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SKILLING INDIA: AN INDIAN PERSPECTIVE IN THE GLOBAL CONTEXT

Abstract:

This comprehensive paper deals with the efforts made, recent trends in, and critical issues and challenges pertaining to Skill Development in India. This paper argues that development and articulation of a national policy on skill development is a matter of priority. A task of skill development has many challenges. This paper further argues that the skills and knowledge are the driving forces of economic growth and social development for any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work. This paper critically evaluates the concepts of 'graduateness' and 'employability' that have also been the subject of much recent debate. This paper also critically evaluates the claim made that developing these skills will enable students to become more effective learners and they are seen to be crucial to enhanced study skills, the personal development planning processes, and consequently to higher levels of attainment. This paper further argues that the students of Higher Education are not getting desired practical benefits of education. This is equally applicable to the students of technical education also. This paper elaborately discusses on the emerging trends in and efforts made and role being played by/on the part of all concerned in Skill Development in India. This paper suggests various modes, modalities, methods of the Industry and Academia Interaction, for better results in the endeavour of skills development initiatives for sustainable and inclusive growth and development of India's economy.

1.   Introduction

1.1   *"The real wealth of a nation is its people. And the purpose of development is to create an enabling environment for people to enjoy long, healthy and creative lives. This simple but powerful truth is too often forgotten in the pursuit of material and financial wealth."*   These are the opening lines of the first *Human Development Report,* of 1990, (UNDP, Oxford, 1990).

1.2   It is now universally acknowledged that the goal of Plan efforts is *human development.* Human Development Reports 1990 to 2014 explore in detail the complex relationship between economic growth and human development.   It provides both a mirror, reflecting present patterns of global imbalance, and a telescope, showing the more positive futures possible. The central message of the Human Development Report is clear that there is no automatic link between economic growth and human development, but when these links are forged with policy and determination, they can be mutually reinforcing and economic growth will effectively and rapidly improve human development, (UNDP, 1990-2014).

1.3   Human development reports of the United Nations Development Programme (UNDP), for 1991 to 2014 have been showing:- (i) the trend of jobless growth affecting developed and developing countries alike, and (ii) the changing pattern of employment and unemployment. There are three factors to be highlighted in this regard:

(i)   Firstly, it shows how growth of GNP and consequent national enrichment runs along with absolute fall in the level of employment. This, among others is the result of new trend of technological improvement, which is mainly aimed at replacing labour by capital.

(ii)   Secondly, the reports indicate how among the employed the proportion of (a) People employed in the informed sector and (b) self-employed people has been rising progressively. Even in some of the developed countries more than 50 percent of the employed people belong to the above two categories.   It should be understood that often employment of these categories is an euphemism   for   under   employment   and   at   times   unemployment. Simultaneously, proportion of working people employed in the public sector and organized private sector has been declining.

(iii)   Thirdly, it is pointed out (particularly for the developing countries) that General education   does   not   lead   to   employment   and   even   does   not   facilitate employment. In many developing countries percentage of people recorded as unemployment increases with enhancement of the level of education, (UNDP, 1990-2014).

1.4   It also seems difficult to substantially control the entry of un-motivated students in the higher educational system, unless alternative and functional avenues of employment and career orientation are provided to them.   Growth of population will assert its own logic. The availability of adequate funds to cope up with this future expansion is likely to be much more difficult than what it is today, unless something revolutionary and unconventional is done about it.

1.5   Against the backdrop of an estimated 75 million young people unemployed worldwide, (Lyndal Rowlands, 2015), this year's Human Development Report

(2015 HDR), which is scheduled to be launched in November 2015, will be on *Rethinking Work for Human Development*, (Selim Jahan, 2015), and will zoom in on the fundamental question - how work can be rethought for human development - to enrich human development. Given this broader perspective, the focus of 2015 HDR will be on Employment and based on five building blocks, namely, (i) Rethinking the linkages between work and human development; (ii) Revisiting the new world of work; (iii) Recognizing the worth of care work and its impact on human development: (iv) Refocusing on the notion of sustainable work to be incorporated into the 2015 Sustainable Development Goals; (v) Recommending policy options for reorienting, reinventing and reorganizing work so that it enriches human development. Several targeted issues will be taken up throughout the report– youth employment, gender aspects of work, agriculture and rural development, the informal sector, and work during crisis and in post-crisis situations. In realizing the post2015 international agenda it will be critical to enable youth, who make up 50 per cent of the global population, and women, holding up half the sky, to find work opportunities that enable them to participate constructively, creatively and equitably in society, (Selim Jahan, 2015). Youth unemployment remains a persistent challenge for stable economic and political development around the world, (Lyndal Rowlands, 2015).

1.6   Skilled Workforce in Major Countries: The following Table-I depicts the comparative position at a glance about the skilled workforce prevailing in major countries as compared to India.

Table I Workforce in Major Countries at a Glance:

Name of Country	Skilled Workforce in % of Total Working Population
Australia	60 %
China	47 %
Germany	74 %
India	**02 %** (Only Two per cent)
Japan	80 %
UK	68 %
Canada[#]	65.7 %[#]
France[$]	41 % [$]
USA[*]	67 %[*]

Notes/Sources:

(1) All statistical figures, except of USA, are as on 31 March 2015, and are retrieved from the Source: The Economic Times, (2015): http://economictimes.indiatimes. com/news/ economy/policy/rs-5-lakh-crore-needed-in-5-years-for-skill-development-rajiv-pratap-rudy/articl eshow/46759829.cms ;

(2) #The Canada# statistical figure is as on 31 December, 2014 and is retrieved from the Source: CBC-news: Business, (2014) http://www.cbc.ca/news/business/canadian-workforce-at-lowest-level-in-14-years-in-2014-1.293461 ;

(3) $The France$ statistical figure is as of 2014, and is retrieved on the basis of various statistics, retrieved from / available on three different websites (i) http://www.indexmundi.com/france/labor_force.html ; (ii) http://www.statista. com/ statistics/275310/employment-in-france/ ; (iii) www.statista.com/statistics/ 263743/total-population-of-france/

(4) *The USA* statistical figure is as on 07 March, 2015 and is retrieved from the Source: RT-Question-More, (2015): http://rt.com/usa/238697-americans-labor-jobs-report/ .

1.7   On this backdrop set out herein above, this paper now critically evaluates and addresses all dimensions, factors, issues involved in the Skill Development in the country.

2.   Present State of Higher Education in India

2.1   Higher education occupies an important place in the educational process of a country. In independent India higher education is considered as the important tool for national development.   Education is the process of the perfection of the mankind.

2.2   Education is for the comprehension of life, enlightenment of the people. Higher education is the main instrument for development and change. It has the important task of preparing leaders for different walks of life-social, intellectual, political, cultural, scientific and technological, etc. The intellectual dynamism, resourceful and economic prosperity of a country are reflected in quality of higher education.

2.3   The Radhakrishnan Commission (1948-49) observed: *"Welfare and betterment of humanity is the ultimate goal of higher education"*. It is not without significance that the report of the Education Commission (Kothari Commission) 1964-66 has been titled as '*Education and National Development.*' The Commission observed, *"If the pace of national development is to be accelerated, there is need for a well-defined, bold and imaginative educational policy and for determined and vigorous action to vitalize, improve and expand education."* The Commission further observed "*education could not be considered in isolation or planned in a vacuum. It has to be used as a powerful instrument of social, economic and political change and will, therefore, have to be related to the long-term national aspirations, the programmes of national development on which the country is engaged and the difficult short-term problems it is called upon to face.*"

2.4   Higher Education has potentials to contribute to social development, which is well comprehended by the planners and policy makers. History of educational reforms including the underlying debates is a testimony to this knowledge. Looking back into our immediate past, there is a legacy of 1968 National Policy of Education. That marks a significant step forward in the history of education. The 1968 policy document aimed, *"to promote national progress, a sense of common citizenship and culture, and to strengthen national integration. It laid stress on the need for a national reconstruction of the education system, to improve its quality at all stages, and gave much greater attention to science and technology, the cultivation of moral values and a closer relation between education and the life of the people".*

2.5   The National Policy on Education (NEP) (1986) characterizes higher education as a *"crucial factor for survival"* providing the Indian people with an *"opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues"*. It is envisaged in the NEP 1986 and POA 1992 that education will be used as an agent of basic change in socio-economic status of people.

2.6   UNESCO's policy paper titled '*Strategies for Change and Development in Higher Education'* has four themes: (i) Views on Trends and Challenges: Interpretations of Context and Setting; (ii) Responses Relevance for Higher Education; (iii) Quality in Higher Education; and (iv) Internationalization of Higher Education.

2.7   Higher education in India is being put to a test at the moment.   In the changed environment of the day, the system of higher education faces two major imperatives.   These are: (a) need to cope with inadequacy of resources, and (b) need to respond to the demand for providing competent manpower and high quality R & D support. In this backdrop, the system of Higher Education should be prepared to respond adequately to the emerging challenges. Over the last five decades there has been phenomenal expansion of the higher education system. Yet in the fast changing socio-economic context, the higher education system will be exposed to still greater pressure for expansion.

3.   The Social Impact of Higher Education in India

3.1   The Constitution of a country is the basic document, which may be regarded as the source of legislation. The Preamble of the Constitution of India contains aims and objectives of our national policy. It is a guideline and a solemn pledge given to the nation. The Constitution has set forth the goals of our educational institutions. Its Preamble has reflected the national ethos, values and aspirations and enjoined the objectives of national policy. It has given the directions in which the nation would go ahead and achieve its aims.

3.2   Article 41 of the Constitution of India relating to the Directive Principles of State Policy reads, thus**,** 41. The State shall, within the limits of its economic capacity and development, **make effective provision** for **securing the right to work**, **to education** and **to public assistance in cases of unemployment**, old age, sickness and disablement, and **in other cases of underserved want**."

4.   Unplanned Expansion and Implications thereof

4.1   The Sphere of higher education in India has been marked by a phenomenal expansion during the six decades. Looking back, during the last six decades, the Indian higher education system had undergone many important changes; the most significant being its unprecedented growth and its consequent transformation from an elite system to a mass system. Since Independence till 2015, i.e. in the last 68 years, India has developed a very large system of education and has created a vast body of highly skilled academicians equipped with scientific and technological capabilities, robust humanist, philosophical thought and creativity. India is the largest democracy in the World and India has the largest educational system as well. Indian higher education system is one of the largest in the world. There were only 20 universities at the time India attained independence. This has increased to, (as on today), 758 Universities and university-level institutions, (AIU, 2014). There were and about 500 colleges with 1 Lakh students in 1947. This has increased to 37, 204 Colleges; 9.51 Lakh Teachers; and 215.01 Lakh Students, in 2013. Out of the total no. of teachers, 82.54% teachers were in Colleges and remaining 17.26% were in Universities and university-level institutions. Out of the total no. of students, 41% were women; 73.30% students were in the faculties of Arts, Commerce and Science and remaining 26.70% were in Professional Courses, which were divided in UG with 89.50% in UG i.e. first Degree level courses and 10.50% in PG i.e. Master's level Courses, (AIU, 2014, UGC, 2013, Choudaha, 2013, Wikipedia, 2014). The following Table II project the division of total Universities in India as on 30 November, 2014 based on their Type, Nature etc.

