

Inclusive Human Capital Development through Non-formal Education: A Comprehensive Analysis on Vocational Training Programme in Sikkim

Dip Narayain Singh* and Kalyan Kumar

Vinayaka Missions Sikkim University, NH-10, Tadong, Gangtok, Sikkim, India

*Corresponding author: d4dipak@gmail.com

Abstract

Skills and knowledge are the commanding forces of economic growth and social development for any nation. Despite the continuous thrust being given on education and training in the country, there is still a great shortage of trained and skilled manpower to address to the various industrial needs; and this has slowed down the industrial growth. The shortage of skilled manpower could be overcome by promoting Vocational Education & Training (VET). The paper presents highlights of the study undertaken and reporting on the feasibility, outcome and relevance of vocational education and training programme in the light of human capital development among the remotely located residents of Sikkim. While the secondary data collection method was adopted to review the literature to identify various variables and their antecedents, the primary data collection method introduced to collect first-hand information from 305 respondents on variables to analyse their impact on each other. The Statistical Package for the Social Sciences (SPSS-21) was used to facilitate the analysis. The validity of the instrument and the data was checked through exploratory factor analysis and reliability was checked through Cronbach's coefficient alpha.

The findings of the study depict that the nine research hypotheses are accepted out of ten with the help of this study, which will further help to understand and redefine an effective construct of VET programme. It was the objective of the study to understand the feasibility, outcome and relevance of VET in the State of Sikkim, for which, various outcome of VET as variables and their antecedents were identified and tested as significant, which can further help the stakeholders to make VET and its outcome more effective, if they seriously implement and work on those factors. The identified significant antecedents of VET are (i) attainment of valuable skills, (ii) motivation to continue, (iii) academic achievement and (iv) other recommendations. The only thing which is negative as identified in this study is the employment of the learners of VET. Surprisingly, it is revealed that the VET programmes do not have remarkable effect on getting employment generation in Sikkim.

Keywords: Vocational education and training (VET), employment, human capital development, education.

India has progressively developed as a knowledge-based economy ^[1] due to the plenty of skilled, flexible and qualified human capital. With its constantly growing impact of globalization, India has got enormous abilities to establish its distinctive position on the world map. However, there is a need to further develop and empower the human capital to safeguard the nation's global competitiveness. Despite the enthusiastic stress laid on education and training in the country, there is still a shortage of skilled manpower to address the increasing needs and demands of the economy (FICCI Report, 2012). As an instant requirement that has straightaway arisen from the current scenario, the government is continuously endeavouring to initiate and accomplish formal / informal skill development through Vocational Education and Training (VET) and other upcoming learning methods. The skill development programme for the employed person is highly desirable for comprehensive social and economic growth of the individual and the economy (Planning Commission Report, 2008).

Vocational education essentially aims at providing a student with practical experience in a specific professional field. The course curriculum is designed with the objective to get ready a student employable at least in one profession. This facilitates a student to either start his/her own business or to go in for a job in the area of training received; and hence, empowering to become financially and economically independent. This is not unexpected since there is overwhelming indication to validate that Vocational Education & Training (VET) can play a vital role in promoting viable economic growth and the socio-economic growth of countries, with substantial benefits for individuals, families, local groups, and society in general.

Progressing people is the principle of any human capital development effort and it is an important goal of all other improvement activities. All forms of inclusive growth (Economical, Technical, Agricultural, Manufacturing etc.) are eventually meant to serve people in terms of enlightening their satisfaction through improved quality and standard of life. Thus, human capital development speeds up the process of growth and prosperity. Education is the basic parameter to determine the status of growth of a country. In other words, education is the strength of a nation. It is a tool with which the large population can be transformed into human resources. Human capital development is now accepted as a main factor that explains the variance performance in socio-economic spheres of the country. In an under-developed and educationally retrograde country higher education on a mass and world-wide scale make available the significant basis on which the nation can advance the future road map of national growth to a significant level.

