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AN OVERVIEW OF SKILL DEVELOPMENT IN INDIA WITH SPECIAL REFERENCE TO MINING SECTOR

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ABSTRACT

Skills and knowledge are the driving forces for economic growth and social development of any country. Countries having higher levels of these skilled workforce, more effectively convert the challenges into opportunities for their development. The review paper evaluates the skill development initiatives undertaken by Government of India (GoI) for development of a skilled workforce for strong, sustainable and balanced growth. The paper highlights the global scenario of skilled workforce and provides insights about India's skill consequences including its importance, sectoral need, issues, challenges, government initiatives & related institutional framework for the development of skills ecosystem in the country. By evaluating particular skill needed of Indian mining sector, the author tries to reflect the key challenges and related measures for development of skilled manpower. Different levels of skill development training for Indian mining sector hence thus been proposed.

Keywords: *Mining Skills.Skill Development, Skill India.*

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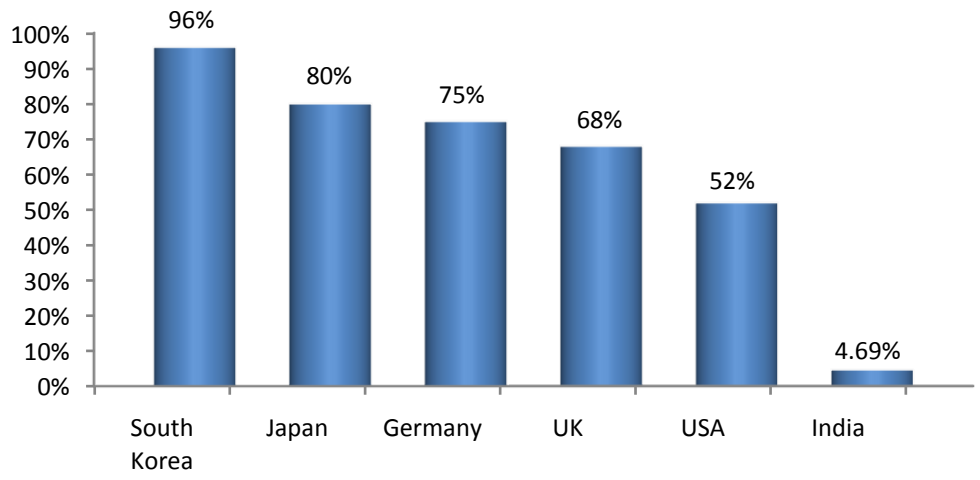
INTRODUCTION

Amid the global slowdown, India's economy is gaining momentum and it is expected that it will further grow in next five years. The developing economy usually shifts from agriculture to manufacturing sector since there is need to transfer the surplus from farms to invest in factories. Being a primarily agricultural based, Indian economy is shifting to services, while manufacturing continues to lag. The manufacturing sector accounts for only 16% of the country's GDP as compared to services sector's 52%(ATKearney, 2015). However, the services sector employs only 34% of the country's manpower. The country's buoyant Information technology (IT) sector is also globally competitive, accounting for 20% of India's export, how ever, it also provides employment to just 3 million people. Around 52% of the workforce still depends on agriculture and associated activities. The mass manufacturing industries alone have the capability to provide employment to a large number of the labour force in India, how ever, it has taken a back seat.

Growth in manufacturing is crucial for economic development of our country having the huge unemployed population base. The 'Make in India' campaign is an initiative of country's efforts to change an industrial operating structure well below its potential into a 'world class' manufacturing base that could provide opportunities to its manpower, similar to those that China is doing since 1978. The key objective of the campaign is to focus on job creation and skill enhancement in 25 different sectors of the economy. To get success in 'Make in India' initiatives and mass manufacturing process, India requires a large volume of skilled manpower and a big challenge for the county is that it has only 4.69%[1] of the total workforce which has undergone formal skill training, which is very low compared to the developed countries (Figure 1). In the wake of changing economic environment, it is necessary to focus on enhancement of skill development and employability of the young population of the country.

[1]Extrapolated based on formal skilling data for working age population from NSSO(68th Round),2011-12

Figure 1: Formally Skilled Workforce in Various Countries



(Source: Compiled by the author from National Policy for Skill Development and Entrepreneurship 2015, Ministry of Skill Development and Entrepreneurship, Government of India.)

