

CHAPTER 2

LITERATURE REVIEW

Skill development is a subject of great national importance. In order to identify the research gaps it is necessary to understand the ground realities, through review of literature and from the gaps identified, to draw out an action plan to design a pragmatic framework to meet the development needs of the country.

In this chapter, in order to identify research gaps between skill requirements in the country and current availability of skills, a thorough review has been carried out of literature covering period of last 5 decades. The appraisal is based on scrutiny and study of 125 reports and research papers as listed in this report, covering domestic and international practices of Vocational Education. The outcome of the review and the challenges being faced are summarized under different headings as under—

2.1 HISTORIC PERSPECTIVE OF VOCATIONAL EDUCATION ABROAD AND IN INDIA

Vocational education/training has been realized before advent of Industrial Revolution. First education law passed in America was Old Deluder Satan Act of 1647 which required masters to teach academic as well as vocational skills to apprentices. (Brimi, 2009) (Frager, 2010)

Need for industry fourth R and employability of masses, Work-readiness training, also called the fourth R of the traditional role of education (Hymel et al., 2006;) (National Alliance of Business, 1987;) (T. H. Peterson, 1992)) has, for long been a concern of business and government leaders.

In recent economic scenario, employers require "relevant work experience" gained through a suitable placement or internships. (Briggs & Daly, 2012) Relevantly skilled workforce is considered a valuable asset for any industry and corporations are willing to partner with higher education institutions in an effort to teach the necessary skills for industry's success. (Paulson, 2001). This includes apprenticeships, traineeships and cadetships which play an important role in the development of the appropriate skills. Providing apprenticeship is a long-term

solution to meet the needs regarding availability of appropriate skills and workforce.(Schütz, Huenges, Spalek, Bruhn, Pérez, & de Gregorio, 2013)

In India, government has been mulling over bridging of industry academic gap, which requires an active industry engagement. Adoption of ITIs, partnering in community colleges, providing faculty in Universities that offer job related training and provision of up-skilling of employees to suit dynamic needs of industry are ways to actively participate. (National Skill Development Agency, 2012)

An assessment of the skill deficit/problem in India can be done through the various research reports and papers. This will help understand the need for a pragmatic skills development framework to meet the needs of the country.

2.2 BUREAUCRATIC DEVELOPMENTS IN FRAMING OF POLICY DURING LAST 50 YEARS

Analysis and outcomes of important research reports and papers during last 5 decades and assessment of skill deficit/problem in country. Government has appointed many high power committees to make recommendations for improvements in educational systems with special focus on vocational streams. Analysis of important developments relevant to vocational education over the past five decades is as under—(References of these Reports have been appended at the end of the section)

- 2.2.1 Way back in 1964- 65 Kothari commission was setup. It was one of the first committees in the country to deliberate on education reforms and evolve a national Policy on important aspect of national importance like vocational studies wherein it was visualized that 25% of students at secondary stage should be motivated to go for vocational streams to promote employment in the country (Kothari commission Report - 1964-65)) Status was reviewed by Kulandaiswamy Committee in year 2000, and in view of poor outcomes the target was scaled down to 15%.It is important to note that over 35 years, the implementation was very poor.(Kulandaiswamy Committee, 2000)
- 2.2.2 Subject was again reviewed in year 2005 and as per National Sample Survey Organization (NSSO) of year 2005, only 5% of population in 19 to 24 yrs age group in India have acquired some sort of skills through vocational education the corresponding figures for industrially advanced countries vary between 60-80%

(Placeholder2)(Kothari Report on Vocational Reforms, 1964-65)(NSSO Report on Vocational Education , 2005)

- 2.2.3 This clearly brings out the dismal situation in which such an important development activity of national importance has totally failed due to multiplicity of implementing authorities and bureaucratic control. Status was reviewed by high powered committee of Montek Singh Ahluwalia taskforce set up in 2001 and SP Gupta special Group set up in the year 2002 similar observations have been made by the Committees to explore the infrastructure of 10 million employment opportunities per year set up by Planning Commission to study the subject(Montek Singh Task force Vocational Reforms 2001) (SP Gupta, Special Group- Vocational Reforms , 2002)
- 2.2.4 Status on Vocational Training has been analyzed in the text of Eleventh Five Year Plan inclusive growth and midterm review report of the plan as follows, which is quite disappointing.(Eleventh Five Year Plan inclusive growth, 2010)
- “Amongst age group 16 -29 years, only 2% are reported to have received formal vocational training and another 8% have received non formal training indicating that very few young person’s enter work place with formal training – this proportion of trained youth is one of lowest in world, similar figures for developed countries range from 60 to 80% for Japan, Germany, US, 96% for Korea and Taiwan.
- 2.2.5 Reason for this poor performance is exclusive reliance on Public training system under multiple control of 17 Central Ministries and 35 State Governments, and few training courses of long duration of 2-3 yrs covering around 100/200 skills. In contrast China has about 4000 short duration modular courses which provide skills for employment requirements. (Vocational Education in China , 2010)
- 2.2.6 Position is further clarified in National sample survey of 2006 which states 80% of entrant into the work force have no opportunity for development of skills, while there are 12.8 million new entrants every year existing training capacity is 3.1 million per year further attendance rate in educational institutions dropped by around 50% in age group of 15-19 years. Simultaneously, labor participation rate begin to increase , and for age group of 25-29 years it is nearly 95% for rural and urban males(Survey, 2006)

2.2.7 Poor Status of literacy is further highlighted in the above survey which brings out another weak aspect of our manpower development—i.e

39% of our labor force is Illiterate,

25% Schooling upto Primary level

24% upto middle and

12% upto Higher Secondary level.