In India, every year 12.8 million people come into the labour market, where more than 90% employment prospects require vocational skills that are not usually imparted on a big scale in schools and colleges. Worth on the contrary, less than 5% receives formal VET. Therefore, in order to bridge this gap a major transformation in the education system is important to bring about basic flexibility in imparting of Vocational Education programmes. This statement also clarifies why the framework of Vocational Education programmes along with formal education system is needed. Moreover, Vocational Education has been accepted as an important tool for developing human capital development, and hence for country's socio-economic development.

It is important to note that, with more than 35% of citizens aged below 15 years, 700 million young people below 35 years and population growing @ 1.8% per annum, India is projected to become the worldwide powerhouse of human capital development by 2025 (NSDC Report, 2012). In the emerging era of knowledge-driven society, declining skilled workforce and aging population in developed countries,

India with its considerable young population has the chance to position itself as a quality source of skilled [2-8] manpower for the world. The larger population can gain substantial dividend for the nation through an attention on providing quality vocational education and training.

The curious issue before educationalists, academicians, policy makers and the public at large is, to what extent the VET programme has fulfilled its prime objective. According to National Knowledge Commission report, (2009) a skilled labour force is the backbone of India's economy. The possession of skills that match employer's needs will facilitate quick entry of labour into employment world and thus accelerate the development of the economy. The vast majority of the manpower is outturn of hundreds and thousands of educational and training institutions without the benefit of particular skills talent. This is stressed by the fact that most of the educated manpower acquires knowledge which is not accustomed with the appropriate skills demanded in the workplace. The quantitative and qualitative gap arising out of the present system results in incompatibility between the jobs that the education outturns search for and what the economy offers. This leaves a substantial percentage of human capital development in a state of un-utilisation or under-utilisation. The employment gap arising due to the un-employability of a majority of the unskilled labour force must be associated if unemployment has to be removed from the economy. Thus, unemployment in Sikkim is a cause of great concern and its suppression poses the greatest challenge to the government and policymakers. Given this backdrop of unemployment in Sikkim, Vocational Education in Sikkim may be seen as a way of utilizing the human capital development of the state by improving their employable skills, making them more appropriate to the needs of the economy. In recent times, Sikkim economy has seen prompt structural changes in the centre of which the scope and nature of available employment has improved. Sikkim today is witness to fastest emerging industrial hub especially in pharmaceutical domain and hydro power generation. The service sector in the state has also broadened its vision. But the diversification and development of the industrial and services sector has been constrained by insufficient manpower and quality available skills pre-requisite to these sectors. Given the structural nature of unemployment in Sikkim, the education system of Sikkim needs to equip its out-turns with particular skills that would make them friendly to the developing needs of the economy and aid in their genuine utilization. As a strategy for preparing the student community for meeting the challenges of a dynamic employment market, selected training institutions in Sikkim have also included the facilities for a VET.

The paper focuses on some of the growing concerns of Sikkim whereby emphasis should be given to the changing demands of the labour market and the suitability of the VET programmes in providing gainful employment prospects.

Vocational Education and Training (VET)

VET is a method of integrating education with the job. Vocational education programmes are anticipated to offer a suitable platform to youths and adults at appropriate levels, for improving their skills for all professional fields. The function of vocational education is to prepare one for initial employment as well as imparting vital knowledge required for further skills enhancement in the respective professional field. Today vocational education is measured as a part of the foundation of man's innovative and progressive growth. Vocational education plays a significant role in developing appropriate human resource of the country by creating skilled manpower, increasing industrial output and improving the quality of life.

Vocational education covers courses and programmes like tourism, retail, instrument maintenance, fashion designing, art & craft, floriculture, horticulture, computer courses, IT, communicative skill, hotel management, functional English and many more. It is worth mentioning that India's technical and specialized manpower is now significantly improved through vocational education which renders it possible to generate sufficient manpower for efficiently handling business and supporting industries inside and outside the country.

