An Analysis of Skill Development Initiatives in Haryana

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Abstract

The issue of development of skilled human resources is as old as human civilization. In modern times, various committees and commissions formed by the government of India to review the existing system of education gave strong recommendations to introduce vocational education after the completion of elementary education. However, these suggestions achieved very little success. The reasons were poor perceptions of the public about vocational education, inadequate infrastructure and lack of vertical mobility. Taking into account the past experiences, the Indian government in 2013 notified National Skills Qualification Framework (NSQF). The purpose was to produce skilled human resources in accordance with the needs of local industry and self-employment opportunities. The NSQF provides multiple exits, multiple pathways, vertical mobility with the provision of the Choice Based Credit System (CBCS). The present paper attempts to analyze the schemes and policies that are being implemented in the State of Haryana under NSQF. The article is based upon the review of the literature, researcher's own experience and discussions with experts in the field of education. The findings indicate that NSQF has been implemented in the State of Haryana at school, polytechnic and university level. The paper recommends generating awareness in public to change the mind-sets in favour of skill-based education. Further, it is recommended that vocational education needs rebranding and the curriculum should be contextualized according to the needs of local industry. The paper has its implications for industrial organizations, students, parents, technical institutions, universities, policymakers, and media personnel.

Keywords: Skill Development Initiatives, Vocational Education, National Skills Qualification Framework

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Contextual Background

Development of skilled human resource in India has been a major concern for policymakers since the mid 19th century. Indian Universities Commission was constituted in 1902, which is considered as one of the major policy initiatives during pre-independence period. Later on, Governor General's policy statement in 1913 highlighted the importance of technical education and several industrial schools were established. The Sadler (1917) and Sargent (1944) Commission in pre-independent India gave substantial recommendations for vocationalisation of education. After independence, the commissions and committees reviewed and restructured the education system and suggested vocationalisation of secondary education to produce skilled human workforce. The Mudaliar Commission (1952) recommended the introduction of vocational education after grade 8. The Kothari Commission (1964-66) suggested diversification of education into academic and vocational streams after class 10. It emphasized on the diversion of 25% of students to vocational streams at the end of grade 10. The National Policy on Education (1986) and National Knowledge Commission (2005) recommended expansion and re-structuring of vocational education and improvement of its quality. However, all these concerns, recommendations and initiatives were met with only sporadic success. The reasons were poor perceptions about vocational education, inadequate infrastructure and lack of vertical mobility. The schemes launched by the Government for popularizing vocational and technical education got failed in addressing the challenges of developing the skilled human workforce. Taking into consideration the past experiences and failures, the government of India in 2013 came up with National Skills Qualification Framework (NSQF). The framework superseded all other vocational education frameworks. It provides multiple exits, multiple pathways, vertical mobility with the provision of the Choice Based Credit System (CBCS). It offers a national system of education that provides skill and general education altogether with multiple entries and exit points from school level to university level. The NSQF aims to produce skilled human resources in accordance with the needs of local industry and self-employment opportunities. It was thought that acquiring an academic degree or diploma may not guarantee a job but a skill training of 12 months or so may ensure it.

In India, human skilled resources status is very disappointing and Planning Commission's Report in 2008 (as cited in Bijeesh, 2014), has shown that only 10 percent of Indian workforce received skill training in comparison to 80 percent in Japan and 90 percent in Korea. A survey conducted by KPMG in 2011 shows that 83.3 percent of the Indian workforce was unskilled. The National Sample Survey Office data (2011-12) showed that only 2.2 percent had received formal vocational training and 8.6 percent of people had non-formal vocational training in the age group of 15-59 years. A report published in "The

Economic Times" dated 26th September 2015 showed that India had only 4.5 percent skilled human resources of its total workforce. In comparison, China had 46 percent skilled workforce, USA 52 percent, Germany 75 percent, and the UK 68 percent. The survey and reports have revealed that a massive proportion of the Indian workforce is without any formal training.

The NSQF has the mandate to fill the skill gap and creating employment opportunities for the youths. Under the NSQF, a student can undertake vocational training to improve employability. Skill training is being delivered through a number of courses ranging from a certificate at the school level to bachelors or masters degree at the university level. This framework permits several pathways in the course of vocational education---skills, education and job markets. Its aim is to redefine the present education model rather than replacing it. Further, it intends to create a type of credit framework which permits lateral and vertical mobility with in skill development, vocational and current education. Qualifications are organized as per series of levels of knowledge, skills, and aptitude and links one level of learning to another higher level. There are ten levels in the framework, with the entry level being 1, and the highest level is 10. These levels have been described in terms of learning outcomes which the learner must acquire.