2.2.8 Mismatch of skills another serious factor which emerges for the above study is that, among trained youth, there is mismatch of Skills upto 70% and require retraining to be productive. Thus existing system of training is outdated and not linked to market requirements. (Literacy Survey, 2006)

2.2.9 As per National Commission for Enterprise in unorganized sector (NCEUS) total employment is estimated at 520 million, out of which informal/ unorganized sector is estimated at 450 million, which is nearly 88% of total constitutes a very large number. Nearly 60% of unorganized workforce engaged in Agriculture mostly unorganized, unskilled a major reason that our agricultural productivity is $\frac{1}{2}$ of world average and $\frac{1}{3}$ of China balance in non-agriculture. Again in non-agriculture, about same percentage of 60% is self-employed, most of them unskilled, with low productivity, quality and poor incomes (Employment Survey in organized / unorganized Sector, 2010).

As development occurs, contribution of agriculture in employment will decline and number of self-employed who would move to non-agriculture employment preferably in skilled occupation in organized or unorganized sector-this would bring further pressure on skill building and would need special attention in bridging the skill gaps and framing the skill policy.

2.2.10 National Skill Development policy-2009

keeping the above economic environment in mind Ministry of HRD/Labor and Employment have framed comprehensive National Skill Development Policy in March 2009 to Create Training Capacity of 15 Million by 2015 of skilled hands per annum for all segments of economy and create a (Pool of 500 million Skilled persons by year 2022.)

Policy lays down skill development mission with skill development programs involving all stakeholders to achieve the planned goals through a three tier high level planning and monitoring body as under-

PMs National Council on Skill Development at highest level of Government.
National Skill development Coordination Board, High level Central/State
Monitoring Body

National Skill Development Corporation (NSDC) Implementation arm of
government mostly through PPP Model

Sector Skill Councils-SSCs Implementation with Industry- Participation Eleventh
Plan document, proposes to expand the existing Skill Development infrastructure
of 3.1 million per year to 15 million by year 2015 to not only train annual
workforce accretion of 13 million but also create enough surplus capacity to train/
retrain the existing workforce which is badly needed to boost the economy.
(National Skill Development Policy, March 2009)

- 2.2.11 Potential to outsource skilled manpower abroad meeting global standards. Plans to
be worked to encash this opportunity. In monetary terms, it has potential to earn
foreign exchange it is estimated that there would be global shortage of 56.5 million
skilled hands by 2020. of this India can supply 47 million, with earning potential
of 200 billion dollars per annum which is near equivalent to our total current
export earning Planning Commission has identified skill needs both in service as
well as in industry segment for growth and employment. (India can become Global
Hub for Vocational Manpower, Aug 01, 2011)

2.3 CHALLENGES OF VOCATIONAL EDUCATION ARISING OUT OF LITERATURE REVIEW

In this section, we shall dwell upon the ground realities of skill gaps and deficit
assessed on the basis of vast amount of literature contained in nearly 30 odd high
powered committees set up by the government over last 50 years to review and
appraise the subject (study groups by industrial associations-CII, FICCI etc, world
Bank, consultants,)

- 2.3.1 In summation, it took the government 50 years to initiate skill development policy
an excellent conceptual framework which covers all aspects of macro and micro
planning both at the Centre and State Government levels. However the
implementation which is primarily in the hands of bureaucracies has been very
poor, resulting in 80% of workforce remaining untrained. involvement of industry,
private organizations have been minimal, unlike foreign countries where the

government encourages the later through liberal incentives schemes to undertake almost the entire responsibility.

In recent years, Government is promoting through NSDC, SSCs, participation of private sector/industrial associations/foreign companies through joint ventures, equity participation to undertake skill training in relevant sectors. Beginning is made, momentum is picking up, target is set to train 150 million in 10 years time- an ambitious goal, but we need to watch the quality- a important aspect which has been badly missing all along.

- 2.3.2 Our role model is IT industry in the country which has undertaken to do in house training/ retraining as a part of regular work culture- thus achieving world class standards- we need to transplant this model in other segments.

We shall understand the challenges by assessing status through three recent Press releases and finally summing up the critical deficiencies /gaps as under

- 2.3.3 Status of Skill Building in country as per Latest Press releases of three articles reproduced from editorials of Hindustan Times and Mint in the recent months show the current status and ground realities of such a critical activity in our country. Challenges for - India becoming a Knowledge Economy-

(HT editorial 11th July 2014)

Challenges of Skill building and economic growth India V/s China

Initiating -Skill based training in Delhi University from July 2014

Session - (HT education supplement May 2014)

- 2.3.4 India becoming Knowledge Economy- a pipe dream

There was a time, not so long ago, when India was more or less certain that its place at the global high table was well within reach. It was around that time- in the first half of the UPA 2- regime, around year 2011, which probably formed the basis of such confidence, repeated propaganda by governments. Spin masters promoting the glaring advantage of knowledge economy and demographic dividend for our nation. The logic was simple India must leverage its demographic dividend and build a knowledge economy to develop faster. But now a series of consecutive reports on the education sector, the very basis of knowledge economy, shows that things are not as rosy as it was made out to be and that the much talked about demographic dividend would be of any use unless and until we

could fix the problem in the education sector which was seriously lagging behind the development needs.

According to UNESCO'S 11th education of all global monitoring report, which was released recently, 90% of children from poor families in India remain illiterate despite completing 4 years of school education. Also around 30% of children remain illiterate even after attending 5-6 years of school. While the Government spends a considerable amount of money on primary education, the truth is that much of it is spent on capital costs and salaries and not on improving the quality of education. Surprisingly, as the annual status of education report 2013, pointed out, there has been a spurt in the number of private schools.

