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The key to achieving our research goals

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RECENTLY, on two or more occasions our Prime Minister Datuk Seri Dr Mahathir Mohamad called upon institutions of higher learning and the private sector to be more involved in research and development and to produce more innovations in research.

More recently, he posed a challenge to the nation to produce a Nobel Laureate. This call and encouragement from the Prime Minister in an effort to improve the level of the sciences in the country should be lauded and welcomed.

Indeed, the scientists and researchers have been waiting with bated breath for a long time, for the Government to make R&D one of the top priority areas, as it did with sports.

Even though one of the tenets of Wawasan 2020 was the call for the development of a scientific society, the sciences and the scientists have been pushed to the background making room for the more 'money-minded' entrepreneurs and business people.

The success of science and technology in this country depends on the co-operation of researchers, the government funding agencies, the private sector and the various institutions. .It is time all these players set down more systematic and progressive approaches towards attaining a higher level of scientific achievement.

The funding from Intensification of Research Priority Areas has no doubt provided a great impetus and acted as a springboard to the researcher from the time of its inception in 1985 as IRPA-5.

Funding alone is not necessarily enough, and not the only factor that could lead to research excellence. The environment in which a scientist works has to be conducive, scientifically stimulating, intellectually challenging and encouraging for the scientists.

Let us not forget that many Nobel Laureates (non-western ones) were able to achieve this highest form of acknowledgement only because they worked away from their own countries, which goes to show that scientific capabilities knows no creed or race.

The most successful and important ingredient to honing, probing and pushing scientific intellect to its limit is a conducive scientific research climate as exemplified by the top Ivy League Universities of the US and the top universities and research institutions in Europe where scholarship comes first.

For science to progress in a definite direction, there must be a more focused approach. The time has come for all, scientists, researchers and those involved in formulating policies, managing funds and monitoring research to take their roles more seriously.

Research is a serious matter and for a long time the scientific community has been under constant barrage, scrutiny and criticism to produce, to achieve excellence in R&D and more recently to produce results that can be commercialised.

However, we must not forget that in the end, as most scientists will agree, research should be first looked upon as contributing towards the world's quest to search for the truth, search for answers to life's questions.

When questions are answered, they may or may not necessarily have an immediate commercial use. Some of the knowledge is only applicable years later in commercial productions. Examples of these are seen in many areas

of communication, medicine, genetic engineering, and many more which need no elaboration.

Several factors need to be considered and perhaps improved to enhance and encourage a passion in science. These factors range from seemingly trivial but important daily problems to bigger issues of funding and recognition.

One example is to find a simple way of ensuring quick supply of chemicals from scientific suppliers through the universities or research institutions' bureaucratic system of purchasing, invoicing etc.

How can methodologies and technical approaches be tested without having to wait several months for the items to arrive or without sufficient funding? How do we ensure a simple way to prevent the disruption of electricity that turns off the crucial -70C freezer or other equipment, destroying months of work and setting the scientist back.

How can we ensure immediate remedial solutions to simple problems of maintenance and repair of essential equipment without having to wait for months.

More importantly, the scientists need to be told how much funding is available, how and when it will be allocated and disbursed. What do they do in the interim, trying to keep their students or research assistants from leaving and be able to continue with their research?

Does allocation of funding depend on the research credential of the scientist, research programmes or does it take into account the institution the scientists come from?

These questions are pertinent as in the last three-year IRPA-7 exercise many senior scientists were left in the cold during the allocation of funding, including scientists who were supposed to be working on national priority research areas. Yet it was reported that the Prime Minister mentioned unused research funds! Let there be more transparency and keep to the national priorities that have been set by many committees.

While it is good that the Government and the institutions want to encourage new and young scientists to be involved in research, let us not forget that there are many senior scientists who have been working and need continuous research support.

Research programmes that have been going on for years were not given funding with no valid or apparent reason. Do not forget that some research take years to get results. The role of senior scientists to the institution was discussed by A.K. Koh in the New Straits Times (Nov 7).

A factor to consider is the Government's desire to increase the number of scientists in the country. Special consideration needs to be given on how to achieve this.

Graduates may be enticed to stay in science by the creation of more permanent research positions at the universities and research institutions. Ways must be sought to keep students in research or in postgraduate research programmes.

Another factor is the age of retirement of scientists. A disturbing phenomenon that seems to pervade is the general attitude that the scientist is no longer useful because he/she has a few years left before retiring. Instead of tapping on their expertise, they are side-stepped. Unfortunately, sometimes the scientists themselves think like the administrators. This is a distressing signal as it only indicates that the researchers themselves do not take their work seriously.

Does anyone take into account what will happen to the research (with results from thousands of dollars of funding) when the researcher leaves?

Furthermore, if we look around us, most countries including China and India, the retirement age for scientists is around 60-65. In others like the US and Europe, scientists sometimes are given funding and laboratory

space, to continue work well into their 70s or even 80s.

What motivates the scientists is not money but to find answers to research problems and be recognised for their endeavours.

Finally we need to identify our strengths, weaknesses and our priorities. In Malaysia, our priorities are in agriculture and certain industries which are our main income generating sectors.

Once we have identified research areas with these priorities and research strengths, we can build on them, expand them, nurture them until we achieve our national goals.

For example, since we have tremendous expertise in the field of agriculture, applied or basic plant research, perhaps we can make Malaysia a world-class Centre of Excellence for agricultural research.

There are some of us who strongly believe in what we do. We want to make a difference. We want to try and put Malaysia on the scientific world map; we want to add to scholarship, no matter how small the contribution, in all the different areas of science, particularly in the new and emerging technologies.

We want to contribute towards excellence in R&D. However a question remains. Is there anybody out there who would actually try to understand and believe in us to the extent of trying to eradicate as many encumbrances as possible and smoothen the way to ensure that scientific stimuli, interests and passion never waver and wane? Help us achieve our nation's goals and dreams.