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# Making People Employable: Reforming Secondary Education in Pakistan

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## 1. INTRODUCTION

It is imperative for Pakistan to quickly put in place the building blocks of a knowledge economy. The first step in this direction requires moving the country out of the *"low skills, low productivity, and low expectations"* trap which permeates many spheres of our national economic activity. To meet this objective even partly, it will be necessary to address the fundamental crisis in education related to access and completion, in numbers and quality, as well as market relevance.

Historically, there have been several major attempts at playing 'catch up' during the last 150 years and the dynamics of the process have been studied extensively. These include German attempts to emulate the earlier industrial revolution in England [Gershenkron (1962)] and the forced modernisation of Meiji Japanese society [Morishima (1994)], both of which which took place in the 19th century. More recent studies have focussed on the post-war boom in Europe, the sudden rise of NICs in East Asia and of course China. The conditions for latecomers may be different from those who have gone before, but the institutional evolution of domestic knowledge systems and *economic catch-up* depends critically upon *collective competence building as well as* technological congruence and social capability and infrastructure [Abramovitz (1994)].

While economic integration, larger and more homogeneous markets, and large-scale production technologies have driven growth and development, the process of sustained growth experienced by several countries and regions would not have been possible without a general increase in educational levels [Barro and Lee (2004)] and additional resources being allocated to public and private R&D. This facilitated growth of a large stock of human capital, and encouraged innovation in firms [Schumpeter 1912); Harvard (1934)], and explained to a considerable extent Europe's successful 'catch-up' with the USA or the phenomenal rate of growth, first in East and South East Asia and now in China.

This article suggests that even if institutional excellence, governance, and physical and electronic infrastructure can be assured, the major crisis facing the Pakistani economy will remain the absence of employable skills—competence in hard and soft

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skills—*rather than under investment in business and economic activity*. This of course reflects into one of the three informational asymmetries suggested by Schumpeterian competition dynamics [Schumpeter (1939–1942)—technological innovation—and has important implications for Pakistan's competitiveness in the global economy and its attempts at playing 'catch-up'.

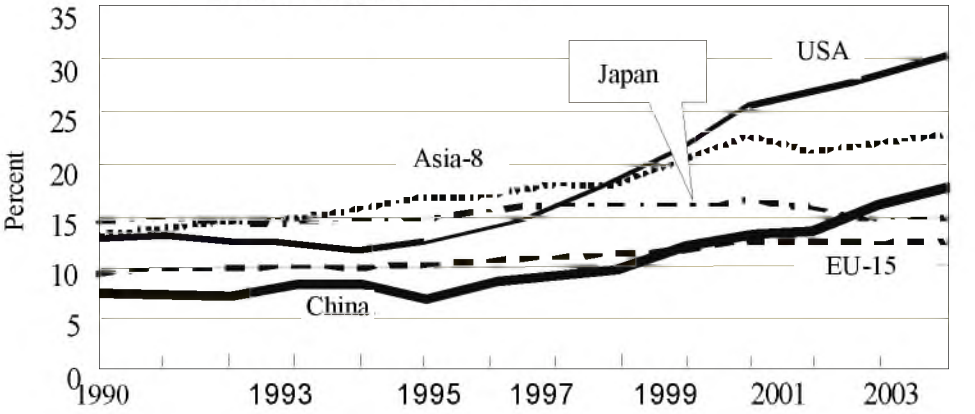
Secondary education needs major reform in order to reduce large dropout ratios which plague Pakistani education. Only a third of Pakistani students enrolled at primary level make it beyond Class V while another two thirds drop out after Class VIII. It is argued that if one or more career based occupational skill programmes are offered at the upper secondary level (Class 8-10) as s*upplements* to general education, dropouts can be reduced and productivity increased in the work environment.

## 2. SKILL BIAS IN GROWTH

### 2.1. Global Networks

The presently known industrial economy is being transformed inexorably into yet undefined morphologies on the shoulders of the information and technology revolution. The nature of work and workplace is changing, and national economies are diffusing across national boundaries into truly global networks, whether in industry, services or ownership. *This dispersal of work and strategic linkages across national boundaries, coupled with information integration, and a shift in the technological content (NSF, SEI 2006) of world manufacturing and trade towards high technology* (Figure 1), is the most conspicuous feature of the globalised economy of the present and foreseeable future. One manifestation is a major re-location [Lamy (2004)] of manufacturing and even services from the developed to less developed countries, with Asia and perhaps South America emerging as major destinations.

