

REBUILDING HUMAN CAPITAL

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When countries face short term financial crisis it is natural that more deep rooted and important issues are neglected perpetuating the cycles of economic instability from time to time. It may appear to be a hoarse cry at this stage when our attention is focused on agreement with the IMF, finding resources for our external financing requirements, rapid depreciation of rupee, foreign exchange reserves, debt servicing payments, FBR revenues , to raise questions that span medium or long term time horizon. Given the changing nature of our external environment if we do not prepare ourselves for meeting the future challenges we would remain in a state of perpetual atrophy. This article is an attempt to draw the attention of the policy makers and the leaders of the society to start thinking and implementing the changes required to strengthen and rebuild our human capital that would be the backbone of the knowledge economy. Human capital is the knowledge, attributes, training, skills, experience, and health of the workforce and is a much broader and extensive concept than Human Development. The responsibilities of the firms and employers in human capital formation are equally critical for increasing productivity and thus profitability. The more investment a company makes in its employees, the chances of its productivity and success become higher but this micro level discussion is not covered in this article .

Let us begin with an assessment of the current situation. Our adult literacy rate has not budged much and has stagnated around 60 percent while one quarter of our youth is illiterate. Out of 52 million children of school going age, 22 million have either dropped out or never attended school.. More than half of the relevant age cohort children are out of secondary schools and the enrolment ratio in tertiary education is only 12 percent. Out of 149 countries, Pakistan is ranked 112th in the world on primary school enrollment. The average years of schooling of our work force is 9 years and therefore labour productivity is not only relatively low but has stagnated since 2007 making our exports uncompetitive in the world markets. Health indicators are much below the desirable threshold

levels. Our ranking in Human Development Index is 118 out of 149 countries. Pakistan ranked 134 out of 151 countries on the World Bank's newly introduced Human Capital Index which is more relevant as it has multiple dimensions such as Survival, Expected years of learning adjusted schooling and Health. The index differs from HDI as its component of Education and Health reflect their contribution to worker productivity—something in which we are lagging behind and which is the cornerstone of sustained equitable growth. For example, a score of 0.50 on Human Capital Index shows that the GDP per worker could be twice as high if the country reached the benchmark of complete education and full health. Average or expected years of schooling are found to be a partial or incomplete proxy for Human capital and that is why Human Capital measured only by the average years of schooling failed to deliver the returns predicted by growth models. It is only when quality or learning outcomes are added that the contribution of Human capital is found to be more strongly associated with growth. Adjusted for learning the average years of schooling in case of Pakistan falls to 5.1 years from 9 years. Eighteen million children going to government schools in Pakistan are getting very poor quality of education where, on average a fifth grader cannot even write a sentence in Urdu. Inequalities in learning outcomes between those who attend the elite private schools and government schools are becoming sharply acute and acting as a barrier for intergenerational social mobility. Ninety percent of children across Pakistan are underachieving in maths and sciences. The enrolment in Science and Technology subjects at the university level has been constantly on a downward slope.

A recent World Bank study has found that economic drivers, such as economic growth, rising education, and declining fertility, cannot adequately explain the levels and trends of Female Labor force participation rates in South Asia and Social norms about gender can be a key obstacle towards gender equality and these norms are particularly biased against women. Many jobs and occupations are considered “men’s jobs,” and few women cross over . This concentration of employment in a few (mainly service) sectors exposes women to large employment losses when a crisis hits these sectors. Mobility restrictions further limit women’s ability to work outside the home. Social norms hinder women’s access to land, financial capital, and other assets. They also limit households’

investment in women's human capital, reducing access to higher education, and constrain women's influence over decision making, inside and outside the home.

We now turn to the latest research findings and insights on Human Capital(HC) . Empirical evidence on cross country income differences have established positive relationship between Human Capital and Economic growth which in turn is correlated with poverty reduction. The channels through which HC affects growth are (a) directly as a factor of production (b) its influence on technological progress (c) a proportion invested in knowledge generation that allows growth to go indefinitely and (d) positive externalities such as lower mortality rate, lower fertility and better nutrition and cleanliness . An impetus to the human-capital-technology nexus was received by the endogenous growth theory demonstrating that traditional inputs like capital and labour which have diminishing rates of return account for only half the differences in countries' output – and ideas, knowledge and technology which have increasing rates of return account for the remaining half. Startups have turned into unicorns just on the basis of an idea the founders had seized upon. Human capital is seen as instrumental to the development, adoption and operation of new technologies. Studies showed that students were going to school but not learning—an emerging gap in human capital formation. Thus, emphasis needs to be placed on learning rather than completion of schooling years. The stylized facts show that girls outperform boys in learning—a positive gender gap. Working women, when compared with women who do not work, report higher levels of agency, which, together with more resources, is associated with improvements in nutrition, health care utilization, productivity, and overall well-being for both women and their children . HC accumulation and skill formation are really life cycle, life long processes with high returns on early childhood development .

