THE ROLE OF TECHNICAL VOCATIONAL EDUCATION AND TRAINING IN HUMAN DEVELOPMENT: PAKISTAN AS A REFERENCE POINT

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Abstract

The improvement in Human Development (HD) is imperative for economic development of a country hence, a prudent government assigns priority to HD in its policy formulation and ensures availability of appropriate funding for this purpose. One of the important component of HD is the technical vocational education and training (TVET) that is gaining tremendous popularity in recent literature. The literature refers this subject to education and training that prepares people for an employment and makes them more productive in various economic fields. This paper analyzes the role of TVET in human development with reference to Pakistan. The findings reveal that the performance of TVET in Pakistan is not much satisfactory therefore its development sector is facing severe skills gap. There is an immediate need of reforms in education system with reference to development of skilled manpower in Pakistan.

Keywords: Human Development, National Vocational and Technical Training Commission, Technical Education and Vocation Training Authorities

Introduction

The significance of Human Development (HD) cannot be denied as it is directly linked with the economic growth of a country. The 1990 UNDP Human Development Report was the first comprehensive attempt to explain the capabilities approach. The HD improvement is no doubt a prerequisite for sustainable economic growth that needs priority attention of government policy and public funding. One of the important component of HD is the technical vocational education and training (TVET) that is gaining tremendous popularity in recent literature. Finch and Crunkilton (1999) refer this subject to education and training that prepares people for an employment

and makes them more productive in various economic fields. Sen (1985) while launching his Capabilities Approach advocates for "a person's capability to have various functioning vectors and to enjoy the corresponding well-being achievements" may act as the paramount indicator of welfare. The impact of economic growth on government expenditure on HD also facilitates the channels of private expenditure as evident from the findings of Anand and Ravallion (1993). However, the potency of this effect depends exclusively on the effectiveness of the target expenditure and delivery. In Pakistan, Technical Education and Vocation Training Authorities (TEVTAs) have been set up at provincial as well as at the federal level with the aim to provide good quality of appropriate training. However, the existing set-up of National Vocational and Technical Training Commission (NAVTTC) at federal level and TVETA at provincial level in Pakistan are not sufficient enough to face the regional challenges pertaining to demand and supply gap of the skilled workforce. With the fast growing youth population, the capacity for delivering demand-driven training services for increasing workforce with technical and professional skills remain insufficient to meet the modern labour market challenges. Therefore, an extensive NAVTTC and TVETA reforms are essential in order to fill the demand and supply gap of skilled workforce in a technologically advanced economy and global markets. Accordingly, the study intends to analyze the performances of NAVTTC and TVETA in Pakistan and the gap therein especially in the context of domestic, regional and global needs of skilled workforce. A descriptive approach has been adopted by using secondary data. The rest of the paper is organized as follows. Section 2 highlights the significance of human development in economic development and the role of technical skills with reference to technical vocational education and training (TVET). It further covers global practices of TVET with reference to models of Latin American countries, Germany, Japan and Nigeria. Section 3 discusses the status of skill development, turnout in TVET and HDI of Pakistan. Section 4 suggests educational reforms to facilitate the role of NAVTTC and TVETAs. Section 5 is devoted for conclusion of the research.

Human Development and Technical Skills

Human development seems to be imperative for long-term sustainable growth as it exhibits threshold effects in the sense that nations must attain a certain HD level before future economic growth becomes sustainable. This emphasis on levels differentiates human development from human capital in endogenous growth theory. While changes in human capital and labour quality matter most for endogenous growth, it is the level of human development that determines a nation's sustainable growth path (Ranis, 2004). In literature the significance of HD is being debated with reference to

ultimate goal of the development process that is no doubt linked with the economic growth of a country. The efficacy of public expenditure is restricted to the quality of governance and government accountability that likely to play significant role.

In recent phenomenon of technical vocational education and training (TVET), Sen's Capabilities Approach 1985, the UNDP Human Development Report 1990 and thereafter the seminal works of Anand and Ravallion (1993) on this subject gained popularity and recognized in literature as milestones. Goel (2010) states that skills and knowledge are most significant elements of the social development of any nation and thus play vital role in economic growth of a country. Afeti (2010) documents that TVET is the key for development of the skilled manpower that are needed to meet the challenges of the rapid changing in technological advancement. Accordingly, the TVET is the learning process linking in addition to common education, the study of technologies and the attainment of practical skill relevant to occupations. While, Mclean and David (2009) refer to TVET as the attainment of knowledge and skills to enhance opportunities for socio-economic development in consonance with rapidly changing work environment. Uwaifo (2010) spells out TVET as the training of technical personnel who are in lead to initiate, facilitate and implement the technological development. The goal of TVET is quite plausible in the sense that it equips people not only with technical and vocational skills, but with a wide range of awareness that are obligatory for meaningful participation in working place and daily life.

