December 2022

TVET Sector Strategic Plan
(2023-2032 AD)

Government of Nepal
Ministry of Education, Science and Technology
Singhadurbar, Kathmandu, Nepal

Acknowledgements

Ministry of Education, Science and Technology (MoEST) has formulated this "Technical Education and Vocational Training (TVET) Sector Strategic Plan (TSSP) with technical and financial support received from national and international development partners.

The plan has evolved after an extensive consultative workshops, meetings and interactions held with quite a number of federal, provincial and local level governments, stakeholders, and the beneficiaries. The information required in preparing this plan was collected by conducting consultative workshops among the TVET stakeholder at federal level and 7 province level including business and industry employers and employer associations.

The TVET sector analysis report, TVET Technical Report and policy briefs prepared with the technical and financial support different agencies provides the basis for this TSSP to be developed in its current form.

The Ministry would like to offer special thanks to the staffs of MOEST, CTEVT for their coordination and support for the arrangement of the federal and province level workshops. Likewise, MoEST highly appreciates national and international TVET experts, stakeholders and interest groups for their contribution, inputs and recommendations while preparing the TVET Sector Strategic Plan.

Ministry of Education, Science, and Technology
Singhadurbar, Kathmandu
December 2022

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Acronym

BIA	Business and Industry Associations
CATS	Credit Accumulation and Transfer System
CCU	Career Counseling Unit
CDC	Curriculum Development Centre
CEHRD	Center for Education and Human Resource Development
CoE	Center of Excellence
CTEVT	Council for Technical Education and Vocational Training
DACUM	Develop a Curriculum
FMIS	Financial Management Information System
ISCED	International Standard Classification of Education
JT/ A	Junior Technician/ Agriculture
LGOA	Local Government Operation Act
LMIS	Labor Market Information System
MIS	Management Information System
MoCTCA	Ministry of Culture, Tourism and Civil Aviation
MoE	Ministry of Education
MoEST	Ministry of Education, Science and Technology
MOF	Ministry of Finance
MoSD	Ministry of Social Development
NATHM	National Academy of Tourism and Hospitality Management
NEB	National Examination Board
NPC	National Planning Commission
NSCO	Nepal Standard Classification of Occupations
NSTB	National Skill Testing Board
NVQA	National Vocational Qualifications Authority
NVQF/ S	National Vocational Qualifications Framework/ System
OJT	On the Job Training
OSS	Occupation Skills Standard
OSU	Occupation Skills Up-gradation
PPP	Public Private Partnership
LWD	Learners with Disabilities
QA/ S	Quality Assurance/ System
RPL	Recognition of Prior Learning
SEE	School Education Examination
T/SLC	Technical / School Leaving Certificate
SOP	Standard Operating Procedures
SMC	School Management Committee
SSC	Sector Skill Committee
SWOT	Strength, Weakness, Opportunity and Threats
TECS	Technical Education in Community Schools
TITI	Training Institute for Technical Instructions
TTC	Teachers Training Centre
P-ITC	Provincial Instructors (teachers) Training Centers
TVET	Technical and Vocational Education and Training
TVET SAR	TVET Sector Analysis Report
WBT	Workplace Based Training

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Chapter I: Introduction

1.1 Background

Globally, emerging trends in the education sector have forced many nations to adopt a paradigm shift in how we perceive and provide educational services. The role of ICT has become an inevitable addition in our pedagogy. Concerns about survival skills, gainful employment, global access, and emerging technologies have gradually redefined traditionally accepted pillars and purpose of education. Income has become a necessary condition for survival and therefore it is the first goal of education. That is why transforming education has become a new global agenda that highlights more relevant education for gainful employment.

Nepal has a long-term development vision of fulfilling the aspiration of ''Prosperous Nepal, Happy Nepali'', with the preparation to upgrade the country from the rank of the least developed country to a developing nation by 2026 (BS 2083) and to attain the status of a developed nation by 2043 (BS 2100)[1]. This development vision requires it to be specifically translated in education and development initiatives. In line with Nepal's development vision and commitments in global platforms, the School Education Sector Plan, 2023-2030 (SESP) of the Government of Nepal (GoN) has set a few strategic directions as the way forward to meeting the long-term vision. While SESP has focused on the more in-formal and non-formal sector of school education, this TVET Sector Strategic Plan (TSSP) provides strategic direction for the TVET sector in the country.