**Fig. 1. Changing Share of High-technology in Manufacturing by Country / Region: 1990–2003**




Asia – 8 includes S. Korea, India, Malaysia, Indonesia, Philippines, Singapore, Taiwan and Thailand

*Source:* NSF, USA, SEI (2006).

Almost all developed economies can now be identified as "knowledge economies" to some extent or the other, and they are taking further steps to consolidate this position by becoming even more knowledge intensive and competitive [Romer (2004)]. *Even when their productivity growth has slowed down, the rate of increase in the skill bias in technology has not.* In some newly industrialised Asian countries, such activities have already led to the evolution of small and medium enterprises (SMEs) into major global players and conglomerates. These now offer complete end-to-end services in the supply chain, whether as manufacturers of piece parts and systems, or providers of services, design, and research.

Machin and van Reenen (2007, 1997) regard higher skills as one input factor in the production process, whereby higher educated workers are more able to respond to new technologies such as ICT than less educated workers, and are also able to better react to organisational changes such as decentralisation of decision making and control, collective work, job rotation and skills segregation/homogenisation in modern firms. This non-neutral technological change makes higher educated workers much more attractive for employers and rising worker skills could perhaps create its own demand.

### 2.2. Economic and Social Returns of Secondary Education

Literature suggests that general education increases wages [Card and DiNardo (2002)]. The impact of a year of schooling on wages is estimated at about 10 percent and the average returns in countries with *low levels of schooling* range from 14 percent in the short run to 23 percent in the long run [Soto (2002)]. The productivity premium at the firm level for a trained worker has also been recently estimated from panel data in the OECD at 23 percent, with the wage premium of training being 12 percent [Konings, *et al.* (2010)].

International data shows that nations with a large proportion of students enrolled in upper-secondary vocational programmes have significantly higher rates of school attendance and completion at the higher upper-secondary [Bishop and Mane (2005)]. It was also observed in the USA that those who devoted about one-sixth of their time in high school to occupation-specific vocational courses earned at least 12 percent extra one year after graduating and about 8 percent extra seven years later. In the USA, 90 percent of students attending a comprehensive high school take at least one occupation specific course, with many taking more than one. This 'occupational profile' in US schools has remained stable since the 1980s.

Further, the strong correlation between schooling and growth performance [UNESCO (2002)] in Argentina, Chile, Malaysia and Uruguay suggests that human capital may play a stronger role in the growth process once it reaches a *threshold*, and that high levels of upper secondary and tertiary attainment are important for human capital to translate into steady growth.

## 3. THE CHANGING PAKISTAN ECONOMY

The Pakistani economy, too, has seen a major structural change during the last three decades with respect to the nature of work and skills, and shifting of employment opportunities across sectors and occupations. The share of agriculture in GDP has halved

since the 1980s to 22 percent, with current share of industry and services estimated at 24 and 54 percent. The corresponding sector share of the work force was 44.6, 19.4, and 36.0 percent respectively in 2009 [*Pakistan Economic Surveys* (2008, 2009, 2010)]. The old 'cottonomics' [Rashid (2005)] has shown some diversification away from cotton and its derivatives, with its share of exports falling by 10 percent points in the last 5 years.

The annual Global Competitive Index (2009) looks at a range of "12 pillars" contributing to productivity and competitiveness, *four of the pillars being directly linked to skills*. These are health and primary education, higher education and training, business sophistication, and innovation. Indirect pillars include technological readiness, which measures how a country implements existing technologies to improve productivity, and labour market efficiency.

Pakistan is listed among countries in Stage 1 of economic development (factor driven), and is ranked 101 overall out of 133 countries. In spite of a market size ranking of 30, it is pulled down by deficiency in human capital (health and education, rank 113), labour market efficiency (124), higher education and training (118) and technological readiness (104). There has been some productivity improvement [Kemal, *et al.* (2002); Mahmood and Siddiqui (2000)], but this has more to do with a low starting base.