Finch and Crunkilton (1999) document that technical and vocational education and training (TVET) refers to education and training that prepares people for an employment and makes them more productive in various economic fields. It is apparent that TVET plays an important role for social development and sustainable citizenship. For instance, Jallah (2004) opines that TVET is a "*master key*" for sustainable development and plays significant role in Education for Sustainable Development (ESD). Therefore in current global scenario, the TVET is one of the key strategic option for the development of education in all sets of countries (Tabbron & Yang, 1997; Grierson & Young, 2002). A number of researches and seminal articles on sources of growth also highlight the importance of human resource development.

It is worth mentioning that technical institutions and training centers must have the preferred machinery and equipment for training the skilled workers. The class supervisors must competently handle the production machinery to produce quality goods with higher efficiency. The teaching staff should be familiar with the practical knowledge of the factories and there should be an in-service training programme as well. The curriculum

should be developed by the experts and reviewed so often by taking into consideration changes in the production techniques and introduction of new technology. World Employment Report 1998-99 suggests that training systems are a creation of the labour market institutions and incentive structures in which they function and of the support they receive from employers, workers and governments. Yet most of the skills developed over a life time are assimilated on the job, mostly in enterprises in which people work in both the formal and the informal economy.

Global TVET Reforms

Under current global scenario, the majority of countries are focusing on internationally recognized TVET process. Hence, quality assurance in TEVT is now the key factor that tempted many countries to initiate measures for taking steps to ensure the maintenance of quality in line with the provision of TVET. This has now become the global practice. Notwithstanding, the existing TVET policies are usually disjointed and inadequate in scope however the formal training no doubt attracts the major share of government support (Kingombe, 2011). Since, this system portrays supply-side approach which is in any case is selective, unproductive and impassive to the needs of labour-market. Therefore, there is a vehement demand from a large number of countries and even organization like the UNESCO for overhauling of the existing system of TVET. For instance, Kingombe (2011) supports such change within the TVET system. There is a consensus on the TVET Reform that should consist of a broad range of programme of TVET activities such as new TVET policy, execution of skill based training, training for trainers, private sector participation, and autonomy to the management of TVET institutions.

The TVET reforms vary from country-to-country depending on the extent of their technological needs however the main concerns of the global TVET reforms are to address their social, environmental, political, agriculture, business, sciences and technological needs. The world is depicting an environment of competency in rapid advancement of technology that is demanding for a high degree of skill to meet this challenge. Nevertheless, a number of countries are fully cognizant of it and they are fully engaged in formulating their strategies for TVET reform. These reforms are focusing on national development plans encompassing perfection in productivity in industrial sectors through skills development. As a result, many countries have set up their TVET model in accord to their technological needs.

The Latin American Model

Most Latin American countries focus their training programme on working people as well as school students during their leave-period. The training centers for this specific purpose are run by autonomous training agencies that maintain close links with industry through strong representation of employers on their governing bodies. Their financing is based on a payroll tax (about 1%) paid by employers. These organizational features have enabled them to provide high quality training and respond dynamically and flexibly to changing demands of the labor market (Calloids, 1994). The systems are separate from academic schools, thereby sheltering training for trades from the prejudices against manual occupations and the attractions of higher education. The training levy provides financial stability and a long-range planning horizon. Their financial and institutional arrangements have allowed the institutions to survive economic crises and fend off political interference. However, it has also allowed some to become heavily bureaucratic (ILO 1998) nevertheless Argentina and Mexico are exceptional as they have in-built vocational school-system within their education system.

The German Model

The German system is popular for its “dual apprenticeship system,” focusing on center-based training and enterprise-based training system. It is an outcome of corporate culture of the German which is a traditional pattern of apprenticeship. It covers one day per week of theoretical training by public vocational training centers and four days of practical training provided in-enterprise. An average of three-and-a-half years of formal training is provided to the apprentices by an enterprise under an employment contract. The trainer is supervised by a certified master. A fixed allowance is also given by the enterprise to the apprentices that are covered under the agreement and a nationally recognized diploma is given to the graduates after the completion of each type of training within the prescribed period of time. The turnover remains about 70% of school leavers in Germany and usually very few quit from this training once enter into the "Contract". The diploma serves the purpose for qualifying the apprentices to get the right of entry into more advanced levels of training. Notwithstanding, the system has been criticized for overspecialization—-although considerable consolidation took place in the 1980s and 1990s, insufficient theoretical training, and cumbersome procedures in revising training curricula. Still, the dual system is widely supported by all social sectors however high esteem for manual occupations and close coordination among employers’ associations, labor unions, and public administration are prerequisite (Calloids 1994).

