**A promising task force**

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The future of Pakistan is dependent on unleashing the creative potential of our young people through quality education, science, technology, innovation and entrepreneurship. On my suggestion, Prime Minister Imran Khan decided to establish the Knowledge Economy Task Force of which he is chairman and I happen to be the vice chairman.

It is a powerful task force that has the federal ministers of finance, planning, education, science and technology and IT along with many top industrialists and eminent scientists and engineers as members. Under our close supervision, the task force has undertaken many important projects that are contributing to the progressive emergence of a new Pakistan with the primary focus on developing a strong technology-based economy.

Many exciting initiatives have been undertaken; these include the establishment of the Pak Austrian University of Applied Science and Engineering (Pak Austrian Fachhochschule) in Haripur, a gleaming new university built with the support and guidance of eight foreign engineering universities in Austria and China. The university’s academic year has already started, and it is focusing on providing high-quality training in the new and emerging technologies that will allow us to leapfrog into the future.

A similar foreign engineering university is also being established under my supervision in Sialkot, and another is under development in Islamabad -- we have chosen the land behind the PM House for its construction.

The PM’s task force has also launched a major Rs13 billion scholarship programme for sending the country’s brightest students to the world’s leading universities for PhD-level training. This will partly address the acute shortage of highly-qualified faculty in our universities. Many centres of excellence are being established in Pakistan through our task force in the field of artificial intelligence and other emerging technologies that are predicted to have an impact of $100 trillion by 2025.

Some of the excellent initiatives undertaken by the Punjab IT Board are being expanded countrywide, designed to create opportunities for talented young people and build safer cities through smart policing. Projects related to advanced agriculture, next generation genomics, energy storage systems, and bullet train manufacture technologies have also been launched. As a result, there has been a 600 percent increase in the development budget of the Ministry of Science and Technology and significant increases in the budget of the Higher Education Commission (HEC) which has benefited from the additional task force-led projects worth about Rs50 billion.

One such programme was directed at strengthening transparency in the tax collection system. By linking FBR data to NADRA and using artificial intelligence techniques, an additional sum of Rs65 billion was collected. Premium courses are available internationally at the school, college and university levels. We can benefit from these massive open online courses (MOOCs) by integrating them into our educational programmes. This will encourage access to quality education through open distance learning. It is good to note that the task force has approved a Rs6 billion project for Virtual University to promote distance education across Pakistan.

A number of visionary projects have also been initiated at the school level in close collaboration with the Ministry of Federal Education and Professional Training (MoFEPT). One of these called STEAM (Science, Technology, Engineering, Arts and Mathematics) is a pilot project undertaken initially in 30 schools in Grades 6-8. It will later be expanded to all government schools in the federal territories and then in the provinces. STEAM education allows students and teachers to use animated videos, games/activities, and formative assessments within classrooms and also at their homes.

About 8,000 students will benefit from this visionary programme. Learning through playing with Lego pieces, motors and other devices in the process of building robotic arms or motorised toy tractors creates a deep passion for learning among school-going children. The hands-on experience gained by building various larger objects from the organisation of smaller pieces, and seeing the practical applications of 2D and 3D geometry is truly invaluable as it teaches students to tackle the problems faced in everyday life through application of scientific principles.

Motorised robotics projects open new worlds of practical applications and gives new meaning to the mathematical equations that are otherwise often dull and remote from real life issues.

The Knowledge Economy Task Force has worked closely with the Ministry of Education to initiate the ‘Matric-Tech’ program in schools. The Matric-Tech is a flagship project of the National Vocational and Technical Training Commission (NAVTTC) that aims to integrate technical and vocational education and training with formal education. Initially, the project has been piloted in 15 schools of Islamabad, Azad Jammu and Kashmir (AJK) and Gilgit-Baltistan. The scheme provides opportunities to young people to choose their career path by giving them options to select between higher education and skill education according to their aptitude.

Technical staff in colleges under the jurisdiction of the armed forces was hired and 27 labs for technical training established for training in different fields such as construction, mechanical, electrical, electronics, textiles, metallurgy, automobile, information technology, etc.

Another area being developed in schools is that of blended education. Most public sector schools in Pakistan lack the provision of blended e-learning due to the absence of supporting facilities and systems, missing internet and computing resources, and unfamiliarity of teachers and students with good digital content. A pilot project for blended e-learning in 200 classrooms in 60 schools (urban and rural) of the federal capital for Grades 1-10 has therefore been launched in partnership with TeleTaleem, Knowledge Platform and PTCL. This will allow our students to learn from the best digital content available internationally and partly address the crisis of the shortage of high-quality school teachers in Pakistan.

The demographic advantage of Pakistan lies in the fact that 67 percent of the population of Pakistan is below the age of 30. It is only by developing our abilities to manufacture and export high technology (high value added) goods that we can emerge from the quagmire of poverty and deprivation. In a short period of over two years, the technology-driven Knowledge Economy Task Force has achieved significant successes in areas ranging from genomics to artificial intelligence, from establishing centers of excellence in emerging fields to school-level education, and from materials engineering to bullet trains.

There have been many hurdles but persistence pays and we have confronted the challenges bravely. All this would not have been possible without the constant visionary support of Prime Minister Imran Khan for which the nation is grateful.

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