[Atta-ur-Rahman](https://www.thenews.com.pk/writer/atta-ur-rahman)

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**Education emergency**

Pakistan is a potentially very rich country – far richer than Korea, Japan, United Kingdom, Germany and many others. This is because it is a country with 220 million people, about 70 percent of whom are below the age of 30. This is a huge demographic advantage.

Our pool of creativity within our youth is the greatest of all treasures. We only need to polish these uncut diamonds through high quality education, training in science & engineering, giving special focus on the new and emerging technologies, and creating a robust innovation ecosystem. This will transform our youth and they will become inventors and discoverers rather than rote learners and job seekers.

In my capacity as chairman of the PM Task Force on Science and Technology, I have proposed to Prime Minister Imran Khan that Pakistan should now declare a National Education Emergency and start allocating an additional 0.5 percent of GDP to education to improve the quality of school, college and university education, so that we can make rapid socio-economic progress. My proposal has been discussed intensively with the Federal Ministry of Education and is under active consideration by the prime minister.

Natural resources have diminishing importance and it is the quality of our human resources that will determine our future. Our prime minister and the stalwarts heading our ministries of planning and finance need to take a leap of faith and look at the examples of Singapore, Korea, China etc if they wish to pull Pakistan out of the quagmire of poverty and ignorance.

In Pakistan our youth do not lack creativity. The problems lie in our school and college systems that stifle creativity through a system of education that is an insult to their intelligence. The universities have improved over the last two decades but the intake of students that they get from the colleges of Pakistan is of such poor quality that they cannot make major advances in terms of innovation or scientific breakthroughs. Clearly this issue of quality must be dealt with across all levels of education and not just at the higher education levels.

The 4th Industrial Revolution has brought many opportunities that Pakistan can benefit from. There are exciting advances in many areas of science and engineering that are resulting in billions of dollars being earned by companies that are investing in them. For example, Artificial Intelligence is expected to have an impact of 15.7 trillion dollars by the year 2025 according to a McKinsey Global report. If Pakistan were to capture just one percent of this market, it would amount to about $160 billion.

As a result of this new wave, thousands of centers are springing up in our neighbouring country India in the field of artificial intelligence. However, when projects in this field are submitted for approval, there are often discussions over “duplication” with another center somewhere else in the country. We need to understand that a critical minimum mass of trained personnel is essential for progress and massive multiplication is necessary for progress in such fields.

A key component of the National Education Emergency proposal is the promotion of innovation and entrepreneurship through suitable policies. China’s success too has depended on its massive investments in science, engineering and innovation. As a result, China overtook the US in 2019, with a 200-fold increase in new patents filed in just the last 20 years. China also spends more than any other country in the world in R&D.

China’s growth in the field of high technology manufactured goods such as electronics, computers, automobiles, industrial machinery, engineering goods, etc have led its export growth and there are lessons for our planners to learn from China’s strategy for socio-economic development. Pakistan’s strategy for development must be based on creating the ability to manufacture and export high technology goods. It is only then that we can increase our exports from the present dismal $25 billion to over $300 billion.

Some wonderful developments have also begun to occur in Pakistan too now under the Knowledge Economy Task Force set up by the Prime Minister Imran Khan. Pakistan’s first foreign engineering university began operations in Haripur Hazara last September. I had tried to set up such foreign engineering universities 15 years ago but the programme was abandoned just a few months before classes started.

The Pakistan Austrian Fachhochschule is a unique hybrid engineering university with eight foreign universities collaborating in its development, three from Austria and five from China. I have strong academic relationships with both these countries, having won high civil awards from both China and Austria in recognition of my past contributions, and so it was relatively easy to convince the leadership of these universities to partner with us in this exciting new venture.

It is unique in two respects. One, it is the first university in the world where eight foreign universities have selected centers that they will develop, train Pakistani faculty, provide the curriculum and eventually offer their degrees to the best students. It is also unique because it combines a ‘Fachhochschule’ wing with a full-fledged postgraduate engineering university wing. Fachhochschule are popular in Europe as they are high level applied engineering institutions that train students according to industry needs and offer Bachelors and Masters degrees. So the university has three streams of students receiving training. – the Fachhochschule stream for Bachelors and Masters training, the postgraduate engineering stream for PhD and postdoctoral training and the Technology Park stream for students to develop new innovative products for commercial purposes.

This university is funded by the Khyber Pakhtunkhwa government. After my persuasion of the need for expansion of this type of university, the Punjab government decided to set up a similar university in Sialkot and the project was approved by ECNEC at a cost of Rs16.9 billion last week. A third foreign engineering university is being developed in the land behind the PM House in Islamabad with Centers of Excellence in Artificial Intelligence, Microelectronics and Aerospace Engineering.

The future of Pakistan lies in our children. It is only by unleashing their creative potential that we can progress. For this we must declare a National Education Emergency and focus on improving the quality of our school, college and university education through introduction of blended learning methodologies.

The writer is chairman PM National Task Force on Science and Technology, former minister, and former founding chairman of the HEC.

Email: ibne\_sina@hotmail.com