The Japanese Model

In Japan, the training programmes are ranged from short introductory courses for workers joining the firm to full-fledged university degrees which are organized by big enterprises. The enterprises actually conduct training programmes on need basis on each skill as per requirement of the market. Although, the regular schools in Japan have an independent vocational tracks however the main players of skill formation are the big corporations.

Japan is unique from other countries in skill formation of its workers as it keeps plentiful provision of in-service training and the training is a continuous process that continues throughout the life of the worker. A variety of courses are offered that cover immediate and specific needs of workers thus producing a work force that is committed, regimented, stretchy, and adaptable. There is a low mobility of labor due to in-plant training based on the lifetime employment commitment of large firms. Nevertheless, small and medium-sized firms are totally dependent on school based training (ILO 1998).

Traditional Apprenticeship Training

Apprenticeship training is the main form of training in many countries (e.g. in Sub-Saharan Africa and the Indian sub-continent). Under this training programme, usually a written or oral agreement is concluded between a master craftsman working in the informal economy and parents or guardians, with the objective of the apprentice acquiring a set of relevant, practical skills. Sometimes the master receives a training fee, or the apprentice must earn the training in exchange for work or reduced wages. Training consists primarily of observing and imitating the master. The apprenticeship may last for several years and is product specific. Traditional apprenticeship has several advantages over conventional training methods, but also has disadvantages. It is practical in orientation, self-regulating, and self financing.

It caters to individuals who lack the educational requirements for formal training, serves important target groups (rural populations and urban poor), and is generally cost-effective. Its disadvantages include gender bias (females rarely participate), exclusion of applicants from very poor households, perpetuation of traditional technologies, and a lack of standards and quality assurance (Johanson & Adams 2004).

Most national systems of skills development are a mix of the above types of training. In addition to its vocational schools, for example, France has structured apprenticeship programs as well as training within enterprises. Japan has vocational schools in addition to EBT. In many Asian countries, such as Pakistan, Bangladesh, Thailand, Indonesia, and the Republic of

Korea, informal vocational training is provided by ministries of education, while ministries of labor operate vocational schools.

Overall, any mode of training for industrial and commercial occupations can be cost-effective when the institution is well linked to employers, adequately financed, efficiently organized and sufficiently autonomous to adjust the size and content of courses to meet the quantitative and qualitative dimensions of employment demand. At the same time, enterprise training and skills training centers have been shown to be more cost effective than vocational schooling (Middleton 1993).

More conclusively, the skills formation systems took a very long period of time for its evolution in some cases even centuries especially "dual" system in case of German is one of such example. Although many other countries have attempted to adapt the dual system however most of them could not succeed. For instance, the Republic of Korea tried to replicate the dual system but failed because of its different institutional infrastructure as compared to Germany and the highly bureaucratic nature of the scheme also was a hurdle in this context. Such examples serve as a warning against simplistic policy borrowing in the field of education and training (Ashton & Green 1996). If do not compromise on quality of TEVT and keep focus on demand driven TEVT then no doubt the utilization of trained human resource would find easy access to domestic as well as international market.

Skill Development in Pakistan

In Pakistan, training in a variety of skills is conducted by polytechnic, apprenticeship, government training and vocational institutions and private training institutions however the informal training system is traditionally dominant in the society. Although, the technical education and vocation training (TEVT) institutes are functional in all four provinces as well as at the federal level under the control of federal and provincial governments however their performances are not upto the mark. In Pakistan, the National Vocational and Technical Training Commission (NAVTTC) is an apex body at the federal level and Technical Education and Vocation Training Authorities (TVETAs) at provincial level. Their main objective is to standardize, enable and deliver policy direction for the Vocational & Technical Training (VTT) in Pakistan. Linkages among various stakeholders, existing at the national as well as international level, are being established and promoted by the Commission. Since its commencement, NAVTTC has given precedence to un-addressed areas and challenges being faced by TVET. The vision of NAVTTC is as "Skills for Employ-ability, Skills for All" and its mission is "To provide direction, support and an enabling environment to the public and private sectors to

implement training for skills development in order to enhance social and economic profile".