The Government of Nepal has prepared this TSSP in collaboration and cooperation received from different levels of governments, primary stakeholders such as the business and industrial groups, medium and small entrepreneurs, employees, and the workforce. This plan provides a holistic vision and strategic direction for the next ten years by targeting specific groups of population, providing relevant competencies, and ensuring employment in national and global job markets. This is a ten-year program plan that will be implemented in **three phases**.

First Phase: Coordination, consolidation and Institutional capacity building of the plan will run for two years primarily focusing on strengthening institutional capacity and delivery systems by consolidating and harmonizing among different service providers to operate through an integrated TVET systems. Existing TVET institutions and service providers will be capacitated to run in their full capacity. Policies, national curriculum framework including model curricula and standards of operation will be developed and enforced to ensure quality and relevance of program intervention. The first phase will ensure certification of individual's

[1] GON. 2022. Education Sector Strategic Plan (2023-2030). Ministry of Science and Technology, Singhadurbar, Kathmandu.

competencies that are not only aligned with individuals' career development path but are also market led that serves market needs and demand. This phase will also develop accreditation standards and accredit TVET institutions on the basis of their performance standards.

The **Second Phase: Gainful Results** of the plan will run for five-years primarily focusing on minimizing the mismatch between demand and supply of workforce within the country and in global markets. The second phase will implement TVET programs designed specifically targeting local and international markets, implement market oriented modular programs in partnership with business and industrial groups, medium and small entrepreneurs, and other social and service sectors including government administrative services.

The second phase will expand, scaleup and pilot different models of TVET such as, a hybrid model that combines local and international practices in the field of TVET, dual-VET apprenticeship that runs work-based skills training and institution based regular education simultaneously, and the training with on-the-job that gives opportunity for graduates to practice their skills in related industries after the completion of theoretical learning in the training institutions. The results of these piloting will help institutionalize models that are appropriate for Nepali context.

While implementing these models, capacity and quality of institutional delivery will be closely monitored against expected results in both occupancy, productivity, and in gainful employment. Once the models with high productivity and gainful employment are determined, the program will move to the third phase.

The **Third Phase: Expansion of TVET Services** as highlighted in the plan will run for three-years primarily expanding both its outreach throughout the country and producing relevant and competent graduates to meet the projected workforce demand both in-country and internationally. The third phase will thus support the long-term vision of Nepal "Prosperous Nepal and Happy Nepali", by producing youths and adolescents with relevant competencies and enhancing their opportunity for gainful employment.

1.2 National Development Vision

The Millennium Development Goals (MDGs) served as the foundation of Nepal's Sustainable Development Goals (SDGs) to be achieved by 2030. It is also well aligned with the country's target to graduate from the least developed country status to attain a middle-income country status by 2030. In response, the Constitution of Nepal, 2015 as well as the 15th Plan (2019/20) are aligned with the SDGs. All these macro level targets have helped the country to aspire for a long-term development vision of 'Prosperous Nepal, Happy Nepali'. Analogous to this vision, the government has long term objectives to: i) achieve rapid, sustainable and employment-oriented economic growth; and ii) ensure affordable and quality health care and education. As such, moving towards Nepal's development vision requires preparation of a competent workforce relevant to both the employment market in the country and elsewhere.

Government is keen on moving towards this vision as the 2079/80 budget speech (MoF 2079)[2] has highlighted its motives as '*Stability, Productiveness and Employment Growth: Inclusive Development, Self- reliance and Economic Prosperity*'. Specific objectives included in the budget speech highlights generating employment and alleviate poverty through integrated mobilization of available natural resources, human resource, capital, and technology. It also emphasizes 'Make in Nepal and Made in Nepal' which implies preparation of a technically competent workforce capable of contributing to this vision.

1.3 Economic and Labor Market Context

According to the preliminary report of population census 2021, the total population of Nepal is 29,192,480 among them, male is 14,291,311 (48.96%) and female 14901169 (51.04%). The annual population growth rate is 0.93%. There are a total 676, 1059 family numbers and they live within 5,643,945 households. The size of the family number per house is 4.32 members. The population density is198 persons per kilometer.

While Nepal's economic status still remains as the least developed nation, it is quite remarkable to note that the economic indicators have remained firm and satisfactory even in the aftermath of the pandemic. Timely measures taken by government authority have helped stabilize the trade deficit with minimal impact on national foreign reserves. Recent statistics show a reverse trend in Nepal's trade balance with a small increase in export and decrease in imports. Nepal's economy is estimated to modestly expand by 4.7% (at market price) in fiscal year (FY) 2023[3].

