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Spurring Economic Growth in Africa: The Role of Higher Education

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As a key to economic growth, education is especially important in Africa. For decades, development organizations emphasized primary and secondary education, paying little attention to higher education. Higher education was downplayed in part because little compelling evidence existed about the causal impact of tertiary schooling on economic growth and poverty reduction. However, recent evidence suggests tertiary education has a greater role to play in economic development than previously thought.

Current State of Higher Education in Africa

Higher-education enrollment rates in Sub-Saharan Africa are among the lowest in the world at 6% in 2010. In some countries, including Central African Republic, Chad, Malawi, Niger, and Tanzania, tertiary enrollment rates are as low as 2% or less. Furthermore, while the historically wide gender gap has narrowed significantly over the last two decades, progress has recently stalled: the ratio of female to male tertiary enrollment fell slightly from 66% in 2000 to 63% in 2010.

As for research and academic publication, Africa's share of the world scientific output has increased to 2.6% in 2013 from 1.4% in 1981. Notably, South Africa, Egypt, Nigeria, Tunisia, Algeria and Kenya have produced the largest number of scientific publications since 2005. However, since there are high levels of international collaboration in Africa, this statistic may be generous as it includes papers that were co-authored with non-African individuals working outside Africa.

Global Shift in Focus on Tertiary Education

In the late 1990s, the international donor community began to recognize the significance of all levels of education. Between 1998 and 2002, the World Bank published several reports stressing a similar theme: the importance of higher education for development in a world economy in which knowledge confers a

competitive economic advantage. These reports correlated education in math, science, and engineering with better economic performance; recognized higher education's role in improving primary and secondary education; and recommended the adoption of distance learning mechanisms to expand the reach and connectivity of tertiary education institutions.

The World Bank also created a Knowledge Economy Index (KEI) to benchmark how countries perform in governmental and business support for higher education, education, innovation, and information and communications technology. With the exceptions of Botswana, Mauritius, and South Africa, which are near the middle, most African countries appear near the bottom of the KEI.

Another important indication of the new focus on higher education was the 2005 Commission for Africa report, which describes Africa's higher education system as being in "a state of crisis" and recommends more investment, particularly in science and technology. However, the 2010 follow-up report notes little change in donor funding for higher education.

A 2008 World Bank report argues that investments in higher education can lead to greater allocative and technical efficiency, more innovation, and greater export competitiveness. However, the report notes that increasing the number of graduates is not sufficient; improving quality is also critical. The report suggests six actions to boost tertiary education in Sub-Saharan Africa, involving human resource development strategies, creative financial arrangements, institutional autonomy with accountability mechanisms, real-world learning opportunities, postgraduate programs, and alternative low-cost education delivery methods.

African Response to the Global Shift in Focus

Some African countries have shifted with the new direction in global thinking and are making some forward strides in boosting higher education. These are some examples:

- Although higher education enrollment is low in Africa compared with other regions, the number of tertiary education students increased approximately 50-fold from 200,000 in 1970 to over 10 million currently.
- Despite the increase in tertiary enrollment, public investment in higher education has not kept up, sparking quality concerns. To address these problems, some countries, such as Ghana, Mozambique, and South Africa, are adopting innovative revenue generating practices, such as supplementing university budgets with competitively-allocated funds to stimulate quality improvements, research, and partnerships.
- Private higher education has grown spectacularly in Africa. While the number of public universities has increased from 100 to 500 since 1990, the number of private institutions has grown from under 30 to over 1000 over the same period. Continent-wide, 25% of students currently attend private institutions. However, these institutions may lack rigorous quality control and some have had mixed results in performance.
- Ethiopia's Higher Education Proclamation in June 2003 started a series of higher education reforms. As a result of these reforms, the number of public universities in Ethiopia increased

from two in the 1990s to over 30 currently, and both undergraduate as well as graduate enrollment numbers have grown sharply.

- For the past two decades, Mozambique's higher education system has grown rapidly with help from the business community, multilateral agencies, and donors. However, the 2005 dissolution of the Ministry of Higher Education, Science, and Technology is a step backward.
- Namibia launched the five-year Education and Training Sector Improvement Program in 2006 as part of a 15-year strategic plan to boost knowledge-driven growth.
- Affirmative action policies have been at the forefront of attempts to improve gender equity in higher education, and female enrollment has increased in many countries, reaching 40% (of total enrollment) in Nigeria, 53% in South Africa, 24% in Tanzania, and 34% in Uganda.
- Rwanda has placed increasing emphasis on funding for tertiary education, increasing the higher education budget share of overall education budget from 15% to 35% between 1990 and 2003.
- The number of distance learning institutions has increased dramatically in Sub-Saharan Africa. The African Virtual University (AVU) has grown from five countries at inception in 1997 to 27 today.
- Regional partnerships focusing on higher education have grown substantially.

Mechanisms of Higher Education Influence on Development

In order to further the growth of tertiary education in Sub-Saharan Africa, it is important to understand how higher education could affect economic development. Positive effects on development can occur through both private and public channels.

Private benefits for individuals include better job opportunities and prospects, higher salaries, and the ability to save and invest. In turn, these benefits can result in better health and quality of life, allowing workers to work more productively for longer.

With respect to public benefits, higher earnings result in higher tax revenues and less reliance on government assistance. The presence of more tertiary graduates also enhances participation in the global knowledge economy by increasing a country's capacity to keep up or catch up with more technologically advanced societies. Higher education graduates are more likely to use and develop new technologies and skills and can help co-workers to learn and use them as well. The general increase in know-how may promote entrepreneurship and the job creation that typically accompanies it.

Other positive effects of tertiary education include well educated teachers who can enhance primary and secondary school systems, more skilled health workers who can improve health outcomes and thus raise general productivity, and government leaders with greater capacity who can create growth-oriented policy environments. One study found a positive and statistically significant correlation between higher education enrollment rates and good governance indicators.

There is growing empirical evidence of the positive returns that follow from higher education, both at the individual and aggregate levels. Researchers have shown from cross-country studies that tertiary

schooling significantly increases country economic growth rates. Other documented benefits include higher rates of entrepreneurial activity, better health outcomes, and higher levels of happiness.

A recent paper helps shed further light on the potential channels through which tertiary education increases economic growth. First, tertiary education leads to higher aggregate productivity (and hence higher gross domestic output) by virtue of increasing the available education stock. Second, tertiary education helps spur the rate of technological growth toward the production possibility frontier, which represents the maximum possible production level of a country.

Conclusion

By supporting the adoption of modern technology, increasing tertiary education will tend to diminish knowledge-action gaps and improve a country's ability to maximize the output it derives from existing land, labor, and physical capital resources.

Further research into the effects of higher education on development in Africa could prove highly beneficial, for example by identifying specific government actions to enhance economic growth, evaluating data quality, and determining how to balance education investments.