

Reorienting Pak-US ties

ISHRAT HUSAIN — PUBLISHED SEP 06, 2016 12:59PM

The writer is currently a public policy fellow at the Woodrow Wilson Centre, Washington DC.

THE US has recently decided to cut both military and economic aid to Pakistan sharply, which is a welcome move for both countries. The US has domestic political imperatives and its foreign policy priorities are changing. Pakistan has to get out of the vastly exaggerated, but perceptually well-entrenched, 'aid dependence syndrome'. Pakistan would be well advised to take a fresh look at the nature of its future strategic relationship and reorient its ties with the US.

The 21st century is going to be marked by a dramatic shift from an industrial economy to one that is knowledge-based. The planning commission's Vision 2025 recognises this and incorporates 'knowledge economy' as one of its seven pillars. How far this can practically be achieved in the next decade will depend upon the foundations on which this pillar is erected, ie the quantity and quality of scientific and technological manpower. We lag behind other peer countries and have a lot of catching up to do.

Asian countries are continuously engaged in expanding their scientific workforce and research and development expenditures. Chinese and Korean scientists, returning to their native countries from the US, are leading the efforts for developing domestic innovation capacity. China is now able to perform nearly as much of the world's high-tech manufacturing as the US because of its deployment of hundreds of thousands of US-trained local professionals. Patents filed by Korean scientists are reported to be among the highest in the OECD countries. The annual flow of Chinese students to foreign universities for tertiary education is 459,800, of which the US alone receives in excess of 100,000.

For Vision 2025 to succeed in producing a knowledge economy, Pakistan must invest more in STEM learning.

India is closely following China's example and is the second-largest supplier of foreign students to the US. Out of 132,000 Indian students enrolled in the US, 80 per cent are studying science, technology, engineering and mathematics (STEM) subjects. The number of faculty members and research scientists of Indian origin working in the US is approximately one million, having grown by 85pc from 2003 to 2013. They account for 3.3pc of the US research force, compared to 2.5pc a decade ago. The governments of the US and India have established the US-India Science and Technology Endowment Fund for the promotion of joint activities that would lead to innovation and entrepreneurship through the application of science and technology. A study by the Kaufman Foundation shows that, although the number of immigrant-founded start-ups in Silicon Valley has fallen from 52.4pc to 43.9pc since 2005, the number of start-ups founded by Indians has actually climbed from 26pc to 33pc of all immigrant start-ups, or 15pc of the total.

Why is the US still the preferred country for science and technology professionals? Among the world's top 40 universities, two-thirds are in the US. Technology companies founded less than two decades ago feature among the top 10 companies of the world. Of Nobel Prize winners, 356 out of 870 have been Americans (the highest of any nation) — but 70pc of all Nobel Prize winners work in the US.

Forty per cent of the world's total spending on science and research is accounted for by the US. All cutting-edge research and application development in the areas of artificial intelligence, robotics, lasers, sensors, avionics, biotechnology and genetics is being carried out in this country. MIT and Stanford alumni companies generate annual revenues of \$4.9 trillion and have created 8.4m jobs since 1930. The National Science Foundation reported that in 2010, 45pc of US engineering students in MSc and PhD programmes were from overseas.

According to a study by RAND, “the inflow of foreign students, scientists and engineers have been a key factor that has enabled the US science and engineering workforce to grow faster than the US is graduating native-born scientists and engineers”. These foreign-born scientists then establish collaborative projects in their own countries of origin, disseminate the latest knowledge by lecturing at universities, setting up research laboratories, or guiding and recruiting students for advanced degree programmes in the US.

Asian countries are taking full advantage of training their scientific manpower, but it is highly disturbing to observe the declining proportion of Pakistani students enrolled in US universities. In 1989-90, Pakistani students in the US numbered 7,070 compared to those from India at 26,240 — one Pakistani for every four Indians. By 1999-2000, the disparity increased to a ratio of 1:7 — but an even greater precipitous fall has taken place since then. In 2014-15, Indian students had reached 132,888 while Pakistani students were only 5,354 — yielding a ratio of 1:25.

It may be recalled here that the ratio of population between these two countries is 1:7. Even Nepal, with a population of 28m or about one-sixth of Pakistan, had 8,158 students — almost 50pc higher than the number of Pakistani students. As Pakistan does not even figure among the top 25 countries sending their students to the US, it is not possible to identify the fields of their study.

A cursory glance at the Fulbright Scholar Programme for Pakistan — professedly the largest US programme in the world — shows that the majority do not go for STEM subjects or attend top universities, and very few go for PhD degrees. The HEC’s foreign PhD scholarship programme was also targeted mainly at non-US institutions, comparable neither in academic rigour, relevance nor quality. Many of these scholars, upon return, are unable to provide the necessary guidance to their MPhil and PhD students.

The recent decision by the minister of planning and development to send 10,000 Pakistanis to study in the US for PhD degrees, though welcome, should benefit from this empirical data and seek to ensure that pitfalls of the recent past are avoided, the examples of other Asian countries are followed, and the foundation for a robust scientific infrastructure to compete in the knowledge economy is laid out.

In brief, increase the flow of students to the US, award scholarships mainly for STEM subjects at top universities and institutes, enable successful scholars to acquire applicative experiences in the US, and open up our universities and research establishments to provide a conducive work environment for the returning scholars. This expanded pool of Pakistani scientists in the US and Pakistan will provide the foundation for the pillar envisaged in Vision 2025.

The writer is currently a public policy fellow at the Woodrow Wilson Centre, Washington DC.

Published in Dawn September 6th, 2016