However, it is generally believed that technical and vocational training in Pakistan has little relevance to the industry as there is no linkages between institutes and industries. There are limited facilities for the career counseling and placement service. For instance, Lall and Weiss (2004) suggest that if Pakistan is to survive and prosper under the competitive conditions of the global economy then it must move into more technology and knowledge based products where global growth is concentrated. Many countries leading in global workforce have heavily invested on skills development. Under this situation, the survival of Pakistan is linked with its reliance more on technological advancement in consonance with global growth. Only those countries could take the lead under such circumstance who would prepare a good strategy for the development of skilled manpower that may meet the regional and global standard.

In case of Pakistan, the youth (15-24 years old) constitutes the major portion of the population with a pace of faster growth. The TVETAs capacity for delivering demand-driven training services for increasing workforce with technical and professional skills remain insufficient to meet the modern labour market challenges (Shah, 2004; Janjua & Irfan, 2008). Consequently, majority of the population is unemployed that ultimately impacts on health, education and quality of life (Janjua & Irfan, 2008). In another study, Kemal, Din, and Qadir (2002) document that the contribution of productivity towards GDP growth in Pakistan is 1/3rd and for the improvement in human resource development a lot of effort may be needed to increase in total factor productivity. Later, Kemal (2005) indicates a general neglect of the human resource development in case of Pakistan as depicted in its low Human Development Index accompanied with least consideration in skill development. Pakistan has neither been able to improve vocational and job skills nor could inculcate the creative and cognitive skills and the personal and social skills resulting in loss of output, exports and employment and slow growth of living standards.

Due to less funding on merit areas, the quality of training especially teachers training, supply of equipment and condition of buildings are suffering badly. In the absence of trained manpower the producers would rely on making stop-gap arrangements leading to sub-optimal decisions and low levels of productivity. Amjad (2005) observes that Pakistan has for too long remained in a low-level skills trap and if it is to move into the knowledge economy then it must break out of this trap. While more investment in education and skills is required which should be both cost effective and demand driven, it would not be sufficient unless institutions

are developed that recognize the value of investing in people and provide dignity, respect and a fair deal for working men and women.

Turnout in TVET Programme

Table-1 indicates number of candidates who participated in the TVET Programme and successfully passed out during the period from 2011 to 2013 at federal and provincial levels in Pakistan. It includes training in architecture, automation, bio-medical, civil technology, computer information, chemical technology, electrical technology and others. The three months training programme portrays a growth of 597.45% of passing out candidates in 2012 over the year 2011. Although, the growth in 2013 was significant i.e., 161.39% over 2012 however it exposes a declining trend over 2012. Under six months, one year, two years, and three years, the trend in 2012 over 2011 is positive especially the growth of passing out of candidates in one year training was recorded at 142.91%. Nonetheless, there was a negative trend in year 2013 over 2012 in turnout of candidates. The four years B. Tech programme reported a negative growth of 38.98% in 2012 over 2011while a positive growth of 84.31% in 2013 over the year 2012.

Table-1 Turnout of Candidates under NAVTTC and TVET in Pakistan

Trainings	2011	2012	2013
3 Months	746	5203	13600
Growth		597.45%	161.39%
6 Months	16717	23736	9789
Growth		41.99%	-58.76%
01 Year	2983	7246	6567
Growth		142.91%	-9.37%
02 Years	2127	3290	1782
Growth		54.68%	-45.84%
03 Years	26690	29068	22496
Growth		8.91%	-22.61%
04 Years B.Tech	449	274	505
Growth		-38.98%	84.31%
Total	49712	68817	54739
Growth		38.43%	-20.46%

Source: NAVTTC, Government of Pakistan.

The reasons for negative trend could be due to general corrosion in administration/management that led to deteriorate the quality of the trainings conducted by NAVTTC/TVETAs. It is a common feature of any organization or training institute that if its administration/management does not act efficiently/effectively then gradually the performance of organization/institute and ultimately the quality of its output (i.e., training programme in the instant case) starts to deteriorate. Thus, it transmits a bad signal towards the community as a result the new entrants show less interest

to get them enrolled in such organization/institute. Other factors could be either students, are more likely to participate in the training of short period (three months) or in B. Tech of four years.