Considerable demand exists for highly skilled persons for major infrastructure projects such as upgrade of seaports, railways, airports; transnational energy flow, and large dams such as Bhasha-Diamer. The resumption of economic activity in the Gulf Area will be another major spur in the near future, but for different and higher skills.

As much as 45 percent of the civilian employed labour force is illiterate, and 76 percent has *less than 10 years* of education [Labour Force Surveys (2008-09)], while 43 percent of unemployed are illiterate. All these point to a grave deficiency in access to education and skills in the Pakistani school system, and impact heavily on the output and productivity of Pakistani SMEs, which employ nearly 90 percent of the labour force.

Several other factors are important in the context of the changing nature of the Pakistani economy and its workers.

*First,* Pakistan is in the midst of its demographic transition, with some 100 million people under the age of twenty-five [*Pakistan Economic Survey* (2010)]. Without quality education and skills, and employment opportunities, social stability is likely to be negatively impacted.

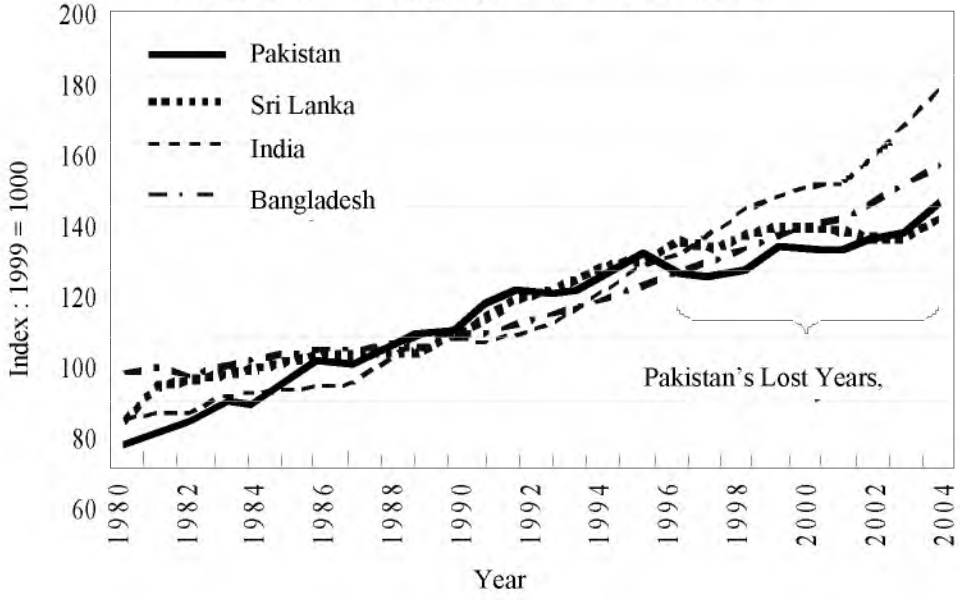
*Second,* Pakistan is already the most urbanised country in South Asia, with another 80 million people expected to migrate in the next two decades [Vision (2030)], which nearly equals the present population of the whole of Punjab, or Germany. Some 10 million workers have moved away from agriculture into services and industry since 1995 with the service sector absorbing nearly two-thirds. The clustering effect of physical, electronic and human infrastructure makes the city a major centre of growth and power, with a completely different socio-economic profile. We have yet to prepare and capitalise on this opportunity.

Pakistan's growth accounting (IMF 2005) yields estimates for the share of TFP in growth of GDP at 1.67 during the period 1960–2004, with values of 2.80 (during 1961-70), 2.55 (1980-89) and only 0.14 during 1993–2001. The stalling of agricultural output points to the end of the input-driven 'green revolution', which has essentially run its course. It will be difficult to address food security with present labour productivity,

technology, practice and attitude [Misbah (2009), APO Handbook (2010)]. It is worth noting that nearly 70 percent of the rural non-farming workforce is female.

A major reason why Pakistan's public sector institutions are unable to transfer technology to the SMEs (small and medium enterprises) may lie in the absence of complementary skills in the recipients to absorb and embed new processes and technologies.

**Fig. 2. Growth in Output per Worker in South Asia**




*Source*: Misbah (2009).

