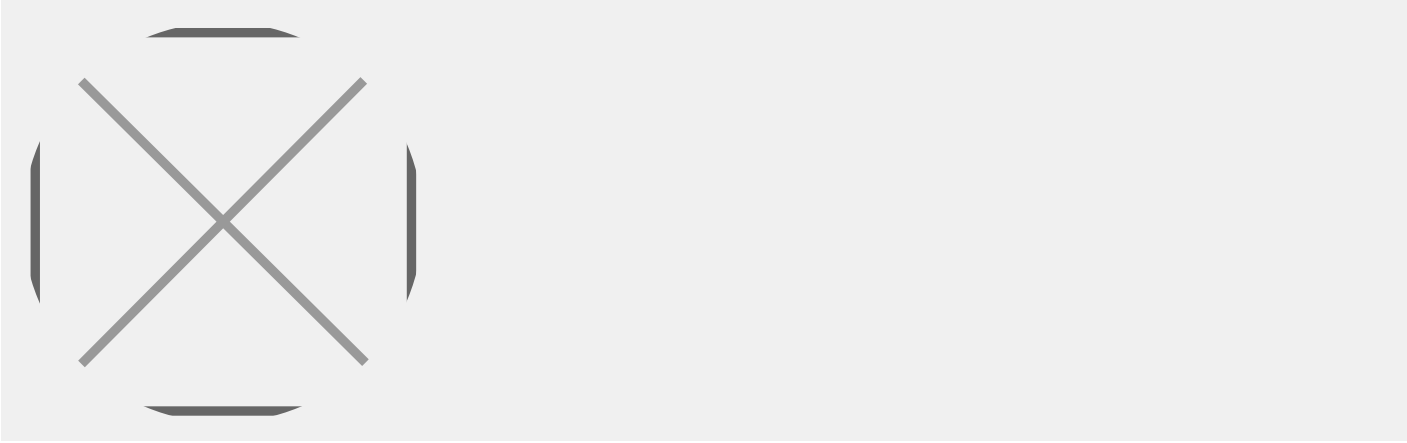
Interview with Mahaletchumy Arujanan, Executive Director, Malaysian Biotechnology Information Centre (MABIC)



22.10.2010

Tags: Malaysian Biotechnology Information Centre (MABIC)

How would you describe MABIC today and the way that it has evolved since its creation in 2000?

The Malaysian Biotech Information Centre or MABIC is an NGO and part of the ISAAA. MABIC's central objective is to disseminate fact-based, science-based information about biotechnology to the public. The word biotechnology itself currently engenders a degree of fear among the public, who think of cloning, GM and other controversial issues. Therefore, to achieve its objectives, MABIC works closely with government ministries including the Ministry of Education, the Ministry of Science, Technology and Innovation, Ministry of Natural Resources and Environment and related agencies and research institutions such as the Malaysian Agricultural Research and Development Institute (MARDI), the National Science Centre, the Malaysian Biotechnology Corporation etc.

The centre aims to promote biotechnology at every opportunity. This year represents MABIC's 10th anniversary and the centre organized a carnival in conjunction with the Malaysian Biotech Corporation and National Science Centre. There was a fashion show where fashion designers and students incorporated Biotech motifs into their designs and outfits. This was very successful. To further its public profile the centre also carries out a number of career talks with students to discuss biotechnology. There are media workshops for journalists to better understand the industry in order to provide balanced reporting on biotechnology. These are among some of the activities of the centre.

Is being placed within a university an huge advantage for the centre in this activity?

Monash is a good platform for MABIC. The university offers the centre office space and students in turn come to MABIC to understand their career prospects. Especially during open days, parents arrive in large numbers to ask what prospects are possible for their children after graduation.

MABIC therefore operates as a platform for the exchange of technical knowledge between the public and private sectors as the missing link between government and industry. What are the challenges which come with this position and what are the greatest information gaps?

The main challenge is that the public understanding of science and biotechnology is limited in Malaysia. Although some players try to increase understanding their efforts do not form part of a coherent campaign. The onus is on the Ministry of Sciences to decide on a roadmap for science communication, engaging all the relevant ministries including the Ministry of Natural Resources and Environment, The Ministry of Health, and the Education and Higher Education Ministry. These ministries are all relevant to filling in the gaps in public understanding.

There also needs to be more expertise in science communication and media interest in science needs to be improved. Scientists are not currently able to translate research information into layman's terms or convey the salient points about what makes their research newsworthy. Therefore more work needs to be done to improve the ability of scientific experts to communicate their message to the media.

In terms of the biotechnology sector, in 2005 the national biotechnology policy was launched. It is estimated that biotechnology will contribute around 5% to GNP. What are the initial challenges that biotechnology is facing to turn investment into commercial success?

The main challenge is to introduce investors to Malaysia. The Malaysia Biotech Corporation has already engaged potential investors. However, in my opinion, FDI should not be the key performance indicator. There are other more important issues to resolve such as enhancing our food production and food security, combating tropical diseases such as Dengue Fever andMalaria, waste management, environmental sustainability, pest management in agriculture etc. In terms of food production, the country needs to produce more rice using higher yielding rice hybrids.If we can focus on these areas, we can not only solve national problems but offer our technology to other developing countries. We should move from buying technology to developing home-grown technology that provides solution to indigenous problems.

There is a huge potential market for these solutions. Within this picture, FDI is less important. One of the key challenges is therefore to make government ministers comprehend this perspective.