The short-term training satisfies the need of those who want to join it just to get the basic know-how of training skill in the technology of their own interest (i.e. as a hobby) or to enjoy the benefit of stipend that they receive during the training programme. In contrast, the long-term training provides a professional skill along with a diploma certificate that accounts certain weights in the profile of the trainees. Moreover, it is also a source of monthly stipend that is lucrative for those who have no other source of income and are belonged to the poorest class of the society although they usually enjoy this opportunity as a part-time venture. The inefficient administration of the institute under this situation provides an ideal environment for the beneficiaries who are more inclined to monetary gain rather skill hence raises the issue of quality of the training.

To overcome these problems, there is a need of thorough investigation through conducting surveys/taking feedback from the relevant stakeholders. Instant and appropriate attention should be given to improve the performance of training institutes under TVETAs at federal and provincial levels to bring it at a level that could not only meet the domestic requirement but also the international markets. The NAVTTC and TVETAs should take all required measures to escalate the number of participants in their training programmes. Some new incentives may be induced to attract the trainees and the quality of training may be improved and extraordinary attention be given to the courses that are indicating negative trend in turnout of the participants.

Human Development Index (HDI)

The human capital resource plays a very significant role for the economic development of a country and HDI is the most popular criterion to gauge the capabilities of people that fix a boundary for competency among the nations. Hence, through the tool of HDI one can specify that countries with the same level of GNI per capita can end up with different human development outcomes. Human Development Index (HDI) is a composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living[3].

Table-2 depicts the HDI and its components of a group of top five, very high, medium and low ranking countries as per UNDP Report, 2014. In terms of life expectancy, Pakistan is better than Mongolia and Turkmenistan,

[3] http://hdr.undp.org/en/content/human-development-index-hdi, dated 16-02-2015.

it is better in per capita GNI and mean years of schooling than Samoa and Nepal respectively however, its expected years of schooling is lesser than all of these countries. In overall scenario, the performances of health and education sectors are not satisfactory however the education sector is even worse in Pakistan.

Table-2 Human Development Index and its components

HDI rank	Country	Human Development Index (HDI) Value, 2013	Life expectancy at birth (years), 2013	Mean years of schooling (years), 2012	Expected years of schooling (years), 2012	Gross national income (GNI) per capita (2011 PPP $), 2013
Very high human development						
1	Norway	0.944	81.5	12.6	17.6	63,909
2	Australia	0.933	82.5	12.8	19.9	41,524
3	Switzerland	0.917	82.6	12.2	15.7	53,762
4	Netherlands	0.915	81.0	11.9	17.9	42,397
5	United States	0.914	78.9	12.9	16.5	52,308
Medium human development						
103	Maldives	0.698	77.9	5.8	12.7	10,074
103	Mongolia	0.698	67.5	8.3	15.0	8,466
103	Turkmenistan	0.698	65.5	9.9	12.6	11,533
106	Samoa	0.694	73.2	10.3	12.9	4,708
107	Palestine	0.686	73.2	8.9	13.2	5,168
Low human development						
145	Nepal	0.540	68.4	3.2	12.4	2,194
146	Pakistan	0.537	66.6	4.7	7.7	4,652
147	Kenya	0.535	61.7	6.3	11.0	2,158
148	Swaziland	0.530	49.0	7.1	11.3	5,536
149	Angola	0.526	51.9	4.7	11.4	6,323

Source: United Nation Development Programme

Table-3 shows a comparative trend of Human Development Index (HDI) for a group of ten Asian Pacific countries during 1990, 2000, 2005, 2008, and 2010 to 2013. During 2013, the Singapore was ranked at the top while Pakistan at the bottom among the group. Pakistan remained at low profile in its HDI even as compared to Maldives, Bhutan, Bangladesh and Nepal although it ranked at above than Maldives in 1990 and Bangladesh and Nepal during 1990, 2000 and 2005.

Table-3 Trend in Human Development Index									
Regional Member	1990	2000	2005	2008	2010	2011	2012	2013	Rank 2013*
Singapore	0.744	0.800	0.840	0.686	0.894	0.896	0.899	0.901	9
Malaysia	0.641	0.717	0.747	0.760	0.766	0.768	0.770	0.773	62
Sri Lanka	0.620	0.679	0.710	0.725	0.736	0.740	0.745	0.750	73
Thailand	0.572	0.649	0.685	0.704	0.715	0.716	0.720	0.722	89
Maldives	0.400	0.599	0.659	0.675	0.688	0.692	0.695	0.698	103
Indonesia	0.528	0.609	0.640	0.654	0.671	0.678	0.681	0.684	108
Philippines	0.591	0.619	0.638	0.648	0.651	0.652	0.656	0.660	117
India	0.431	0.483	0.527	0.554	0.570	0.581	0.583	0.586	135
Bhutan	0.882	0.494	0.579	-	0.569	0.579	0.580	0.584	136
Bangladesh	0.382	0.453	0.494	0.515	0.539	0.549	0.554	0.558	142
Nepal	0.388	0.449	0.477	0.501	0.527	0.533	0.537	0.540	145
Pakistan	0.402	0.454	0.504	0.536	0.526	0.531	0.535	0.537	146