What is happening in the international talent market? According to the UN, the migrant stock has risen almost 100 million in last two decades or 5 million per year on average as the advanced countries with ageing population are meeting their demand for skilled and quasi skilled labour drawing on the migrants. 71 percent of the migrants went to high income countries. Japan, a country that had so far defended its ethnic homogeneity has indicated that it would need 2.4 million Science and Technology talent . The competition to attract international talent is going to become fierce as is evident from the policy documents issued

by the US, UK, Japan, Canada, Australia and Korea. Even China is facing shortages in Artificial Intelligence expertise . Pakistan , having 60 percent of its population below the age of 30 , can prepare its youth with the skills that respond to the specific demand of these countries . This would partially solve the problem of absorbing these youth in the domestic labour market , and increase the level of remittances in the short term. In the long term, the returnees would bring back knowledge and experience that would help the country's economy.

What type of Human Capital strategies Pakistan needs to put in place in order to improve its current standing and maximize the benefits for growth and welfare of the majority of the population? These strategies require effective coordination and ownership of the Federal, Provincial and local governments. the private sector, the academia, think tanks, media, the non profit organizations and the parents. At the outset it must be conceded that this is the main stumbling block that has not allowed Pakistan to make any significant progress in the field of Human Capital. At the conceptual level, there is a huge divergence in the views about the priorities to be accorded , the resources to be allocated and the roles to be divided among the key stakeholders. There are too many experts in this particular area of Educational and Health reforms who want their asserted opinions to be accepted exclusively. Constructive Dialogue and consensus building have become difficult in a society where polarization and divisiveness have become so deeply entrenched and tolerance and trust have become rare commodities. The recent example of Single National curriculum is a vivid illustration of these prevailing tendencies in the country. All the efforts that were put in that project are likely to come to naught as the new Government may abandon it rather than fine tune and rectify its deficiencies because if it becomes successful the credit would go the previous government. The present government may pursue a different priority . The impact of investment in Human Capital is felt decades later but the political leadership want something tangible to show within their tenure and hence the ground breaking and inauguration of physical infrastructure projects are so seductive and get most attention and budgetary resources. Continuity , consistency and dedicated efforts towards implementation over a long period of time applicable to all structural reforms are also the

prerequisites of a successful Human Capital strategy. This disconnect between political expediency and pursuit of long term goals has proved to be a bane so far.

Having sketched the current prevailing situation in Pakistan and the requirements of HC threshold to “ allow all children to reach their full potential—growing up well nourished and ready to learn, attaining real learning in the classroom and entering the job market as healthy, skilled and productive adults” we identify the ten areas where the gap between “ What exists” and “ What ought to be” needs to be filled (in no order of priority). The proposals given below are culled from research studies , field observations and extensive consultations with stakeholders by Reform commissions and Task Forces.

First, Restructure the Governance and Management system of Education and Health delivery by clearly delineating the responsibilities between the different tiers of the Government. The Federal Government should restrict its scope to Higher Education i.e. the Universities and national centers of excellence, National Institute of Health ,regulatory authorities, testing laboratories, accreditation ; the provincial government to the Colleges, Technical and Vocational training , tertiary hospitals and medical teaching institutions, and the district governments / metropolitan, municipal corporations and municipal committees should operate schools from KG, primary to higher secondary schools. Primary health care, Basic Health units, Rural Health Centers, Tehsil hospitals and Dispensaries and District and Municipal hospitals. . There should be District Education and Health Authorities which would be responsible for standard setting, supervising and inspecting private and non profit schools , hospitals and clinics. Colleges and universities should have their own Boards of Management while schools should have School Management Committees with adequate powers and resources devolved to them. The present artificial distinction between Development and Non Development expenditures should be abolished and replaced by a Programmatic approach.

Second, Reduce the gender disparity and bringing female enrollment ratios at all levels and literacy rates to equal and exceed those of the males. The

evidence about higher returns in female education are so incontrovertible and externalities so positive that grants, scholarships and safe transport arrangements have to be made for them. Allocations of Conditional cash transfers under BISP for female students should be raised particularly for Balochistan ,merged districts, Southern Punjab , Rural Sindh. At the school level nutritious lunch should be served regularly. Female teachers have proved to be more productive and devoted while teaching. They should be the first choice in appointments in government schools (all other things being equal) where the quality of teachers is a binding constraint on the learning outcomes. The example of TCF schools where the teachers are all females and have performed exemplary well testifies to the validity of this recommendation.