The situation on the other side of the spectrum i.e. higher education is equally bad. According to the national skill report 2014 prepared by the CII, most of our graduate are not employable. The study, which made an assessment of one Lac students, found that only 34% was employable. This is not the first warning bell, as early as in year 2006, the state run national knowledge commission had highlighted this crisis in higher education but as the new reports show that in spite of several reminders nothing much has changed Thus, for India becoming a knowledge economy still remains a pipe dream even after 50 years of Planning

Skill based training for Delhi University students-a good beginning (HT education supplement May 2014)

University of Delhi and National Skill Development Corporation (NSDC) have signed a memorandum of understanding (MOU) that will for the first time in country integrate skill based training as part of academic graduation curriculum in India's higher education system.

Under this scheme, 67 colleges of University of Delhi will offer graduate students skill based training as part of applied courses in the regular curriculum. This training will impact approximately 60000 students who are being admitted each year for study under 4 year graduation program (FYUP), the landmark agreement was signed between the registrar of the University and the managing director of NSDC.

These courses will be introduced to the 2nd year students in year 2014-15 and subsequently offer to 2nd and 3rd year FYUP students skill based courses will cover 4 semesters. The vice chancellor of the University stated that these courses

will be based on National Occupational Standards created by Sector Skill Council (SSC) further these courses are expected to enhance the employability skills of students. The managing director of NSDC stated that Delhi University is one of the premier educational institute and this tie up will offer big opportunity to students to supplement their theoretical knowledge with hands on practical training that will improve the employability in the competitive job market in the country.

The students will be given a choice to select any one skill based course from the carefully identified sectors in addition to regular academic subjects. This course will be part of applied course offer to students and will be integrated into time table of colleges

It is a good beginning, however it has to be seen, and how successful the scheme works out in practice

2.3 CHALLENGES OF SKILL BUILDING AND ECONOMIC GROWTH INDIA V/S CHINA

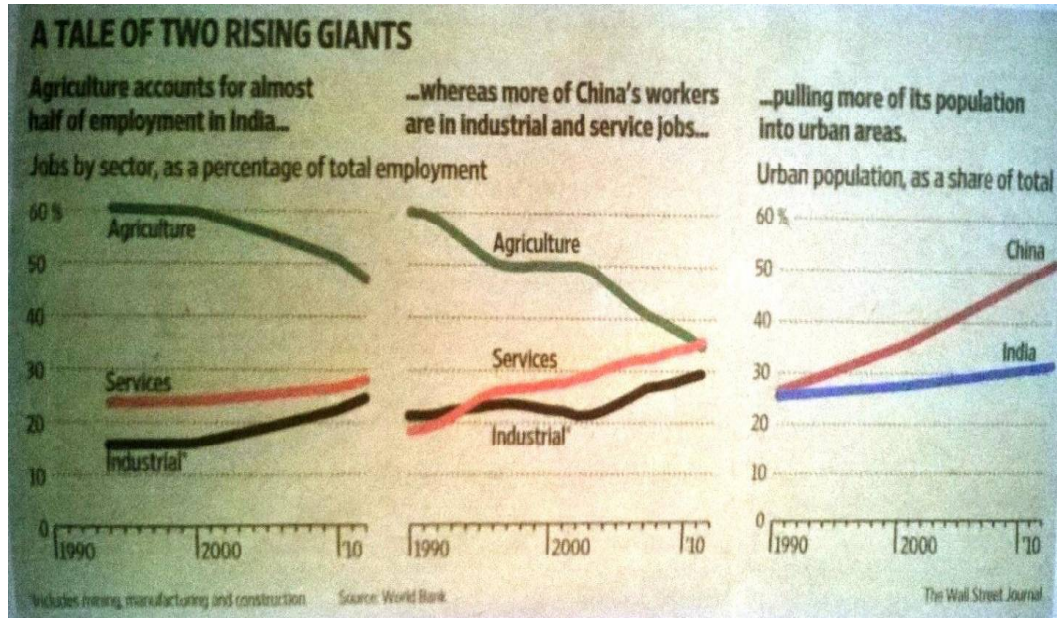
In view of comparable size and complexity of skill building requirements, China is best example to emulate for us to tailor a suitable system for our economy. Comparative data is placed as under.

In the three graphs we have tabulated growth of manpower in three economic segments namely Agriculture, Services and Industrial segments during the last 20 years that is from year 1990 to year 2010.

The comparatively data is tabulated for India and China in the above three segments, which clearly show that India is way behind in manufacturing and agriculture sector and needs considerable amount policy initiatives to push these sectors to catch up with global standards. However the service sector is doing very well due to intensive skill development programs- the detailed analysis is as under –

Comparative graphs are on next Page

Figure 2.3, 2.4, 2.5 India versus China –deployment of manpower in different sectors



Agriculture Segment

During last two decades, man power employment has come down from 60% to 50% in India with 50% increase in productivity due to primarily improved Crop management where as in China it came down from 60% to 40% with more than 100% increase in Agro output due to all round revolution in agriculture from Seeds to Harvesting creating a surplus of nearly 100 billion dollars in the Agro Sector,- Productivity per hectare is nearly 3 times that of India-we need to imbibe these programs in our systems/plans which suit our socio economic environments. They have achieved this by forming co-operatives and totally mechanized system of sowing to harvesting in India we have been very slow in modernizing the marginal farmers which constitute nearly 50% of our agriculture manpower and use traditional methods

Some states like Gujarat, Maharashtra and Kerala where co-operatives model have been used have shown remarkable growth and value addition in the agro and horticulture activities, but bulk of the country specially the eastern states of Bihar, Odisha and Bengal continue to remain backward and poor in improving the fortunes of farmer community

Industrial Sector

The job employment has improved in last 20 years by about 5%, this is because of slow industrial growth in the industrial sector which is primarily due to lack of infrastructure, skill building and also our poor quality standards not comparable with the global market except for automobile, electronics and pharma sector other sectors have not shown any visible progress

In China employment has increased by more than 10% but due to Technology upgradation and Mass production productivity has increased by more than 300% resulting in China becoming the most cost effective, mass producing nation in the World, thus assuming a leadership role in Global market in this segment.

