

Sixth, revamp the higher education system and research institutes where the criteria for allocating public funds would be based on promoting emerging technologies and generation and application of knowledge to solve national economic and social problems.

One of the most neglected areas today in the spectrum of higher education is degree colleges. These colleges should be brought under the supervision and oversight of the provincial HECs while the national HEC should continue to deal with universities across the country to ensure uniform standards of excellence in the respective fields.

A rigorous evaluation of the existing centers of excellence, institutes and area study centers should be carried out and only those performing well should be retained and others closed down. Faculty members should be allowed consultancy, setting up their own companies using their patents and innovations and retaining a significant proportion of the net profits for themselves and their collaborators. Technology parks should be established in the leading public universities such as QAU, Punjab, Karachi, Sindh, Peshawar, Balochistan, which have still hundreds of acres of unutilized land in their possession or have leased it out for commercial purposes. University teachers should no longer be recruited under the government BPS scales but on contract with the provision of converting into tenured positions after fulfilling the eligibility criteria. The present dual track of appointments is not conducive to nurturing collaborative work among the teachers.

Seventh, expand the technical and vocational training centres at cities in conjunction with industrial employers and at the rural centers in relation to the specialized skills needed for that particular area. Coastal districts should have maritime-related skills, mining districts mining-related, livestock districts veterinary services and artificial insemination and so on. Tractor drivers, mechanics, equipment and machinery technicians etc should be given continuing professional development training. Public-private partnership where the physical infrastructure and hardware are provided by the government while the design, development and delivery of the courses is the responsibility of the private sector turns out to be a successful model to replicate.

Eighth, Edtech, Healthtech, Agritech and Fintech are becoming quite active in bringing new technologies and techniques by disrupting the existing ways of doing things. Drones and sensors along with laser levelling have proved to be effective tools in situation-based precise use of inputs, raising productivity of even small farmers. What is needed are commercial arrangements to increase the usage and scale up these operations through leasing, rental, cooperative or joint sharing. The task of training human resources and keeping them up to date in these areas has not yet been assumed either by the government or the private sector. As it is a public good, this responsibility should be taken over by the government – in close coordination and consultation with the private-sector players.

Ninth, provide financial assistance to talented and deserving students from poor families and backward districts for undergraduate and graduate studies at universities – public or private – where they are able to secure admission. The package should consist of all tuition and living expenses, hostel, travel, books and other incidentals so that these students are free from financial worries and able to concentrate on their studies. In the case of Balochistan, every student from all the 26 districts except Quetta should be made eligible for this assistance. Preference should be given to those pursuing science, technical, professional (engineering, IT and computer sciences, medicine, biotechnology and genetics, agriculture, livestock, mining, fisheries, horticulture etc) and to female students from rural areas.

Tenth, reorient the whole landscape of hundreds of federal and provincial government R&D institutes – particularly in agriculture, industry, health, energy, water resources. Their funding is inadequate to begin with and whatever is disbursed goes into paying the salaries of the staff most of whom are non-scientists and support staff. There is not much left for carrying out the actual studies and projects. The private sector does not invest much in R&D. While defence research organizations have done a remarkable job in their own domain, they have not been able to contribute towards dual use in the civilian sectors.

There is also a discrepancy in the recruitment rules of fresh PhDs between the universities and research organizations as most of the staff belonging to the latter category leave to join the higher grade faculty positions in the universities – leaving a residual of unacceptable quality (except a few committed ones). Funding arrangements should be revised where only competitive research grants in specified fields of national priorities should be made available for the researchers, technical support staff, equipment, and other materials. Promotions should no longer be made on the basis of seniority but on the basis of agreed key performance indicators.

A popular theme in the conversation about reforms is that low public spending on education and health is the real culprit for the existing state of affairs. Such preoccupation by well-intentioned commentators and analysts does not pay any attention to whether the desired outcomes can be attained by simply increasing the spending in the face of the present system mired in leakages, waste and inefficiencies. Throwing good money after bad money is an erroneous policy choice.

ASER reports on learning outcomes and other studies clearly show that the present governance and management structure characterized by over-centralization of powers and authority and concentration of resources at the provincial level is dysfunctional. It is next to impossible to supervise and look after the schools and hospitals spread over 35 districts from Lahore. Management at the school and hospital level has no powers to reward good performers or penalize the recalcitrant staff. They have no funds to carry out the essential repairs and construction which is done by another government department directed from Lahore.

The district education and health authorities are headed by the deputy commissioners who are already overloaded with enormous other responsibilities and have little time to devote to these subjects as these play no significant role in their performance assessment. The district education and health officers have strangled the headmasters and medical superintendents and transformed them into bureaucrats and paper pushers rather than those who can deliver the services desired by the citizens. Recruitment, postings and transfers and promotions are done on political connections and sifarish rather than on performance and achievements. Under this system, why should anyone clamor for an increase in public spending from two per cent of GDP to four per cent, citing the examples of other countries?

However, if the above outlined agenda for transformation from the existing state to the proposed threshold is followed faithfully, then it is absolutely imperative that public spending on education and health should be doubled from the current levels at the expense of other unproductive spending and untargeted subsidies. There is no doubt that the financial implications of paying large sums to STEAM teachers and training them, setting up labs and buying equipment, bringing out-of-school children back to the mainstream, expanding vocational and technical training and equipping them with modern gadgets, increasing the quantum of competitive research grants, converting university teachers from BPS to tenured pay scales, providing scholarships and stipends to poor talented students, commercialization of application of new technologies in education, health, etc are likely to be significant.

As a consequence, there is ample justification for doubling or even higher levels of public spending on human capital to enable Pakistan to compete in the global world of the knowledge economy. We must realize that the above agenda requires a whole-of-the-nation approach to sustain the momentum across political cycles. The failure to prosecute this agenda, despite these numerous difficult challenges and the constraints enunciated in this article, is simply unimaginable.

Concluded