VET is essentially based on skill development and applications, wherein the target candidates may be school drop-outs, rural artisans, small traders, technicians and workers from informal sectors including Agriculture. The focus is on the capacity building to assess directly the performance criteria in the proficiencies specified within a training package or accredited course on National Standard. The competency based training, testing and certification is expected to produce better scope for self-employment, small scale unit linkage, and affordable Technology Transfer Options at the community level, etc. on the basis of which rural people may participate more and more for their economic empowerment as self-styled Entrepreneurs. Traditional education which only creates knowledge, although essential for basic improvement of a person, is fast losing its role as a means for human and societal growth. VET and competency based training can play a crucial role in the economic development as well as inclusive growth of unskilled youth at the grass root level by meeting human resources as per its needs. This system can provide the needs to the requirement to those who are on the job and unemployed. Their knowledge can be updated through VET programmes. The quality of the labour force is a very important consideration, when we look at the human resource development in a country. Research evidences show that VET module can improve work efficiency and productivity, and, thereby, contribute to economic growth. Both work competence and output, besides a certain required level of education, for those who are below poverty level, socially backward and physically challenged at the grass-root level depends upon mechanised training and orientation of human resource. These types of actions would include on-the-job training, improving courses, and educating awareness level through appropriately designed courses thus raise the employment prospective in many ways, as it helps develop the necessary skills, approach and inspiration to match opportunities to new job seekers as well as self-employment. Every passing day is increasing the pressure to skill the unskilled, and up-skill the semi-skilled. The idea to “empower all individuals through upgraded skills, knowledge, nationally and internationally recognized qualifications to increase access to a decent employment and ensure competitiveness in the global market”, can be accomplished through a combined effort of Industry, government and academia. Skills for every individual suggests that skill development is a concern of one and all in society, policy makers, employers, trainers, learners, parents each has to be a part to play in delivering the skills agenda.

Vocational Education in Sikkim

As per the Cabinet Memorandum of 2009, the Government of Sikkim, in principle, has approved for establishment of State Institute of Capacity Building (SICB) at Karfector, South Sikkim to produce skilled manpower for the State. The Institution has taken over the RAC (Regional Administrative Centre), Karfector on 25th November 2009. The SICB was inaugurated on 10th December 2009 by Hon'ble Chief Minister in a function organised for this purpose. The establishment of a full-fledged State Institute of

Capacity Building at Karfectar, Jorethang with the purpose of imparting training, transfer of knowledge and building stronger capacities of the unemployed youth is perceived with a visionary intent. The past experience analysis and the general trend of unemployment in the State reveals that a vast array of training options has to be made available for the educated unemployed youth. This Institute as a centre for youth to learn about their strengths and needs, to get ready for prosperous and rewarding lives as adults, make choices about their future prospects and take up allied training after which they may be able to build their careers. In a way this Institute is catering to the needs of youth development which would include strategies related to academic development, delivering quality and standards based training, work skills, and core values. The objective is to create highly skilled workforce empowered with improved skills, knowledge and armed themselves for earning their livelihood. It aims to increase the productivity of workforce both in the organized and the unorganized sectors, seeking bigger involvement of youth, women and other underprivileged sections and to synergize energies of various sectors and restructuring the present system. The state Government policy is to have zero tolerance towards youth unemployment which it has identified as a scourge in our society. Therefore, to address all this important issues, SICB will do the following activities:

1. Set up an autonomous body to directly intervene in the building of capacity and capability of young people and place them in the opportunities that are otherwise going to people from outside the State. This will be one of the arms of the Government in its overall Livelihood Mission.
2. Constantly monitor the laws and legal requirements to regulate the employment scenario in the state.
3. Constantly interact with private, central Government and other players to see that all the opportunities will be made available to local youth who are well positioned to do it as well as facilitate such proactive action.
4. Constantly monitor the remuneration and other facilities that the private and public sector units offer to the youth of the State and see to it that there is no discrimination in this with respect to that on offer in other States in the country.
5. Make available every year a state of the Employment Status Report and place table it in the Legislative Assembly.
6. Provide adequate financial resources for the first five years to the Body set up under above.

