
  - ❑ Kenya part of the 2012 Act
  - ❑ Uganda Discussions ongoing

# Emerging trends: Areas for Reform

- ❑ Caveats on state involvement in University Affairs
  - Autonomous governance structures & Financing
- ❑ Education reforms prioritising higher education in Malawi - (skills development as a national development agenda in realizing economic growth and development).
- ❑ Country based institutional ranking (Ghana)
- ❑ Science and technology integrated in the Ministry responsible for Education
- ❑ Regional frameworks for higher education and research for example, – RUFORUM, SADC and IUCEA

# Emerging Trends: Grand Visions to Promote STI

Kenya Vision 2030	Malawi Vision 2020	Ghana Vision 2020	Benin vision 2025	Uganda Vision 2040
Provide Globally competitive quality education, training and research	Building an educated and highly skilled population and promoting scientific and technological developments and innovations	The use of science and technology to rapidly address Ghana's development to improve the quality of life for all, at the same time maintaining the integrity of the environment.	Building human capital, this is through improvement in human resources will be achieved through promotion of development education	Uganda will build a modern world class education system that provides students with first rate education, compared to that offered by developed and emerging economies.



# New 'old' paradigm – universities as agents of **Change**

## **The Knowledge Based Economy**

- ❑ Predominance of science, technology and innovations
- ❑ Information communication technology- digital age
- ❑ Knowledge is the driver of productivity and economic growth
- ❑ Knowledge generation and exploitation are the basis for wealth creation

## **Universities**

Are seen as a key driver in the knowledge economy they therefore have to:

1. Create international networks to promote innovation
2. Develop links with industry and business
3. Promote knowledge transfer and uptake
4. Act as agents of adoption and adaptation
5. Be accountable and establish their relevance to society

## Knowledge production lessons from Other country experiences ( Brain Korea 21, China project 985, South Africa)

- ❑ Systematic and systemic reform and Development of the higher education system
- ❑ Deliberate effort to create resourced and facilitated research universities (Korea & China)
- ❑ Deliberate effort to improve the rating of countries the social science citation index
- ❑ Targeted production of PhDs (Korea 2000 PhDs in 10 years (200 graduates annually))
- ❑ Differentiate and create universities/institutions that produce the human resource for the industrial sector and those that generate knowledge through research.

## Knowledge production lessons from Other country experiences ( Brain Korea 21, China project 985)

- ❑ Hold international conferences, and create International networking opportunities to enable Chinese universities partner with top institutions around the world.
- ❑ Attract world-renowned faculty and visiting scholars and help Chinese faculty attend conferences abroad
- ❑ Performance based resource allocation- key parameters including research output
- ❑ Discipline specific institutions that promote skilling in key areas such as agriculture

# Tentative Recommendations- Implications for Policy

1. The role of the state in the development of higher education needs to be articulated and operationalised
2. Systemic planning for the higher education sector with specific targets and outputs
3. Financing and financial resources for higher education institutions need to be prioritised and rationalised
4. The responsibility of the institutions in taking forward the national vision- Universities as Engines of Development

# Tentative Recommendations- Implications for Policy

Harmonisation of Research performance/targets **across the region**

- Publications
- Research income and expenditure
- Research professors
- Number of Doctoral students/ graduates
- Post doctoral work
- Research projects
- Journals by regional universities

# Tentative Recommendations- Implications for Policy

1. Autonomy Vs performance based regulation and direction
2. Defining knowledge production and the expectations of the education system
3. Create incentives at national and institutional levels to change knowledge production, dissemination and uptake behavior for example tax waivers