Table II: The Division of Total Universities in India as on 30 November, 2014 based on their Type, Nature etc.

Type of University/Institutes	Total Number as on 30-11-2014
State Universities	325
Deemed to be Universities	129
Central Universities	45
Institutes of National Importance	59
Private Universities	185
Others	15
Grand Total	**758**

(Source : AIU, 2014)

4.2   The unplanned expansion of higher education has taken place mainly due to following reasons:

(a) The government's approach of inclusiveness and attempt to expand facilities for higher education, partly for meeting the manpower requirements of a growing and diversifying economy and partly for promoting equity and social justice;

(b) The need felt by the students to seek higher education in order to have a competitive edge in the organized job market, which in the light of relatively slow growth in the labour requirements, has used university degrees as screening devices for selecting work force;

(c) The genuine desire to seek higher education to seek higher education.

5. Reorientation and Vocationalisation of Higher Education

5.1   The last three decades have witnessed cataclysmic changes in the socio-economic and cultural scenario everywhere. Globalization of the Indian economy and the enthusiastically acclaimed entry of multinationals have opened up new vistas of economic development in India.   In the new syndrome of industrial liberalization and globalization, issues of utilitarian value of education, restriction of public funds, employment prospect of graduates and private contributions towards education have insistently conditioned the concepts, thoughts and views on Word of Studies (WoS) and Word of Work (WoW). It is well accepted that these two worlds (WoS and WoW) are self-contained and their functions differ in the details of social need, educational objectives, economics, valuation, etc.

5.2   So as to keep pace with the increased national responsibilities in a competitive technological world, progressive educationists, economists and policy makers have been emphasizing Vocationalisation of education. Of late there has been a perceptible change even in the outlook of the public towards this subject. It was suggested that vocational education should be established at the core of the curriculum as a means of changing the direction of our vast education system without attempting to duplicate the technical education system. With the increase in youth unemployment rate and the lower employability content of our graduate courses, our courses require structural changes despite the reluctance of sections of students and teachers who continue to swear by antiquated curriculum without any plans to cope up with the required manpower needs.

5.3   Despite the enormous difficulties involved in forecasting the quality of manpower needs for effective planning there is no doubt that the role of education has to change from the purely intellectual to the skill oriented option and application. Some even advocate the combination of vocational inputs with general education benefits. If there could be an ideal mix of the two it would be like literacy training with vocational emphasis for better employability. The instructional functions could go with on the job training for optimum use of talent.

5.4   The need to re-orient education in new emergent fields or areas so as to channelize the manpower into the right direction was often felt during last four decades.   In the reports of the various commissions and committees, various recommendations were made and the need and the importance of the re-orientation of education had been emphasized, more particularly, (i) to make education job oriented, and vocational;   (ii) Re-orientation or restructuring of the educational programmes in higher education system was essential for providing manpower for

economic growth; (ii)   Educational process should to be linked with products and employment; (iv)   Re-orientation of the education programmes should be undertaken in such a manner that it helps to produce self-reliant and self-dependent citizens.

5.5   The global economy is experiencing unprecedented change.   New revolution in science and technology, competition, media revolution and internationalization are revolutionizing the education sector.   They make new demands and pose fresh challenges to our established educational system and practices.

5.6   Growing unemployment of our educated youth and unplanned and unmotivated growth of colleges are no doubt, serious problems.   But they are unlikely to be solved by such ill-planned sudden introduction of vocational courses at the first-degree stage.   Basic problems emanating from low economic growth prevent growth of technology, and the effect of globalization cannot be countered by education alone.

5.7   In India, many universities restructured their courses in accordance with the NEP & POA, but at the instance of the UGC.   The UGC also introduced various schemes for restructuring and reorientations in higher education, but, the resultant scenario was so dismissal due to apathy on the part of all the concerned in general and teachers in particular, and more so the lack of interest on the part of students too, may be due to lack of efforts reaching to the students with the novel concepts and schemes and also lack of motivation on the part of students.   On this backdrop the UGC introduced scheme of Vocationalisation at the First degree level, (viz., B.A., B.Com. & B.Sc.), and started financing and monitoring from 1993-94.   The details of these efforts and evaluation thereof are set out herein after at appropriate places, under the head of "Skill Development Initiatives of University Grants Commission"

5.8   During the last four decades there have been conscious efforts in India to promote cooperation between Academia and Industry. However, only marginal success has been achieved, possibly because the universities and the industrial units have not been under any pressure to interact.   In India, Industry-University partnership has been keeping low ebb over the decades.   As a result of liberalization of Indian economy during last two decades, we have focused our attention on this problem.   University Grants Commission and the All India Council for Technical Education have adopted a concrete strategy and taken positive steps towards establishing Industry-University partnership. As per requirements of NEP 1986, POA 1992, a long lasting relationship should have been established between Industry and University.   But, there has been a low rate of success in the planned or rather in desired goals.

5.9   Following is a comprehensive list, which is the outcome of compilations of observations, shortcomings, suggestions and recommendations made by several conferences, Commissions and Committees to reorientation of higher education:-

(a) The reasons of the present situation were/are :-

- The faculty, in general, has no industrial experience or exposure.

- There is not much provision for continuing education in the universities and institutions for practicing engineers to update their technology competence.

Further, there is no positive attitude and approach towards the concept of continuing education on the part of permanent teachers.

- State of art in the industry prevents flow between organized research in the universities and institutions and evolution of industrial R & D.

- There is no suitable mechanism available for interaction in most of the department of the universities and institutions.

- Some of the universities and institutions feel constrained to accept contracts with time bound results.

- There is chronic dependence of our industry on foreign collaboration.

(b) Interaction between academia and industry has been rather restricted in India, in the past, possibly because of differences in values and attitudes, lack of appreciation of each other's abilities, skills and needs, and the absence of economic compulsions. There is a great need for University-Industry partnership. It was so in the past and will be felt in future also. The students of Higher Education are not getting desired practical benefits of education. This is equally applicable to the students of technical education also.

(c) Vocationalisation should not necessarily imply a lower standard when compared to the traditional academic degree.

(d) There is need for real engagement with society. Need of the country is not to separate Vocational from Non-Vocational Programmes.

(e) Un-popular courses are to be phased out. Need based courses are to be introduced and programmes for women and rural areas are to be given due consideration. Packages of ongoing programmes are to be reviewed and made relevant, inter-related and need - based.

(f) Faculty on programme base is to be developed. Visiting Faculty from the University, other Academic Institutions, Industry, R & D Organizations, Public and Private Undertakings is to be involved appropriately for the conduct of the restructured courses. Appointment of full time faculty for a programme be allowed to some extent.

(g) Effective linkages are to be established between the industry and institutions participating in the programme of re-structured courses. Placements and training facilities for the students are to be provided in the industry.

(h) Honorarium paid per period to these outside experts should be suitably enhanced by the College/Universities in order to make this scheme functional and successful.

(i) Common facilities like computer labs, or other types of special labs, could be created in clusters for use on sharing basis by a number of colleges/institutions in the vicinity.

(j) University should play a leadership role in curriculum, material, training of teachers and for monitoring the programmes, etc.

(k) While fullest use is made of the existing facilities the scheme should not suffer for want of funds.

(l) Colleges may introduce specific programmes on self-financing basis with prior approval of the University.

(m) Programmes which are post-B.A./B.Com./B.Sc. etc. should also be introduced for promoting the cause of employment and self-employment. They may be of different duration.

(n) Excellence, modernization, interaction and self reliance are the four crucial elements in the development of Higher Education in general and Technical Education in particular. These factors should not be viewed in isolation but in relation to each other with the ultimate objective of attaining excellence. Higher Education is directly concerned with providing leadership in various vocational, industrial, social and economic areas, determining the policies and modernization.

(o) The universities and colleges should come out of their ivory towers and interact with the outside world. Similarly, the industries should build confidence in the capabilities of the universities and the institutions and interact with them for mutual benefit.

(p) It should be recognized that the academic world, industries and R & D organizations together hold the key to the technology development in many of the core sectors of our country aims insight into the problems of industry and it provides a base for research and education. Survival of industry largely depends on the improved, innovative and new technologies and for this purpose it needs the support of the academic institutions. Unfortunately, in our country universities including technological institutions and the industry have been run on parallel lines without interaction.

6. Skills Development: Initiatives of Government of India

6.1   The Government of India (GoI) had formulated National Skill Development Policy in 2009. The policy was to be reviewed every five years. In 2014, the GoI reviewed the National Skill Development Policy.   The GoI has set up a new Ministry for the gigantic task of Development of Skills & Entrepreneurship in India.

6.2   The National Skill Development Policy has provided a robust framework of skill development and focus on outcome based approach in terms of providing meaningful employment in the form of both wage and self employment. The GoI has emphasised that all people who are capable of reading and writing should essentially acquire soft skills to upgrade themselves. Soft skills are going to become an integral part of skills development capsule. The people who will have to be trained have to be identified. The Government of India is currently in the process of having a 'relook' at the 2009 National Policy on Skill Development which envisaged skilling of 50 crore Indians by 2022, a virtually impossible task. There is a skill gap that exists between the industry requirements and the workforce available. To fill these gaps, the GoI is implementing about 73 skill development schemes, which vary across sectors through 22 GOI Ministries/Department. During the last two years around 127.25 lakh persons have been trained, (Business Standard, 2014d).

6.3   India's population is huge at 1.21 billion. It is fast expanding at a rate of 17% and integrating rapidly into the global economy. India is among the 'young' countries in the world, with the proportion of the work force in the age group of 15-59 years, increasing steadily. However, presently only 2% of the total workforce in India have undergone skills training. India has a great opportunity to meet the future demands of the world, India can become the worldwide sourcing hub for skilled workforce. The challenges for India get magnified, as it needs to reach out to the million plus workforce ready population, while facing an ever increasing migration of labour from agriculture to manufacturing and services. With the government launching a number of schemes to empower the young workforce, the challenges magnify as there is a need for effective implementation of the schemes at the grass root level with equal participation from all the stakeholders concerned. FICCI is playing a pivotal role in this, as a 'SKILLS Development Aggregator".

6.4   The realization of this demographic dividend led to the formulation of the "National Skills Policy" in 2009 which set a target of imparting skills training to 500 million, by 2022.   This policy envisaged following Structure of governance of skill development initiatives.

Governance of Skill Development Initiative

6.5   Following shall be **Institutional Arrangements** in **Governance of Skill Development Initiatives**, (MoL, GoI, 2014).