Unfortunately at the moment, not enough funds have so far gone into basic research. As the National Biotech Policy enters phase two more funds will be directed towards commercialization

and research. However, only after a foundation of research has been established will Malaysia then be able to move into innovation. Without this base the country will remain reliant on imported technology.

With your scientific background in science, how would you situate Malaysia on the regional map in terms of R&D?

Taiwan has done a lot of basic research and this will enable the country to go far. Malaysia is behind in this respect. If we set the benchmark of Singapore, then there are certain things that Singapore lacks. For example Singapore does not have enough locally produced expertise and relies too heavily on expatriates. Malaysia on the other hand is not as limited in terms of its population. Provided Malaysia can set in motion a strong human capital development programme with expertise in various fields including healthcare then Malaysia will benefit significantly. This is not occurring enough at the moment.

Mr Shatar of MOPI told Focus Reports that most of the developments in biotechnology are being driven by agriculture rather than pharmaceuticals. How do you assess this statement and how do you see the balance evolving?

I would not exactly agree with this statement. There are a number of universities which carry out a lot of research on healthcare and medicine. The Institute for Medical Research, the University of Malaya , Universiti Sains Malaysia and the UKM's faculty for medicine all carry out noteworthy research. These universities are also doing a good job in promoting research in healthcare. I do not believe there is any imbalance at the moment between healthcare and agriculture and I do not expect the dynamic to evolve.

In terms of companies there are in fact more companies relating to pharmaceuticals and medicine than to agriculture. The FDI investment has gone into CROs, CRMs, clinical trials and generics. Therefore I see the ratio favouring the pharmaceutical industry. And I believe serious research and breakthroughs in agriculture is lacking, given the problems faced by farmers and the need to increase food production.

There is currently a trend in the industry towards more innovative products rather than traditional medicines. In an interview with Datuk Nancy Ho she said there was a place for traditional medicine in Malaysia provided it was evidence-based. How will the balance between TCM and innovative drugs evolve?

Drug development is unlikely to occur very soon. The policies need to run their course and expertise needs to be developed and this does not generally occur within a timeframe of five years. Around twenty years are needed for Malaysia to create a drug which is FDA approved.

In terms of TCM, I feel that not enough is evidence-based. However, there are many opportunities to integrate these two fields. If TCM can be made more scientific through standardization, analysis, toxicology then this relationship between innovative and traditional medicine would work.

Unfortunately many companies see business opportunities in non-evidence-based TCM rather than innovative medicine. There are not enough safety provisions with this type of medicine. Sadly, people frequently assume that natural products are safe and those produced in a laboratory are more dangerous. This mindset needs to be altered. Malaysia should be exploring high-value drugs be they pharmaceuticals or nutriceuticals. However, everything needs to be tested and scrutinized.

Will other countries accept Malaysia as a high-value drugs producer?

At the moment, this is not the case. However, provided that Malaysia has proper documentation on safety and production techniques, the country will eventually be viewed as a respected drugs producer.

One of the recent dynamics emerging is growing consumer confidence in locally produced pharmaceuticals. What has caused this shift and how can MABIC help to further this confidence in local production?

The main reason for this increase in confidence is the emergence of the generics market thanks to manufacturers like Hoe Pharmaceutical and Pharmaniaga. With increasing use of these generics there is increasing confidence. As an NGO the centre cannot market or publicise products, however MABIC can discuss the science behind them. The centre therefore can work to create credibility and trust whilst removing public fear of locally produced pharmaceutical products.

The National Medicine Plan, endorsed by PM Najib with his 1 Care for 1 Malaysia policy, aims to make pharmaceuticals accessible and affordable to all. What is the current level of medical coverage in Malaysia for the pharmaceutical industry?

In general Malaysians have good access to healthcare and pharmaceuticals. If they cannot afford private treatment then Malaysia has many strong public hospitals. Drug access is also strong although there is a problem in affordability for the less well-off. This becomes important when talking of cardiovascular disease. In fact, the government has had to subsidize cardiovascular treatments for a long time.

In KL and Selangor the ratio of doctors to the population is very high and probably on a par with any developed country. These doctors should now start to specialise more, particularly in fields like oncology which is lacking at the moment. These are the areas the government should look into to provide proper access to healthcare.

Which should be the key organizations for coordinating research in medical biotechnology?

The National Institute for Pharmaceutical and Healthcare should play a very important role in coordinating research in biotechnology. There should be a core team analysing priority issues such as Malaria, Dengue fever and certain cancers which are prevalent in this part of the world.

This institute should oversee most of this coordination and their core teams should be led by capable Project Investigators.

To what extent have your personal goals put a stamp on the operations of MABIC?

Over the past ten years, MABIC has moved from an unknown entity to one well-known in the biotech community. The goal therefore is to take this further with more publications at all levels in order to translate science into simple layman's terms and make it accessible. The second goals would be to help the government's agenda in making Malaysia a biotechnology hub. Creating a biotech literate society is my goal where the public will be able to make informed-decisions and be able to distinguish between science and pseudoscience.

What would be your final message on behalf of MABIC for the pharmaceutical industry?

Collaboration between the private, public sector and the various ministries is very important. Biotechnology is a multidisciplinary area and therefore partnerships need to be forged. Even for Nutriceuticals you need a microbiologist, biochemist, clinical trial expertise, regulators and so on. All of these groups should work together.

Malaysia should also abandon its territorial mentality when it comes to science and share research across the industry. For example, there should be a national microbial database. Many players conduct screening but the information stays in their laboratory. There should be a centralised database to aggregate this information. There are of course patent issues but these can be worked out.

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