Structure of Skill Development Courses under NSQF

The NSQF has been implemented at school, polytechnic, college and university level. In the school, Level-1 to 4 of vocational courses are offered where the educational content is designed by the Central Board of School Education (CBSE) and the Board of School Education of concerned states. Under the framework, every level of certification comprises approximately 1000 hours of instructions per annum out of which 20 percent is allotted to skill development and 80 percent to general education. The Board of Technical Education offers diploma and Advance Diploma level courses in all States. It covers the level 3, 4 and 5 of NSQF. The NSQF has the mandate to start a degree or research programme in vocational education. Therefore, the institutions of higher education namely colleges and universities are required to institute bachelors, masters or research degree programmes. These programmes would cover the level 5 to 10 of the NSQF. The structure of NSQF programmes together with international equivalence and eligibility requirements are given in Table-1.

Table-1: The structure of courses offered under NSQF

NSQF Levels	International Equivalents	Minimum Eligibility
Level 10	Doctorate	Masters or Level 9
Level 9	Post-Graduate Degree/ Masters	Graduation + 1 yr or Level 8
Level 8	Post-Graduate Diploma	Graduation or Level 7
Level 7	Graduate Degree/ Bachelors	12th + 1 yr + 1 yr or Advanced Diploma or Level 6
Level 6	Advanced Diploma	12th + 1 yr or Diploma or Level 5
Level 5	Diploma	12th or Level 4
Level 4	Advanced Certificate	$11^{th\ or}$ Level 3
Level 3	Certificate	10th or Level 2
Level 2	Certificate	9th or Level 1
Level 1	Certificate	8th

The Figure-1 illustrates the progression of students under skill development programmes from level-1 to level-7.
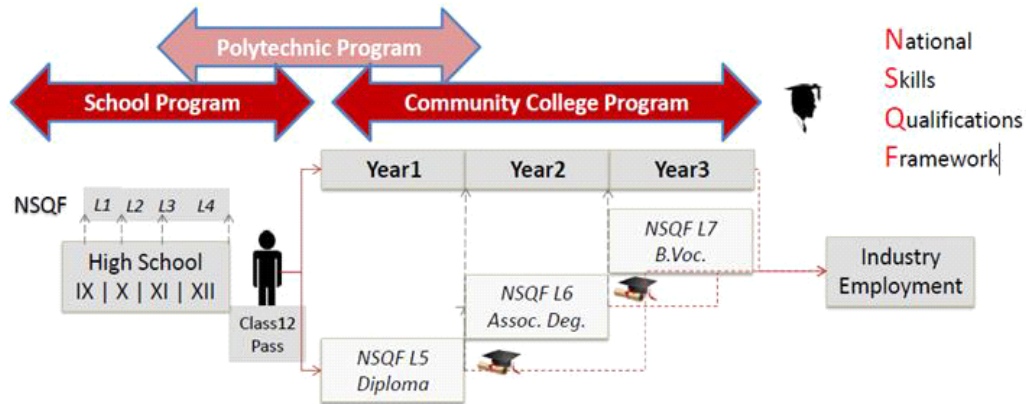

Figure-1: Progression of Students under NSQF from Level-1 to Level-7

Source: wadhwani-foundation.org

The progression chart illustrates that school-based vocational courses provide certification of NSQF Level 1 to 4. A student completing 10+2 acquires level-4. The learners are divided into three categories on the basis of their entry level education. The category-1 comprises of those students who have earned level 4 NSQF certification in some particular area and wanted to complete B.Voc. degree in the same area in which he/she was certified at the school level. The category-2 includes those students who have attained level-4