Source: Asian Development Bank (ADB).

The government expenditure on education sector in Pakistan is about 2.5% of GDP and its literacy rate is about 60% which is far below than its neighboring countries. Although, Pakistan has more than 50% of youth population however its youth literacy rate is 70.7% which is at the lowest ebb in the South Asian region. Whereas, Maldives is at the top having 99.3 percent youth literacy, followed by Sri Lanka (98.2 percent), Nepal (82.4 percent), India (81.1 percent), Bangladesh (78.7 percent) and Bhutan (74.4 percent). Due to faulty education system and lack of government attention, the youth bulge of Pakistan is not being equipped with skilled based knowledge thus there is a higher rate of unemployment. The vested interest groups are misusing the unemployed youths of Pakistan against their notorious motives. As a result, the country is facing the law and order situation in big cities and the menace of terrorism that is affecting its economy negatively. The government should take cognizant of the situation and initiates broad based reforms in education sector on war-footing basis.

Reforms for NAVTTC and TVETAs

The human capital is fundamental for the socioeconomic development of a country. The current global scenario poses tremendous challenges and demand a well trained and skilled manpower hence an effective and efficient workforce is imperative. TVET is vital for economic progress however its need may be varied from country-to-country depending on the level of development and demand for skills. There is a need of immediate reforms in existing education system that may be done on war footing basis as the current system of education in Pakistan is knowledge-based and lacking focus on skills while on the other hand in developed as well as in majority of developing countries the education system is knowledge as well as skill based. The skilled manpower of a country is playing a vital role in its economic development. Under existing global scenario, the rapid scientific inventions and technological advancement have not left the space for a country/nation that it could compete the regional or international markets without having a desirable strength of skilled manpower in relevant technology. Hence, the education system must be knowledge and skill based both and should meet the demand of local industry and the international market.

Currently, the TVET sector is highly fragmented and unstructured in Pakistan and requires reforms at all levels from policy formulation to delivery. The reforms based on the principles of quality, access and relevancy have been identified under National Skill Strategy (NSS) through consultation with all the stakeholders. However, the implementation of NSS is crucial due to lack of relevant expertise and capacity at institutional level. In this critical situation, the donors, comprising Netherlands and Republic of Germany, with the help of GIZ chalked out a comprehensive plan for implementation of NSS under TVET Reform Support Programme. It is now the responsibility of the NAVTTC and TEVTAs to get this reform programme implemented within the stipulated period of time.

The focus of the reform programme should be to make the training system viable in line with the need of not only the domestic market but also the regional as well as global markets. New programme to develop skills for women, training for disadvantaged regions, integration of informal economy workers, flexible training delivery, expanded geographical provision, mobility of skilled workers, carrier guidance and placement and vocational education in schools may be introduced. Research and Development (R&D) may be given special attention and must be kept updated with latest innovations and advancement in technologies.

Conclusion

The performance of NAVTTC and TVETAs in Pakistan is not satisfactory thus it needs special and priority attention. The government funding to these institutions is not appropriate due to which there is a shortage of equipment, dilapidated condition of buildings, and dearth of teaching materials, workshops, staff offices, and school furniture. Teachers are not satisfied with their jobs due to the working environment that is associated with non-availability of incentives for their welfare. The performance of NAVTTC and TVETAs put a question mark as these institutes have failed to maintain quality of their trainings that led to decrease in the number of participants from the various training programme. This has created a scarcity of high quality of skilled manpower in the country and Pakistan's development sector is facing a severe skills gap. Pakistan is now facing problem of how to satisfy its local needs and it is far behind to compete the regional as well as global markets. A lot of effort is required to strengthen the coordination between NAVTTC and provincial TVETAs. Moreover, immediate reforms in education system are imperative to bring the development of skilled manpower at par with the international community. The role of R&D in this context is highly significant and needs special attention.

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