## 4. EDUCATION AND SKILLS IN PAKISTAN

Pakistan has singularly failed to provide its citizens adequate access and quality of education and training. Low literacy (~54 percent in 2009), high dropout rates, and literacy growth at around 1.5 percent annually [Education Census (2006), and National Education Policy (2009)], highlight the endemic internal and external inefficiencies of the system. The Millennium Development Goal of universal primary education by 2015 will apparently not be met. Pakistan's planners are still planning for the economy of the past, and change is stifled by poor governance of the E & T (education and training) system, which is non-strategic and fragmented. Practical skills learnt in the formal environment are generally unsupported, and the case of the partly-skilled person training the unskilled through 'shagirdi' or informal apprenticeship is common.

Not only is the investment on education and training small (2.4 percent of GDP, 2009) in comparison with other countries of OECD and East Asia [OECD (2009); Khan (2007)], it is also skewed *against* training and skills. (Figure 4).

**Fig. 3. Enrolment and Dropout Statistics (Pak. Edu Stats., 2007)**

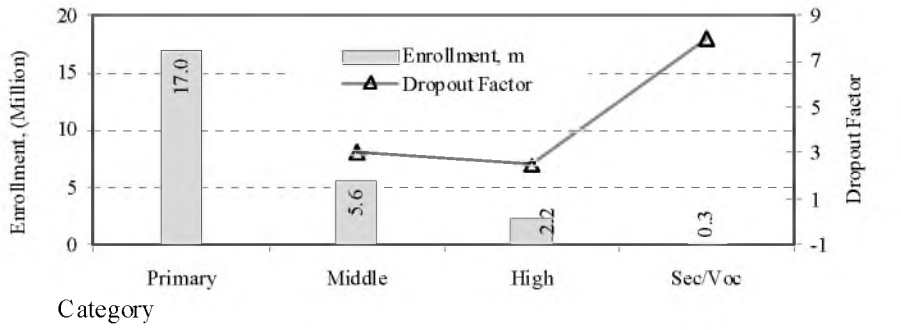
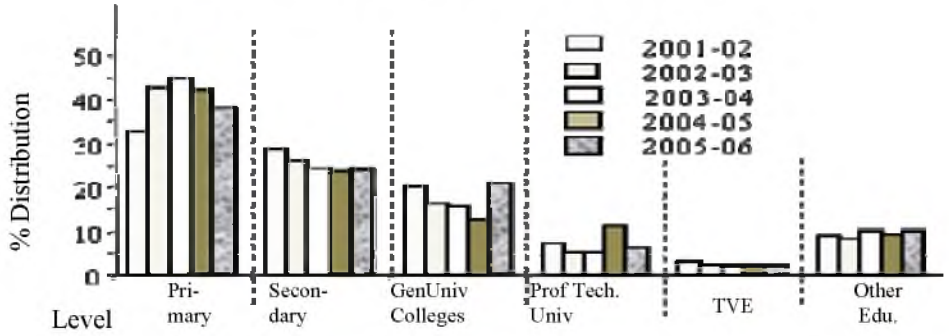



**Fig. 4. Skewed Expenditures on Education in Pakistan**




*Source:* Khan (2007).

Also, Pakistan cannot spend just Pak Rs 5000 per child *per year* at the primary level (or PPP equivalent US$ 180) and still expect to become a vibrant knowledge economy.

Table 1

*Comparative Annual Expenditure /Student (PPP Equivalent USD*

| | Total Spent Prim. To Tertiary Education | | Pre-Primary | Primary | Secondary | Tertiary (excl. R&D) | PCI (2004) |
|---|---|---|---|---|---|---|---|
| Country | USD | % PCI | USD | USD | USD | USD | USD |
| USA | 12,092 | 32 | 7,896 | 8,805 | 9,938 | 19,842 | 37,600 |
| Japan | 8,148 | 29 | 3,945 | 6,551 | 7,615 | 12,193 | 28,000 |
| France | 7,880 | 28 | 4,938 | 5,082 | 8,737 | 7,372 | 27,800 |
| Germany | 7,802 | 30 | 5,489 | 4,948 | 7,576 | 7,724 | 26,300 |
| UK | 7,270 | 25 | 7,924 | 5,941 | 7,090 | 8,792 | 29,000 |
| Ireland | 6,713 | 20 | 4,948 | 5,422 | 7,110 | 7,445 | 33,200 |
| Korea | 5,994 | 30 | 2,520 | 4,490 | 6,761 | 6,154 | 20,300 |
| Mexico | 2,128 | 23 | 1,794 | 1,694 | 1,922 | 4,834 | 9,400 |
| Pakistan* | **265** | **10** | – | **180** | **240** | **3900** | **2,600** |