(A) **Prime Minister's National Council on Skill Development: Prime Minister's National Council on Skill Development** under the Chairmanship of Prime Minister has been set up as an apex institution for policy direction and review. The Council is at the apex of a three-tier structure and would be concerned with vision setting and laying down core strategies. The Council would be assisted by the National Skill Development Coordination Board chaired by the Deputy Chairman, Planning Commission which will coordinate action for skill development both in the public and the private sector. The Ministers for Skill Development and Entrepreneurship, Human Resource Development, Finance, Industries, Rural Development, Housing and Urban Poverty Alleviation, Labour and Employment and Micro Small & Medium Enterprises are members. (Deputy Chairman of Planning Commission)[*], Chairperson of the National Manufacturing Competitiveness Council, Chairperson of the National Skill Development Corporation and 6 experts in the area of skill development are other members. Principal Secretary to the Prime Minister is the Member Secretary to the Council.

([*]*Till scarping of the Planning Commission of India, the Deputy Chairman of the commission was a member. Now, the Chairman of National Institution for Transforming India (NITI Aayog) is the member. This NITI Aayog replaced the Planning Commission of India, since January 01, 2015*).

(B) **National Skill Development Co-ordination Board**: A National Skill Development Co-ordination Board was set up on the Public Private Partnership model (PPP), under the Chairmanship of Deputy Chairman, Planning Commission[*]. Secretaries of Ministries of Skill Development and Entrepreneurship, Human Resource Development, Labour and Employment, Rural Development, Housing and Urban Poverty Alleviation and Finance are members. Chairperson/Chief Executive Officer of the National Skill Development Corporation, Secretaries of four States by

rotation, for a period of two years, and three distinguished Academicians/Subject Area Specialists are other members. Secretary, Planning Commission$^\$$ is Member Secretary of the Board.

**The Deputy Chairman of the Planning commission is replaced by the Chairman of the National Institution for Transforming India (NITI Aayog).*

$^\$$*The Secretary of the Planning commission is replaced by the Secretary of the National Institution for Transforming India (NITI Aayog) is the Chairman.*

This National Skill Development Coordination Board performs the following functions:

1. Formulates strategies to implement the decisions of the Prime Minister's Council on National Skill Development.

2. Monitors and evaluates the outcomes of the various other schemes and programs for the Council.

3. Develops appropriate and practical solutions and strategies to address regional and social imbalances.

4. Ensures quality control in Vocational Training and Education.

5. Monitors private participation strategies and helps put in place sectoral action plans.

6. It has planned to set up 1500 new ITIs and 5000 skill development centres, across the country, as well as a National Vocational Education Qualifications Framework (NVEQF) for affiliations and accreditation of the vocational, educational and training systems.

(C) **National Skills Development Corporation (NSDC)**: The National Skill Development Corporation is a non-profit company under the Companies Act 1956 with an appropriate governance structure. The head of the Corporation is a person of eminence/reputed professional in the field of Skill Development. The NSDC formulates strategies to implement the decisions of the Prime Minister's Council on National Skill Development and also monitors and evaluates the outcomes of the various other schemes and programs for the council. It also develops appropriate and practical solutions and strategies to address regional and Social Imbalances, ensures quality control in Vocational Training and Education, monitors private participation strategies and helps put in place sectoral action plans. It has planned to set up 1500 new ITIs and 5000 skill development centres, across the country as well as a National Vocational Education Qualifications Framework (NVEQF) for affiliations and accreditation in the vocational, educational and training systems. The NVEQF enables horizontal and vertical mobility between general and technical education, recognition and certification of competencies irrespective of the mode of learning. NVQF, with an open/flexible system, will permit individuals to accumulate their knowledge and skills, and convert them through testing and certification into higher diplomas and degrees. NVQF will provide quality assured various learning pathways having standards, comparable with any international qualification framework. The NVEQF will support lifelong learning, continuous up

gradation of skills and knowledge. The National Vocational Education Qualifications Framework (NVEQF) has now been assimilated as National Skill Qualifications Framework (NSQF). Various Sector Skill Councils (SSCs) have been formed to develop Qualification Packs (QPs), National Occupational Standards (NOSs) and assessment mechanisms in their respective domains, in alignment with the needs of the industry. The National Skill Development Corporation would constitute Sector Skills Councils with following functions:

(a) Identification of skill development needs including preparing a catalogue of types of skills, range and depth of skills to facilitate individuals to choose from them.

(b) Development of a sector skill development plan and maintain skill inventory.

(c) Determining skills/competency standards and qualifications.

(d) Standardization of affiliation and accreditation process.

(e) Participation in Affiliation, accreditation, examination and certification.

(f) Plan and execute Training of Trainers.

(g) Promotion of academies of excellence.

(h) Establishment of a well structured sector specific Labour Market Information System (LMIS) to assist planning and delivery of training.

(D) **National Council for Vocational Training: (NCVT):** The National Council for Vocational Training (NCVT) advises the government on issues related to various vocational training schemes; similarly the State Council for Vocational Training (SCVT) carries out the same functions at the state level. The Ministry of Labour and Employment, Ministry of Human Resource Development (MHRD), Ministry of Rural Development and Ministry of Urban Development & Poverty Alleviation, along with 14 other ministries, have come up with various schemes on skill development. The Modular Employable Skills (MES) and Skills Development Initiative Scheme (SDIS) adopted by the Directorate General of Employment and Training (DGET), Ministry of Labour and Employment, Government of India, provides a new strategic framework for skill development for early school leavers and existing workers, especially in the un-organised sectors, in close consultation with industry, micro enterprises in the un-organised sector, State Governments, experts and academia. The main objective here is to provide employable skills to school leavers, existing workers, ITI graduates and similar others. Existing skills of the persons can also be tested and certified under this scheme. Priority is given to those above 14 years of age, who have or been withdrawn as child labourers. This will enable them to pick up employable skills in order to be gainfully employed. The Directorate General of Employment & Training (DGE&T) had the initiated Craftsman Training Scheme in 1950 by establishing 50 Industrial Training Institutes (ITIs) for imparting skills in various vocational trades to meet the manpower requirements for technology and industrial growth of the country. Since then the demand for skilled manpower has increased substantially due to rapid economic growth, changes in technology and work process, and globalization of economy. As on 01- 01-2007 there were 1896 Government ITIs in the country. Out of which 500 ITIs are being upgraded into Centres of Excellence under a Scheme

launched in 2005-06. The Up gradation of the remaining 1396 Government ITIs has been done through Public Private Partnership since 2007-2008. This scheme was initiated with an objective of improving the quality of vocational training in the country to make it demand driven so as to ensure better employability of the graduates. NCVT will be strengthened and re-engineered with a broader mandate and representation. The main functions include:

(a) Design, development and maintenance of NVQF which *inter alia* includes:

(b) Setting up a framework for competency standards, structure of courses, credit structure, accumulation and certification.

(ii) Setting up a framework for affiliation and accreditation of institutions.

(iii) Quality control mechanism.

(a) Labour market information system and dissemination of information at the national level.

(b) Monitoring and evaluation on the effectiveness and efficiency of national skill development efforts through appropriate reporting and communication mechanism.

(E) **Social Partners in Skill Development:** Partnerships will be consciously promoted between Government, industry, trade unions, local governments, civil society institutions and all skill providers. It will also include, training providers, professional societies, Self Help Groups, Cooperatives and NGOs/civil society institutions. Creation of an institutional mechanism and regular consultation with stake holders will form the corner stone of Skill Development Initiative.

7. Recent Initiatives in Skill Development in India

7.1   Skills and knowledge are the driving forces of economic growth and social development for any country. For the economy to grow at 8% to 9%, it is required that the secondary and tertiary sectors grow at 10% to 11%, assuming agriculture grows at 4%. In such a scenario, it is obvious that a large portion of the workforce would migrate from the primary sector (agriculture) to the secondary and tertiary sectors. However, the skill sets that are required in the manufacturing and service sectors are quite different from those in the agriculture sector. This implies that there is/will be a large skill gap when such a migration occurs, as evidenced by a shrinking employment in the agriculture sector. This scenario necessitates skill development in the workforce. India is expected to be home to a skilled workforce of 500 million by 2022. About 12 million persons are expected to join the workforce every year. This talent pool needs to be adequately skilled. There are various sectors which are expected to drive the growth of the economy as well as play a significant role in employment, (PC, GoI, 2007, FICCI, 2010).

7.2   The employment in the manufacturing and services sector would be in excess of 250 million persons. While the school education sector is about 227 million in enrolment, the combined enrolment in higher education and vocational training is about 15.3 million. By limiting to this to the technically and vocationally qualified and skilled workforce, primarily comprising of ITI/ITC (1 million), BE (1.7 million), Polytechnics (0.7 million), we can observe that the current pool of skilled talent is

around 3.4 million This does not include other streams such as other forms of higher education and research and is limited to those who can fit in as workers, supervisors, entry to mid level managers in large portions of the manufacturing and service sector, either organised or unorganised. It is thus estimated that the required capacity for training the new workforce as well as portion of the existing workforce would be about 15 million annually. Various steps are being taken towards meeting the above objectives, such as, the formulation of the National Skills Development Policy, delivery of Modular Employable Schemes, upgradation of existing institutions through World Bank and Government of India funding, as well as upgradation of training institutes under Public Private Partnership mode, setting up of the National Skill Development Corporation, and the plan to establish 50,000 Skill Development Centres. Apart from these, several ministries/departments and state governments are engaged in skill development initiatives, (FICCI, 2010).

8. Vision for National Skill Development Initiatives in India

The Vision set out for skill development is as under, (MoL, GoI, 2014).

8.1   Scale of ambition: At present the capacity of skill development in India is around 3.1 million persons per year. The 11th Five Year Plan envisions an increase in that capacity to 15 million annually. India has target of creating 500 million skilled workers by 2022. Thus, there is a need for increasing capacity and capability of skill development programs.

8.2   High inclusivity: The skill development initiatives will harness inclusivity and reduce divisions such as male/female, rural/urban, organized/unorganized employment and traditional/contemporary workplace.

8.3   Dynamic and demand-based system planning: The skill development initiatives support the supply of trained workers who are adjustable dynamically to the changing demands of employment and technologies. This policy will promote excellence and will meet the requirements of knowledge economy.

8.4   Choice, competition and accountability: The skill development initiative does not discriminate between private or public delivery and places importance on outcomes, users' choice and competition among training providers and their accountability.

8.5   Policy coordination and coherence: The skill development initiatives support employment generation, economic growth and social development processes. Skill development policy will be an integral part of comprehensive economic, labour and social policies and programmes. A framework for better coordination among various Ministries, States, industry and other stakeholders will be established.

9. Mission Statement, Aims and Objectives and Scope of National Policy on Skill Development Initiative in India

9.1   **Mission**: The policy envisions the establishment of a National Skill Development Initiative with the following mission: National Skill Development

Initiative will empower all individuals through improved skills, knowledge, nationally and internationally recognized qualifications to gain access to decent employment and ensure India's competitiveness in the global market, (MoL, GoI, 2014).

9.2   **Aims**: The aim of skill development in the country is to support achieving rapid and inclusive growth through:

(a) Enhancing individuals' employability (wage/ self employment) and ability to adapt to changing technologies and labour market demands.

(b) Improving productivity and living standards of the people.

(c) Strengthening competitiveness of the country.

(d) Attracting investment in skill development.

9.3   **Objectives**: Objectives of National Policy on Skill Development: The objectives of the national policy on skill development are to:

(a)   Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups.