NSQF certification but may like to change their trade and might go into into skilled courses of different trade. In category-3, students after qualifying 10+2 examination in general subjects are included and they do not have any vocational experience. The B.Voc programme takes care of all these categories and contains the provision of multiple entries and exists together with the option for vertical mobility. Another beauty of NSQF is the provision of multiple pathways. The multiple pathways allow a student to switch over from one programme to another depending upon his/her changed interest and demands of the industry. The concept of multiple pathways under NSQF is illustrated in Figure-2.
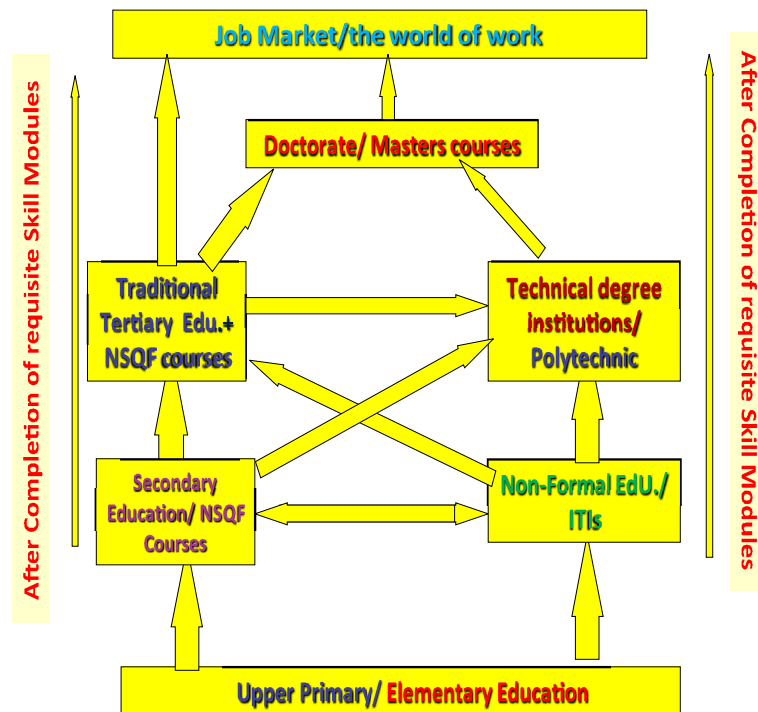
Multiple Pathways in NSQF

Figure-2: The multiple pathways under NSQF

Skill Development at National Level: An Overview

Over the last seven years, CBSE, UGC and AICTE have launched programmes for skill development. The CBSE has added skill based vocational courses as subjects from class 9 to 12 in schools across the country. The UGC funded 200 community colleges to provide employment oriented programmes. It supports 157 universities and colleges which offer B.Voc. programme. The UGC has also funded 100 universities to establish Kaushal Kedera

on their campus to offer courses from diploma to Ph.D. level. The UGC initiatives for vocationalisation of higher education and establishment of Kaushal Kendras are illustrated through Figure 3 and 4.
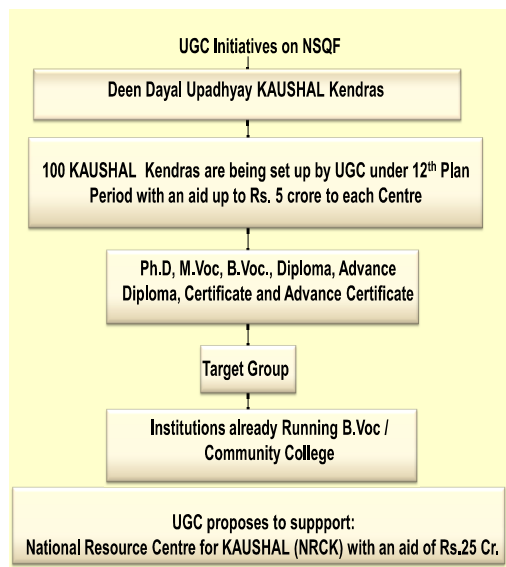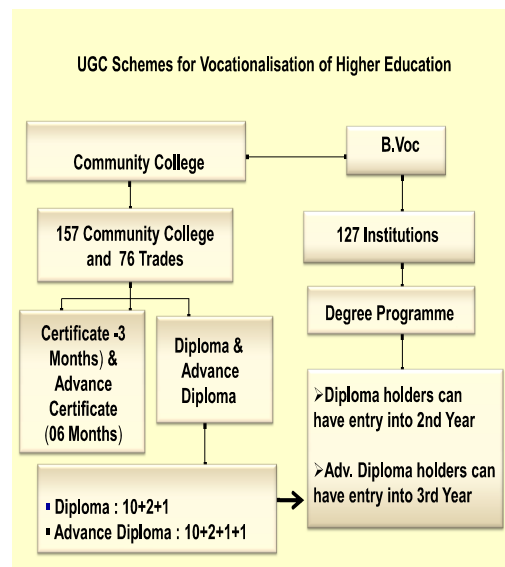