The average annual growth between 2067/68 – 2077/78 stood at 4.6 percent (MOF 2078)[4] which indicated inadequate for decent jobs creation and resulted in low per capita income. In 2078-79, Gross National Income (GNI) per capita stood at USD 1381. The economic activities in Nepal are heavily tilted towards the service sector contributing 62 percent to Gross Domestic Product (GDP) in 2021, followed by agriculture sector (25%) and manufacturing (14 %). Contribution of the agriculture and manufacturing sector to GDP is gradually declining, whereas that of the service sector is increasing in the last two decades. The government aims at further decreasing the share of agriculture sector in GDP to 22.3% by 2081 (2024) (end of 15th Five-year plan) and to 9% by 2106 (2050) (NPC 2019[5]). The government aims to increase the contribution of industries and services to GDP to 18.8% and 58.9% respectively by 2024 and 30% and 61% in the next 25-year period respectively (NPC,2019).

By industry, wholesale and retail trade sectors were the largest sector contributing to GDP (16.4%) after agriculture in 2021-22. Similarly, real estate (8.8%), education (8.1%), financial and insurance services (6.9%) and construction (6.2%) are other key sectors of the economy.

[2] MoF. 2079. Nepal Government, Budget Speech of Fiscal Year 2079/80. Kathmandu: MoF/ GON.
[3] ADB. 2022.Asian Development Outlook Update 2022. www.adb.org/outlook
[4] MOF (2020). Economic Survey. Kathmandu: Ministry of Finance, Government of Nepal.
[5] NPC 2019. Fifteen Plan (Fiscal Year 2019/20 – 2023/24). National Planning Commission, Government of Nepal.

Moreover, accommodation and food services, mining and quarrying, health and social work sectors such as fostering and child-care, adult care etc. are the other high growth sectors.

Foreign migration and remittance flow is an integral part of Nepali economy. Recent population census shows a whopping 7.4 percent (more than 2.1 million) Nepali population is working abroad (CBS, 2021)[6]. However, other studies suggest an estimated 3 - 3.5 million population are abroad for work, and nearly a-third of them are estimated to be working in India (CESLAM, 2013)[7]. The census report also highlights the number of women that have migrated to foreign countries has increased by 71% in comparison to the Population Census, 2011.

Remittance from the foreign employment has been the largest source of foreign exchange in the country, which is more than the revenue earned by exports and foreign direct investment (FDI). The Remittance-to-GDP ratio has reached 25.4% which was 21.2 a decade ago and 10.7 two decades ago (NRB, 2020)[8]. Remittance plays an important role in financing households' consumption and investments, as well as sustaining high trade deficits. Yet, the use of remittance in productive sector (i.e., trade and commerce) is at meagre 1.1 percent of total remittance (NRB 2020[9]).

Remittance has also contributed to improved government revenue and supported macroeconomic stability. The surge in import duty collections is directly attributed to an increase in imports financed by the remittance income. The remittance flow has helped maintain a relatively balanced external sector until recently and enabled Nepal to reach a reasonable level of foreign reserves, and to maintain the value of their exchange rate.

Labor Force Characteristics

Participation of youths and adolescents in the workforce in Nepal is limited in number. Declining fertility rate over the past 30 years has resulted in a relatively larger working age population, which in 2018 totaled approximately 20.7 million, out of which 7.1 million were employed and 908,000 were unemployed.[10] Labor force participation is thus low, at 38.5%. Women participate at a much lower rate than men, with only 26.3% being part of the labor force as compared to 53.8% for men. While there are more women of working age – 125 women per 100 men – only 59 women per 100 men are employed. There are thus distinct gender inequalities in the labor market.

[6] CBS (2021), National Census: Preliminary Results: Central Bureau of Statistics, Government of Nepal.
[7] Sharma, S., Thapa, D. (2013). Taken for Granted Nepali migration to India. Centre for the Study of Labor and Mobility (CSLAM), Working Paper III.
[8] NRB (2020), *Nepal Ma Bipreshan Aprabahako Sthiti*, Research Division, Nepal Rastra Bank.
[9] Ibid
[10] Government of Nepal/ILO (2018). *Report on the Nepal Labor Force Survey 2017/18.* Kathmandu: Central Bureau of Statistics.