This Institute caters to all the services that will line up the several capacity building and youth improvement system, so that the youth of Sikkim are better equipped for promising careers. This Institute shall identify existing capacity building resource institutes and entities and experts within the country and even overseas and establish suitable national/international connections and network which may help in addressing appropriate and effective provisional needs of the youth of the State. In the initial stage, this institute has introduced pilot programs, the experience of which will be examined, and on the basis of which extended programs shall be introduced. As regards the quality of the program, the Institute has designed courses in such a way as to ensure the quality of content, including practical training and effective modes of delivery and on-the-job training etc. This Institution has established counselling and placement cell to assist students to make right educational and vocational choices. Apart from assisting

trainees, the institution shall remain in close contact with employing establishments for job placements of trainees. The institution, in view of the Government policy under Chief Minister's Youth Empowerment Scheme selects training Partners/Institutions of repute based on parameters of recognition and accreditation of National and State bodies, experience, past performance and placement records, viability of records etc. The Institute awards certificate of competency on successful completion of the course based on actual testing of skills that a student has attained by administering tests/examinations as required under standard regulations. The establishment of this Institute is an inclusive policy of the state Government that focuses on holistic development of young people that will shape up their future. It is integrated into the Government's policy planning frameworks, both in terms of strategic planning and resource allocation under Chief Minister's Youth Empowerment Scheme. The integration would prioritize youth development and ensure its implementation and to see that the Government's intent becomes a reality.

In these schools, the capacities of the unemployed are to be developed to enable them to sustain themselves economically and it is the first such scheme in the country. These schools are helping the unemployed youths of State to groom their talents so as to imbibe in them the ability to harness their skills and become self-reliant. The Government Policy is to give preference to local resources and utilize the services of from all sectors and within the Government Sector. All the 32 Livelihood schools work under State Institute of Capacity Building, Karfectar, and South Sikkim. The institute and all livelihood school will be governed by an examining cum affiliating board i.e. State Board of Livelihood School, Sikkim (SBLSS) which has been notified by Government of Sikkim. The institute and Livelihood Schools have become centres for youth to learn about their strengths and needs, to arrange for prosperous lives as adults, make choices about their futures and take up related training after which they may be able to shape their careers. In a way, this Institute will cater to the needs of youth development which would include strategies related to academic development, delivering quality and standard based training, work skills and core value.

Research Hypotheses

Research hypothesis is a predictive statement that relates an independent variable to a dependent variable. It must contain at least one independent and one dependent variable. For the purpose of the study, nine research hypotheses have been formulated on the basis of the research objectives as shown in research model. Following research hypothesis has been formulated for the purpose of the study.

1. Hypothesis 1 (H_1): There is a strong positive relationship between Vocational Education and Training and Human Capital Development.
2. Hypothesis 2 (H_2): There is a strong positive relationship between Human Capital Development and Learners' Performance.
3. Hypothesis 3 (H_3): There is a strong positive relationship between Human Capital Development and Employment.
4. Hypothesis 4 (H_4): Vocational Education and Training has significant impact on Human Capital Development in Sikkim.
5. Hypothesis 5 (H_5): Human Capital Development has significant impact on Learners' Performance in Sikkim.

6. Hypothesis 6 (H_6): Human Capital Development has significant impact on employment in Sikkim.
7. Hypothesis 7 (H_7): Vocational Education and Training Programmes are effective in Sikkim.
8. Hypothesis 8 (H_8): Human Capital Development is average in Sikkim.
9. Hypothesis 9 (H_9): Learners' Performance is increased after undergoing Vocational Education and Training in Sikkim.
10. Hypothesis 10 (H_{10}): Employment is increased after undergoing Vocational Education and Training in Sikkim.

Research Model

To accomplish the identified research objectives, a 'Research Model' has been developed on the basis of identified factors under study through literature review mentioning the hypothesis formulated as shown in figure 1.

