

explore measures that can solve these problems. This is vital so as to enable women scientists a rightful status and representation in the community of scientists in India and abroad.

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NAMRATA GUPTA

House No. 619, IIT Campus,
Kanpur 208 016, India
e-mail: namrata432@rediffmail.com

The prospects of university teaching: a futuristic reality check

Teaching has been the intellectual backbone in human society for millennia¹. This unique livelihood continues to be reflected as a noble duty across cultures. Without qualified teachers and deserving students, there will be no prosperous future for education in society. But, what happens when universities do not get enough students? A closer look at Taiwan, which is currently contemplating this bitter question, may shed some light.

In order to promote easy access to education catalysed by rapid economic growth, Taiwan added additional universities in recent decades. Historically, there were only 7 higher education institutes in 1950 that handled 6665 students. But the number exploded to 105 in 1986 to support 300,000 students. Subsequently, it increased to 162 in 2012, supporting 1.25 million students². Taiwan is a small island with a population of 23 million that is spread across an area of 35,980 sq. km, which is slightly smaller than the South Indian state of Kerala. But, it harbours 53 national and 109 privately owned institutes of higher education, contributing to one of the highest densities of universities in the world. The education planners of the past, somehow ignored all the worst-case futuristic scenarios, so that the rapid growth of universities has lately started to backfire.

The excess supply of graduates triggered acute unemployment, from 2.7% in 1993 to 5.8% in 2012 (ref. 2). Taiwan's low birth rate over the years added more misery, because universities now are

facing low enrolment. In response, the government came up with a strategy to merge some national universities while certain privately owned ones silently started to die out. By 2020, about 25% of Taiwan's universities will be forced to close due to lack of students. Likewise, South Korea is expected to close nearly 100 universities by 2040 due to declining student enrolment³. The looming uncertainty over the future of university teaching has begun to scare many in this noble profession.

India harbours a large number of higher education institutes, and the number continues to grow upwardly. But fortunately, the country's population has been predicted to reach 1.72 billion by 2060 (ref. 4), and then only stabilization will take place. Hence universities will not face the student shortage crisis for some time. Irrespective of economic status and social conditions, parents view education as a way to fulfil the future ambitions of their children. But, when the quality of education and teaching lacks futuristic insights inspired by excellence, graduates may find it even harder to get suitable jobs that they deserve.

Therefore, India may need to strategize education to produce highly skilled manpower influenced by visionary teaching of futuristic subject matters, and then only, the 'Make-in-India' (www.makein-india.com) catch phrase will have a smooth ride. It is equally important not to ignore basic sciences, so that in future education innovative growth can be

properly balanced. When the quality of education and teaching excels, at least some Indian universities will be able to join the global ranking of the 100 most prestigious educational institutions in the world. Even so, without understanding the futuristic direction of humanity, one cannot simply design higher education and teaching strategies efficiently. As the American futurist Alvin Toffler⁵ once wrote, 'Unless we understand the future for which we are preparing, we may do tragic damage to those we teach.'

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GOVINDASAMY AGORAMOORTHY

College of Environment and Health
Science,
Tajen University,
Yanpu, Pingtung 907, Taiwan
e-mail: agoram@tajen.edu.tw