1. Skill Development

Skill development is the proficiency which can be acquired or developed through training or experience. It entails fostering the skill-sets that develop employability and add values to the organization. Skill development strengthens the skill of individuals to adjust to ever-changing market demands and help benefit from continued innovation and entrepreneurship activities. At the national level, the future prosperity of any country eventually depends on the number of persons in employment and how productive they are at work. It is essential to have askilled human resource for inclusive growth of thenation. Therefore, skill development can be connected to sustainable and balanced growth, employment and development mandating government interventions.

1.1 Need & Importance of Skill Development

The need of skill set requirements in the country changes over a period of time with the change in technologies. Though it is difficult and challenging to identify skills likely to be in demand in a future course, it is absolutely essential for the country. Interestingly, there is no unique or

universally accepted model of skill development. Different countries have adopted different models to develop skilled manpower based on the needs and resource availability.

The development of vocational and technical skill is important due to following two reasons.

- The skilled workforce helps firms to increase efficiency and productivity, enhance the competitiveness, and thus raise profits, investment and growth at large (International Labour Office Geneva, 2008). The skilled workforce further attracts investment in higher value-added activities. Contrary to that, the paucity of skills hampers efficiency, productivity which further weakens prospects for employment and growth (Randhawa, 2016).
- The historical experience revealed that a skilled and employed workforce form a crux of the emerging middle class, contributing significantly to rising income and increased purchasing power (Randhawa, 2016). The countries having skilled workforce and a high labor force participation rate experience more sustainable inclusive growth.

However, the effectiveness of skilling strategies essentially depends upon academic experience and cognitive skills developed during primary and secondary schooling.

1.2 Skills Development in India

India is one of the youngest country in the world with more than 62% of its population is in the working age of group (15-59), and more than 54% of its total population below 25 years of age (MSDE, 2015). Further, it is estimated that by 2020, the average age of the population in India will be 29 years as against 37 years in China& United State of America (USA), 45 years in West Europe and 48 in Japan (MLE, 2014). By 2020, India will have a surplus of 47 million youth, whereas the rest of the world will face a deficit of 56 million(MLE, 2014). Globally, there would be one Indian for every four workers, offering opportunities to supply skilled manpower to labor-deficit countries across the globe. Over the next 20 years, the labor force in the industrialized world is expected to decline by 4%, whereas in India, it will increase by 32%. It is expected that over 130 million youth will join the workforce by 2022.

This provides a formidable challenge and ample opportunities at the same time. To garner this demographic divide which is to last for next 25 years, India requires training its workforce with employable skills and knowledge so that they can contribute independently to the development of the nation. To take leverage from our demographic divide more substantially and

meaningfully, Government of India launched, 'Skill India' campaign in July 2015 with an ambitious target of imparting industry oriented skills to 500 million youth and workers by 2022 (PC, 2011). The primary objective of the National Policy for Skill Development and Entrepreneurship - 2015 (NPSDE - 2015) is to meet the challenge of skilling at scale and speed, standard (quality) and sustainability.

The scale of the challenge in India is exceptional, compounded by the complex environment faced by policymakers, industry, and youth. The 'Skill India' program envisages skilling, up-skilling and re-skilling a large volume of the labour force in India by 2022. For mature workers, this may lead towards learning and relearning strategies essential with the advent of the knowledge economy. Randhawa (2016) in his research highlighted that under 'Skill India' campaign, 307 million of the existing workforce and 119 million of new entrants need to be skilled by 2022 (Table 1). Currently, a polytechnic and vocational institute of the country trains a maximum of 7 million workers annually.