Figure-3: UGC Initiatives on NSQF   Figure-4: UGC Scheme for Vocationalisation
                                                                          of Higher Education

Source: Modified from PPT presentation on "Development of Skilled Human Resources in Higher Education" by Prof Ved Prakash, Chairperson, UGC, New Delhi

The AICTE has approved 148 community colleges in addition to the UGC scheme to conduct programmes under NSQF. The AICTE has mandated to impart skill training in 7500 institutes. All these programmes from school to higher education level are aligned to NSQF.

Skill Development in Haryana State: An Analysis

Haryana government has taken several initiatives to create skilled human resource in the state. The government has introduced level-1 to level 4 of the NSQF at the school level. The polytechnics in the state have started level-3 to level-5 of NSQF in the same trades as introduced in the schools. At higher education level, many universities in Haryana have launched B.A. (Vocational Education) programme which covers level-5 to 7 of NSQF. Shri Vishwakarma Skill University has been established in Palwal under the Act 25 of 2016. It is first government Skill University in India and offers certificate to post graduate programmes. A thorough analysis of Haryana government initiatives for developing skilled human resource in the state is presented below:

(i) Skill development at the School level

In 2012, the Ministry of Human Resource Development, Government of India selected Haryana to launch a pilot project under the National Vocational Education Qualifications Framework (NVEQF). Director Secondary Education, Haryana also created one cell for implementing and managing the project. The Board of School Education, Haryana was asked to set a separate wing for the coordination of NVEQF project. The monitoring and implementation work at school level was assigned to a sub-committee constituted out of members of school management and development committee. Initially, 40 schools in 8 districts namely Mewat, Gurgaon, Palwal, Faridabad, Rohtak, Jhajjar, Yamuna Nagar, and Ambala were selected. In these schools, along with general education vocational subject was added in the scheme of studies from Class 9 onwards. In 2013-14, the project was scaled up to 140 schools. In 2014-15, another 100 Govt. Senior Secondary Schools were added, and a Centre of Excellence was set up in Faridabad. In 2015, the Project Approval Board of MHRD, Govt. of India approved 250 additional schools to be covered under NSQF. In 2016, the vocational education was being offered in 490 schools of 21 districts of the state. The aim was to reach about 41,000 students across 10 trades namely automobile, retail, security, information technology, beauty & wellness, physical education and sports, patient care assistant, agriculture, media entertainment/animation, and tourism-hospitality-travel. In 2016-17, 500 schools were added to the existing number along with four new trades viz. banking and insurance services, apparel design, health care vision technician, banking and financial services. At present, 1001 schools are running vocational courses in 14 trades.

The selection of the schools was made on the basis of student's strength, availability of infrastructure, proximity to industry and readiness to participate. The trades were introduced in view of skill gap analysis provided by the state government. Each school offers two trades/skills starting from class 9 with an intake of 25 students in each skill. In class 9 and 10, a vocational trade is being categorized as applied learning and offered as an optional subject, however, in Class 9 and 12, it is offered as an optional subject along with the general subjects.

Sector Skills Councils (SSCs) designed the curriculum under the National Skill Development Council (NSDC). The content has been developed by Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal, CBSE, New Delhi and Wadhwani foundation whereas the books are provided by the office of Director Secondary Education (DSE), Haryana. The content comprises of both generic and domain-specific skills. Generic skills include skills related with communication, group work, information technology, first aid, problem solving, data collection, presentation and interpretation of data. It also includes understanding of safe working practices, health and safety issues at

the workplace, legal requirements at the workplace, disaster management, customers dealing etc. In order to relate theory with practice, a minimum of 7 days job training twice a year in a suitable industry is essential.