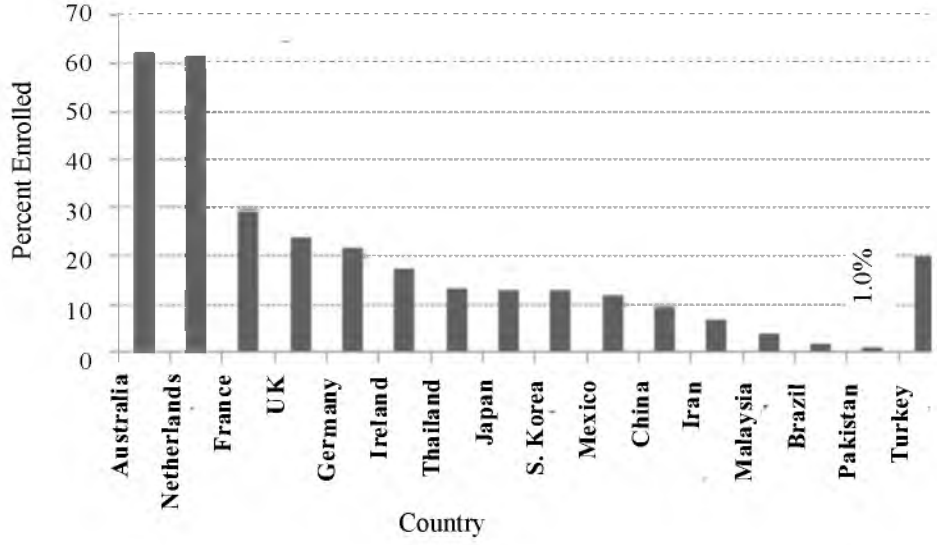
*Sources:* OECD Education Indicators (2009), numbers for 2004;
* www.moe.gov.pk (2009).

## 5. TECHNICAL AND VOCATIONAL EDUCATION IN PAKISTAN

### 5.1. The Numbers Game

Pakistan has some 3,125 technical and vocational institutions with a total enrolment of 256,000. The private sector dominates (70 percent of the institutions and 57 percent of enrolment), while 62 percent (or 160,000) of the students and teachers are male. The teacher numbers of 14,914 are equally divided among private and public institutions (Pakistan Education Statistics, 2007-08). However, the number undergoing formal training in Pakistan is very low at about 1.0 percent of the 10-16 age group (11-17 for OECD). This needs to be compared with an average of 25-60 percent for OECD countries [UNESCO (2007)] and 10-20 percent for the fast developing Asia Pacific region ( Fig. 5). This is consistent with time evolution studies of technical vs. general education in 149 countries against their GDP per capita [Bertochhi and Spagat (2002)] for the period 1950-1991.

**Fig. 5. % Enrolment in Selected Countries of Age Group 11–17**




*Source:* UNESCO (EFA, 2007).

Even if the Iranian numbers only are taken as benchmark, Pakistan should have an enrolment of 3 million people now instead of 0.26 million. The supply-demand differential will deteriorate further with time as more young people join the ranks of the unskilled and unemployed youth. Low Pakistani enrolments certainly point to a cause of its low productiy—about 7 percent of that in the USA [APO (2009)].

The case of Ireland is quite instructive. It has completely changed the skills composition of its workforce within three generations, from 50 percent of the labour force possessing primary education in 1972, to just 8 percent in 2002. Its economic profile has diversified, and growth trajectory has been re-defined.

Table 2

*Irish Workforce: Changing Educational Attainments*

| | 1972 | 1982 | 1992 | 2002 |
|---|---|---|---|---|
| Primary | 50 | 36 | 22 | 8 |
| Secondary | 21 | 24 | 28 | 28 |
| H. Secondary | 20 | 24 | 29 | 28 |
| Tertiary | 9 | 16 | 21 | 35 |

*Source:* VTE in Ireland, OECD. www.oecd.org/document

### 5.2. Governance and Quality Matters

The training sector is beset with a major crisis of governance. Some are endemic to education in general, others are embedded in the inability to understand that process efficiency and productivity is dependent on worker skill levels, rather than on capital investments alone. The basic problem remains an elitist attitude whereby blue-collar workers are regarded as lesser mortals engaged in 'low' level work.