Service Sector

In India, this sector has grown at annual compound rate of 10% to 15% per annum and has shown promising growth this is because of availability of highly skilled manpower especially the Engineering, Science and Commerce graduates with proficiency in English language and communication skills. Besides the IT industry policy of in-house training and skill building we have a cost advantage of 4 to 5 times viz-a-viz western economy and thus India plays a leading role in the global market

China has an inherent handicap of poor English language base and communication skills thus their role in IT/ IT Services is limited to domestic market only and they are not able to participate in a significant way in the global IT market.

However they have in the recent years put lot of emphasis in developing their education system to adopt to these emerging requirement

Summing up

India needs to move to higher values of skills through intensive skill building so as to increase value addition especially agriculture and industrial sector comparable with the global standards and there is a scope of productivity increased by 200% to 300%, when we compare with China.

To overcome this biggest bottleneck we need to plan adequate programs of skill building in different segments to improve quality and productivity standards.

In this research study we have made a serious attempt to address this aspect

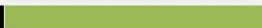

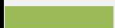












2.5 CHALLENGES AS DERIVED FROM LITERATURE REVIEW OF YEARS 1965 TO YEAR 2010

- 2.5.1 There is urgent need for change of philosophy of positioning VE in our National Policy as a respectable career *option as against current image of low cost, low social esteem and last career option.*
- 2.5.2 Capacity issues-only 20% training capacity available. Only 3.1 million vocational capacity available against manpower addition per annum of 12/13 million limited number of skills- only 5to 10% of developed countries
- 2.5.3 Acute shortages of professionals with soft skills for service industry which is growing at more than twice the rate of industry sector. Poor quality of skills-70% need retraining and besides there is considerable mismatch between demand and supply.
- 2.5.4 80% workforce are employed in unorganized sector, majority are untrained/or trained informally with questionable quality-a serious concern which effects the overall productivity adversely
- 2.5.5 Outdated labor laws since last 60years to improve work culture- this is limiting our industrial growth and global competitiveness
- 2.5.6 Compared to international standards, our power sector from generation to distribution is inefficient by about 50%. Studies show about 60%is due to lack of skills and balance due to technology and processes

2.5 SKILL DEVELOPMENT PERFORMANCE OF GOVERNMENT DEPARTMENTS/ MINISTRIES

Overall progress during past years has been disappointing, averaging to 1/3 of targets as evident from analysis in the table below, needing a total restructuring of vocational qualification framework to make it market friendly which is the subject matter of this study Appraisal made of National Skill Development Plan of skilling 500 million work force by year 2022 i.e. next 10 years. Table below indicates that during 2011-12, capacity creation is less than 40% of target, in 2010-11, less than 20%. Most of capacity creation is under bureaucratic control at center and state level and performance is poor.(Ministry of Labor & Employment, Annual report , 2011-12)

Table 2.6 Skill Development Performance of Government Department

| | | |
|--------------------------------|--------|--|
| Skilling to be done by NSDC | 150M | |
| Ministry of labor, employment | 100M | |
| Ministry of HRD | 50M | |
| Other ministries, deptt | 200M | |
| Progress of 2011-12 as under | | % Achievement of Target |
| NSDC—target achieved | 5.5 M |  |
| Gap | 8.13M |  |
| MOLE—target achieved | 1.2 M |  |
| Gap | 7.75M |  |
| MHRD---Target achieved | 3.36M |  |
| Gap | 0.80 M |  |
| Transportation target achieved | N A | |
| Transportation Gap | 2.73 |  |
| Construction target achieved | 0.46 |  |
| Gap | 1.3 |  |
| Rural Development | 0.55 |  |
| | 1.21 |  |
| Urban Development | N A | |
| Target | 1.36 |  |
| Gap | 1.04 |  |
| MSME-target achieved | 0.29 |  |
| Gap- | 1.04 |  |

2.6 POLICY GAP ARISING OUT OF LITERATURE REVIEW

2.6.1 Poor policy planning which currently looks promising on paper but fragmented into 17 central ministries and 35 states. Lacks standardization, quality and monitoring.

2.6.2 Poor implementation currently in hands of central and state Governments needs to be reoriented to PPP model with active participation of Government industry and trade unions.

2.6.3 Lack of Information Systems for labor market information to assess skill requirements at industry level.

2.6.4 Earlier studies done mainly for service industry eg IT, banking, retail, etc, however no organized study available for power sector especially skill deficit.

2.6.5 Lack of skills, work culture and efficient man management as indicated in the two case studies presented on the power distribution utilities, in this research report can go a long way in improving the position.