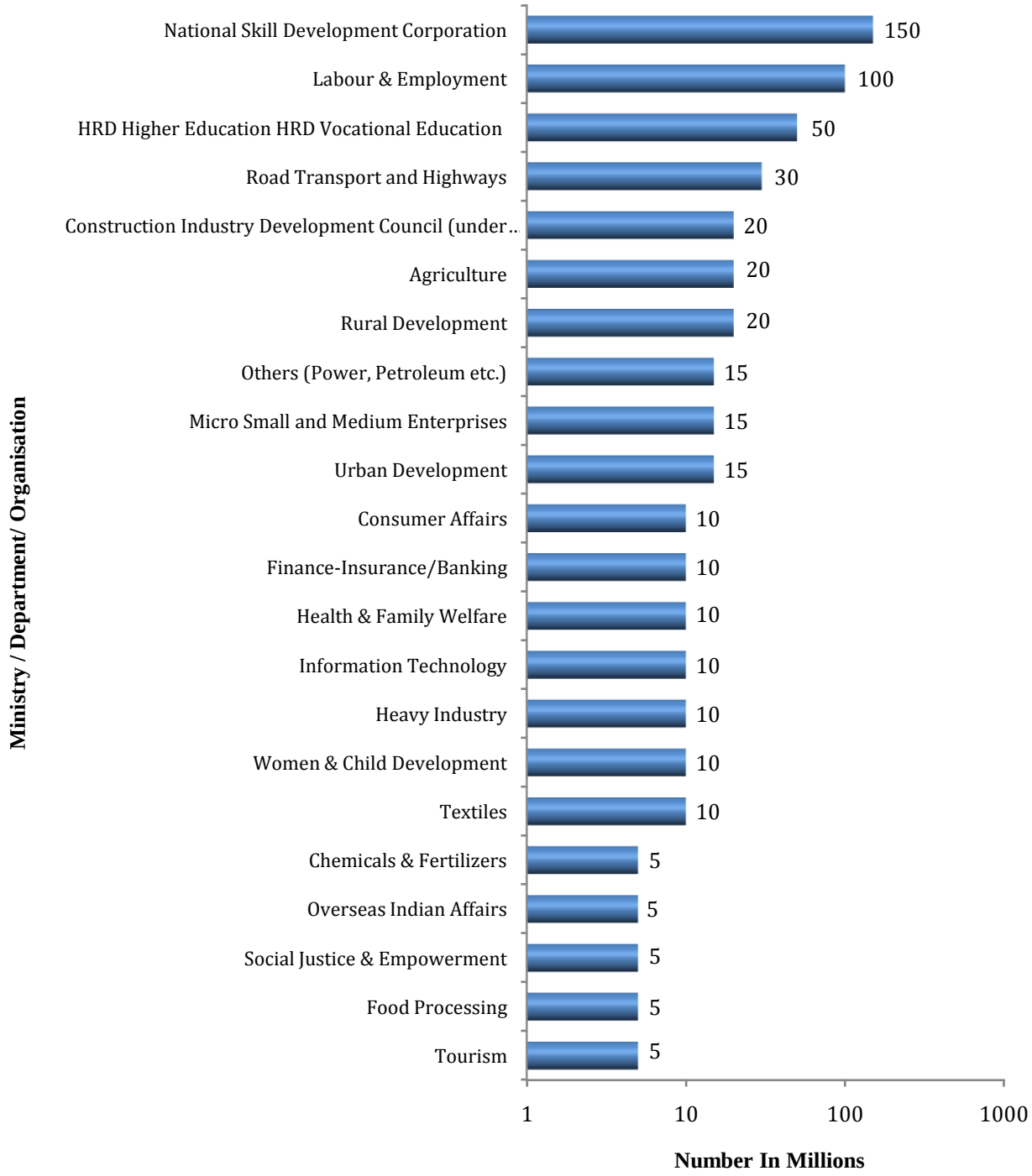
Table 1: The Skills Development Challenge (2015)

Particulars	**Number (In Millions)**
Workforce	487
- Workers in Agriculture	238
- Non-farm workforce	249
Formally trained workers	24.9
Unskilled/skilled through non-formal channels	224
Annual increase in labor force	26
Annual increment to labour force (65% participation rate)	17
Number requiring skill development by 2022	119
Workforce (farm and non-farm) requiring skilling	307
Current Annual skilling capacity	7

Source: Compiled by the author from Ministry of Entrepreneurship and Skill Development (MSDE) Data (2015).

According to NPSDE-2015, the projected number of trained manpower by 2022 for different Ministries/Departments/Organizations is highlighted below in Figure 2. The specific targets are according to the projected employment potential in the concerned sectors. The National Skill Development Council (NSDC) will be skilling almost 30% of the 500 million skilling target set by NPSDE-2015 and the rest will be taken care by different ministries through implementing various skill development schemes.

