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Muslim states' potential to excel in science

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AS the first attempt to benchmark the state of innovation, research and development in science and technology in the Muslim world, the Institute of Islamic Understanding Malaysia is teaming up with the Langkawi Accommodation for Visiting Academics to organise the Langkawi International Islamic Science and Technology Exhibition and Conference 1998.

The five-day Listec '98 will be opened by Datuk Seri Dr Mahathir Mohamad. The Prime Minister is expected to deliver a keynote address entitled "Science and Technology and the Business Communities: Towards Global Networking and Partnership".

The conference aims to gather Muslim and non-Muslim scientists and businessmen to discuss the possibility of establishing Smart partnerships. The exhibition will showcase local and foreign products and initiatives in the fields of science and technology. Participants may also be able to link up with prospective employers via a career opportunity service.

During the launching of Listec '98 promotion recently, Dr Mahathir expressed hope that the event would revitalise the interest of Muslims in science, and encourage them to work with non-Muslims in research, development and commercialisation of new products.

The Muslim world certainly has the potential to excel in science again. The logistics look quite encouraging. With a population of one billion, the Muslim world covers a land area equivalent to a quarter of the habitable world. Under or nearby parts of this land, 50 per cent of the world's crude oil reserves and a large percentage of its minerals and basic raw materials, are located.

However, the total gross national product of Muslim countries is less than five per cent of the world's GNP. Only four countries qualify as high-income countries, even then by virtue of being major oil producers. Most Muslim countries have allocated less than 0.5 per cent of their national budget for research and development, compared to two to three per cent by developed nations.

During the Sixth Malaysia Plan (1990-1995), RM1.5 billion was allocated for research and development. This accounted for about two per cent of the general public sector spending. For the Seventh Plan (1996-2000), this allocation has been doubled, representing 3.4 per cent of public sector spending.

The emphasis on science and technology is also manifested in the Government's stand of considering financial commitment to these fields as a fixed, rather than variable, cost as the latter is normally cut off during hard times, or even not supported at all. Reflecting on the macroeconomy, nations enjoying the highest per capita income are either strong both in scientific and technological innovations, such as the United States and Germany, or strong in technological innovation without necessarily being strong in science, like Japan.

The ones which are strong in science but not in innovation do not enjoy high per capita income, for example, Russia. Thus, innovation becomes the key determinant of a successful and profitable science and technology policy.

Malaysia seems to have adopted a rather unique approach. Scientific research is looked upon as the prerequisite for innovations, leading to products, services or processes that can be commercialised, or otherwise

applied. The strategy of efficiency-driven growth, as opposed to input-driven growth has been propagated.

Efficiency-driven growth focuses on increasing returns on investment which is mostly technology-based and dependent on factors such as production capability, technological innovation and application of information technology throughout all sectors.

An example of the success of the strategy is shown by the recent performance of the Malaysian Technology Development Corporation, which promotes commercialisation of research and technology. Between 1992 and last year, the corporation has managed to increase its profit 35-fold.

Looking at this modest, yet inspiring success, we believe that there is a good opportunity for Muslims to rebound. The decline of science in the Muslim world was not due to political decline. It was, most probably, the other way round.

The political decline followed the intellectual decline. And the only way to recover the political ground was by recovering the intellectual ground.

Therefore, the past two centuries of scientific discoveries cannot be ignored or negated, but must be mastered. We have to adopt the values which have made this so-called "modern" science a success. These are commitment, critical evaluation and a perfectionist's attitude to quality.

In this respect, it is encouraging that the language of science, technology, research and development is returning to the political lexicon of leaders of Muslim nations. Muslim scientists, too, are starting to make an impact in world science and technology fora.

In recent history, Muslim scientists have been accorded some of the highest awards in science and technology, including the Nobel Prize. Despite the notoriety, Muslim scientists were instrumental in developing the recently tested nuclear bombs in the Indian subcontinent. Tens of thousands of other scientists are working in prestigious laboratories of universities and research institutions all over the world.

As we journey into the new century, Malaysian scientists have to resolve to work harder and endure in their respective fields of research. To help them, Listec '98 has invited speakers who will provide insights into the current trend, research and development, market opportunities and networking related to information technology, biotechnology, energy and automation.

The information technology industry has made great strides in the last decade and is set to move into top gear with the operation of the Multimedia Super Corridor. The MSC is also set to be the centre for the Government's administration in providing an efficient service to the local and international business communities.

Biotechnology is moving with such a frantic pace that the next century has been labelled the Biotech Century. Malaysia has a lot to offer in the field of agricultural biotechnology, where researchers have managed to discover new techniques in plant and animal reproductive physiology. Genetic engineering, for instance, has been applied successfully to produce high-quality farm produce.

Energy research is an area very much close to the hearts of Malaysian researchers. The introduction of the electric car bears witness to this. Other forms of renewable energy are also being looked into. In the meantime, improvements on the use of fossil fuel are extensively sought.

Unlike the modern-world automotive industry which is a century old, the industry in Malaysia is only into its second decade. Nevertheless, Perusahaan Otomobil Nasional recently handed over the millionth car it manufactured. Needless to say, automation is the lifeline of the industry.

Thus, these four areas have been chosen to spearhead Listec '98.

Throughout the conference and exhibition, in keeping with the true Malaysian tradition, a friendly and enjoyable atmosphere will be encouraged in order to maximise interactions and discussions of technical, scientific and business matters of common interest.

The legendary island of Langkawi is the ideal environment for such interactions. It is hoped that this unique and important international gathering will succeed in encouraging the exchange of useful information and the making of contacts and friendships. The memories of Listec '98 will truly be something to cherish.