Table 1.1: Basic employment indicators[11]

Employment indicators ('000)	Total	Male	Female	Urban	Rural
Working-age population (15 years old and over)	20,745	9,208	11,537	13,293	7,452
Labor force	7,994	4,958	3,036	5,543	2,452
Employed	7,086	4,446	2,640	4,903	2,184
Unemployed	908	511	397	640	267
Labor force participation rate	38.5%	53.8%	26.3%	41.7%	32.9%
Employment to population ratio	34.2%	48.3%	22.9%	36.9%	29.3%
Employment rate	88.6%	89.7%	87.0%	88.5%	89.1%
Unemployment rate	11.4%	10.3%	13.1%	11.5%	10.9%

Source: Government of Nepal/ILO (2018). Report on the Nepal Labor Force Survey 2017/18. Kathmandu: Central Bureau of Statistics.

By age groups, on average, only 29 percent of those aged 15 to 24 years, and 53 percent of those aged 25 to 34 years, participate in the labor market. The workforce participation rate of women is significantly lower (nearly half) than that of men. Among all age groups, women's workforce participation (on average of 26.3 percent) is 27.5 percentage points lower than men's (53.8 percent). Nepal Labor Force Survey, 2017-18 highlighted that the overall unemployment rate is 11.4 percent. The unemployment rate is relatively higher among young people while they account for 48 percent of the labor force (Table 1.2).

Table 1.2: Labor force participation rate and unemployment rate by age group[12]

Age Group	Labor Force Participation Rate		Unemployment Rate	
	Male	Female	Male	Female
Total	53.8	26.3	10.3	13.1
15-24	38.9	20.3	19.7	23.9
25-34	74.9	37.6	11.9	13.9
35-44	76.8	36.7	7.5	9.9
45-54	63.4	28	5.2	7.6
55-64	42.2	16.9	5.5	3.5
65+	21.1	7	3.5	0.6

[11] The NLFS from 2018 cannot be easily compared to earlier surveys, as basic definitions of "employment" were changed. The previous definition of employment covered almost all activities, while the new definition of employment includes only work performed for others for pay or profit. Production for own final use is no longer regarded as employment.

[12] Central Bureau of Statistics (CBS) 2019. Nepal Labor Force Survey 2017/18. Kathmandu: CBS.

Most labor forces (47.7%) are engaged in the service sector followed by Industry (30.8%) and Agriculture (21.5%). However, the shrinking manufacturing sector, which is generally the major employer, has a corresponding impact on job creation. In general, the manufacturing sector absorbs the labor force that is otherwise engaged in the low-productive subsistence agriculture sector and informal service sector. Expanding the manufacturing sector with a possible emphasis on forward and backward linkages to agricultural produce and value-chain may be an effective strategy for more job creation in the economy.

Age-wise distribution of the labor force shows that the majority (69 per cent) of workers are between 25 and 54 years old. While employment in the agriculture sector, without considering the subsistence agriculture activities, is highest, the cohort of workers in higher age groups are engaged more in this sector compared to younger-age cohorts. Younger age workers (15 – 24) and middle-aged workers (25-64) are more likely to be engaged in market and non-market services sector (Table 1.3).

Table 1.3: Employment share in different sectors by age group[11]

Economic Activities for Labor Engagement	Age									
	15-24	15-24	25-54	25-54	55-64	55-64	65+	65+	Total	Total
	No.	%	No.	%	No.	%	No.	%	No.	%
1 – Agriculture	222,153	17.4	957,230	19.5	226,635	36.2	117,320	41.2	1,523,338	21.5
2 – Manufacturing	218,166	17.1	712,810	14.5	91,521	14.6	49,350	17.3	1,071,847	15.1
3 – Construction	208,270	16.4	679,211	13.9	73,431	11.7	16,703	5.9	977,615	13.8
4 - Mining and quarrying; Electricity, gas and water supply	20,551	1.6	101,302	2.1	7,352	1.2	6,032	2.1	135,238	1.9
5 - Market Services (Trade; Transportation; Accommodation and food; and Business	435,573	34.2	1,570,200	32	161,455	25.8	68,671	24.1	2,235,900	31.6
6 - non-market services (Public administration; Community, social and other serv	159,878	12.6	852,439	17.4	61,329	9.8	21,609	7.6	1,095,255	15.5
7 - Not classifiable by economic activity	8,793	0.7	28,706	0.6	4,176	0.7	5,328	1.9	47,002	0.7
Total	**1,273,385**	**100**	**4,901,898**	**100**	**625,899**	**100**	**285,012**	**100**	**7,086,194**	**100**

Increasing number of youths are entering into the labor market with inadequate workforce demand. International Labor Organization (ILO)[13] estimates nearly 400,000 youths enter the domestic labor market each year. The World Bank[14]Report of 2015-16 shows that the country needs to create 286,900 jobs every year in order to keep the unemployment rate constant.