Teachers' recruitments were made on contractual basis and have been recruited on a contract basis, and have been given training in pedagogy skills. School Principals and District Education Officers have been oriented about the vocational courses through a training programme organised by the SCERT, Gurgaon. Each school has a vocational coordinator to create and nurture linkages of local industry and business with the school and its students. Students are given exposure to guest lectures, industry visits, and placement fairs on a regular basis. Board of School Education Haryana is the examination and certification authority along with sector skill councils. The skills/trades are designed in a way that level-4 is attained when the student passes 10+2. This prepares a student for a specified job if he/she wishes to choose that or otherwise he/she can pursue higher studies. The reports published in leading newspapers show that Multi National Companies like Mark and Spencer, Wipro Technologies, Tops, Checkmate, Dish T.V, etc. have recruited vocational education students passed from government schools of Haryana.

The district wise summary of trades offered under NSQF in Haryana in the year 2016 is shown in Table no.2.

Table-2: District wise summary of trades offered in schools under NSQF in Haryana

	Agri-Culture	Automobile	Beauty & Wellness	I.T	Media & Animation	Patient Care Assistant	Phy. Edu. & Sports	Retail	Security	Travel & Hospitality	Total
Ambala	0	4	5	12	2	2	0	6	4	1	36
Bhiwani	5	11	11	6	1	8	8	2	1	1	54
Faridabad	0	5	6	10	0	3	2	9	3	1	39
Fatehabad	5	5	8	8	1	9	4	1	1	0	42
Gurgaon	2	15	10	12	2	4	2	9	2	0	58
Hisar	7	8	17	7	3	11	13	2	1	5	74
Jhajjar	0	2	7	6	0	3	2	5	5	0	30
Jind	0	10	16	15	0	12	4	3	1	1	62
Kaithal	9	11	12	16	0	13	9	4	3	1	78
Karnal	4	7	13	11	0	12	6	3	2	2	60
Kurukshetra	3	6	12	7	1	5	4	6	2	2	48
Mahendergarh	1	3	6	4	0	7	4	1	2	0	28
Mewat	3	8	3	8	0	11	4	2	2	1	42
Palwal	0	2	8	11	1	5	3	6	5	1	42
Panchkula	2	6	7	7	1	6	5	2	2	2	40
Panipat	1	5	13	6	1	6	3	5	1	1	42
Rewari	0	4	8	6	0	5	5	3	1	0	32
Rohtak	1	2	5	11	0	3	2	5	2	1	32
Sirsa	4	5	8	9	1	3	3	1	2	0	36
Sonipat	0	5	12	10	0	10	8	2	2	3	52
Yamuna Nagar	1	10	10	13	1	5	4	7	7	0	58
Total	48	134	197	195	15	143	95	84	51	23	985

Source: www.schooleducationharyana.gov.in. Retrieved on February 12, 2016.

It is evident from Table 2 that Beauty and Wellness and IT were the most favourite trades followed by Patient Care Assistant and Automobiles. However, trades like Agriculture, Media and Animation and Travel and Hospitality are some of the trades which have been ignored despite the fact that livelihood of most people in Haryana depends on Agriculture and areas like media and rural tourism are the source of numerous employment opportunities in this era. This indicates a gap between the world of demand and supply.

(ii) Skill development at Polytechnic Level

The NSQF has also been implemented in polytechnics across the Haryana State. The model being piloted in the State's polytechnics is given in Table-3.

Table-3: NSQF model followed by Polytechnic in the State of Haryana

Qualification	Entry to the level of Diploma (Voc.)
Candidates who have passed level-1 (L1) and level-2 (L2) in respective sectors. i.e., Matric Vocational	Level-3 (L3) of Diploma (Vocational)
Candidates who have passed 10th in the academic stream	Level-3 (L3) of Diploma--vocational (to have acquired Skills required at Level-1 (L1) & Level-2 (L2) through bridge courses)
Candidates who have passed 12th in Vocational (i.e., L1 to L4)	L5 of Diploma (vocational)
Candidates who have passed 12th in the academic stream	L4 of Diploma Voc. (to have acquired skills required At L1 to L3 through bridge course)

(iii) Skill development in Higher Education

There are many universities in Haryana which offers skill-based courses under NSQF. Kurukshetra University, Kurukshetra and M.D. University Rohtak has launched diploma/ Bachelor degree courses through their affiliated colleges whereas B.Voc. is being offered by the Central University of Haryana, Deenbandhu Chhotu Ram University of Science and Technology (DCRUST), Sonipat and YMCA University of Science and Technology, Faridabad on their campus. The MD University Rohtak has allocated five acres of land for establishing community college on its campus to offer vocational courses in tune with the National Qualification Framework. The name of the Colleges which offers Diploma/ Degree Programme in vocational education in Haryana is listed in Table-4.