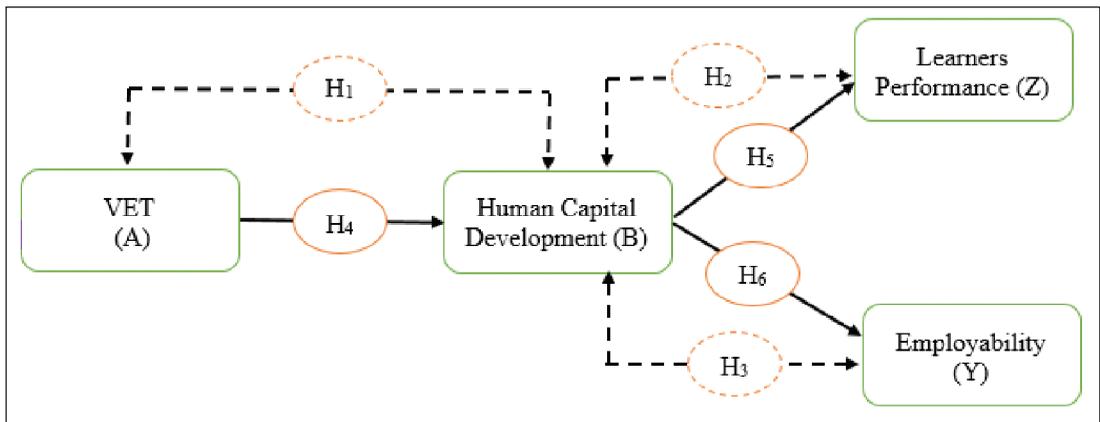


Fig. 1: The proposed research model.

Results of the Study

The Statistical Package for the Social Sciences (SPSS-21) was used to facilitate the analysis. The psychometric properties of the instrument were analysed using principle component matrix with promax rotation method to check the validity and Cronbach's alpha to check the reliability. The items of the instruments of all the variables were reduced and their reliability were under acceptable range, hence, received an acceptable model with desirable instrument, which were considered for further multivariate analysis. Correlation coefficient was used to identify the relationship between the variables to prove first three hypotheses, regression analysis was used to find the impact of independent variables on dependent variables, to prove the next three hypotheses, whereas mean values of the data for each variable was assessed to justify the last four hypotheses of the study. The results of the study are mentioned in table 1.

Table 1: Results of the study

Sl. No.	Hypothesis	Results	Hypothesis Accepted/ Rejected
1.	Hypothesis 1 (H ₁): There is a strong positive relationship between Vocational Training and Human Capital Development.	Vocational Training (A) has a strong positive relationship with human capital development (B), as the pearson correlation coefficient (r) value is 0.713, significant at 0.05 level	Accepted
2.	Hypothesis 2 (H ₂): There is a strong positive relationship between Human Capital Development and Learners Performance.	Human Capital Development (B) has strong positive relationship with Learners' Performance (Z), as the pearson correlation coefficient (r) value is 0.720, significant at 0.05 level.	Accepted
3.	Hypothesis 3 (H ₃): There is a strong positive relationship between Human Capital Development and Employment.	Human Capital Development (B) has strong positive relationship with Employment (Y), as the pearson correlation coefficient (r) value is 0.728, significant at 0.05 level	Accepted
4.	Hypothesis 4 (H ₄): Vocational Education & Training has significant impact on Human Capital Development in Sikkim.	<ol style="list-style-type: none"> 1. The value of R-Square is 0.653 i.e. the model explains 65% of variables. 2. F_{Calculated} (7.64) is greater than F_{Critical} (2.65). Therefore, the research hypothesis H₄ is accepted. The p-value (sig.) is 0.000 (< 0.05). Hence, Vocational Education & Training has significant impact on Human Capital Development in Sikkim. 3. Out of seven antecedents of vocational education and training, four antecedents i.e. Attainment of valuable skills (A₂), Motivation to continue (A₄), Academic Achievement (A₅) and Recommendation to others (A₇), have significant impact on human capital development having p value 0.005, 0.000, 0.008 and 0.015 respectively. 	Accepted

