

## **THE KEY TO SCIENTIFIC ADVANCEMENT**

***S. M. Uppal***

*Chairman, JAGST Editorial Board*

It remains a pious duty for us all to advance and promote the cause of science in Africa, and Kenya in particular. Indeed, the nation's endeavours are canalised towards raising productivity and thus the standard of living of people, making the advancement of science and technology a dire necessity. Without an abundance of science and technology, and without establishing them on self-perpetuating and exponentially expanding basis, there will be little hope of progress. We have been endeavouring since independence to expand facilities for teaching and research in science and technology and, while we have achieved during one decade is much more than in many previous decades, much more still needs to be done. If we have to make progress, the 'climate' for science and technology must be made much more propitious, responsive and encouraging. In this regard, we all have a responsibility. Science came into existence at a comparatively later stage in human history than religion, and long after man had adapted to community living. It developed independently of useful arts, but only after the social organisation had created a class of thinkers with sufficient intellectual curiosity to probe into and understand the world of the nature.

The march of civilisation in the West since nineteenth century has become inevitably bound with progress in technology. The tools and instruments which the technology designed and fashioned are employed for delving more penetratingly into the realms of nature. Scientific research has been producing results which technology utilises to advance material civilisation. Marching in step and in resonance, science and technology have ventured into new horizons, producing marvels of human ingenuity. The pace of development has been so quick that it has become difficult for any scientist to keep track of advances even in his own field. If history has a lesson, it is that everything that sustains and progresses, comes as an upsurge from within, not as a result of an idea imported or invited from without. Nothing sustains unless it is of the people and by the people.

Our own innate ability to achieve results can be in no doubt. We are endowed with an abundance of natural resources and a rich wealth of human talent. The need for improving industrial productivity has acquired urgency now. We have so far sought inspiration from outside. We have imported plant and machinery, know-how and expert assistance. Perhaps this has been necessary in the circumstances.

We, no doubt, seek knowledge, wisdom and expertise from whatever source, but like the bee gathering nectar from whichever flower available and transforming it into honey which is entirely its own, we should adapt such assistance to our own needs and requirements and evolve a pattern of industrialisation which we can call

our own. This will be possible only if we succeed in developing science and technology. Scientists and technologists have thus a responsibility that is challenging but meaningful, and with potential for great achievement. In a country richly endowed with human wealth, there can be no dearth of men and women gifted with curiosity and imbued with a passion for enquiry. The task is to stimulate these human endowments wherever they lie latent. We have to woo science with greater ardour, greater devotion and greater faith if our approaches are to be favoured and rewarded. Science, technology and invention are the most important elements for improving the material welfare of the people and their development is conditioned by social purposes and social support. Without this support, science and technology cannot find the means or inspiration for development. The educational task involved in promoting the understanding of science is a gigantic one, but all the attention that is devoted to it and all the effort expended on it will prove most rewarding. The opportunities for studying science are limitless, and the whole book of nature is open to those who possess an enquiring mind and are acquainted with its alphabet. If our faith in science and technology as a promoter of public good is sincere, then our clear duty is to create those conditions which should permit us to pursue science and promote its applications.

The finances required for the overall progress of science will no doubt be large, but the current Kenyan leadership has time and again stressed the important role which scientists and engineers have to play in development of the country. We as scientists should not allow this sense of importance to lure us into complacency - we need to remember that the country is on the threshold of an era of great scientific advancement.

The buck stops there!