The Federal Government established NAVTEC (National Vocational and Technical Education Commission) in 2005 to regulate and improve quality and relevance of skills and training programmes. Although placed under the Prime Minister to emphasise its importance, it has not been able to affect the content and course of training programmes in the country. Like its provincial counterparts (TEVTAs), it is run by non-technical persons, whose 'job mobility' militates against delivery of quality training. Some other pertinent issues are:

(a) The curriculum is not demand driven and is unable to respond to market demands and changing skill needs. This criticism is equally valid for most public and private institutions. Actual hands-on training and contact hours is minimal, because of sub-optimal use of existing curricula or teaching aids.
(b) Both public and private institutions suffer from non-availability of qualified teachers due to low salaries and inadequate career progression. The largest and oldest polytechnic institute in Pakistan, Government Polytechnic Institute, is situated in SITE, Karachi, which is Pakistan's premier industrial area. It offers training in 17 different trades, but the state of disrepair observed during a visit in mid-2009 or responsiveness to technical enquiries from the faculty is astonishing.

However, there are excellent positive examples also such as the Pakistan Welding Institute run by the Atomic Energy Commission or the Construction Machinery Training Institute run by the Army, both in Islamabad. These are managed by competent, well paid individuals, backed by well organised institutions.

(a) While Technology Boards exist in every province for conducting examinations, and ensuring quality, yet there is no international accreditation or benchmarking of the skill levels.
(b) Apprenticeship can be an effective tool if it is combined with formal education. However, the prevalent informal apprenticeship system operating in the informal sector is little more than forced labour, with a typical daily

'salary' of fifty to sixty rupees for the first year plus lunch (a quarter of the legislated minimum wage). The apprentices make their own travel arrangements, and there are no health and safety measures in place.

(c) Furthermore, there is an invisible 'glass ceiling' which does not allow improvement in skills and management.

(d) Previous attempts at placing a public organisation such as PITAC in Lahore also re-bounded because of resistance from existing staff and potential conflict of interest with CEOs drawn from private sector.

(e) An interesting attempt was made by NAVTEC to incentivise enrolment in existing institutions through stipends of Rs 3,000 per month to young people. The system is reputedly suspected of suffering from misuse.

*And yet they keep coming for training: young men and women in search of employable skills and decent wages!*

## 6. THE WAY FORWARD

### 6.1. Bridging the Public-Private Divide

Recent studies suggest that extreme convictions on both sides of the public-private divide are no longer supported, and an intermediate position is available between pure market forces and rigid state planning. This rare historic opportunity for planning industrial 'policies' [Rodrik (2004)] allows the state to be responsible for the provision of basic strategic and coordinating roles in the productive sectors also, irrespective of the intensity of globalisation.

Education and training are ideal instruments for such state intervention. This has happened in every newly industrialised country (NICs) of the last few decades, and is also actively pursued by OECD countries. Education with skills is now viewed as a right for young people and a core responsibility of the state. Extensive interaction with industry and business by the Planning Commission suggests that the private sector in Pakistan is willing and able to participate with the public sector if its stake is duly recognised.

### 6.2. Key Objectives and Features: Vocationalisation of Education

Reforms are imperative in the upper secondary levels (Class VIII-X), if the national objectives to increase access, quality and international benchmarking of skills are to be met.

Assuming that employment and employability needs to become the central theme in economic and social policies, it is clear that *education must be made economically attractive* for the very large segment of population with 5-8 (and even 10) years of schooling who are basically unemployable. This will place the youth at the centre of not just economic development but also in building up social capital and harmony. This also helps the greater goal of building collective competence, and the matching of trans-national skills whose absence denies Pakistan the benefits of globalisation.

This is in line with Maclean (2005) who argues that 'in many countries, secondary education has become the weakest link in the education chain' and is receiving increasing

attention and policy priority, since it is now regarded not just as a bridge between primary and tertiary education but an active instrument for preparing young people for entry into the workforce of a fast changing global economy.