(b)   Promote commitment by all stakeholders to own skill development initiatives.

(c)   Develop a high-quality skilled workforce/entrepreneur relevant to current and emerging employment market needs.

(d)   Enable the establishment of flexible delivery mechanisms that respond to the characteristics of a wide range of needs of stakeholders.

(e)   Enable effective coordination between different ministries, the Centre and the States and public and private providers, (MoL, GoI, 2014).

9.4   **Scope**: Scope of the National Skill Development Policy: The coverage of the National Policy on Skill Development includes the following:

(a)   Institution-based skill development including ITIs/ITCs/vocational schools/technical schools/ polytechnics/ professional colleges, etc.

(b)   Learning initiatives of sectoral skill development organised by different ministries/departments.

(c)   Formal and informal apprenticeships and other types of training by enterprises.

(d)   Training for self-employment/entrepreneurial development.

(e)   Adult learning, retraining of retired or retiring employees and lifelong learning.

(f)   Non-formal training including training by civil society organizations,

(g)   E-learning, web-based learning and distance learning, (MoL, GoI, 2014).

10. Indian Planning Commission Approach to XII Plan (2012-2017) for Skills Development in India

10.1   The Planning Commission of India has clearly set out its approach to the XII Plan for enhancing skills and faster generation of employment; enhancing skills to reap demographic dividend skill building. The same can be viewed as an instrument to improve the effectiveness and contribution of labor to the overall production. It is as an important ingredient to push the production possibility frontier outward and to take growth rate of the economy to a higher trajectory. Skill building could also be seen as an instrument to empower the individual and improve his/her social acceptance or value. The contemporary focus on skill building or skill development in India is derived from the changing demographic profiles in India *vis-à-vis* China, Western Europe, and North America. These changing demographic profiles indicate that India has a unique 20 to 25 years' window of opportunity called "demographic dividend", (PC, GoI, 2012).

10.2   The demographic dividend is essentially due to two factors:-

(i)   Declining birth rates, and

(ii) Improvement in life expectancy, (PC, GoI, 2012).

10.3   The declining birth rate changes the age distribution and makes for a smaller proportion of population in the dependent ages and for relatively larger share in the productive labor force. The result is low dependency ratio which can provide comparative cost advantage and competitiveness to the economy. The "demographic dividend" accounts for India having world's youngest work force with a median age way below that of China and OECD Countries. Alongside this window of opportunity for India, the global economy is expected to witness a skilled man power shortage to the extent of around 56 million by 2020. Thus, the "demographic dividend" in India needs to be exploited not only to expand the production possibility frontier but also to meet the skilled manpower requirements of in India and abroad, (PC, GoI, 2012). To reap the benefits of "demographic dividend", the Eleventh Five Year Plan had favored the creation of a comprehensive National Skill Development Mission.

10.4   Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work, (MoL, GoI, 2014). Potentially, the target group for skill development comprises all those in the labour force, including those entering the labour market for the first time (12.8 million annually), those employed in the organized sector (26.0 million) and those working in the unorganized sector (433 million) in 2004-05. The current capacity of the skill development programs is 3.1 million. India has set a target of skilling 500 million people by 2022. As the proportion of working age group of 15-59 years will be increasing steadily, India has the advantage of "demographic dividend". Harnessing the demographic dividend through appropriate skill development efforts would provide an opportunity to achieve inclusion and productivity within the country and also a reduction in the global skill shortages. Large scale skill development is thus an imminent imperative. Major challenge of skill development initiatives is also to address the needs of huge population by

providing skills in order to make them employable and help them secure "decent work". Skill development for persons working in the unorganized sector is a key strategy in that direction. This will also inculcate dignity of labour and create greater awareness towards environmental, safety and health concerns. Planned development of skills must be underpinned by a "policy", which is both comprehensive as well as national in character. A national policy response is, therefore, needed to guide the skill development strategies and coordinated action by all stake holders to avoid a piecemeal approach. It is also important that the policies of skill development be linked to policies in the economic, employment and social development arenas. The country is poised at a moment in history when a much brighter future for its entire people is within its reach. Skill development will help actualize this potential. Development and articulation of a national policy on skill development is a matter of priority, (MoL, GoI, 2014).

11. Initiatives of Ministry of Skill Development and Entrepreneurship

11.1   A task of skill development has many challenges which include:-

(a) Increasing capacity & capability of existing system to ensure equitable access to all.

(b) Promoting life long learning, maintaining quality and relevance, according to changing requirement particularly of emerging knowledge economy.

(c) Creating effective convergence between school education, various skill development efforts of government and between government and Private Sector initiative.

(d) Capacity building of institutions for planning, quality assurance and involvement of stake holders.

(e) Creating institutional mechanism for research development quality assurance, examinations & certification, affiliations and accreditation.

(f) Increasing participation of stakeholders, mobilizing adequate investment for financing skill development, attaining sustainability by strengthening physical and intellectual resources, (MoL, GoI, 2014).

11.2   The Ministry of Skills Development & Entrepreneurship of the Government of India (MSDE) has conservatively estimated the total number of people to be skilled, which would be about 30 crore people, as such the target of training 30 crore people will be a part of the new national skills development policy being firmed up by the Ministry of Skills Development. The cost of training works out to be a whopping Rs 4 lakh crore in the next five years which is huge. The costs have to be cut down by rationalisation of schemes, participation of the state governments and the infrastructure has to be pooled and commonly used. It is now exploring the avenues for optimum use of resources to bring down this cost, (Business Standard, 2015).

11.3   The MSDE has been channelising and promoting through National Skill Development Corporation (NSDC) skill development by catalyzing creation of large, quality, vocational institutions.

11.4   **Role of NSDC and FICCI to form sector skill councils:** National Skill Development Cooperation (NSDC) along with apex industry body FICCI have set up **Sector Skill Councils in five employment intensive sectors**, like food processing, chemical and petrochemicals, media entertainment, sports and hospitality tourism, already approved from NSDC. These Sector Skill Councils, running from September, 2011, are industry led councils with an objective to create labour market information systems through research so that there is authentic updated data about the sector like labour supply demand, gaps, emerging trends. With the help of industry, occupational standards have been set up. All stakeholders are able to use this information system. NSDC, which is acting as a development institution by funding creation of skill development capacities, has mandate from Government of India to set up 28 sector skill councils in employment intensive sectors like textile, leather, automobiles, food processing, of which FICCI has bagged these five sectors. The sector skill councils are   set up in the country as part of the national skill mission, launched by the Government of India, with a view to have skilled workforce of at least 500 million people by 2020, (Rajan Kohli, 2011), (IndiaEducationReview.Com, 2011).

11.5   **Empowering Institutes for Skill Development by MSDE**: Ministry of Skill Development and Entrepreneurship of Government of India (MSDE) has notified that National Skill Development Corporation (NSDC) has formed 31 Sector Skill Councils which have formed approximately 900 National Occupational Standards which are now been used by various Ministries, State Governments, Skill Missions, School Boards, Universities etc. in imparting skill/ vocational education to students. Suggestions received from these diverse stakeholders are constantly imbibed into the various skilling initiatives/ activities embarked by NSDC and SSCs. The skill development initiatives are currently governed by National Skill Policy of 2009. The Government is reviewing the National Skill Development Policy. National Skill Development and Entrepreneurship Policy 2015 will provide a more holistic, comprehensive and synergetic framework of the various issues related with this sector, (Business Standard, 2014f).

11.6   **Courses for Skill Development**: NSDC has a total number of 956 courses for skill development being provided by 95 partners, (Business Standard, 2014c). The Table III project the **amount given for skill development to NSDC** in 2012-13 and 2013-14. Table IV highlights the **Training Targets and Achievements**. Table V highlights **Projections of Employment in 2017 and 2022.**

Table III: Amount given for skill development to NSDC

(Figures in Crores)

Sr. No.	Particulars	2012-2013 In Crores	2013-2014 In Crores

1.	Received during the year (Skilling)	289	450
2.	Received during the year (UDAAN)	--	39
3.	Received during the year (STAR)	--	585
	Total (A)	289	1074

Table IV : Training Targets and Achievements

Year	Training Target	Training Completed
2012-2013	**4, 00, 000**	**4, 02, 506**
2013-2014*	**10, 00, 000**	**13, 50, 849***
		* This includes STAR Numbers of 344,545

Table V: Projections of Employment in 2017 and 2022 on the basis of Employment base in 2013 and **Details of Incremental Requirement of Skilled Manpower in High Growth sectors, including Manufacturing sector by the year 2022**

Sr No	SECTOR	Employment Base in 2013 (Million)	Projected Employment in 2017 (Million)	Projected Employment in 2022 (Million)
1.	Auto & Auto Components	10.98	12.81	14.88
2.	Unorganised Sector (Beauty and Wellness, Domestic Help, Security)	17.21	23.99	36.98
3.	Food Processing	6.98	8.73	11.38
4.	Retail	38.6	45.1	55.73
5.	Media & Entertainment	0.4	0.65	1.3
6.	Handlooms & Handicrafts	11.65	13.93	17.79
7.	Leather and Leather Goods	3.09	4.42	6.81
8..	Gems & Jewellery	4.64	5.91	8.23
9.	Tourism, Hospitality & Travel	6.96	9.68	13.44
10.	Building, Construction & Real Estate (includes two of the high growth sectors building and construction & Real Estate)	45.42	59.4	76.55

11.	IT & ITES (includes two sectors ITESBPO and IT/Software)	2.77	3.84	5.12
12.	Construction Material & Building Hardware	8.3	9.7	11
13.	Textile & Clothing	15.23	18.06	21.54
14.	Healthcare	3.59	4.74	7.39
15.	Education/ skill development	13.02	14.71	17.31
16.	Transportation & Logistics	16.74	23	28.4
17.	Electronic & IT Hardware	4.33	6.24	8.94
18.	Chemical & Pharmaceuticals	1.86	2.6	3.58
19.	BFSI	2.55	3.19	4.25
	TOTAL	**214.32**	**270.7**	**350.62**

11.7   **Funding the Skill Development**: The Ministry of Skill Development and Entrepreneurship of the Government of India has planned to provide skill training to about 250 million people as the initiative requires a huge Rs 5 lakh crore funding in the next five years. By 2020, the number would be 300 million people. This mission would require at least Rs 20,000 spending on training of an individual for skill development. It is almost a Herculean task and challenge, for which, huge resources, huge investments, partnership and support are needed, (The Economic Times, 2015). The Government has sought private sector's support, from the industry, which is huge in sectors as medical, health, auto, construction.

11.8   Under NSDC courses, 21 courses are in agriculture and 34 courses are in traditional and cottage industries (as of 30th Nov 2014). These courses cover sectors such as textiles, handicrafts & apparel. The Government of India requires implementing agencies for skill development schemes to ensure participation of disadvantaged social groups particularly women and weaker sections of the society. The Ministry of Rural Development is undertaking a Placement Linked Skill Development scheme for rural poor youth called Pandit Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY). This scheme provides for social inclusion through mandatory coverage of 50% for Scheduled caste and Scheduled Tribe candidates and 15% for Minority candidates at national level. DDU-GKY also provides for a mandatory coverage of 33% women candidates in all the projects.