2.7 REQUIREMENT OF SKILL CAPACITY BY 2015 AS ASSESSED THROUGH LITERATURE REVIEW

As Per national skill development policy capacity of 15 million per annum is planned by 2015 (Report - ministry of HRD, ministry of labor and employment- 11th and 12th five year plan)

In 11th/ 12th five year plans planning commission worked out estimate for developing skill capacity of education – viz Schools, Polytechnics, Junior Colleges, Seniors Colleges, ITI's, Industrial Training, Open and distance learning, rural agriculture programs and in house training in industry private institutions. Summary of skill capacity required is tabled as under:-

Table 2.4 Skill Capacity Plan by year 2015

| Institute | Capacity | Quantity |
|--|--------------------|---|
| Vocational secondary, | 2.5 million | 10 to 15 % of the total capacity |
| Vocational higher secondary | 1 million | High schools |
| Vocational Junior college | 0.5 million | Higher secondary schools |
| Vocational Graduate college | 0.25 million | Total enrolment 45 million in 1.8 lac schools |
| Vocational Post grad and above | 0.10 million | |
| Sub-total | 4.5 million | |
| Polytechnics/ Junior technical college | 1 million | 2000 polytechnics 3000 Jr tech Colleges |
| ITI's / ITC's | 2 million students | ITI (public) 2000 ITC (private) 6000 Total 8000 |
| Industrial units | 2 million | 1 lac industrial units Medium, Large |
| Open training program | 2.5 million | Distance Education Short Programs |
| Agro related institutes | 2 million | Rural/Agro Programs |
| Total | 15million | |

2.8 CHALLENGES BEFORE POWER SECTOR IN COUNTRY AS ASSESSED FROM LITERATURE

2.8.1 Power sector cannot deliver on its social commitments unless it is commercially and financially viable. The distribution sector plays a crucial role in the overall functioning of the Power Sector. The Distribution sector provides the last mile connectivity of Power to the consumer. Government is emphasizing on an efficient

and well performing Distribution sector and focusing on the improvement of financial health of utilities towards providing reliable and quality power supply and universal access to power.

- 2.8.2 Apart from a few franchisees and privatized utilities, majority of the distribution sector is owned by state utilities. The recent years have been a witness to growing concerns over the financial health of distribution utilities. The low collections and cash deficit scenario of the distribution sector in turn severely impacts the financial viability of generation and transmission sectors as well.

(Y.K.Alagh, Sustainable Development India, 2020, UNU, Training and reported in UNU 2002 below)

- 2.8.3 Major policy Gaps of Power Sector Identified from literature review in many of the State owned utilities recruitment has been either stopped or restricted since last 15 years. Lack of fresh talent, domain expertise (e.g. in area of IT, communication, SCADA) impedes development of the sector and efficiency improvement.

Induction of new technology in the field and office level also needs proper training for staff for efficient handling.

- 2.8.4 Discoms need to undertake training need analysis and roll out training programmers for employees working in different areas. The training themes can include AT and C loss reduction, O and M practices, demand side management, Safety aspects, performance benchmarking, quality management, financial management, project development etc. (Agarwal, M., 2009, ed., Sustainability of High Growth Rate in India, Waterloo)

- 2.8.5 Poor Management, resulting in alarmingly high distribution losses continue to be serious malady which adversely affects financial health of Energy Sector. It is partly due to out dated Equipment but mainly due to lack of skills /professional ethics resulting in poor operations rampant corruption and Overall bad management of entire supply chain of distribution system- Loss Figures were high over 40% till 80s ,improved to 26% by 2012 through fiscal incentives schemes, converting the distribution system into Autonomous bodies/ JVs with Private sectors like in Bombay, Delhi and Calcutta, shown marked improvements of bringing losses to less than 10% in Bombay ,16% in Delhi close to Global average of 8%. Chinas figure is amazing 5.5% (Performance data-BSES Rajdhani Ltd.)

- 2.8.6 It is interesting to know financial aspects of Power sector performance -Cumulative losses work out to nearly Rupees one lac crores which equals 20,000MW Generating Capacity and again equals to current demand-supply deficit at national level. Achieving 10% target of Power Conservation, means free addition of 3000 MW capacity annually.
- 2.8.7 Important Observation of Power sector—India V/s Global Standards two major outcomes – T&D losses in India are almost 3 times the global average and almost 4 times the developed countries, this inflicts an average financial loss of Rs. 25,000/- crores in direct revenue per annum and in terms of output loss/opportunity cost it is 3 to 4 times the financial loss and thus if we look at a longer period of say 40 years the amount works out to a colossal figure.
- 2.8.8 The unfortunate part is that the rate of improvement at national level have been about 1% per annum which is quite disappointing despite several fact finding/action plan studies, and requires an organized effort to reach a respectable level of 12 to 15% loss as against current level of 26% which will not only improve the financial health but would give a boost to manpower productivity levels which are very important in today's global competitive environment.
- 2.8.9 These issues are addressed in research study in which following points have emerged
- For the purpose of analysis we have drawn a tabular comparison of state wise T&D Losses for the year 2011-12. This clearly shows that 40% of the states have achieved performance level of about 20% and below and the balance 60% are twice that average which indicates that within the country through proper man management and process management lot more can be achieved
- 2.8.10 other weak areas which emerge from the study is poor management of power distribution system- currently three business models are used-
- Government Department.
 - Autonomous Boards under Government control
 - Joint Venture Co. between Private business Group and Government where infrastructure is provided by Government and professional management by experienced business group.
- In research report we have analyzed these models in respect of performance and recommendation are placed in chapter 4**