Current upper-secondary education in Pakistan does not provide students either with skills or preparation for skills and training needed in the marketplace, let alone any incentive to complete 10 years of schooling. Secondary education therefore needs to be reformed so that clear tracks are available to students for technical or business related skills in addition to basic academic programmes at the upper secondary levels. For this it will be necessary to convert our secondary schools (Class VIII–X) into 'comprehensive' schools which offer specific labour-market preparation *in at least one programme* area after 8 years of schooling. This is expected to significantly reduce dropout rates, and encourage completion of 10 years of schooling. The major impact will be in non-metropolitan and rural areas.

General education will not be displaced. It will be supplemented to the extent of, say, 15-20 percent with economically relevant courses related to the productive sectors of the economy (services, industry, and agriculture). This needs to be augmented with 'soft' skills, such as communications, interpersonal skills, and team based approach. For both streams, teachers will be the long pole which holds up the reformed structure; all programmes must therefore be built around well-trained and well-paid teachers.

At the institutional level, the capacity for data collection and analysis of the labour market needs to be strengthened, while a balance needs to be maintained between institutional autonomy and public accountability of financing instruments and monitoring of outcomes.

### 6.2.1. *Chain of Improved Training Centres: "Think National, Act Local"*

The occupational streams in schools will need to be supplemented and linked with formal technical training centres, The Planning Commission (2009) proposed setting up one model centre in each district (130 in all) which will offer certification after further training. Each centre (rebuilt and renovated or built anew if necessary) could offer training initially in a set of 4-6 areas keeping in mind geographical imperatives and national and international benchmarks. Re-joining for improving skill levels will need to be a core principle.

The entire process for increasing high quality skills and productivity in Districts, will place these opportunities close to most people who actually *do* work (farmers, workers on building sites or the office / factory floor, and those who work in trade), and who are hardly educated and may not even be literate. By taking skills training to the school as well as district and tehsil levels, local community strengths and aspirations will be harmonised in the national context.[1]

Examples of matching of location with demand could be the Centre near the Bhasha-Diamer Dam, and the upcoming port of Gwadar. The Bhasha centre could focus on skills needed in the construction and operation of the dam and its auxiliary facilities, with both short-term and long-term benefit and help train people for the series of dams planned to be built in the Northern reaches of the country after Bhasha-Diamer.

[1]The Planning Commission approved the Concept in April 2009, with an allocation of Rs 2.0 billion in the Annual Plan 2009-10. However, no progress is detected.

Similarly Gwadar needs an excellent 'polytechnic' to generate the skills needed to build and manage the port, apart from managing its entire supply and hospitality chain. Its socio-economic impact on Balochistan and the country would be considerable, because of its position at the mouth of the Straits of Hormuz, which favours Gwadar evolving into a hub of the North-South Corridor, West of the Indus, as well as opening up Afghanistan and Central Asia.

Managing the various agri-businesses efficiently could be part of the curriculum everywhere. Examples will be processing of spices in Sindh; dates in Turbat and Sindh; fruit processing in all the provinces; and schools of mining in Khyber Pakhtunkhwa, Balochistan, AJK and FANA.

### 6.3. Quality Matters

Substantial efforts have been expended in recent years to improve governance by integrating the efforts of the several organizations (11 currently) which offer technical skills in the country. Creation of NAVTEC, provincial TEVTAs, and Technical Boards is certainly a step in the right direction, but the national qualifications framework still need major effort in order to integrate both vocational and general qualifications. There is also need to include provisions and commitment for re-training and upward progression in skills.

#### 6.3.1. *Mother Institutes and Internal Transfer of Technology*

It is argued that internal technology transfer can and should be facilitated between the best in the country and not-so-good technical institutions. This can take the form of 'mother institutes' which help to steer quality matters and benchmarking. Mother institutes could include major institutions and industries in sectors such as power, chemicals and pharmaceuticals, IT, agribusiness, and mining, and relevant departments from academia.[2]

In addition, considerable numbers of highly qualified engineers and technicians from some strategic organisations in Pakistan are becoming available after retirement. Pakistani enterprises will also benefit from an infusion of senior citizens from developed countries[3] (more precious than mere funding aid). Retired Japanese and German exerts are already doing this.