11.9   The Ministry of Skills Development & Entrepreneurship of the Government of India has announced that as per a study conducted by National Skill Development Corporation (NSDC), the employment in high growth sectors, including manufacturing sector is projected to be 350.62 million in 2022. The Projections of Employment in 2017 and 2022 on the basis of Employment base

in 2013; and details of incremental requirement of skilled manpower in high growth sectors, including manufacturing sector by the year 2022 are given in the following Table. The NSDC is trying to assist in filling the gaps between demand and supply of skilled manpower by encouraging the proposals, where gaps exist, (Business Standard, 2014c).

12. Recent Initiatives in Skill Development in Higher Education in India

12.1   Education plays an important role in the all-round development of human being as well as the nation, (UGC, 2014a; UGC 2014c). It is a unique investment in the present as well as for the future. Every country develops its own system of education to express and promote its unique socio-cultural-economic identity besides meeting the challenges of time to leverage the existing potential opportunities. India, at present, is recognized as one of the youngest nations in the world with over 50% of the population under the age of 30 years. It is estimated that by about 2025, India will have 25% of the world's total workforce. In order to harness the full demographic dividend, India needs an educational system which is of high quality, affordable, flexible and relevant to the individuals, economy and to the society as a whole. Presently, the country faces a demand – supply mismatch, as the economy needs more 'skilled' workforce and also the managers and entrepreneurs than created annually. In fact, majority of the contemporary institutions of higher learning remain almost disconnected with the requirements of the workplace, (UGC, 2014b; UGC 2014c).

12.2   It has been a long felt necessity to align higher education with the emerging needs of the economy so as to ensure that the graduates of higher education system have adequate knowledge and skills for employment and entrepreneurship. The higher education system has to incorporate the requirements of various industries in its curriculum, in an innovative and flexible manner while developing a holistic and well groomed graduate. Ministry of HRD, Government of India had issued an Executive Order in September 2011 for National Vocational Education Qualification Framework (NVEQF).

12.3   Subsequently, Ministry of Finance, of Government of India, in pursuance of the decision of Cabinet Committee on Skill Development in its meeting held on 19th December, 2013, has issued a notification for National Skills Qualifications Framework (NSQF) which supersedes NVEQF. Under the National Skills Development Corporation, many Sector Skill Councils representing respective industries have/are being established. One of the mandates of Sector Skill Councils is to develop National Occupational Standards (NOSs) for various job roles in their respective industries. It is important to embed the competencies required for specific job roles in the higher education system for creating employable graduates, (UGC, 2014b).

12.4   The skill oriented courses available in the market have low credibility and acceptability with the employers. The traditional higher education system in the country is also rigid in terms of duration of courses, timings for teaching-learning, place of study and choice of subjects. There is a worldwide shift from conventional educational system to competence based qualification system. With a view to make the skills acquired by the learners acceptable nationally, the curricula and system of certification should align with the National Occupational Standards. In

order to facilitate offering of nationally standardized skill related programmes, the Government of India has notified the National Skills Qualifications Framework (NSQF) on 27th December 2013. It is a nationally integrated education and competency-based skill framework which provides for multiple pathways, both within vocational education and between general and vocational education, to link one level of learning to another higher level and enables learners to progress to higher levels from any starting point in the education and / or skill system. It permits individuals to accumulate their knowledge and skills and convert them, through testing and certification by the competent authorities, into higher level of certification which could be a certificate, diploma, advanced diploma, a degree or a PG diploma in common parlance. The 12th Five Year Plan Document of the Planning Commission has also laid a special emphasis on expansion of skill-based programmes in higher education, (UGC, 2013b).

12.5   However, the Government of India felt that **there is a need for taking integrated initiatives towards 'Knowledge Acquisition' and 'Up-gradation of Skilled Human Competencies' in Universities and Colleges to address the emerging needs of the economy so as to ensure that the graduates have adequate knowledge and skills to get appropriately employed or become entrepreneurs and, thereby, meet the economic and industrial needs at the regional and national level.**   The Government of India taking note of the requirement for skill development among students developed 'National Vocational Education Qualification Framework (NVEQF)' which was later on assimilated into 'National Skills Qualifications Framework (NSQF)'. Various Sector Skill Councils (SSCs) are developing Qualification Packs (QPs), National Occupational standards (NOSs), and Assessment mechanisms in their respective domains, in alignment with the needs of the industry, (UGC, 2014c).

13. Skill Development Initiatives of University Grants Commission

13.1   The University Grants Commission (UGC) of Ministry of Human Resource Development of Government of India (MHRD) has been encouraging, since 1993-94, implementation of skill-based and career-oriented courses in colleges and universities through several new schemes. A scheme called 'Vocationalisation of First Degree Education' was launched in 1993-94. This scheme was an effort for tackling the problems of unemployables due to the lack of skills amongst the students of conventional courses, namely, B.A., B.Com. and B.Sc. In the afore-stated dismal situation vocational education at the first degree level promised to be an effective remedy in as much as it imparted that type of education to our graduate as would render them more employable than they would otherwise be. Thus viewed, the UGC's scheme became quite laudable in the 90's.   The introduction of vocational courses in 1993-94 was a very large and complex proposition. It was career education and had to have a working approach with inculcation of marketable skills and preparation for further advanced career training. But, to evaluate the same critically, it was often asked by the critics: Did the nature and status of UGC package envisage the working approach with inculcation of marketable skills and preparation for further advanced career training? It was argued that this scheme had the approach of integrating the WoS and WoW as a part of its instructional programme; it offered extensive career guidance with curriculum linked to occupational requirements; it offered a great

diversity of programmes and is a scheme of career education. But, despite all its theoretical contents and ancillary advantages on one hand and critical evaluation on the other hand, this UGC's scheme had a very restricted area of introduction and operation, practical on the job training and introductory base. Perhaps it was being introduced with too many reservations about its outcome. So it was only the time, which could have determined its impact on our otherwise docile and inane post secondary system in the colleges where expansion was the democratic law with least concern for quality and relevance, (Bajaj KK, 1998), (Gandhi, 2013b).

13.2   Later, the above-described scheme of 'Vocationalisation of First Degree Education' was renamed as 'Career Oriented Programme (COP)' since, 2007-08. This introduction of Career Oriented Courses' (COCs) has been being implemented, since then, under which the UGC provides financial assistance to eligible universities and colleges to introduce COCs at certificate, diploma or advance diploma levels which would run concurrently with conventional degrees like BA, BCom and BSc. To give a push to skill-based vocations, the UGC has also revised its guidelines in accordance with the National Skills Qualification Framework for integrating skill and vocational development with mainstream general education in universities and colleges.

13.3   From the year 2013-14 the UGC has launched two new schemes, namely 'Community Colleges' and 'B.Voc Degree Programme' which offer employment-oriented skill based vocational courses wherein an industry partner is associated for curriculum development and assessment of learners. The UGC provides financial assistance to eligible universities and colleges to introduce these two schemes.

13.4   A scheme called 'Pandit Deen Dayal Upadhyay KAUSHAL Centre' has also been approved by the UGC and launched from the year 2015-16. The UGC has decided to approve 100 'KAUSHAL Centres' under this scheme in universities and colleges across the country during the XII plan period. These centres will impart skill based education from the certificate to post graduate level. As per the UGC guidelines for Credit Framework for Skill Development (CFSD), 60 per cent weightage is given to skill component in course curriculum of vocational courses. Further, the skill component of these courses is to be assessed and certified by the concerned sector skill council, which is being recognised for award of certificate, diploma, advance diploma or degree from college and universities.

(A) Establishment of Community Colleges in Universities and Colleges in India under Skill Development Initiatives (UGC scheme)

13.5   The 12th Five Year Plan Document of the Planning Commission of India has recommended setting up of Community Colleges (CC) to serve multiple needs including:-

(i)   Career oriented education and skills to students interested in directly entering the workforce;

(ii)   Training and education programmes for local employers;

(iii)   High-touch remedial education for secondary school graduates not ready to enroll in traditional colleges, giving them a path to transfer to three or four year institutions; and General interest courses to the community for personal development and interest. The Plan Document also states that Community Colleges will be located to facilitate easy access to underprivileged students and such colleges could either be established as affiliated colleges of universities or as entirely autonomous institutions, (UGC, 2013b).

13.6   The National Skills Qualifications Framework (NSQF) organizes qualifications according to a series of knowledge, skills and aptitude. The NSQF is defined from level 1 to 10 and these are deciphered as follows: Level 1 is for unskilled worker, level 2 is for semi-unskilled worker, level 3 is for semi-skilled worker, level 4 is for skilled worker, level 5 is for supervisor, level 6 is for supervisor's supervisor, level 7 is for first level management, level 8 and 9 correspond to middle level management and so on. National Occupational Standards (NOS) define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also are able to do. These standards can form the benchmarks for various education and training programs to match with the job requirements. Just as each job role may require the performance of a number of tasks, the combination of NOSs corresponding to these tasks form the Qualification Pack (QP) for that job role. The NOSs and QPs for each job role corresponding to each level of the NSQF are being formulated by the respective Sector Skill Councils (SSCs) set up by NSDC with industry leadership. The curriculum which is based on NOSs and QPs would thus automatically comply to NSQF. The Community College model, as envisaged, will be accessible to a large number of individuals of the community, offer low cost and high quality education locally, that encompasses both skills development as well as traditional coursework, thereby providing opportunities to the learners to move directly to the employment sector or move into higher education. It provides a flexible and open education system which also caters to community-based life-long learning needs. It has a synergistic relationship between the community, learner and the job market, (UGC, 2013b).

13.7   The idea of establishing such Community Colleges in the country was unanimously endorsed in the Conference of State Education Ministers held on 22nd February, 2012 and a Committee of Education Ministers of nine States was constituted to finalize the concept and framework of the Community College scheme. The Committee, after wide consultations with all concerned, presented its report to the Government of India which received the concurrence of the State Education Ministers in the conference held on 6th June, 2012. The Government of India accepted this report and decided to introduce this scheme during the 12th Five Year Plan.

13.8   The task of establishing Community Colleges and monitoring them was given by the Ministry of Human Resource Development of Government of India (MHRD) to the University Grants Commission of India (UGC). The UGC prepared the detailed scheme and launched the said Scheme since 2013-2014, (UGC, 2013b).

13.9   The main Objectives of the scheme of Community Colleges as laid down by the UGC, (UGC, 2013b) are:

(i)   To make higher education relevant to the learner and the community;

(ii)   To integrate relevant skills into the higher education system;

(iii) To provide skill based education to students currently pursuing higher education but actually interested in entering the workforce at the earliest opportunity;

(iv)   To provide employable and certifiable skills based on National Occupational Standards (NOSs) with necessary general education to Senior Secondary School pass-outs, with general education and /or vocational education background.