2.8.11 T&D Losses for various countries for Year 2012

Table 2.5 - Global Data

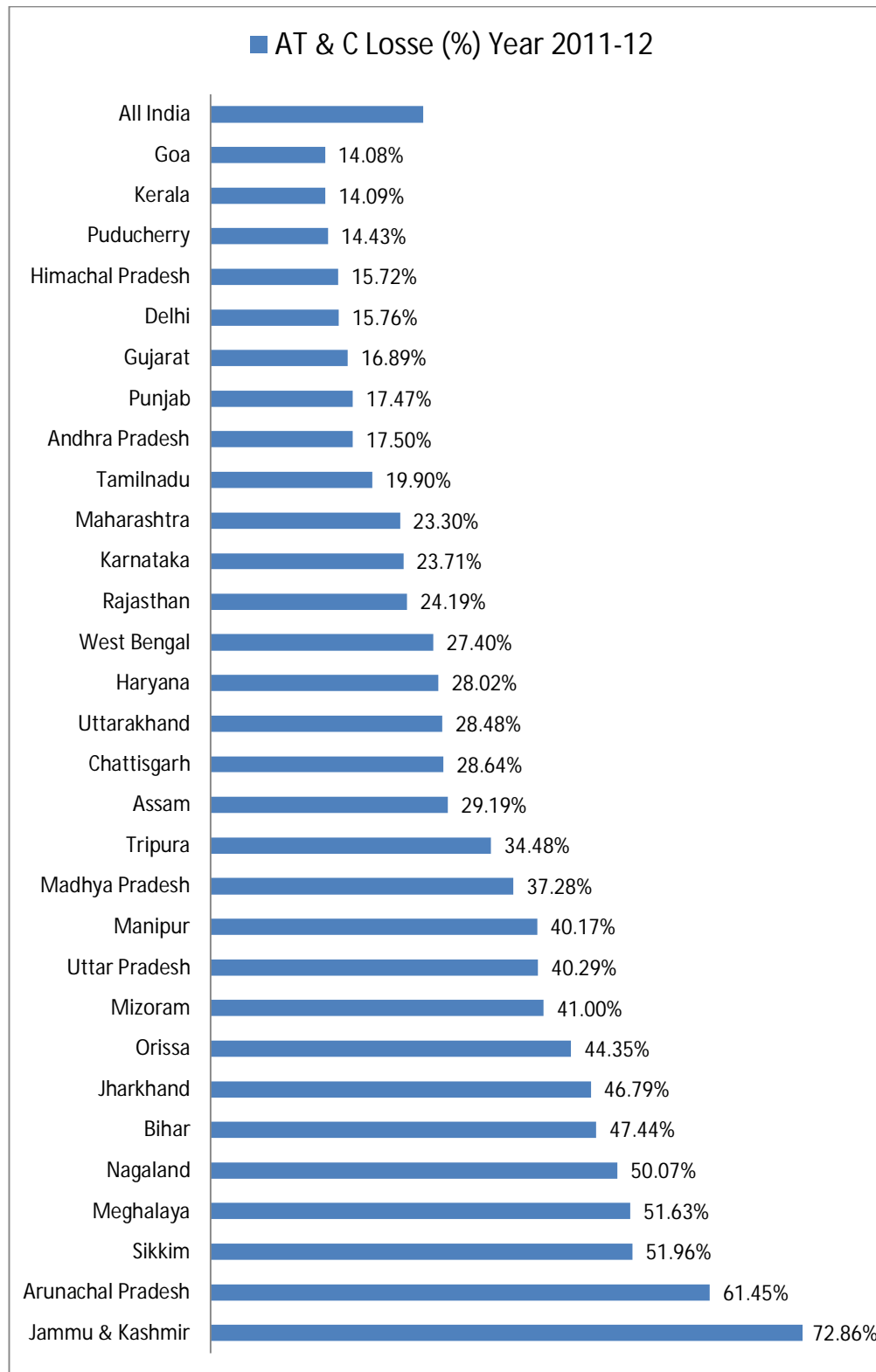
| Country | T and D Loss (%) |
|---------------|------------------|
| India | 24.00% |
| Brazil | 15.44% |
| Russia | 12.47% |
| UK | 7.65% |
| Australia | 7.00% |
| USA | 6.00% |
| China | 5.05% |
| World Average | 8.17% |

Table clearly shows that India's performance is one of the poorest compared to other developing / developed countries in the world. We are nearly 3 times of global average and 5 times of China in terms of power losses

State wise analysis-shows alarming variation

Next table shows State wise performance-which indicates alarming variations of 400% between the lowest to highest loss figures amongst one state to other state, primarily due to poor man- management and inefficient operation of state run and controlled utilities-a sad situation, despite the fact that it is a core industry and adversely affects the respective states industrial and economic growth,

Figure 2.6 AT & C Losses State wise data



2.9 LITERATURE REVIEW OF POWER SECTOR HIGHLIGHTS FOLLOWING RESEARCH GAPS–

Review clearly shows that over the last 5 decades we as a Nation have totally failed in improving this core sector which is vital for our economic development. Three areas which emerge for focus are as under-

Adopting the right business model from existing bureaucratic, procedure oriented to business and performance oriented and customer friendly focus on restructuring making the organization performance oriented by improving work culture, skill development and upgradation through ongoing training and development activities as integral part of operations to keep people motivated, like in advanced countries.

In addition to technical skills equal emphasis to be given to behavioral and soft skills so as to improve group productivity through team work streamline the process management make it efficient and consumer friendly.

2.10 BASED ON LITERATURE REVIEW COMPARISON OF INTERNATIONAL PRACTICES OF VOCATIONAL STUDIES

Based on opinion survey of Stake-holders countries, have been ranked for suitability to Indian conditions-ideally we need a mix and match to tailor a suitable model for us. Comparative evaluation brings out, strategy to be adopted by our country to make skill development an instrument of domestic growth.

Comparison has been done on the basis of following factors.

National philosophy / work culture

Share of VE in education, capacity and prospectus for growth

Policy Planning

Implementation program

Number of trades, duration, growth opportunities/ flexibility

Ranking / suitability for Indian environment.