### 6.4. Who Pays for Training Programmes

The cost of such a national competence building programme is estimated at around Rs 48 billion over five years, targeting an additional some 0.25 million persons annually, [Khan (2009)]. Linkages with employers and apprenticeship will be a key instrument for improving training relevance and improving employability. Because of private return to the apprentices, the private sector would be likely to hesitate in bearing the entire cost of apprenticeship.

[2]The Foundry Institute was recently set up by SME Development Authority ( SMEDA) in collaboration between an engineering university (UET Lahore).

[3]Pakistan needs to reconsider its immigration policy. Teachers, technologists and managers from other countries need to be actively courted.

Richardson (2005) argues that failure in training markets may result from credit constraints and other capital market imperfections deterring potential trainees, and Government intervention could correct for these. Since social returns are high, a system of co-financing needs to be considered with the state paying for school-based occupational streams and post-school formal training, while the private sector co-finances and contributes towards on-the-job training and apprenticeship.

Billett (1998) has pointed to the dilemma raised by the diverging interests of stakeholders. While the national policy goal might be to increase quality of vocational education and skills programmes, the firm and individual are likely to have different interests, with the former focussing on enterprise relevant training while the latter would prefer to acquire general, transferable skills allowing them to move between occupations. So what is best nationally, building a skilful and adaptable workforce, and what individuals strive for may be different from the narrower interest of enterprises. This issue is quite critical when placement and apprenticeship is involved, and is another reason why the state should consider co-financing apprenticeship in firms.

Another useful instrument to improve skills and productivity might be to introduce sectoral training schemes coupled with a cess (say, 0.5 percent of the annual turnover of a business) for SMEs. This would fund improvement in skill levels or re-training of workers and *employees of that company itself*, which would however be forfeit to the general training kitty for non-compliance.

## 7. CONCLUSION

Employment generation and matching of skill with demand in a changing work place will need to be central to poverty reduction, economic growth and social mobility. The national educational and training system is unfortunately not in synch with these objectives, and is due for a major overhaul.

Low literacy is a natural outcome of the lack of responsiveness of the system to the economic needs of students, and explains to a great extent the high dropout rate after five years of schooling. Labour force educational attainments show that nearly three-quarters possess less than ten years of *education*, while only about one percent of the relevant age group are enrolled in any skills or training programme. This figure compares unfavourably with both developed and developing countries, and impacts productivity.

The severity of the social problem is even more alarming because of the ongoing demographic transition and the implications of a large numbers of young people in economically productive group, who are basically unemployable and at risk of alienation.

The vocationalisation of upper-secondary education is discussed in the background of international studies which have analysed economic and social benefits from large enrolments in skills and training as supplements to general school education. The change in skill bias towards newer and higher (or different) technologies also points to the need for a major re-orientation of the education and training programme. It is believed that internationally benchmarked skills is not just about building the skills needed for the workplace in Pakistan's future economy, it is also about present day marketable and economically relevant education for young people in the economically productive age group.

Majority of the 3,125 technical vocational training institutions in the country are run by the private sector (70 percent of the institutions and 57 percent of enrolment), yet the outcomes are equally poor, and sometimes worse than what the public sector can offer. The matter of training is too important to be left to the private sector alone, which may have met the enrolment demand to some extent but whose quality is uneven unregulated. The institutional structures, interprovincial linkages and autonomy need to be balanced against the requirements of public accountability of funding and outcomes.

The matter of improved governance and quality is essentially one of "c*hange management"* (training, skill development, and adaptation of technology). It is proposed that an internal technology transfer and networking with 'mother institutes' could be a key instrument for the chain of 'model training centres' to be set up in the country (reformed, re-built, or completely new ones if necessary) and will be intensified by enhanced networking with industrial clusters and business houses. The cost of such a programme is estimated at around Rs 48 billion.

The issue of linkages with industry and employers is important not only in terms of relevance and quality, but also in terms of financing. Three forms of co-financing are proposed, in which the state can fund the entire programme ('occupational tracks' in school for 15-20 percent of studies, and one 'model' training institution in each district), or share it with employers and other stakeholders.

Finally Pakistan's rare inability to consider *importing teachers* is highlighted. It is time for Pakistan to enter the global race for attraction and retention of men and women of talent and skills who are valued and sought after by all nations.

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