

SCIENCE

Engineers should lead way in innovation

Engineers in Kenya are a quiet lot. They generally abide by the practice of ‘action, not words’ and take a fact-based approach to issues.

But it’s the squeaking wheel that gets the oil. Reticence has resulted in engineering being roundly ignored — unlike, for instance, law and medicine. Work that should be done by engineers is outsourced or given to laymen.

Engineering is the discipline that “harnesses the resources of nature for the benefit of man”. Engineers are creators; they make roads, generate power, run industries and build houses. They design and manufacture various consumer items.

Creativity generates ideas and inventions, and ideas are the raw material of innovation. Kenyans are reputed to be innovative. The country was ranked third in sub-Saharan Africa in the 2018 Global Innovation Index (GII), behind South Africa and Mauritius. But much of its innovation was from non-technical sectors such as finance.

Most of the patents registered by Kenya Industrial Property



DAN ODIDO

“Innovation based on science and technology has a profound contribution to an economy.”

Institute (Kipi) are by local branches of foreign entities; the few local ones are from non-science and technology fields.

Innovation provides the vitality for growth and advancement. Firms that do not innovate die off — as in the recent cases of Kodak and Nokia. The same is true for societies.

Innovation based on science and technology has a profound contribution to an economy. There is a significant overlap between the most innovative economies and leaders in engineering. The World Economic Forum lists the five most innovative countries as Switzerland, the United States, Israel, Finland and Germany — which also appear in the Times Higher Education list of the top countries in engineering.

Long engineering tradition

A study has found that 37 of the top 50 inventions since the wheel required a solid grasp of engineering fundamentals.

Kenya has a long engineering tradition, for a long time the manufacturing hub of East Africa. The University of Nairobi has, perhaps, the oldest school of engineering in the region. Several Kenyan engineers ply their trade abroad despite those resident locally, 6,000, still being well below the ideal 20,000.

Kenya does not make good use of its few engineers. Some of the types of jobs and projects carried

out by Kenyan engineers abroad are done by Chinese in Kenya. Doctors have made a great fuss over a handful of sorely needed Cuban medics in Kenya. That would be unheard of for lawyers!

The only reason engineers accept this state of affairs is, probably, because they have not made their impact felt in society. They should wake up and play their role in contributing to solve the country’s challenges.

Innovation involves the successful exploitation of new ideas and the application of better solutions that meet new requirements, unarticulated needs, or existing market needs.

And it is not that there are no problems to work on. The country is crying out for innovations in renewable energy, building technology and materials and manufacture. But there have been few ground-breaking innovations here.

Mr Odido heads the Department of Flying Studies in the School of Aerospace Sciences, Moi University. odido@aerospacekenya.com.
Twitter: @aerospaceKenya