Comparative Evaluation would help us to tailor a suitable model for our socio economic environments in our countries by mixing and matching of successful practices in other developed countries

Table 2.6 Comparative Review of VE in Industrially Advanced Countries, China, Japan and Korea, Germany, UK vs India

| Parameter | China | Japan and Korea | Germany | UK | India |
|---|--|---|--|---|---|
| National Philosophy, work Culture | Govt. Regulated Performance oriented work culture- Strict Discipline, flexible labor laws to Promote Productivity, growth | National pride and Social commitment, towards high quality and productivity | National Pride towards perfection | Democratic mature but slow | Outdated laws and in diff. attitude toward productivity and quality |
| % of VE in education , capacity and career growth | 55During 20yrs, capacity expanded by 50 times Career and growth comparable with academic careers | 60Career growth 90 better than academic streams. High social esteem compensation | 60Same as in Japan | 50 Medium social status growth | 10 Low social esteem, last career option |
| Overall Policy planning | Centrally planned and monitored by Ministry of HR and services. Most important resource of economic development VE regulated through regional council in respect of curriculum quality | Policy planning jointly by Government, industry, Unions. Commitment/ Sincerity by all | Same as Japan, Pride in Brand building for Nation. | Sector Councils of Government, trade unions | Policy 17 Central Ministries, implementation 35 State Governments National, Board, NSDC |
| Implementation | Junior -age 15yrs 9yrs compulsory Education Senior school- 18yrs-3 yrs VE, 25000 no's Capacity 20 million Tertiary schools 21 yrs specialized VET Industry Certification | 3 levels – junior, middle, higher level, of 2,3,4yrs duration with Compulsory industry training and Certification by Councils | Dual System Rigorous - Industry training with School Education at 3 Levels | 5Levels of Vocational competence NVQ1-5, Excellent standardization system | 3tier system, Schools- ITI's/ITC's, Polytechnics, Open schools Apprentice Total 3.1m |
| No of trades Duration Growth / flexibility. | More than 4000 trades / skills, Ranging from 3mths to 3yrs Full flexibility for career development. | 4000 – 4500 trades Soft skills 1 to 2 yrs Hard skills 2 to 4 yrs Flexibility for career development | 2000 -2500 1 to 4 yrs flexibility council certificate | 2000-2500 1 to4 yrs flexibility | 200 trades limited flexibility no standardization of quality/ skills |
| Ranking with India | 3 | 1 | 2 | 4 | - |

2.11 POTENTIAL TO OUTSOURCE MANPOWER- A GREAT NATIONAL OPPORTUNITY

As per research studies there would be global shortage of above 56 million skilled manpower in global market by the year 2020, due to the aging factor in the developed economy. This throws up tremendous opportunity for India which will have the largest man power in the age group 15- 25 in the world of over 650 million population, the country can capitalize as a potential source for outsourcing skilled human capital to advanced countries over the next decade due to distinct advantage of demographics advantage of 10 to 15 years of younger work force. As discussed earlier there is a potential of nearly 200 billion of foreign exchange earnings by year 2020. This is possible if we are able to achieve quality standards to compete in global market. An opportunity which we should as a National make all-out effort to capitalize as an instrument of economic growth

2.12 HIGHLIGHTS OF VOCATIONAL EDUCATION PRACTICES IN ADVANCED COUNTRIES

- 2.12.1 Success of VET as instrument of economic growth in advanced nations is total commitment of all 3 stakeholder viz-Government. Industry, Trade Unions in planning and implementation.
- 2.12.2 Delivery and Monitoring of VE- Vocational Education ranges from 60 to 90%, structured in 3 to 5 levels based on skill proficiency, esteem / earning potential comparable with academic streams to make is attractive for students as career options. Fully integrated with practical training VE's combination of academic,, on the job training / apprenticeship System, proficiencies and not merely degree. Inbuilt flexi system for lifelong learning, higher earnings through credit accumulation system.
- 2.12.3 There is standardized framework at National level to regulate uniformity in skills to compete in Global market regular research and development to upgrade, curriculums, competency level to remain abreast with the changing business environments
- 2.12.4 Summing Up- Relative evaluation of Vocational system of different countries based on assessment of ground realities of Indian working environments is as under-

Japanese and Korean models stand out as the best primarily on account of high level of national pride and social commitment towards high quality and productivity. Germany which promotes a sense of perfection comes second, China which promotes regulated and highly disciplined work culture is ranked as third, British culture which is mature but slow due to bureaucratic approach, comparatively less productive is ranked fourth. Based on our in-house research we shall mix and match these practices to work out a framework tailored to suit our socio-economic environments.

2.13 MODI GOVERNMENT INITIATIVES TO BOOST VOCATIONAL EDUCATION TO IMPROVE JOB OPPORTUNITIES – A GREAT STEP FORWARD (HT SEPT 20, 2014)

It is heartening that, the new Government has recognized the importance of Skill Development by creating a separate Ministry of Skill Development and Entrepreneurship for giving thrust to this vital activity which has remained ineffective for last 50 years, to meet the development needs. In creating meaningful employment opportunities for over 10 million workforce which gets added in the country every year 80% of which do not get facility to acquire any skills and join the mainstream of career path as unskilled labour resulting in colossal wastage of valuable Human resource—a great nation drain which is reflected in our low quality, low productivity and efficiency in global competitiveness.

2.14 RESEARCH STUDY HAS HIGHLIGHTED FOLLOWING MAJOR DRAWBACKS IN EXISTING POLICY

2.14.1 Major drawbacks identified in research study is that skill development activity is fragmented under 17 ministries and 35 state Governments. On account of multiplicity of handling by so many agencies the outcomes during last five decades have been very poor and training capacity is meager 20% of yearly workforce addition, with the result that there is a colossal wastage and underutilization of Human resource in the country.