(v)   To provide for up-gradation and certification of traditional / acquired skills of the learners irrespective of their age;

(vi)   To provide opportunities for community–based life-long learning by offering courses of general interest to the community for personal development and interest;

(vii) To provide opportunity for vertical mobility to move to higher education in future;

(viii) To offer bridge courses to certificate holders of general / vocational education, so as to bring them at par with appropriate NSQF level; and

(ix)   To provide entrepreneurial orientation along with required skill training for self-employment and entrepreneurship development.

13.10   The UGC introduced the Community Colleges scheme since May 2014, in about 250 Universities and Colleges.

(B) Introduction of Bachelor of Vocation Programme in Universities and Colleges in India under Skills Development Initiatives (UGC scheme)

13.11   As stated above, the task of introducing the proper and effective schemes for skill development in universities and colleges and monitoring the same was given by the Ministry of Human Resource Development of Government of India (MHRD) to the University Grants Commission of India (UGC). The UGC prepared the detailed scheme and launched the said Scheme since 2013-2014. Accordingly, the University Grants Commission (UGC) has launched a scheme on skills development based higher education as part of college/university education, leading to Bachelor of Vocation (B.Voc.) Degree with multiple exits such as Diploma/Advanced Diploma/B.Voc. Degree under the NSQF, (UGC, 2013c).

13.12   The B.Voc. programme is focused on universities and colleges providing undergraduate studies which would also incorporate specific job roles and their NOSs alongwith broad based general education. This would enable the graduates completing B.Voc. to make a meaningful participation in accelerating India's economy by gaining appropriate employment, becoming entrepreneurs and creating appropriate knowledge, (UGC, 2013c).

13.13   The main Objectives of the scheme of B. Voc. Programme as laid down by the UGC, (UGC, 2013c) are:

(i) To provide judicious mix of skills relating to a profession and appropriate content of General Education.

(ii) To ensure that the students have adequate knowledge and skills, so that they are work ready at each exit point of the programme.

(iii) To provide flexibility to the students by means of pre-defined entry and multiple exit points.

(iv) To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce.

(v) To provide vertical mobility to students coming out of 10+2 with vocational subjects.

13.14   There shall be Three Levels of Awards and Certifications in the scheme of B. Voc. Programme as laid down by the UGC, (UGC, 2013c), namely:-

(i)   Diploma after completing First year of B. Voc. Programme;

(ii)   Advanced Diploma after completing Second year of B. Voc. Programme;

(iii)   B.Voc. Degree after completing Third year of B. Voc. Programme.

13.15   The UGC introduced the B. Voc. Programme form May 2014 in about 155 Universities and Colleges.

(C) Establishment of Pandit Deen Dayal Upadhyaya 'KAUSHAL' Centers in Universities and Colleges in India under National Skills Development Initiatives (UGC scheme)

13.16   Pursuant to the Task given to the UGC for introducing the proper and effective schemes for skills development in universities and colleges and monitoring the same by the Ministry of Human Resource Development of Government of India (MHRD) the UGC launched Two Schemes since 2013-2014, namely (1) Establishment of Community Colleges; and (2) Introduction of B.Voc. Degree Programmes in select Universities and Colleges. The Community College was in a pilot mode on the initiative of the MHRD, GoI. However, realizing the importance of and the necessity for developing skills among students, and creating work ready manpower on large scale, the UGC decide to implement the Community Colleges scheme as one of its independent schemes from the year 2014-15. The UGC also launched another scheme of B.Voc. Degree programme to expand the scope of vocational education and also to provide vertical mobility to the students admitted into Community Colleges for Diploma programmes to a degree programme in the Universities and Colleges. While these two schemes are being implemented, it was also realised that there is a need to give further

push to vocational education on a larger basis. It is, therefore, proposed to establish as many as 100 'Deen Dayal Upadhyay Centres for Knowledge Acquisition and Upgradation of Skilled Human Abilities and Livelihood (KAUSHAL)' during the XII Plan period. It is envisaged that these 'KAUSHAL' Centres would take-up the vocational education to new levels and other courses beyond B. Voc. degree also. These Centres would also embed and follow the guiding principles of 'National Skills Qualifications Framework (NSQF)', Qualification Packs (QPs), National Occupational standards (NOSs), for their programmes and would not focus on skilling alone but also develop entrepreneurship traits, also.   The Centres may endeavour to maintain a pyramidical structure of student enrolment with respect to Diploma, Advanced Diploma, B.Voc. degree, and further studies, (UGC, 2014c).

13.17   The main **Objectives** of the **'Deen Dayal Upadhyay Centres for Knowledge Acquisition and Upgradation of Skilled Human Abilities and Livelihood** (**KAUSHAL**)' scheme, as laid down by the UGC are:-

(a)   Create skilled manpower for industry requirements at various levels. The scheme provides for vertical mobility from short term certificate courses to full-fledged post graduate degree programmes, and further research in specialized areas. The courses would be planned/designed to have provision of multiple entry and exit at various levels culminating up-to a research degree level. These shall also include courses which are offered under the Community College Scheme and B. Voc. degree programme of UGC.

(b)   Formulate coursed at post graduate level keeping in mind the need of (i) industry in specialized areas; (ii) instructional design, curriculum design and contents in the areas of Skills Development; (iii) Pedagogy, assessment for skills development education and training; (iv) trained faculty in the areas of skill development; and (v) Entrepreneurship; *etc.*

(c)   Work for coordination between the higher education system and industry to become a Centre of Excellence for skill development in specialized areas.

(d)   Network with other centres and universities and colleges imparting vocational education under the scheme of Community Colleges and B.Voc. degree programme in their region and coordinate with them for targeted development of skill oriented education.

(e)   Undertake R&D in the areas related to skill education & development, entrepreneurship, employability, labour market trends *etc.* at post graduate and research level.

(f)   Act as 'Finishing School' by providing supplementary modular training programmes so that a learner, irrespective of his/her training background, is made job ready with necessary work skills (soft, communication, ICT skills *etc*) and fill the gaps in the domain skills measured against QPs/NOSs.

(g)   Provide for Recognition of Prior Learning (RPL) framework for job roles at NSQF Level 4 onwards by conducting assessment and certification with respective Sector Skill Councils (SSCs) / Directorate General of Employment Training (DGET).

(h)   Maintain 'Labour Market Information' for respective regions in coordination with other government agencies and industry associations.

(i)   Develop and aggregate curriculum, content and learning materials for skills development in different sectors.

13.18   In July 2015, the UGC has finalized and identified 48 Universities and Colleges for this most ambitious KAUSHAL programme.

(D) Curricular Aspects, Assessment Criteria and Credit System followed in Skill Based Vocational Courses under NSQF in the UGC schemes

13.19   The Curricular Aspects, Assessment Criteria and Credit System followed in Skill Based Vocational Courses under NSQF in all the UGC Schemes are elaborately spelt out. In order to make education relevant and to create 'industry fit' skilled workforce, the institutions recognized under Community Colleges / B.Voc Degree programme, and Deen Dayal Upadhyay KAUSHAL Centres offering skill based courses will have to be in constant dialogue with the industry and respective Sector Skill Council(s) so that they remain updated on the requirements of the workforce for the local economy.

13.20   There will be credit-based modular programmes, wherein banking of credits for skill and general education components shall be permitted so as to enable multiple exit and entry. This would enable the learner to seek employment after any level of Award and join back as and when feasible to upgrade her / his qualification / skill competency either to move higher in her / his job or in the higher educational system. This will also provide the learner an opportunity for vertical mobility to second year of B.Voc degree programme after one year diploma and to third year of B.Voc degree programme after a two year advanced diploma. The students may further move to masters and research degree programmes (NSQF Level 8 – 10).

13.21   As the CBSE and many other school boards are initiating skill based vocational courses with certification at NSQF Level 4 for students completing 10+2, there may be three types of learners getting admission to first semester of skill based courses under NSQF:-

Category - 1: Students already acquired NSQF certification Level 4 in a particular industry sector and opted admission in the skill based courses under NSQF in the institutions recognized under Community Colleges / B.Voc Degree programme / Deen Dayal Upadhyay KAUSHAL Centres in same trade with job role for which he / she was previously certified at school level.

Category - 2: Students who have acquired NSQF certification Level 4 but may like to change their trade and may enter into skill based courses in a different trade.

Category - 3: Students passed 10+2 examination with conventional schooling without any background of vocational training.

13.22   The institutions / community college / KAUSHAL Centres will develop curriculum and arrange for skill intensive training / teaching for the learners belonging to the 2 category-2 and 3 as above during the first six months who will be assessed and certified for NSQF Level 4 of skill competency by concerned SSC at the end of first semester.

13.23   However, learners belonging to Category-1 will not require such certification as they were already having NSQF level 4 certificates in same industry sector / job role required for specified skill credits. All the learners continuing to Diploma courses or further will be treated at par from second semester onwards. Students may exit after six months with a Certificate (NSQF Level 4) or may continue for diploma or advanced diploma level courses.

14. Challenges in Skills Development

14.1   India's workforce, the second largest in the world after China, needs to be trained across four levels, from the 'White Collar' workers to the 'Rust Collar' workers, linking them to job opportunities and market realities.

14.2   The skills challenge becomes acute for India considering that the country has a large portion of its population below 25 years of age. This young population can be transformed into a productive workforce giving the Indian Economy a 'Demographic Dividend'. Currently a major proportion of this population is not productively engaged in economic activities due to a 'skills v/s jobs requirement' mismatch.

14.3   The skills v/s jobs mismatch often leads to economically inactive working age group people. This not only impacts the economy, it also has serious consequences for the society at large. Social unrest such as insurgency, red belt has been witnessed in several areas of India should be heeded with a measure of urgency, (FICCI, 2014).

14.4   **Challenges before Universities and Colleges selected by UGC in Skill Based Vocational Courses under NSQF:** The Universities and Colleges selected by the UGC for introduction and establishment of various centres, i.e. Community Colleges and/or B.Voc. Programme i.e. for participating in the gigantic task of UGC in its initiatives for National Skill Development and Qualification Framework (NSQF) are required to keep in mind that the territorial jurisdiction and catchment areas allotted to each of them for these Skilling programmes, are poised at a moment in history when a much brighter future for its entire people is within its reach. These Skill development efforts and programmes would definitely help actualize this potential. Development and articulation of the programmes / courses for skill development, thus, acquired a matter of priority for these select Universities and Colleges, which are within their academic and administrative skill and domain, which have many challenges which include:-

(i)   Increasing capacity & capability of existing system to ensure equitable access to all.

(ii)   Promoting life long learning, maintaining quality and relevance, according to changing requirement particularly of emerging knowledge economy.

(iii)   Creating effective convergence between school education, various skill development efforts and initiatives.

(iv)   Capacity building of our College for planning, quality assurance and involvement of stake holders.

(v)   Creating institutional mechanism for research development quality assurance, examinations & certification, affiliations and accreditation.

(vi)   Increasing participation of stakeholders, mobilizing adequate investment for financing skill development, attaining sustainability by strengthening physical and intellectual resources.

(vii)   Harnessing the skill development initiatives to ensure inclusivity and reduce divisions such as male/female, rural/urban, organized/unorganized employment and traditional/ contemporary workplace, (UGC, 2013b).