Table-4: List of Colleges which offers Diploma/ B.Voc. Degree Programme in Haryana

Sr. No.	Name of the Institution	Trades Approved
1	Aggarwal College, Ballabhgarh	• Retail Management • Software Development
2	Arya College, G.T. Road, Panipat	• Textile and Fashion Designing • Interior Designing
3	D.A.V. College For Girls, Yamuna Nagar	• Software Development • Hospitality Management
4	KVA DAV College for Women, Karnal	• Food Science & Quality Control • Fashion Technology • Care
5.	Gita Vidya Mandir Girls College Murthal Road, Sonipat	• Top Publishing
6.	Guru Nanak Girls College, Santpura, Yamuna Nagar	• Beauty and Wellness • Website Designing& Management

The YMCA University of Science and Technology, Faridabad has instituted diploma programme in welding and electrician trades with an intake of 30 students each. Deenbandhu Chhotu Ram University of Science and Technology (DCRUST) Murthal, Sonepat has recently launched three-year B.Voc. programme in Retail Management and Building Technology with an intake of 26 students each. The programme has multiple entry and exit opportunities. It also has vertical mobility at different stages. The duration of the programme varies from two years to three and a half years. If a student exit after six months then NSQF Level 4 certificate will be given however, if he/she continues for diploma or advance diploma then diploma will be awarded. An academic progression for the students in vocational streams is illustrated in Figure-1. The detailed description of the programmes offered by DCRUST is presented in Table-5.

Table-5: Vocational courses offered by *Deenbandhu Chhotu Ram* University of Science and Technology, *Sonepat*

Courses	No. of Seats		Duration of Course	Eligibility Criteria
B. Voc. (Retail Management)	B.Voc.1st year & 1Yr Diploma	26	Three years	10+2 (in any Stream) or NSQF Level4
	B.Voc.2nd year &1 Yr Advance Diploma	26	Two years	3 Year Diploma in any stream/ NSQF Level5
B. Voc. (Building Technology)	B.Voc.1st year & 1Yr Diploma	26	Three years + 06 Months Bridge course	10+2 Sc. with PCM or NSQF Level 4
	B.Voc.2nd year &1 Yr Advance Diploma	15	Two years +06 Months Bridge course	3 Year Diploma in Civil Engg/NSQF 5

The Central University of Haryana has set up a Deen Dayal Upadhyaya Kaushal Kendra on its campus as a full-fledged department to offer skill-based vocational courses under the NSQF. The Kaushal Kendra came into being in 2015 under a UGC scheme and currently offers Bachelor of Vocation (B.Voc.) degree in three sectors namely Retail and Logistics Management, Biomedical Science, and Industrial Waste Management with an intake capacity of 50 seats each. The programmes provide an option to exit at the end of the 1st, 2nd and 3rd years in a manner as described in Table-5.

Table-6: Exit Options for Learners of B.Voc. Programme of Central University of Haryana

Award	Duration
Diploma	After one year
Advanced Diploma	After two years
B.Voc. Degree	After three years

Source: www.centraluniversityharyana.ac.in

The Table-6 shows that a diploma is awarded to successful candidates at the end of the first year (NSQF Level 5) and an advanced diploma after successful completion of two year course (NSQF Level 6). If a student completes three years programme, then he/she would be awarded a degree in Bachelor of Vocation (NSQF Level 7). After this students might continue for masters and research degree programmes (NSQF Level 8 - 10)

The eligibility for applying to B.Voc programme is 10+2/Inter/Higher Secondary in any stream from recognized boards. The candidates with results awaited status can also apply, but their applications are accepted on a provisional basis. The candidates are selected on the basis of the marks obtained in the qualifying examination. The programme aims to enable the B.Voc. graduates to make a meaningful contribution to India's economy by gaining appropriate employment, becoming entrepreneurs and creating appropriate knowledge.

Establishment of Shri Vishwakarma Skill University at Palwal is latest initiative by government of Haryana. The University conducts skill development programmes from Certificate level to Masters of Vocation. It aims to produce 1 million skilled workers by 2022 to meet industrial demand of the State.