Figure 2: Projected Number of Trained Manpower by 2022(In Millions)



Source: Compiled by the Author from Press Information Bureau, Government of India, http://www.pib.nic.in/archieve/others/2010/aug/d2010081601.pdf, accessed on 31st May 2016.

GOVERNMENT POLICIES AND INITIATIVES TOWARDS SKILL DEVELOPMENT

To recognize the urgent need for skill development, National Skill Development Policy was formulated in 2009. Given the vast paradigm shift in the skilling and entrepreneurship environment in India and the experience gained through implementation of numerous skill development programs, there is an emergent need to relook in the existing policy. Further, the 2009 Policy itself requiresto be reviewed every five year to evaluate the progress vis-à-vis the emerging trends in the national and international environment. It has called for an enabling framework which could attract private investment in Vocational Training through Public Private Partnership (PPP). Accordingly, National Policy for Skill Development and Entrepreneurship 2015 introduced by Government, supersedes the policy of 2009.

The NPSDE-2015 aims to provide an umbrella framework to all skill development activities being carried out in India. The institutional framework has also been designed to reach the grass root level to achieve the expected outcomes. The Policy further highlighted that Skills development is shared responsibility among all the stakeholders including government, industry, trade unions, and civil society. The Policy mainly links skill development to enhance employability and productivity in paving the way forward for sustainable and inclusive growth in the country. The skill development strategy is further complemented by specific efforts to promote entrepreneurship which could create ample job opportunities for skilled workforce within the country.

NPSDE-2015 recognized following four categories of skill development.

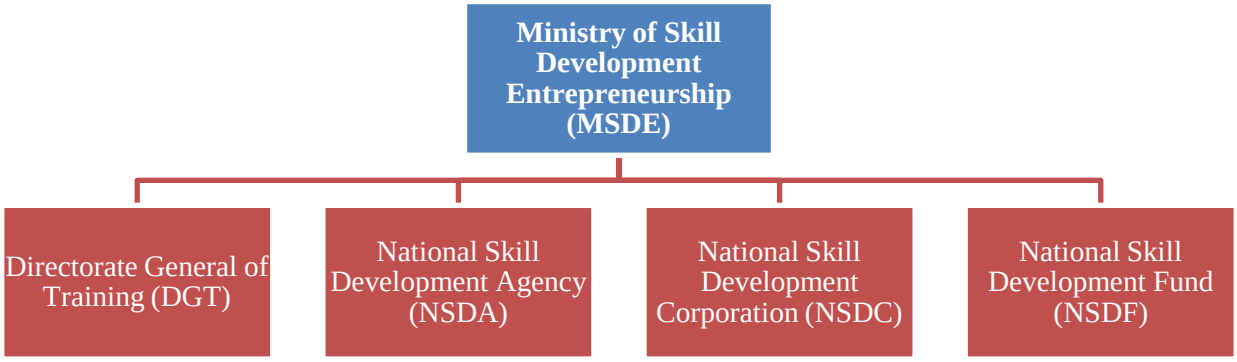
- **Skilling to Fresh Candidate –**Skill development to fresh candidates in the job market, including students of vocational courses in secondary and higher secondary education/training institutions / ITI / Polytechnics etc.
- **Up-skilling –** Skill up-gradation or re-skilling/up-skilling of manpower already engaged in a particular skill set in a particular occupation.
- **Recognition of Prior Learning (RPL) –** formal recognition and certification of skills of a candidate who have already acquired skills through informal or experiential training in any vocational trade or craft, etc.

- **Formal Education** –Skill development training through formal education courses leading to qualification based on National Skill Qualification Framework (NSQF)level 5 and above (including Diplomas, Degrees, etc.)

2.2 Institutional Framework for Skill Development in India

Over the past one year, the skill development ecosystem has evolved significantly through a centrally coordinated efforts and formation of new Ministry known as Ministry of Skill Development and Entrepreneurship (MSDE) (Figure 4). MSDE is responsible for all skill development efforts across the country, bridge demand-supply gap of skilled manpower, building the vocational and technical training framework, up-skilling, developing new skills, and innovative thinking for existing jobs as well as jobs that are to be created in future. It aims at skilling on large scale with speed and Standards in order to achieve its vision of a 'Skill India'.