15. Opportunities and Strategies in Skill Development

15.1   To address the above challenges and reap the benefits of the demographic opportunity, skills initiatives in India need to focus on:-

(A) Quantity: Over 65% of India's large population is below 35 years of age; a robust skills training and certification system for these large numbers is a mammoth task.

(i) As per the 11th Five year plan Vocational education will be expanded to cover 20000 schools with intake capacity of 25 lakh by 2011-12. The programme will ensure mobility between vocational, general, and technical education and multiple entry and exit options.

(ii) The "National Skills Policy" in 2009 has set a target of skilling 500 million by 2022.

(iii) The current skill development capacity is 3.1 million persons per annum which have to be upgraded substantially to 12 million persons per annum, (FICCI, 2014).

(B) Quality: The diplomas and certificates with which students graduate are usually out of sync with the needs of the industry. As a result, industry finds it difficult to recruit adequately skilled labour and is forced to undertake large training programs. The shortage of skilled workforce results in loss of productivity, while training programs imply high labour costs, (FICCI, 2014).

(I)   The National Vocational Qualification Framework (NVQF) and National Vocational Education Qualification Framework (NVEQF) are Standards developed by the Sector Skills Councils (SSC's) can ensure clarity of career choices, options and acceptability of the qualifications.

(II)   The FICCI Skill Development forum has made recommendations for the 12th Five year Plan. In order to ensure the quality of skills delivered it has highlighted:

i.   Building skills training as a mainstream and inclusive program to be promoted by creating a formal arrangement among the three key

stakeholders in the delivery pyramid: Government, Industry and Skills providers

ii.   Industry led 'Train the Trainer' (TTT): One of the key components of Skills Training is the trainer. It is the pedagogical expertise of the trainer which ensures that the learner gets a wholesome experience, understands the standards and is fully equipped to apply the concepts learnt during his employment. The Training of Trainer hence becomes a major challenge.

iii. As per the NSDC report on Education sector there is an incremental requirement of 8,664,000 teachers and trainers during the period 2008 to 2022, (NSDC, 2008).

iv.   The central government should provide funding support to state government institutions to make skills trainer a lucrative career option. This fund support shall not only allow the state governments to retain the trainers for the schools and other institutions but also invite participation of many more people into the training industry.

v.   Greater focus should be given to International Collaborations so that-

      1. There is better Understanding of the fast changing skills demands

      2. Increased FDI in Skills

      3. Promoting B2B partnerships between Indian and International companies

      4. Engaging Multi National Corporations to provide skills solutions that transpose the models and practices

      5. Reverse transfers the best practices from India to world, (FICCI, 2014).

(C) Access: India's large geographical territory, difficult terrain and varying social economic conditions make the implementation of standardised, skill-based instruction a huge challenge

(a)   A very large geographical expanse comprising of 6,38,365 villages, 4378 towns over 35 cities and 640 districts, with difficult terrain and varying social economic conditions make it difficult for all learners to have access to training.

(b)   States like Bihar, (with a population greater than that of Germany), Jharkhand, etc have little access to skills training and the population comprises of a large unskilled workforce. There is wide disparity in industrial development, and have little industrial activity, which makes it difficult for workers to find jobs.

(c)   Nearly 37 percent of the Indian population lives below the poverty line and lives on less than 1 Dollar a day. They cannot afford even basic amenities leave aside education and training.

(d)   About 89% of the 15-59 year olds have had no vocational training. Of the 11% who received vocational training, only 1.3% received formal vocational training. The current training capacity is a fraction of the 12.8 million new entrants into the workforce every year Therefore access to skills programs becomes a major challenge, (FICCI, 2014).

(e)   In the recommendations made by The FICCI Skill Development forum for the 12th Five year Plan it has highlighted the following points to address the quantity issues.

    i.   A need for policy convergence by building skills training as a mainstream and inclusive program, to be promoted by creating a formal arrangement among the three key stakeholders in the delivery pyramid: Government, Industry and Skills providers

    ii.   Greater interaction should be encouraged among industry, academia and skills providers to narrow the gap between the demand and supply of skilled manpower

    iii.   Focus on Informal sector by finding a model that reaches out to the people and livelihood promotion institution and NGOs are engaged effectively.

    iv.   Large corporate houses could engage in training programs for youth from rural, urban villages, towns and cities, as an Industry skills training would offer immediate return to the society by improving lives of people, (FICCI, 2014).

    v.   Since India has set a huge target for itself of 500 million people it requires programs that are scalable, replicable and accessible, this has created a unique opportunity in terms of economies of scale for the new providers entering the market. While this has resulted in a number of new organisations to venture into the bottom of pyramid skills space, there is still a huge need for more companies to enter the market and offer good quality service if they are adequately incentivised, (FICCI, 2014).

15.2   The world (both developed and developing economies) is experiencing an ever widening gap between the demand and supply of skilled labour. The world's population is growing old. By 2050, the world population of people above 60 years will hit the 1.3 billion mark. This trend will lead to the widening of the demand-supply gap, especially in the developed nations like America, Germany and France. On the other hand, India is emerging with one of the youngest populations in the world comprising of a highly mobile, English speaking population. India will have a 2 billion sized English speaking work force by the end of 2020. Training such a workforce will imply that India can become the major exporter in the services sector as well as an exporter of manpower itself. It is estimated that by 2022, India will face a demand of 500 million skilled workers, (FICCI, 2014). .

15.3   India could look at preparing the workforce for global opportunities so that it can utilise its premium position as the human resource reservoir. Given the

dynamic labour markets it also important the workforce learns and readies itself as quickly as possible.

15.4   To reap the benefits of "demographic dividend", the Eleventh Five Year Plan had favored the creation of a comprehensive National Skill Development Mission. As a result, a "Coordinated Action on Skill Development" with three-tier institutional structure consisting of (i) PM's National Council (ii) National Skill Development Coordination Board (NSDCB), (iii) National Skill Development Corporation (NSDC) was created in early 2008. Whereas, Prime Minister's National Council on Skill Development has spelt out policy advice, and direction in the form of "Core Principles" and has given a Vision to create 500 million skilled people by 2022 through skill systems (which must have high degree of inclusivity), NSDCB has taken upon itself the task of coordinating the skill development efforts of a large number of Central Ministries/Departments and States. The NSDC has geared itself for preparing comprehensive action plans and activities which would promote PPP models of financing skill development, (FICCI, 2014).

15.5   As per the approach paper to the 12th five year plan the quality of employment in organized sector is generally high though the scope of additional employment generation in this sector is rather limited. Significant employment generation is taking place in tertiary sector, particularly, in services industries. Self-employment and small business continue to play a vital role in this regard. It is, therefore, necessary to promote main employment generation activities like (a) agriculture, (b) labor intensive manufacturing sector such as food processing, leather products, textiles (c) services sectors: trade, restaurants and hotels, tourism, construction and information technology and (d) small and medium enterprises, (FICCI, 2014).

15.6   Private sector could work in greater coordination and come together to address this issue. And it is important that both sectors compliment each other's efforts. The corporate houses could participate actively in industry led skill development programmes and by channelizing funds allocated for corporate social responsibility into funding and supporting the skills development initiatives by the government. They could be instrumental in moulding and evolving the existing skills development infrastructure in India as per the changing market dynamics, which only the industry has the best knowledge about, (FICCI, 2014).

15.7   International collaborations could help capture the learning's of the sector and also creating PPP models that are around the implementation of skills programs. The knowledge transfer focus on sharing the experiences of success as well as failures which has helped in the evolution of the skills systems in different countries, (FICCI, 2014).

15.8   India Inc. needs to reach out to the teeming millions. The economic implications in terms of the opportunity cost of not timely training the swelling workforce will be very high. Lack of skilled workforce may slow down productivity, research and development and ultimately lead to reduced international market share, which may be very difficult to regain if we fall behind in the race. We may permanently loose momentum and the demographic dividend may end up becoming a demographic liability. However tapping this

opportunity may not only have the potential of positioning us ahead in the race but can also position as game changers, (FICCI, 2014).

15.9   **Transforming India's skills' development**: By 2022, over 700 million Indians of working age will be seeking to earn a livelihood. Of these, only 200 million would be graduates. The rest will be left with a question mark over their education qualifications and skills. Traditionally, skill development has been government-driven with different approaches adopted by industry and states, (The Economic Times, 2012). Skills training courses were perceived as being intended for those who could not make it in the formal system, and did not carry any aspirational value. The skills space was supply-side intervention, with very little connect to demand and a lack of focus on outcomes. The likelihood of a person who entered a skill institute getting a job or becoming an entrepreneur was not determinable. Moreover, capacity, at just over four million a year, was insufficient to skill 500 million over the next 10 years. The National Skill Development Corporation was formed as a part of the coordinated approach to skill development to synergise and enhance industry and employer participation in skill development. Given that there were already multiple interventions in the skills space, how could NSDC supplement their efforts rather than supplant them? There was no precedent in the world. Formally launched in October 2009 as a PPP initiative of the finance ministry and 10 industry bodies, NSDC was given the mandate of skilling 150 million people by 2022 by catalysing private sector involvement in sustainable training ventures in 20 high growth sectors and the unorganised segment, and set up Sector Skills Councils. Till now, 38 training entities have been approved for funding and 24 have started operations, (The Economic Times, 2012).

15.10   From big corporates such as Centum (Bharti Group), Future or NIIT to NGOs such as Pratham as well as educational institutions and social entrepreneurs, there has been a growing interest. A new generation of social entrepreneurs and enterprises is being created. Each of them would skill at least 100,000 over the next ten years. India needs a few hundred entrepreneurs more. The just over Rs 1,000 crore of funding by the NSDC would result in these organisations leveraging more than Rs 80,000 crore over the next ten years. So far, they have trained over 100,000 in over 220 districts across India. NSDC-funded organisations have to ensure the placement of at least 70% of the trainees - currently over 80%. NSDC has partnered the Central Bank of India to provide unsecured loans, for amounts even as small as 5,000, to those who wish to seek training. The skills space continues to face several challenges. Accessibility to skill development programmes continues to be a major hurdle. India needs a new set of microfinance organisations. With the bulk of skills-related training conducted by industry happening for meeting in-house requirements or from a CSR perspective, the gains from these initiatives are restricted to a select set. Government schemes with multiple certification systems further fragment industry initiatives. India needs consolidation and scale to happen here as well. Distorting the market by providing grant-based models could have an adverse impact; scholarships and other funding mechanisms for the student along with loans may be the best sustainable option. All stakeholders need to have skin in the game, (The Economic Times, 2012).

16. International Collaborations

16.1   The Government of India is fostering several international collaborations with developed and industrialized countries like the Canada, UK, Germany, Australia, New Zealand and so on, (FICCI, 2014, Business Standard, 2015, Indian Express, 2015, Rattan Mall, 2015).

[A] **International Collaborations of India with UK**

16.2   The **UK India Skills Forum** (UKISF) established in April 2002 is an initiative led by the UK India Joint Economic and Trade Committee (JETCO). It provides a platform for organizations across the technical and vocational education sectors in UK and India, to tap the business opportunities in the sector by exchanging ideas for delivery of skills training by collaborations between the two countries.