Challenges for Development of Skilled Human Resources in Haryana

1. Poor Perception about Vocational Education: Haryana has the advantage of being located around the national capital, and therefore it has a lot of potentials to generate employment and enhance the socio-economic status of its people. However, vocational

education is not very popular in Haryana. The past experiences show that it is tough in Haryana to convince the parents to motivate their wards to opt vocational courses after completion of elementary education. Vocational education in Haryana has been associated with lower educational attainments and socio-economic status. It is viewed as second-grade education where the pass-outs would be eligible for a blue collar job whereas parents' aspire for their children to get a white-collar job after completion of their education. Changing this mindset in favour of vocational education seems to be a big challenge.

2. Inadequate human and material resources: According to a graphic note published in a leading national Hindi Newspaper "Amar Ujjala" on March 5, 2016, India needs 1 lakh trainers to impart skill training. Therefore, there is a big challenge before the authorities to appoint competent and qualified teachers for skill training. Another challenge is to modify the existing infrastructure in accordance with the latest demands of the industry. It also includes the replacement of the outdated tools, machines, and technology with the latest one.

3. Convergence of Schemes: There are 20 different bodies in India running skill development programmes. The subsidiaries of these bodies are working at the state level. There are a considerable duplication and overlap of work by these agencies. Therefore, there is a need to converge the skilling efforts of these departments/ministries to give a composite package of skill development. Lack of coordination between different agencies will result in poor outcomes.

4. Establishing a Data Bank of Demand and Supply: There is a challenge before the Haryana Government to provide an accurate database on demand and supply gap of skilled manpower to formulate, execute, monitor and review the skill development programmes and policies at the state level.

5. Involvement of Private firms in Training programmes: A survey conducted by World Bank Enterprise in 2014 showed that only 35.9 percent of firms in India are funding the formal training of their employees. In comparison, 79.2 percent of Chinese firms are supporting skill training. Therefore, there is a challenge before the government to convince the private firms to invest in skill development of their employees.

6. Lack of Awareness: There is lack of awareness about the type of courses, trades, institutions, and opportunities in case of vocational education and training. Therefore, generating awareness and providing all possible information to aspiring learners through various means pose a significant challenge to the implementation of NSQF.

7. Equivalence of Skill Qualifications: It is necessary to convince the universities/institutions to give equivalence to skill courses offered through NSQF. If skill courses are equated by the apex institutions in India and abroad, then it would increase the demand for vocational courses as well as increase the employability percentage.

8. Developing courses considering the local requirements: The course curriculum needs to be developed considering the local requirements. Non-alignment of courses in accordance with the requirements of the job market will result in reduced employability.

Recommendations

The following recommendations are made for developing skilled human resource in Haryana state.

1. The development of curriculum for skill development courses should be handed over to respective industries. The government should act as a regulator and not the implementer of the schemes. It requires massive involvement of the private sector in content development and implementation.

2. Awareness generation on possible benefits of skill-based education is of paramount importance. The stakeholders should remove the myths and misconceptions about vocational education so that poor perception of vocational education could be changed. It is, therefore, the public should be educated through conferences, seminars, campaigns, etc. about the flexibility and interdisciplinary nature of vocational education as well as the scope of horizontal and vertical mobility of vocational education in educational ladder.

3. Reorientation of skill development curriculum on a regular basis to meet the demands of the employers/industry and align it with the available self-employment opportunities is the need of the hour. A competent and experienced faculty should do the examination. Re-branding of vocational education is necessary at school and higher education level, therefore, the ITIs and Polytechnics may be renamed to "Skill development Colleges" and universities may set up "Department of Skill Development" on their campus.

Conclusion

The state government efforts to develop skilled human resources in Haryana are clearly visible. It reveals that different agencies are running skill development programmes from school level to higher education level. These programmes need committed and sincere efforts on the part of government coupled with intelligent policy framing to overcome the challenges. The most critical challenge is to change the mindset of a common man in favour of vocational education. The second challenge is to replace the out-dated curricula and machinery to align it with the demands of the industry and self-employment opportunities. The third challenge is setting up the database so that an accurate analysis of the skills gap is made. The paper recommends rebranding of vocational education to improve its acceptability among the public. Engagement of the private sector is also suggested not only to improve the infrastructure and quality of training but also the employability of the product.

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