Figure 3: Skill Development in India – Institutional Framework



2.2.1 Directorate General of Training (DGT)

DGT consists of Directorate of Training and Directorate of Apprentice Training includes the network of Industrial Training Institutes (ITIs) of States; Advanced Training Institutes (ATIs), Regional Vocational Training Institutes (RVTIs) and other central institutes. ITIs play a crucial role in the country in terms of providing skilled manpower in different sectors with varying levels of expertise. ITIs are affiliated with National Council for Vocational Training (NCVT).

Presently, there are total 11,964 numbers of ITIs in India (Govt. 2,284 + Pvt. 9,680) having a seating capacity of 1.86 million offering vocational training in 126 different trades across the country(DGT, 2016). Further to boost the vocational education and skill development in the

country the current Prime Ministry announced in January 2016, to open another 7,000 ITIs over the next 12 month (Randhawa, 2016).

2.2.2 National Skill Development Agency (NSDA)

Established in 2013, National Skill Development Agency (NSDA) is an autonomous body of MSDE, function to coordinate and harmonize the Skill Development efforts of government and private sector achieve the skilling targets of the 12th Plan and further attempt to bridge the social, regional, gender and economic divide in India.

2.2.3 National Skill Development Corporation

The National Skill Development Corporation, (NSDC) is a Public Private Partnership under the Ministry of Skill Development & Entrepreneurship, Government of India. The key objective of NSDC is to create training capacity, fund vocational training and develop amarket ecosystem for skill development in India. The government mandates NSDC to train 150 million (30%) people by 2022.

As on April 2017, NSDC has 290 Recognized Training Partners having 4,526 Authorized Training Centres, provided training to almost 91,91,675 people across India and out of trained man-power, 35,77,444 people have been already placed(NSDC, 2017).

- **Sector Skill Council –** NSDC is setting up the Sector Skill Councils (SSCs) as autonomous industry-led bodies to implement the Skills development in various sectors. SSCs create Occupational Standards (OSs) and Qualification Packs (QPs), develop competency framework, conduct Train The Trainer Programs, identify the skill gaps and access and certify trainee on curriculum aligned to National Occupational Standards (NOSs) developed by them. As on April 2017, NSDC has approved 40 SSCs in different sectors.

2.2.4 National Skill Development Fund (NSDF)

Setup in 2009, NSDF is working for raising fund both from government and non-government sector for skill development in India. The fund is contributed by various government sources as well as other donors/contributors to enhance and develop skills amongst Indian youth by numerous of sector-specific programs.

2.3 Other Recent Steps Taken by Government

2.3.1 Apprenticeship Protsahan Yojana – It is a major initiative to revamp the Apprenticeship Scheme in India. Amendment in Apprentices Act, 1961 to make the friendly legal framework for both – Industry and youth. It enhanced the stipend rate and indexing it as per minimum wages of semi-skilled workers. The Government of India shares the 50% of stipend for initial two years of training engaged by eligible organizations specifically in manufacturing. The training curricula being revised on scientific principles to make it more effective. Such Yojana will benefit almost one lakh apprentices during the period up to March 2017.

2.3.2 Skill Loan Scheme – To remove the financial constraints as an obstacle to access skill training, a 'Skill Loan' initiative has been launched through which loans from Rs 5,000 to 1,50,000 are being sanctioned to the candidates who seek to undergo Skill Development Trainings.

2.3.3 Pradhan Mantri Kaushal Vikas Yojana (PMKVY) –The flagship scheme PMKVY is launched for imparting skill development training to youth, focusing on improved curriculum, superior pedagogy, and trained instructors. Such training covers soft skills, personal grooming, behavioral change, etc. and will cover almost 24 lakh youth of the country. This training is based on NSQF and industry-led standards.

2.3.4 Deen Dayal Upadhyaya – Grameen Kaushal Yojana (DDU-GKU) – The Ministry of Rural development implements the DDU-GKU to work towards the national agenda for inclusive growth by developing skills and productive competency of the rural youth from poor families and disadvantaged groups.

