LEARNING FROM BRICS AND ASIAN TIGERS

In coming years, Africa will need to educate and train more than 1 million new scientists and engineers. How to do it? The emerging economies offer good models.

by **Wole Soboyejo**

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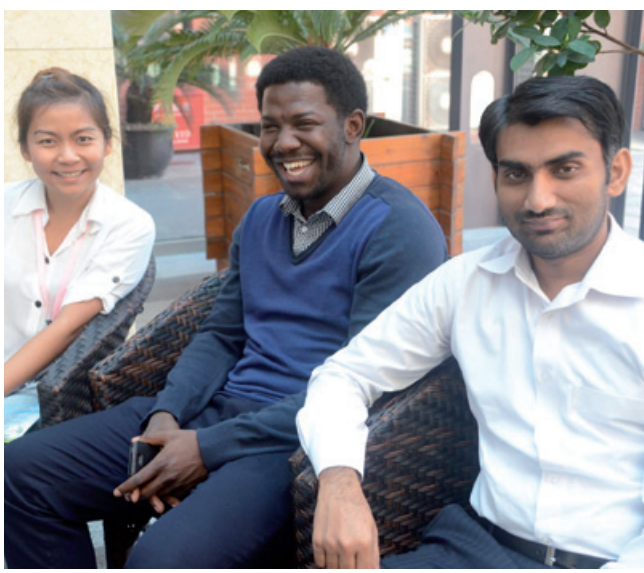
Over the past 30 years, the development of Brazil, India and China (BRIC countries) and the Asian Tigers has provided developing countries in Africa with examples of how to use science, technology and innovation as the engines of economic growth and inclusive development.

Like the Asian Tigers and BRIC countries, African countries must train a critical mass of scientists and engineers that have the skills and knowledge to address African challenges and opportunities. This means that Africa must train about 1 million scientists and engineers per billion people, in order to increase the ratio of scientists and engineers from 83 per million people to 1,000 per million people. This ratio, which is the threshold for science-driven industrial growth and economic prosperity, must be exceeded for Africa to have enough scientists and engineers to address its basic needs in food, health, water, energy and infrastructure.

Furthermore, for Africa to become self-reliant, she must evolve from a culture of aid towards a culture of self-reliance, which can be achieved by engaging in demand-driven research and education that addresses Africa's needs.

Africa should also become self-reliant in the extraction, processing and distribution of its natural resources. This requires integrated investments in primary, secondary and tertiary education. African human capacity development also requires a blend of academic and vocational education and the appropriate use of multimedia to train the next generation of Africans that can go from ideas to markets. Within this context, it is encouraging to note the emergence of new African institutions, such as the African University of Science and Technology and Redeemers University in Nigeria, Ashesi University in Ghana, 2iE in Burkina Faso and the Nelson Mandela African Institute of Science and Technology in Tanzania.



However, sustained investments are needed for Africa to achieve her full potential over the next 30 years. During this period, Africa should develop the knowledge to extract and process its natural resources, while adding value to its human resources. Like the BRIC countries and Asian Tigers, this will happen when African countries invest between 1% and 4% of their gross domestic product on science, technology and innovation. ◘