

LACK OF RESEARCH

Thailand's R&D spending must eventually reach 1% of GDP if it wants to develop and avoid the middle-income trap, warn analysts. **B3**

Falling behind

Thailand's pitiful R&D spending must rise if living standards are to improve, reports Nanchanok Wongsamuth

Where has all the science and technology gone?" Pichet Durongkaveroj, secretary-general of the National Science Technology and Innovation Policy Office (STI), asked frankly during a recent forum on green innovation.

The sector seems to be overlooked or downplayed by relevant parties and even the incumbent government. Indeed, research for Thailand seems to be in some sort of trouble, he said.

"It is redundant, not unified, not cost-effective and not fully used in the commercial sector," said Dr Pichet.

"We have advised the Office of the National Economic and Social Development Board that if there is no money, then it will be difficult to go further. One of the things obstructing development is research."

Thailand's average budget for research and development is just 0.24% of gross domestic product (GDP), ranking 40th on the list of countries that spend more than US\$100 million a year on R&D. The top three are the US, China and Japan.

The world's total nominal R&D spending was about \$1 trillion in 2010.

"For Thailand, even 1% is insignificant compared with the base," he said.

The STI has set a target of 1% of GDP for R&D investment in 2016 and 2% by 2021. Of total R&D expenditure, 38% comes from the private sector and 62% from the government, but the goal is to raise private investment to 70% within the next decade.

"I will speak of 1% for as long as I live," vowed Dr Pichet, adding that the target must be met to lift the country out of the middle-income trap and enable businesses to have their own intellectual property rights.

But money alone is not the solution. The ratio of R&D personnel to population is currently 9.01:10,000 and set to reach 15:10,000 in the next five years and 25:10,000 in the next 10.

The figures are from the National Science, Technology and Innovation Policy 2012-21 plan, which focuses on the balance between the economy and social development.

The STI hopes the policy will be amenable to the ministries and that each one will develop an action plan on science and technology.

The government is spending 43.6 billion baht on 852 projects in the STI system during fiscal 2012.

Ahn Young-ok, a former chief technology officer at the Samsung Group, said South Korea spent 3.6% of its GDP on R&D in 2010, 71% from the private sector.

David Dent, the chief executive of Dent Associates Ltd in the UK, noted that while innovation has been understood to drive the economy and technology, a more balanced approach between technological and non-technological innovation will contribute the most to economic growth.

Non-technological innovation may include business models, organisation, marketing and supply chain, said Dr Dent, also vice-president of the UK's Parliamentary and Scientific Committee.



Pichet: The neverending problem



Dent: Many types of innovation

“In OECD [Organisation for Economic Cooperation and Development] countries, for instance, R&D investment made less contribution to economic growth than innovation in marketing, design, organisational change and production facilities,” said Dr Dent.

“It takes 10-15 years for technology to get to the market. If you want economic development now, you have to do non-technological innovation, as it is not protected in the same way as technology.”

A common criticism of Thailand is that its R&D is being put on the shelf.

Dr Dent added that practical knowledge is often preferable to academic knowledge, which is often “authoritative, objective, universal, abstract, rigorous, timeless and difficult”.

While academic knowledge is driven by the desire to answer scientific questions, applied knowledge is driven by the need to develop solutions to practical problems via trial and error in real-world situations, he said.

“We don’t need specialists to innovate. They could be charities, individuals, think tanks and entrepreneurs,” he said.

“Innovation at the grass roots, for instance, may mean utilisation of resources in the environment.”