3 Mining Sector Skill Development in India– A Need

The Mining sector in India is highly fragmented, consisting of several small-scale operational mines and dominated by both public and private sector players, holding 75% of the mining production in the country. Almost 83% of the mining leases are unorganized which covers about 16% of the total mining area in the country (SCMS, 2017). The industry is providing employment to a large number of employees (about 9.5 lakh people) in different trades of

mining. However, it is very sad that industry is facing a severe shortage of skilled manpower in different trades of mining operations.

There are several factors affecting human resource and skills need in Indian Mining Industry which includes technology up-gradation, increase in productivity strict environment, sustainable development structure, globalization, aging profile of labor force and the long gestation period for acquisition of skill. Considering the increase in mining sector output and expected changes in the productivity levels, the total manpower in the mining industry is estimated to rise to 11 lakhs by 2017&12 lakhs by the year 2025 (SCMS, 2017).

Considering the need and urgency for Skilling/Up-skilling and Recognition of Prior Learning s(RPL) of the workforce engaged in the mining sector and certification of them in line with new and relevant policy and guidelines of Government of India (GoI), as well as to develop a pool of skilled workforce for statutory and non-statutory positions that could be available for working in mining sector and further to contribute towards enhancement of production and productivity of mining sector as a whole; government has setup a Sector Skill Council for Mining sector, known as 'Skill Council for Mining Sector (SCMS)'. SCMS is being promoted by Federation of Indian Mineral Industries (FIMI), established as per the guidelines framed by the National Skill Development Council (NSDC) to develop skill competency standards and qualifications, benchmarks it with national and international standards and to work with the mining industry in PPP mode.

As of July 2017, SCMS has developed 40 Qualification Packs (QPs) and National Occupational Standards (NOSs) of different trades of mining operations. It has 48 registered training partners and 19 assessment agencies and working extensively towards providing skilling and up-skilling training and certifications to the mining manpower in the country.

Besides the numerous initiatives and constant efforts by the government, there are several challenges looming over the country to develop skilled manpower for different sectors and mining sector particular.

3.1 Challenges and Issues

The following are the key challenges and issues for mining sector skill development in India.

- Lack of resources for mining sector skill development training such as training infrastructure, talented trainers, effective course materials, etc.

- Institutional Reluctance.
- Mobilization of participants is also avery difficult task for mining sector skill development training.
- The mismatch between youth aspiration and mining sector jobs.
- Lack of industry's active support and involvement.
- Lack of employment guarantee for a skilled workforce in the mining sector.
- Outsourcing of mining jobs by the mining companies.
- The mining industry has moulded the skill development training into upskilling programs and also the training agencies (both government & non-government) are interested in up-skilling to generate the volume of their work. However, in the process, the core objective of increasing the employability in the mining sector has been lost.
- Recruitment of the workforce in the mining sector does not lay any regulatory emphasis on the skill training & development.
- Regulatory bodies such as Directorate General of Mines Safety (DGMS) do not lay emphasis on the skill training & development.
- Lack of standardization of training program, course materials, experts, etc has made the skill development training highly variable in nature. Additionally, the involvement of huge numbers of private as well as government agencies in skill development mission has made the situation very messy.
- Because of all of these challenges, the program participants are also not very much enthusiastic during the conduct of such training programs.

3.2 Measures

- Skill development training must be covered under Corporate Social Responsibility (CSR).
- Mindset of Indian industries needs to be changed because the industry even today doesn't realize the importance of skill development & training courses.
- **Development of Certified Trainers –** The trainers who have acquired NSQF Levels for various job roles through SCMS skill development program are the certified trainers. Every organization must aim at maximizing the number of certified trainers who can

impart the NSQF Level skill development courses to the staff of their organization. This will reduce the time, cost and reluctance of the industry.