5.	Hypothesis 5 (H_5): Human Capital Development has significant impact on Learners Performance in Sikkim.	<ol style="list-style-type: none"> 1. The value of R-Square is 0.530 i.e. the model explains 53% of variables. 2. $F_{\text{Calculated}}$ (3.067) is greater than F_{Critical} (2.65). Therefore, the research hypothesis H_5 is accepted. The p-value (sig.) is 0.028 (< 0.05). Hence, Human Capital Development has significant impact on Learners Performance in Sikkim. 3. Out of three antecedents of human capital development, two antecedents i.e. Health (B_2) and Income (B_3) have significant impact on learners' performance, having p value 0.015 and 0.004. 	Accepted
6.	Hypothesis 6 (H_6): Human Capital Development has significant impact on Employment in Sikkim.	<ol style="list-style-type: none"> 4. The value of R-Square is 0.670 i.e. the model explains 67% of variables. 5. $F_{\text{Calculated}}$ (7.58) is greater than F_{Critical} (2.65). Therefore, the research hypothesis H_6 is accepted. The p-value (sig.) is 0.000 (<0.05). Hence, Human Capital Development has significant impact on Employment in Sikkim. 6. All the three antecedents of human capital development i.e. Education (B_1), Health (B_2) and Income (B_3) have significant impact on Employment, having p value of 0.014, 0.001 & 0.018 respectively. 	Accepted
7.	Hypothesis 7 (H_7): Vocational Education and Training Programmes are effective in Sikkim.	The mean value for vocational education and training (A) for all the seven antecedents is 5.6, which is above average (greater than 4) in the scale of seven, which depicts that Vocational Education and Training Programmes are effective in Sikkim. Hence, hypothesis H_7 is accepted.	Accepted

8	Hypothesis 8 (H_8): Human Capital Development is positive in Sikkim.	The mean value for human capital development (B) for all the three antecedents i.e. B1, B2 and B3 are 5.8, 4.1 and 4.6 and mean value for B, when combining all the three antecedents comes to 4.7, which is above average (greater than 4) in the scale of seven, which depicts that Human Capital Development is positive in Sikkim. Hence, hypothesis H_8 is accepted.	Accepted
9.	Hypothesis 9 (H_9): Learners Performance is increased after undergoing Vocational Education and Training in Sikkim.	The mean value for learners' performance (Z) after undergoing VET, out of all the five antecedents, four antecedents i.e. Z1, Z2, Z3 and Z4 are 4.3, 4.4, 5.3 and 5.0, which is above average (greater than 4) and only for one antecedent i.e Z5, the mean value is 3.8, which is less than average (less than 4) in the scale of seven, and mean value for Z, when combining all the five antecedents comes to 4.5, which depicts that Learners Performance is increased after undergoing Vocational Education and Training in Sikkim. Hence, hypothesis H_9 is accepted.	Accepted
10.	Hypothesis 10 (H_{10}): Employment is increased after undergoing Vocational Education and Training in Sikkim	The mean value for employment (Y) for all the four antecedents is 3.0, which is below average (less than 4) in the scale of seven, which depicts that employment has not increased after undergoing Vocational Education and Training in Sikkim. Hence, hypothesis H_{10} is rejected.	Rejected

Conclusion

The results of the study were obtained and discussed on the basis of the research questions formulated in the study. The first three research questions were analysed on the basis of secondary data, where exploratory research design was applied. The rest three research questions were evaluated on the basis of primary data. The research questions formulated were:

1. How Vocational Education and Training Programme are feasible in Sikkim?
2. What is the relevance of Vocational Education and Training Programme in Sikkim?

3. Does outcome of Vocational Education and Training Programmes can be assessed on the basis of Human Capital Development, Learners Performance and Employment?
4. Is there any relationship between Vocational Education and Training, Human Capital Development, Learners Performance and Employment?
5. Does Vocational Education and Training Programme affect Human Capital Development in Sikkim?
6. Does Human Capital Development has any effect on Learners Performance and Employment through Vocational Education and Training Programme in Sikkim?

The result from this empirical investigation is in accordance with the objectives of the study and the research hypothesis formulated, which helped to answer all the research questions of the study.

The first three research questions were answered with the help of exploratory research design for which data were collected through secondary data collection methods from previous literature and various reports on VET, skill development, HCD reports and various reports of Sikkim government.

