



AFRICA RISING!

Challenges, Opportunities, and Prospects for Sustainable Economic Transformation

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AFRICA RISING for some is a rallying cry for action, to others it is an optimistic take on the evolutionary changes in the continent's development trajectory. For purposes of this discussion I intend to present realistic prospects for Africa's rise to its ultimate potential as the new frontier for human development in terms of socio-economic transformation.

To-date, the expansive continent continues to exhibit developmental paradoxes, such as: islands of opulence in large seas of squalor; copious natural resources alongside grinding poverty; a vibrant academic sector that is patently unable to address issues of unemployability; elaborate development plans that don't seem to deliver as intended. I have equated the latter with the concept of "building bridges to nowhere". Yet our economies cannot and should not afford such luxury. It is unconscionable that a continent with such endowments should be doing so poorly on virtually all development indexes.

These paradoxes notwithstanding, Africa is showing significant progress on the road to socio-economic transformation. An article in the Economist magazine of March 3rd, 2013, bears out the optimistic view of Africa rising when it states, "Over the past ten years real income per person has increased by more than 30%, whereas in the previous 20 years it shrank by nearly 10%. Africa is the fastest-growing continent just now. Over the next decade its GDP is expected to rise by an average of 6% a year, not least thanks to foreign direct investment (FDI) which has gone from \$15 billion in 2002 to \$37 billion in 2006, and \$46 billion in 2012". I wish to note that though the trend is commendable, the numbers are still on the lower end of the spectrum. Only South Africa is among the top 25 countries with high FDI Confidence Index, whereby higher index means higher FDI inflows.

But Africa, coming from so far behind, needs not just to rise but to soar. The winning formula for accelerating sub-Saharan socio-economic transformation is to embrace and prudently apply STI (Science, Technology, and Innovations). This is not just a biased view of an engineer, but a realistic and proven approach to addressing the lacunae that continues to hamstring the continent's effort to modernize its society. Prudent application of STI is what will trigger industrialization, and as everybody knows, it is industrialization that will deliver us to the desired destination.

Admittedly, industrialization requires multiple disciplines, but Science is the alpha and the omega of the development process. Science has been called a lever for change, through both research and knowledge generation for policy guidance, and the development of innovative and appropriate technologies. It is also a foundation upon which industrialization is built. Industrialization, on the other hand, is the transformative process by which, and through which, our society can make a break from peasantry to modernity.

For industry to happen there must be a dependable source of **appropriate technologies, a proven technical skills base, and a pool of affordable funds**. The first two pillars are science-based, and the third is a function of economic planning as well as a solid well designed and even tendentious financial infrastructure. Research and Technology Organizations (RTOs), like Uganda Industrial Research Institute, must be fully funded and empowered to catalyze the industrialization process through enhanced technology use and deployment of highly skilled manpower. Uganda government support for UIRI has catapulted us to be selected as a Centre of Excellence in Industrial Research for EAC, ahead of those older and even better funded RTOs. We are celebrating another awesome achievement whereby I was nominated last month for the Presidency of WAITRO (World Association of Industrial and Technological Organizations).

Since these ideas of science education, enhanced technology use, skills training, and economic planning are all common place, what have been the impediments to socio-economic transformation of our country? Mostly our attachment to the status quo and the attendant historical legacies are to blame. Our curricula, pedagogy, and fascination with academic certification rather than skills acquisition have conspired to deny us the starting point for industrialization to take off. Witness the trend of technical/vocational training institutes metamorphosing into liberal arts colleges. Yet, experience shows that the developed world, like Germany, depends on experienced "Master Craftsmen" for the impressive array of high quality products that continue to flood the rest of the world. Master craftsmen are short on academia, usually not much higher than a high school diploma, but very highly trained and apprenticed in technical skills.

Uganda, a microcosm of sub-Saharan African countries, has been appropriately named the pearl of Africa, and it is truly gifted by nature. Even its educational system is relatively superior to that of its neighbors, as evidenced by the inflow of students from neighboring states. What is needed therefore, for Science to play its critical role as an enabler for modernization of our country, are modifications to our curricula and not a complete overhaul, since the theoretical aspects are okay. We need to emphasize skills more than we have been doing so far, and to revise the modalities of imparting such skills. There is an urgent need to inculcate inquisitiveness in the minds of our students as opposed to docile and dogmatic acceptance of "facts". We must strive to demonstrate the value and practicality of scientific knowledge. Phobias against science subjects must be dispelled among our youth, and scientific experimentation must become a way of life for our students. These few but fundamental modifications to our societal mindset, and to our academic curricula, will go a long way in ensuring that science will play its critical role of setting the stage for industrialization.

Industrialization requires the deployment of appropriate technologies, as pointed out above. These technologies call for highly skilled manpower for their effective utilization. Institutions for dispensing such skills must be sufficiently equipped with engineering workshops, modern machinery, and qualified instructors, in order to do the job. Basic and rudimentary vocational training has been with us since pre-independence time but has not delivered the skills we need. It is only logical that we change course and employ the modern methods of skills training. Albert Einstein defined madness as "always doing the same thing and expecting different results." A sophisticated and educated society like ours deserves better.

Science, Technology, and Innovations (STI) may not be the panacea for modernization of a country, but if properly attended to, can complement other initiatives and strategies in the transformation of our society via industrialization.

As we continue the arduous journey of improving our prospects socio-economic transformation, staving off the challenges along the way, and maximizing the capacities to exploit the opportunities, we must pay attention to the following fundamentals:

- Societal norms and practices must be checked so as to eschew subliminal glorification of corruption. Our value systems that embrace dependency, denigrate hard work, and our propensity to live way beyond our means, must revert to what Ugandan society was before that watershed moment when a gun was considered a better possession than a degree (circa 1971).
- Self-centeredness, an insidious form of corruption on part of decision makers and power brokers, continues to hamstring our development agenda. Self-interest and the incontinent urge to “follow the money” have led to wasteful investments and slanted choice of development projects.
- Uganda’s political discourse is truly a cacophonous affair. We need to take time out and concentrate on understanding global economic trends and focus on getting our fair share.

Bureaucrats and the political class must rethink their ad-hoc approach to implementation of our development agenda. The disturbing lack of a comprehensive approach, whereby complementarities of activities are ignored or overlooked and resources are not distributed according to the needs and priorities of a complete project, is cause and consequence of project failures. When one invests heavily in farm level production, while being parsimonious with value-addition and post-harvest handling, the overall agri-business value chain is compromised. It will not deliver the desired results, namely wealth creation.

Africans, let us wake up and smell the roses!