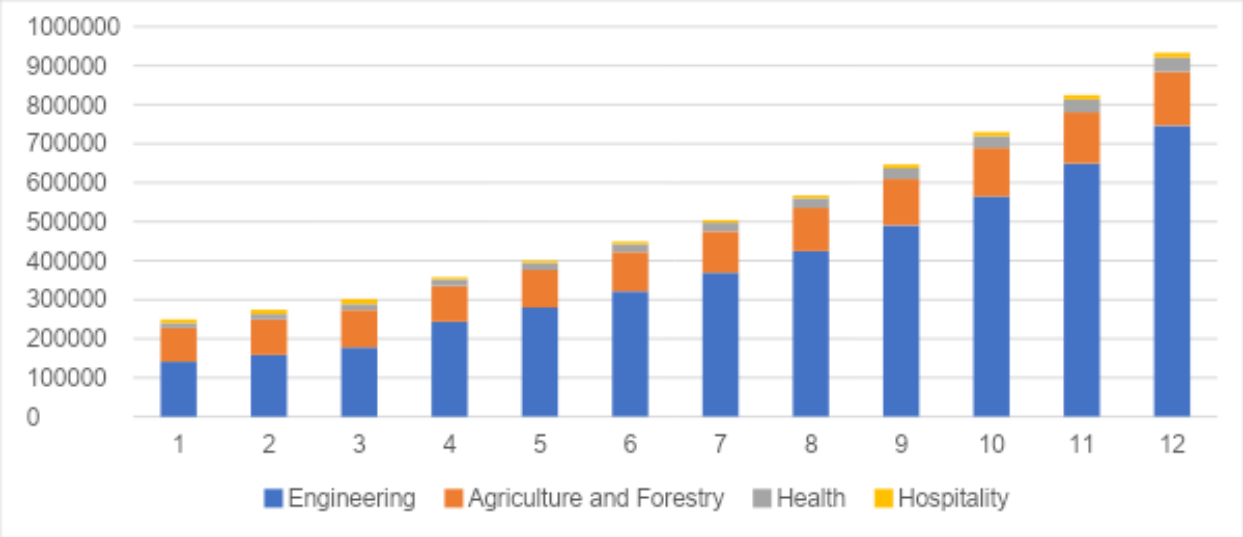
The last 20 years have seen a slow but steady transfer of jobs from low productivity agriculture to value-added sectors. However, it is mainly men that have moved out of

[13] https://www.ilo.org/kathmandu/areasofwork/employment-promotion/lang--en/index.htm

[14] https://documents.worldbank.org/en/publication/documents-reports/documentdetail/825921524822907777/jobless-growth

agriculture, while women have not transitioned in significant numbers. In order to understand workforce demand, a projection by four major sectors: hospitality, health, agriculture and engineering is presented below (Fig 1.1). The engineering sector, encompassing various occupations ranging from Information and communications technicians to science and engineering associated professionals, has the largest demand followed by agricultural occupations.

Figure 1. 1 Annual Labor Force Projection by Sectors (2021/22-2031/32).



The labor force survey 2017-18 shows less than one in ten workers in the market has undertaken some kind of formal vocational or professional training.

Labor Migration

According to the preliminary report of Central Bureau of Statistics 2021, the total number of absent populations within the country (migrated to foreign countries) is 2,169,478 persons, among them, 1,763,315 are male (81.28%) and 406,163 women (18.72%).