- **Restructuring of Course Curriculum in ITIs –**There is a need for the introduction of courses for different mining trades in Industrial Training Institute (ITIs). Also, need to introduce short terms (1 or 2 months) mining sector skill development course for fresh ITIs pass out candidates.
- **Restructuring of Polytechnic / Diploma Course Curriculum –** There is a need for restructuring of courses for different mining trades. Also, need to introduce short terms (1 or 2 months) skill development course for fresh diploma pass out candidates. It is also necessary to make making it mandatory to undergo a summer internship in mines.
- **Restructuring of Degree Level Course Curriculum –**Students at Degree level in premier mining institutions are interested in the development of soft skills. Industrial tour, training & internship have also taken a backstage. The curriculum of degree level institutions has removed the compulsion of field training, tour, internship, etc. Therefore, necessary steps need to be taken in these institution, so that the skill development during the graduation also gains priority. In fact, student leaders must be made in each training site for the purpose of skill development.
- **Collaborations for Placements –**MoU with Industries, Employment Bureau, Directorate of Technical Education, Directorate of Employment and Training for absorption of skilled manpower in various mining organizations is very important.
- **Involvement of Regulatory Bodies and Agencies –** Various regulatory bodies such as MSDE, DGMS, Ministry of Mines, Ministry of Coal, etc. must coordinate to ensure the skill development program through appropriate mechanism and assessment.

3.3 Suggested Skill Development Training Levels for Indian Mining Sector

3.3.1 Management Level Training

a) Student / Entry Level

- Industry – Induction/orientation, group behavior& learning, team building, motivation, modern management techniques, etc.

b) Mid-Level

- Human behavior management

- Industrial relation
- Assessment and monitoring techniques for performance measurement, quality assessment, etc.,
- Introduction to environmental laws and planning.

c) Top Level

- Compliance and enhancement of competence and capability of top management in the mineral industry to facilitate the industrial relation, financial analysis, capacity building, etc.
- Exposure to global technological changes and success story of organizations globally.

3.3.2 Workmen Level Training

- Workmen are those who work onsite, e.g., dumper operators, excavator operators, loader operator, etc.
- Onsite workers need the training by correcting their mistakes.
- Pro impart knowledge prior to giving the assignments in a proper manner.
- Training related to safety and automation.
- Assessment of their work.

4 Conclusion

Skill development cannot be viewed in isolation as it is always essential for employment and economic growth strategies to spur employability and productivity. The Indian government is trying to create the necessary ecosystem to provide skills to youth and also help them to find suitable jobs or create new entrepreneurs. However, the numerous existing challenges, primarily averse skill development infrastructure, industry reluctance, diverse youth aspiration, lack of regulatory emphasis, etc. hindering to produce quality skilled manpower for different job roles and particular to mining job roles. Hence, there is a need for urgent attention for effective implementation of essential measures to develop quality skilled manpower for various mining job roles and ultimately to get success in country's 'Skill India' mission which will further work towards employment and sustainable economic growth.

References

1. AT Kearney. (2015). Make in India: How Manufacturing in India Can Become Globally Competitive, AT Kearney.
2. DGT. (2016). Retrieved May 31, 2016, from Directorate General of Training (DGT), Ministry of Skill Development and Entrepreneurship: http://www.dget.nic.in/content/institute/key-statistics.php.
3. International Labour Office Geneva. (2008). Conclusions on skills for improved productivity, employment growth and development. Resolutions adopted by the International Labour Conference at its 97th Session (pp. 24). Geneva: International Labour Office.
4. MHRD. (2013). Rashtriya Uchchatar Shiksha Abhiyan - National Higher Education Mission. New Delhi: Ministry of Human Resource Development (MHRD), Government of India.
5. MLE. (2014). Report on Education, Skill Development and Labour Force (2013-14). Ministry of Labour & Employment, Labour Bureau, Chandigarh.
6. MSDE. (2015). National Policy for Skill Development and Entrepreneurship. New Delhi: Ministry of Skill Development and Entrepreneurship, Government of India.
7. NSDC. (2017, April 23). National Skill Development Corporation (NSDC). New Delhi, India. Retrieved from http://www.nsdcindia.org/.
8. PC. (2011). Mid-Term Appraisal Eleventh Five Year Plan 2007–2012. New Delhi: Planning Comission (PC), Government of India.
9. Randhawa, D. (2016, April 29). A Preliminary Assessment of Skills Development in India. Singapore: Institute of South Asian Studies (ISAS).
10. Randhawa, D. (2016, April 29). Skills Development Landscape in India: Backdrop and the Policy Framework. 328, 1-7.
11. SCMS. (2016). Skill Council for Mining Sector (SCMS). Retrieved June 2, 2016, from http://skillcms.in/about.