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# Adding value to resources via sci-tech, and innovation

**Datuk Madius Tangau**

**I**n my previous article, I highlighted the importance of having a foresight of our desired future for Malaysia so that we can prepare for it today. A quote by Mahatma Gandhi gently reminds us that 'the future depends on what you do today'.

So what can we do today to ensure a brighter future for tomorrow? A future where Malaysia is driven by technological advancements and fueled by cutting-edge innovations.

The answer lies in science, technology and innovation (STI). We need to foresight the industries of the future and prepare for it today. This is to ensure that we are not left behind in the dust while all other countries have overtaken us in the race to the top.

Malaysia is blessed with abundance of natural resources that have been the backbone of our economy since the days of independence. In fact, one of the key factors that made Malaysia the coveted gem in the treasure box was our riches in mineral commodities (tin, gold, etc.), suitable climate for agriculture (cocoa, rubber, palm oil) and strategic location (trading route for East and West).

Sabah is a good example of this as we rely heavily on the export of our two largest commodities which are petroleum and palm oil which account for 38.8pc and 35pc of total exports. However, these are exported in its raw form with little to none value-adding or downstream processing.

If one was to study the trends of industries of the future, value adding through STI is the way forward to ensure we are able to fully tap our resources and reap maximum economic yield.

At this day and age, advances in STI can allow one to be a main player globally through research and development (R&D) and value added products and processes. The key is in enhancing the value of the commodity.

Take for example South Korea that has no petroleum resources but by leveraging STI it has developed one of the largest petrochemical industries in the world. Essentially, they buy crude oil, value add and resell it as high value downstream products for up to five times higher.

Similarly in the oil palm, oil and gas sectors, we need to do more than what we already have now to extract more value from these resources.

As a student of Forestry Science and having worked at Sabah Forestry Department and Chairman of the Malaysian Timber Industrial Board, I realise the importance of the timber industry which was the main economic backbone of Sabah.

Although, timber is no longer the main export of Sabah due to shortage of raw materials, it still remains significant even at a much reduced log production level with Sabah's total wood product exports totaling around RM 915 million in the first seven months of 2015.

It is important to note that the Sabah State Government has plans to further develop the wood based industry in Sabah towards more value-added processing as outlined in the Sabah Industrial Action Plan (SIAP). This is a good move to prepare our industries today to move forward to the future.

In line with value-adding to our resources, it is important to note that there are many STI aspects that can be injected into our current industries. Recently, I proposed to the Forest Research Institute Malaysia (FRIM) to set up a special division to solely study the *acacia mangium* species which is a sustainable timber species.

I have called on my Ministry to forge collaboration with industry partners to conduct R&D where they can share the same data and come up with a conclusion as both sides need to work together in order to move forward by adopting the National Blue Ocean Strategy.

An example of this is the collaboration between FRIM and Sabah Timber Industries Association (STIA) to develop an optimal method of drying to improve the mill turnover time for *acacia mangium* through the support of MOSTI's Community Innovation Fund project (CIF).

I believe that by moving into the downstream areas to produce value-added products by using STI in its development, so-called sunset industries can instead be

revived into sunrise industries.

I have often said that innovation is driven by desperation. Only in times of desperation when resources are scarce will one innovate to ensure we can survive or make the most of the limited resources we have.

Hence, is it because we have been blessed with abundance of resources that we are in a state of complacency that we are not driven to innovate?

This should not be the case. We need to realise that resources such as oil and gas and the land to sustain the growth of palm oil and timber are limited.

We need to then make changes today to ensure the sustainability of these resources and more importantly the sustainability of Malaysia's economy and growth.

To innovate and value-add to our resources, the key enabler is building the right ecosystem that will nurture this culture in our industries. There is a need for a paradigm shift from our traditional role as exporters of raw materials to producers of value-added downstream products.

In a 2012 MyITC report on the technological innovation capabilities of Malaysian-owned companies, only 6pc of the 407 companies surveyed are classified as 'Creators' whom have the ability to create totally new technology or products or are able to make significant improvements to existing technologies or processes.

On the other hand, most of the companies (52pc) are classified as 'Adapters' that are able to slightly improve the technology or products that they have. This type of innovation is also known as incremental innovation, which normally does not provide a drastic impact, but is important nevertheless.

These show that there are still much more room for improvement in Malaysia's innovation capacity. If we have more 'Creators', we would be able to create new technology or products that have higher value proposition rather than just being 'Adapters' whom have lower value-adding capacity.

On the bright side, 'Adapters' and 'Creators' outnumber 'Adopters' (36pc) who only adopt technology and does no value adding to technology or products.

To increase the number of 'Creators', we should start taking the necessary actions now to ensure we further develop our innovation capacity and be in the forefront of innovation especially in niche areas that are strategic to Malaysia.

This is also in line with the Government's aspiration of making innovation a priority in the 2016 Budget and befitting the Government's declaration of 2016 as the year of commercialisation with my Ministry as the custodian of this strategy and leading the way.

The MyITC 2012 report went on further to identify the top three industries capable for technological innovations in Malaysia which are transportation equipment, oil-palm based and information and communications technology.

To ensure we leverage on Malaysia's availability of key resources and the existing strengths of industries and infrastructure today, we need to do a foresight into the future of the industries of tomorrow.

We need to conduct market prediction analysis and scenario building to envision the demands of the future and where global trends are shifting towards.

Studies such as that are being conducted by the Academy of Sciences Malaysia (ASM) on the industries of the future through the Mega Science studies that are envisioning the demands and global trends that will impact Malaysia's industries of electrical and electronics, tourism, furniture, plastics and composites, creative and automotive.

I am waiting for these reports to be finalised and look forward to what our industries of the future will look like.

One thing for sure is that the industries of the future are fueled by STI and the STEM talents that I have often mentioned. Without the much required STEM talent, industries are just empty buildings and infrastructure without users.

Hence, let us all work together to build not only the industries of the future but the people for the future.



THE NEW ECONOMY AS I SEE IT.

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