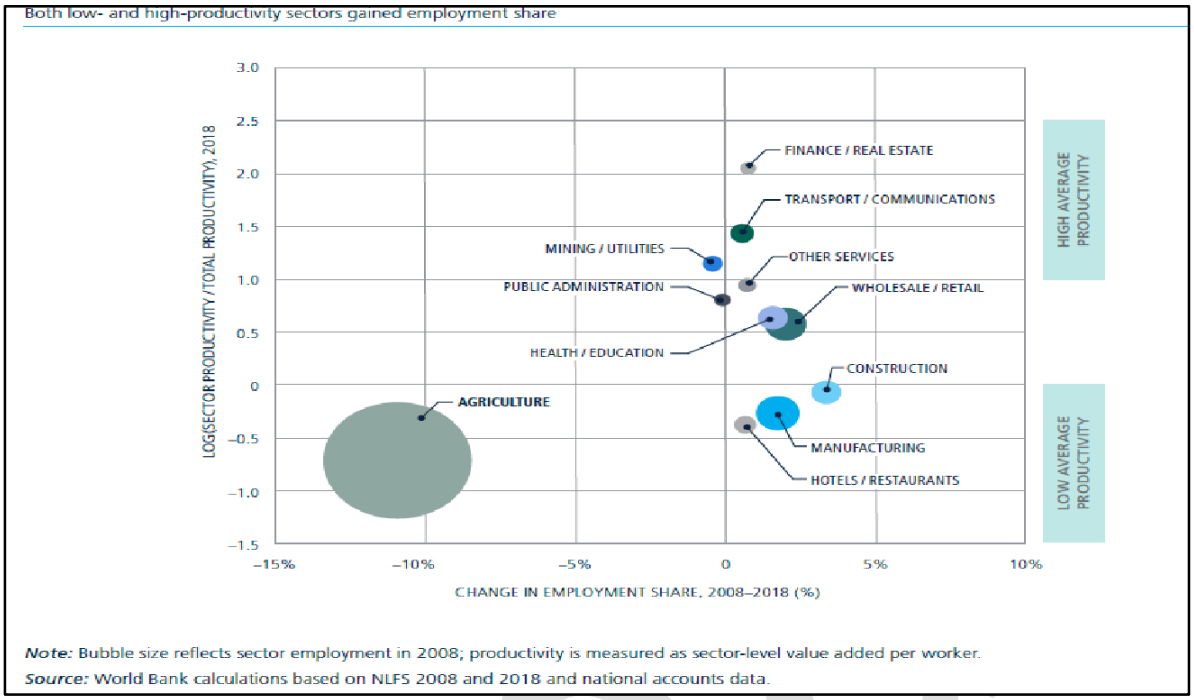
According to the records of the Ministry of Education, Science and Technology, a total of 89,718 students took NOC as study permits in FY. 2078/079 to study in 104 countries of the world. From July 17, 2022 to November 24, 2022, study permits (NOC) have been issued to 31,339 students to study higher education in universities of 106 countries around the world. In 2022, the highest number of Nepali students prefer to go study abroad for higher education. The top 10 destination countries in order from largest to smallest are first Australia, second Japan, third Canada, fourth UK, fifth USA, sixth India, seventh Russia, eighth UAE, ninth South Korea and tenth Denmark.

In 2018, while there were 3.8 million wage jobs in Nepal, as many as 2.8 million Nepali people had taken jobs in other countries.[15] Nonetheless, the Nepali economy has created a

[15] *Ibid.* Page 2.

substantial number of new wage jobs, on average 7% annually since 2008, across a mix of low-productivity and high-productivity sectors, as illustrated in Figure 1.2.[16]

Figure 1.2: Productivity and change in employment



Source: Figure 0.4, page 3 of Bulmer, E., Shrestha, A. and Marshalian, M. (2020). *Jobs Diagnostic Nepal.* Washington DC: World Bank.

Data indicates that as many as 2.8 million working-age Nepalis work abroad. Those that leave are:[17]

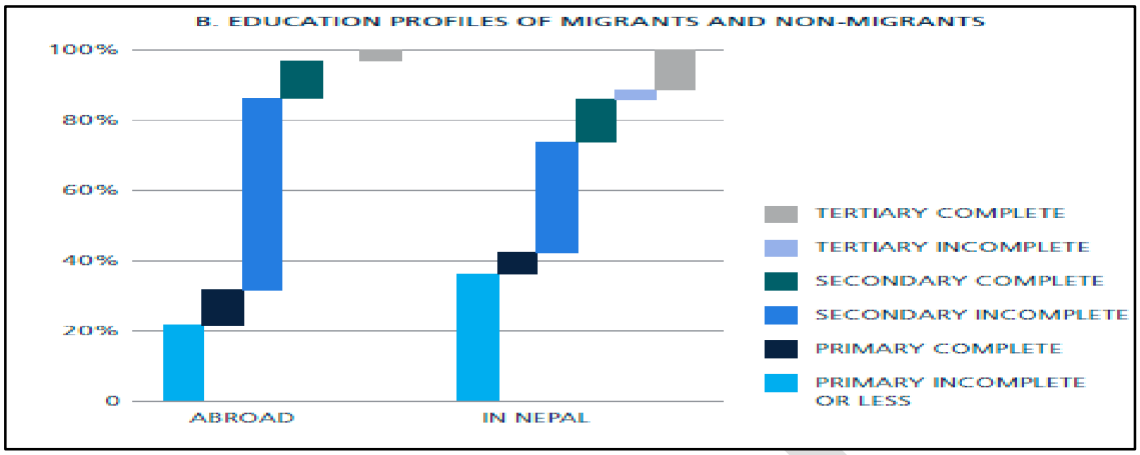
- Mostly men (95%)
- Under the age of 35 (66%)
- Those who have less than secondary education (85%)