2.14.2 Lack of participation by trade and Industry-, one of the major factors for this dismal performance is lack of participation and involvement of stakeholders especially private sector mainly trade and industry in this important field in

addition there is no standardization of development programs in respect of content and assessment which contribute to poor quality and mismatch of skills with the market needs.

- 2.14.3 Study report was presented to highest levels in Government but progress was slow. During the course of study, we had presented the recommendations of a unified approach, with full participation of business and industry by putting in place a pragmatic program of NVQF to senior functionaries of Planning commission, NSDC and Ministries of Labor and Employment and HRD. The approach was appreciated however there was no administrative will at the highest levels of Governance to revamp the system. Only marginal improvements came through NSDC which encouraged private participation through PPP model of Public and Private participation. In 4 years time NSDC has achieved around 40% of the targets, however quality aspects still needs to be addressed. Our surveys show that the focus of all the schemes is on numbers and important aspects of quality and efficiency, is missed
- 2.14.4 New Policy formulated in March 2009 created mainly structural changes of setting up National Skill Development Board and National Skill Development Corporation(NSDC) to involve private participation of business and industry sector wise to impart skill development at the operating levels however the important issue of co-ordination and standardization was still missing in the system most of the rural skills were focusing on giving employment to rural poor as a measure of livelihood rather than imparting skills.
- 2.14.5 The new Ministry has started working with the Government departments so as to evolve a new policy to addresses following major issues -
- Standardization of Programs and Training Skills under a co-ordinated system creates a certification agency like bureaus of Indian standards to bench mark the quality and lay down procedure for testing and certification of skills, sector wise. India is going to be youngest and largest workforce nation in the world by year 2020, and 60% of workforce under the age of 35 years with a age advantage of nearly 10 years over most of developed country The system will also address the need for Training skilled manpower for overseas market which is estimated at 56 million in year 2020 the ministry has identified major market like US, Russia,

China, Japan and Middle East to which India can supply skilled manpower , provided we impart training as per global standards.

Revamp of outdated Labor laws especially Factory Act, Industrial Dispute Act, Apprenticeship Act to make them user friendly for the streamlining Registration and simplification of periodic returns to various Govt. Departments into a single computerized return. Also introduction of single window concept for all statutory compliances and approvals for starting a SME Industry.

The detail are covered under conclusion and recommendations Inserted in the last chapter of the study.

The new Policy is expected to be announced by December 2014, hopefully it answers the vital issues analyzed in the study report.

2.15 SUMMING UP LITERATURE REVIEW IN TOTALITY, FOLLOWING RESEARCH GAPS IN VE, NEED TO BE ADDRESSED IN THE STUDY TO BRING IT TO GLOBAL STANDARDS

2.15.1 Gross Enrollment Ratio during 11th plan will increase to 75%and in 12th Plan to 90% will add 12-14 million, work force as against training capacity of 3 million, leaving 80% with no opportunity to receive formal or informal training a big gap to be bridged through dynamic policy framework and effective mechanism for its monitoring. Planning Commission (12th, 5 year Plan, Manpower Mapping , 2012)

2.15.2 In age group 15-29 years only 8% of urban and 2% of rural youth go through formal another 10% informal training thus major, work force start career as unskilled resulting in poor quality/productivity /underemployment.

Similar figures for developed countries range from 60% to 80% (Japan, Germany, USA) and as high as 96% (Korea and Taiwan). In India, trained youth ratio is one of the lowest in the world.(Skill Deficit in India , Sept 27, 2010)

2.15.3 Our vocational programs are outdated about 200 skills mostly of poor quality not in line with market demand in contrast China has 4000 trades. India has 50000 vocational institutes / centers as against 5 lacs in China (India versus China , 2013).

Only 10% work force is in the organized sector and balance 90% in the unorganized sector. About 60% of unorganized work in agriculture, balance works in construction/infra 10%, Retail Transportation, warehousing and misc. service 20%, mini, micro, self-employed 10% with low quality and productivity.

- 2.15.4 39% of the work force is illiterate, 25% schooling upto primary level and balance 36% upto secondary and higher secondary level. Amongst the trained youth there is a mismatch of skills upto 70%and requires retraining thus existing systems are not market linked.
- 2.15.5 Planned to achieve 100% enrolment and retention by year 2020, which will add about 15% to work force of .median age of 29 years and as of year 2020, India will be youngest work force in world
- 2.15.6 Our average productivity is 1/4th in engineering 1/3rd in Agro for want of skills and technology. This neutralizes our low cost advantage. Vocational education is concurrent subject, controlled by 17 ministries and 35 states lacs standardization, delivery, assessment and quality resulting in poor quality and mismatch of skills.
- 2.15.7 VE is primarily controlled by public institutions where vocational infrastructure is inadequate resulting in poor quality. Participation by private sector is minimal due to lack of incentives.
- Organized sector both in manufacturing and service industry which constitutes less than 20% of work force have set up in house training for their use. For want of resources they are not interested in expanding it.
- 2.15.8 Keeping above in mind ministry framed national skill development policy in march 09 to train 500 million by year 2020, create surplus to outsource to other countries to tap deficit of over 50 million skilled manpower with foreign exchange earning potential of 200 billion dollars annually,

Thus our focus of Research study is to bridge above Gaps

“Through the research study based on data collection and analysis of various stake holders in the vocation education system we shall make a sincere attempt to evolve a NVQF system which will bridge the above gaps and provide vocational education comparable to International standards”