Third, Bring 23 million out of school children back to the formal and informal learning structures and equipping them with vocational skills . Most of the students drop out after the completion of elementary schooling due to the dearth of Middle schools in their localities. The ratio of Middle and Secondary schools to primary schools is lopsided and needs to be corrected by establishing new middle and secondary schools in the areas where there is a pent up demand. Second shift in the existing school buildings with a compressed but relevant curriculum including vocational and life skills could be explored as a cost effective method of bringing these children into the learning net. Basic Community schools run by individual operators was a promising experiment for non formal basic education where the premise is provided by the community whereas the salaries of the teachers and text books are provided by the Government . This project that caters to the children aged 4-16 has been neglected in the recent years as a result of tussle between the federal and the provincial governments on the funding of these schools. In view of its cost effectiveness and community sharing these non formal schools should be revived, strengthened and expanded . Those students who are willing to resume their studies should not be charged any tuition fees. Retired well reputed teachers living in the area or nearby can be hired on contract to impart instruction to these students lowering the financial burden on the exchequer while assuring good quality.

Fourth, Introduce Science, Arts and Mathematics subjects gradually right from the early days of schooling to inculcate critical thinking skills and getting away from rote learning, memorization and spewing out of crammed material at the exams in pursuit of grades and diplomas. Our future is bleak if ninety percent of students across Pakistan are under achieving in Maths and Science. Steps have to be taken immediately to rectify this dismal situation. For this the whole process of recruitment, orientation and training of the teachers has to be reinvented and compensation linked to learning achievements rather than across the board uniform pay scales. Skill premium and performance measurements should be the guiding principles. Science laboratories where the students can carry out hands on activities to learn the concepts and experiment should be set up at the middle and secondary schools by all providers of education. Studies focused on Pakistan show that for every one year increase in secondary education for the entire workforce, the GDP of Pakistan will increase by 13%. Pakistani youth acquiring these skills can readily find jobs in advanced countries with ageing population as they badly need these skills to maintain their standards of living.

Fifth, Lady Health workers had made a promising beginning to increase access to essential primary care services and support health systems at the household and community levels. However, for a variety of bureaucratic and short sighted decisions they have lost their efficacy. These workers and Family Planning workers should be merged to form a single cadre with clearly defined duties. They should be selected on meeting certain criteria, trained continuously, supervised diligently, given security of service and located in their own communities and villages. They should be provided the necessary vaccines, etc and hand sets to record what they had accomplished.

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 the national economic and social problems. One of the most neglected areas today in the spectrum of higher education is the 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 the universities across the country to ensure uniform standards of excellence in the respective fields. Faculty members should be allowed consultancy, setting up of their own companies using their patents and innovations and retaining a significant proportion of 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 centers at cities in conjunction with the industrial employers and at the rural centers in relation to the specialized skills needed for that particular area. Coastal districts should have maritime related, 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. Training of 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 the talented and deserving students from poor families and backward districts for undergraduate and graduate studies at the 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 incidental expenses so that these students are free from financial worries and able to concentrate on their studies. In 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 the rural areas.

Tenth, Reorient the whole landscape of Public sector Research and Development institutes particularly in Agriculture, Industry, Health, Energy, Water Resources, . There are several hundreds of such institutes under the federal, provincial governments and the universities. Their funding is inadequate to begin with and whatever is disbursed goes into paying 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. 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 the 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. 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 HC 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 whether the desired outcomes can be attained by simply increasing the spending in face of leakages, waste and inefficiencies. No consideration is given to the fact that throwing good money after bad money is an erroneous policy choice. ASER Reports and all 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. 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 strangulated the Headmasters, Medical Superintendents and transformed them into bureaucrats and paper pushers rather than delivering 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 any one clamor for an increase in public spending from 2 percent of GDP to 4 percent citing the examples of other countries.

However, if the above agenda for transformation from the existing state to the proposed threshold is to be followed faithfully then it is absolutely imperative that public spending on Education and Health should be doubled from their current levels by the Federal and Provincial governments at the expense of other unproductive spending and across the board 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 more the public spending on Human Capital to enable Pakistan to compete in the global world of Knowledge economy. We must realise 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 constraints enunciated in this article , is simply unimaginable.