Vocational Education and Training Programme are very much realistic and relevant in the state of Sikkim. Vocational Education and Training (VET) is an important component of the nation's education enterprise. In order for vocational education to show its part efficiently in the changing national perspective and for India to relish the fruits of the demographic dividend, there is an urgent need to redefine the serious features of imparting vocational education and training to make them flexible, contemporary, relevant, inclusive and creative. The Government is well aware of the significant role of vocational education and has already taken a number of important initiatives in this area. Industrial development has grown manifold and have enough scope in future, with abundance of pharmaceutical industry, which requires many types employees efficient in various allied skills like IT, Plumber & fitter, Welding, Electrical, Electronics, Carpentry, Security guard, Welder, Cook, House Keeping, driver, tailoring etc. Another advantage of this state is tourism, which requires many types of skilled manpower to handle the abundance of tourist arriving each year, requiring, type of manpower like guide, travel agents, drivers etc. Due to tourism, hotel industry is also at boom, where cook, waiters and many other types of manpower are required in abundance. Moreover, this state is influenced by western culture, where, women are fond of western outfits and visiting beauty parlours, hence beautician are required in abundance. Hence, all these types of manpower are in high demand, that's why the labour cost is high in Sikkim. Therefore, the VET programmes are very much feasible for above mentioned skills and hence, it is very much important to run such programmes, to empower the youth and enable them to get employed within the state.

It is to be also noted that nine research hypothesis has been accepted out of ten with the help of this study, which will further help to understand and redefine the effectiveness of the VET programme. It was the objective of the study to understand the feasibility, outcome and relevance of VET in the state of Sikkim, for which, various outcome of VET as variables and their antecedents were identified and tested as significant, which can further help the stakeholders to make VET and its outcome more effective, if they seriously implement and work on those factors. The identified significant antecedents of VET are attainment of valuable skills, motivation to continue, academic achievement **and** recommendations to others. Hence, it is the responsibility of all the stakeholders i.e. Government, institutes, industries and the learners itself to understand the importance of VET and its outcomes to earnestly inculcate the above

mentioned factors, so that a new model of VET can be created and implemented, ensuring various positive result for all stakeholders like increased individual and organizational performance, increased individual income and revenue of organization and government in turn, which will further result to good standard of living and hence, good health. Therefore, human capital development index will raise, which will be a good indication of overall socioeconomic development for the state and country.

References

- Steenekamp, A. S, and M. Singh 2012, Recognition and validation of informal and non-formal learning, and NQFs.
- Alam, G.M. 2008, The role of Technical and Vocational Education in the national development of Bangladesh. *Asia- Pacific Journal of Cooperative Education* 9 (1), PP. 25-44.
- Arora, S. 1999, Re- Engineering Vocational Education. *University News* Vol. 37(45), PP. 17-20.
- Chandra, A. 2011, Possible Future for National Council for the Vocational Training. ILO, Discussion Paper. ILO Decent Work Team for South Asia, New Delhi.
- Goel, V.P. 2010, Technical and Vocational Education and Training (TVET) system in India for Sustainable Development.
- Deputy Director General, 2014, Department of Higher Education, Ministry of Human Resource Development, Govt. Of India. www.unevoc.unesco.org/up/India-Country-paper.pdf.
- <http://www.sicbsikkim.com>.
- Indian Institute of Entrepreneurship 2003, Youth Unemployment Strategy & Capacity Development in the North Eastern Region- A Diagnostic Study. National Commission for Youth.
- Kumar, K. 2008, Skilled Technical Manpower Generation.
- Kumar, K. 2008, Skilled Technical Manpower Generation: A National Challenge.
- Learner first, 2012, Knowledge paper on skill development in India.
- National Knowledge Commission report, 2009.
- NSDC Report, 2012.
- NSDC, Skill Gap Study of Sikkim, www.nsdcindia.org.
- Planning Commission Report, 2008.
- Thimmaiah, G., Seetharamu, A.S., Aziz, A. & Rayappa, P.H. 1982, Vocational Education - problems & prospects. Himalaya publishing House, Delhi.
- World Bank, 2010, India's Employment Challenges Creating Jobs, Helping Workers. Poverty Reduction and Economic Management Unit, South Asia. The World Bank. Oxford University Press pp. 140-165.
- Yuan, Qiu, 1988, The Vocational Education of young people's Republic of China. *International Review of Education* Vol. 34, No. 2, PP. 270-280.