16.3   The **UK India Business Council** (UKBIC) acts as the secretariat for the UKISF and the first point of contact for the UK skills providers, while the FICCI acts as the main point of contact for Indian skills providers. The UKISF works closely with UK Trade and Investment (UKTI). Opportunities shared among the UKISF members are made available through UKTI's free Business Opportunities alert service. Other services of the UKISF include UKBIC's Online Sector Service, and UKTI's Overseas Market Introduction Service (OMIS).

16.4   Efforts are being made to make the forum more active to foster the partnerships between **UK and Indian** Institutions. Two meetings of UKISF were organized in April and September. The UK - India Skills Forum Awards 2011 were announced in 4 categories in 2011. FICCI is Coordinating the working group under JETCO. FICCI is also exploring the possibilities of partnerships to promote UKIERI 2, UKCES - NSDC partnerships.

16.5   **India and U.K** also have together undertaken several collaborations and initiatives on skills development. The UK India Education and Research Initiative aims to work with a range of different skills and training bodies to enable participation and facilitation of skill development requirements in both these countries. It aims to promote long term collaborations between both the countries on skills development.

[B] **International Collaborations of India with Germany**

16.6   **Germany**, a pioneer in the manufacturing industry has been providing both financial and technical assistance to India since 1958 through Ministry of Economic and Cooperation. Institutes like Foremen Training Institute (FTI), Bangalore; National Instructional Media Institute, Chennai or the Central Staff Training and Research Institute (CSTARI), Kolkata were all set up with assistance from Germany.

16.7   Presently, the German side has suggested setting up 'Vocational and Educational Training' in India based on the 'Dual Education' system in Germany. A meeting of the Indo-German Joint Working Group on Vocational Education and Training saw a consensus on creating a Public Private Partnership on the pattern of the German Dual system. German assistance would be received for (i) Upgradation of the Vocational Training Centres and (ii) Development of Competency Standards. The National Occupation Standards was established

several decades ago in Germany and has been constantly subject to change, in light of the changing market dynamics. Several countries have modelled their policies on these Standards.

16.8   A joint statement issued in the meeting of **Indo-German** Joint Commission on Industrial and Economic Cooperation emphasized on the potential for German Companies to invest more in India and take advantage of the enormous business opportunities available in India. It emphasized on the robust growth in the Indian manufacturing and industrial sectors providing a good base for Indobusiness joint ventures, given Germany's proven performance in the manufacturing sector. Further emphasis was laid on how German companies can enhance their global competitiveness by leveraging India's skills in the service sector. In this regard the German side has suggested to set up 'Vocational and Educational Training' in India based on the 'Dual Education' system in Germany. Recently leading German Automobile Volkswagen started an apprenticeship program in India based on the dual system of vocational education and training in Germany.

[C] International Collaborations of India with Australia

16.9   **Australia** is also collaborating with India in various skill development initiatives so as to share expertise and experiences. This is facilitated through the new bilateral Australia India Education Links website. The website is an information portal which supports education and training collaborations between Australian and Indian education and training institutions, business and industry.

16.10   A forum for facilitating linkages in the skills area is the Bureau for Vocational Education and Training Collaboration (BVETC), established by Australia and India in 2010. The BVETC meets regularly to consider collaboration proposals from the vocational education and training sector and provide advice on the best ways to achieve successful partnerships between the countries.

16.11   Recently Senator Chris Evans, Australia's Minister for Tertiary Education, Skills, Jobs and Workplace Relations, announced closer collaboration with India to train skilled labour for mining and construction, to satisfy manpower demand for its booming industry. The training will be accredited by Australian Agencies. Chris Evans said that it will support Australia and India in building a 'highly skilled and well-trained workforce', (FICCI, 2014).

[D] International Collaborations of India with New Zealand

16.12   The **New Zealand** Open Polytechnic is government owned and funded, and delivers distant learning courses across New Zealand as well as internationally. Over 100 qualifications and 1200 courses ranging from technical, vocational to higher professional and continuing education courses have been developed in consultation with the industry and other appropriate professionals. It has adopted internationally proven models for distant learning course design, student support and quality control. It has also been continuously increasing the range of its online services and courses, (FICCI, 2014).

[E] International Collaborations of India with USA

16.13   The USA very recently, (during the visit of Indian Prime Minister on 30 September, 2014), offered to support India to achieve the goal of preparing young Indians for 21st century jobs through new partnerships to share expertise and global standards for skills development in India, including by reinvigorating the Higher Education Dialogue, (CGUS, 2014).

[F] Indian Efforts of Skill Development in the World Economic Forum

16.14   The recommendations of the CEO of the World Economic Forum, (2014), highlighted that India should design effective ways to scale quality training for the workforce of the future. The skill development is the most pressing challenge to the manufacturing sector in India. Although the Indian government has put in significant effort over the past 50 years to develop its science and technical infrastructure, the current capacity for workforce development does not meet the country's aggressive growth targets. Unlike Japan and Western European countries, India has a large young workforce, is a key strength to be leveraged. The World Economic Forum supported the National Manufacturing Plan's approach to skills development; they stressed that the following actions would do much to scale workforce training initiatives.

[G] International Collaborations of India with Canada

16.15   Canada and India, recognizing Canada's potential to be a partner in India's economic transformation, singed the Treaties in Ottawa (Canada), on April 15, 2015, for six significant initiatives which *inter alia* include the initiatives in the areas of **Education and Skills Development.** The Treaty in the areas of **Education and Skills Development** resulted in to Thirteen memoranda of understanding that were signed between India's National Skill Development Council and Canadian Colleges and Institutes in the fields of agriculture, apparel and textiles, automotive, aviation, construction, green economy, healthcare, hydrocarbons, information technology, telecom and electronics, sports sector, and water. These thirteen agreements on skill development reflect India's commitment to empower the youth of India with world class skills for India and the global economy, (Business Standard, 2015, Indian Express, 2015). Both the countries identified 'Education' as one of the key areas of priority for bilateral engagement and agreed to focus on greater student, faculty and people-to-people exchanges. Both the countries affirmed that cooperation in education should focus on building the quality of human resources in both countries. They noted that India is a priority country under Canada's International Education Strategy. In this context,   welcomed Canada's partnership in the Global Initiative of Academic Networks (GIAN) of India to enable Canadian researchers to cooperate in learning, research and teaching in select Indian educational institutions. They also welcomed the first co-funded student exchange programme through the Ministry of Human Resource Development's Technical Education Quality Improvement Programme and Canada's Mitacs Globalink Program. Both the countries noted the socio-economic opportunities inherent in India's ambitious goals of skills development. In this regard, Both the countries welcomed the 13 MoUs between the National Skill Development Council of India and 13 Canadian Colleges, Institutes, and Sector Skills Councils in the fields of agriculture, apparel and textiles, automotive, aviation, construction, green

economy, healthcare, hydrocarbons, IT, telecom and electronics, sports sector, and water. Both the countries agreed to renew the Canada-India MoU on Higher Education on a rolling basis. They noted the historic significance of advancing bilateral ties to a new level marked with "New Vigour: New Steps", with an agreement to elevate bilateral relations between India and Canada to a strategic partnership, (Rattan Mall, 2015).

17.   Research and Development (R&D)

17.1   India's skill development initiatives of skilling approximately 500 million people will not only benefit India but also make India the 'global manpower hub'.

17.2   Among the developing countries of the world, India has the highest potential to meet the skill gap with its large, young, English speaking population. The world shortage of skilled manpower will stand at approximately 56.5 million by 2020. With a target of skilling 500mn by 2020, India can not only fulfill its own requirements but can also cater to the labour shortages in other countries such as the U.S., France and Germany. Presently 80% of the workforce in India (both rural and urban) does not possess any identifiable or marketable skills. Therefore, bridging this gap (through the various skill development initiatives) could make India the global hub for skilled manpower, and also result in a surplus of skilled manpower of approximately 47 million 2020.

17.3   A successful R-EDP (Rural Entrepreneurial Development) Model has been implemented by the Grameen Bank in Bangladesh across various rural pockets. This has been customized and implemented by the Indian Government as well.

17.4   Innovative E-learning Platforms have been gaining more popularity in recent times. They offer a greater mobile and flexible learning environment. Students can learn and attend classes and participate in discussion forums online, at their convenience, from their offices, homes and so on.

17.5   The Ministry of Human Resource Development (MHRD) has introduced multiple schemes that integrate skills training into the school curriculum in an innovative manner. 6800 schools have been covered under the vocationalization of Secondary Education programme, for students passing out of class 10. The National Program on Technology Enhanced Learning (NPTEL) gives support for distance education and web based learning. These are prepared at the seven Indian Institutes of Technology (IITs). The National Institute of Open Schooling (NIOS) has distance vocational education programmes for students dropping out after the 5th, 7th, 8th and 10th standards. The Apprenticeship Act has vocational courses for students graduating from a 10+2 vocational stream, (FICCI, 2014).

18. Summing Up

18.1   Since time immemorial education has been considered a very powerful instrument of social, economic and cultural development. If education is to achieve this supreme end, it should be so planned and designed as to enable every individual in a society to develop his or her capacity and aptitude to the maximum extent. All our developmental programmes and schemes would be doomed to frustration if our human resources are not fully developed and utilized. India is steadily shifting to a fast tract of economic and industrial development, which leads to mounting demands on education and calls for a highly diversified human resource.

18.2   India has been witnessing several paradigm shifts in the social, business and industrial environment. The shift from low tech to high tech, national to global, production to service economy, state to private sector, and the changing occupational patterns create demand for a new work force with a different skills profile than was demanded in the yesteryears. The onus of making available this resource lies on our system of higher education. This supply of competent human resource is vital for our economic restructuring and achieving global competitiveness.

18.3   If all the available human resources are to be discovered and developed, a system of education based on sound principle of social justice is very essential. Human development is the end economic growth a means. So, the purpose of growth should be to enrich people's lives. But far too often it does not. The recent decades show all too clearly that there is no automatic link between growth and human development. And even when links are established, they may gradually be eroded unless regularly fortified by skilful and intelligent policy management.

18.4   Educational process is to be linked with production and employment. Re-orientation of the educational programme should be undertaken in such a manner that it helps to produce self-reliant and self-dependent citizens. India has recognized the need for fundamental educational reforms & restructuring of various courses. However, there is ill-planned restructuring and sudden introduction of Vocational Courses at first degree stage. Basic problems emanating from economic growth prevent of technology and the effect of globalization cannot be countered by restructuring and vocational education alone.

18.5   In a democracy the worth and dignity of every individual is to be recognized. The endowed potentialities of every individual must be discovered and developed to the fullest extent to enable him or her to become a potential worker and a creative citizen contributing to the all round progress of the society of which he is a member. No country can achieve full economic growth if it fails to make the most of all the talents of its citizens. The progress of a country largely depends on the fullest utilization of its manpower. Hence, it is high time to restructure and reorient the entire higher educational system, however, in a planned manner.

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