Compared to the education profile of those that stay in Nepal, the most visible difference is the higher level of people that have some education (basic), but not a completed secondary education.

[16] *Ibid.*

[17] *Ibid.* Pages 43-44.

Figure 1.3: Education profiles of migrants and non-migrants



Source: Figure 3.2 of Bulmer, E., Shrestha, A. and Marshalian, M. (2020). *Jobs Diagnostic Nepal.* Washington DC: World Bank.

The low skills level of migrants reflects missing job opportunities in the domestic job market, but primarily a substantial demand for unskilled labor in the destination countries. A cleaner in Qatar earns twice the new minimum wage in Nepal and more than the average salaries of many professionals employed in Nepal such as school teachers or civil engineers. Thus:

> "*…in economic terms, domestic returns to education are very low compared to external returns; for youth willing to migrate, there is little incentive to continue their studies in Nepal*".[18]

The skills profiles of the migrants do not indicate major brain drain. What Malaysia and the Gulf states seem to primarily demand, is cheap and hardworking unskilled labor – which Nepal has an abundance of. Migration works much like a pressure valve for excess male labor and is also a key driver for Nepal's economic growth model through the dividend of remittances

The contribution of work-related migration in the national economy cannot be overlooked. However, GoN/IOM study[19] found that most (86.4%) of the returnee workers did not have job related training prior to their migration. Majority of the respondents (61.5%) had secondary (Grades 9-10) and lower secondary (Grades 6-8) education, The report has suggested, almost half of the respondents reported that they were involved in factory work, followed by construction work (40.3%), general labor (32.2%) and hotel/restaurant work (23.4%). Even though the migrant workers were engaged in technical or factory works, they were engaged in specific work that did not require specific competency.

In an estimate, over 841 thousand youths living in communities without employment[20] could be facilitated for self/wage employment with proper market research and quality training.

This growth is still insufficient compared to the large number of people seeking jobs, and the high productivity sectors of finance, transport and mining have limited job creation potential. Most growth takes place in the informal sector, and there are less opportunities for women.

[18] *Ibid.* Page 49.
[19] GON/ IOM. Profiling Returnee Migrant Workers for Labor Market Reintegration. Kathmandu: GON/ IOM.
[20] ekantipur.com/news/2022/11/10/16680456334373892.html

Future labor market needs within Nepal

An Overseas Development Institute (2017) study[21] outlined four main sectors for future growth in Nepal:

1. Tourism
2. ICT
3. Light manufacturing
4. Agro-processing

These four sectors were chosen based on their potential to create productive jobs; to promote structural transformation away from agriculture into higher-value services and industry; and to re-orientate the labor market towards export markets. From an analysis of 43 firms across these four sectors, the study found that the majority of firms had to spend significant resources to provide on-the-job training to workers because they were lacking core skills.

The fastest growth in recent years was in the ICT sector (21% annual growth) followed by the tourism sector (18.1% annual growth). The analysis showed that the tourism sector has limited further expansion prospects whereas for the ICT sector, expansion prospects are strong. It also found good expansion prospects for some agro-processing products. Female participation in the manufacturing and tourism sectors was around 25% whilst it was 20% in the ICT sector due to a more limited pool and the limited capacity of women to do night shift work. By contrast, it was 33% in the agro-processing sector with one third of firms employing more than 50% women.

Table 1.4: Average wages and annual wage growth per sector

Sector	Employee salaries (2017) at junior, intermediate and senior level	Employee salary trend
Tourism	Junior: Min wage–NPR 15,000/month Intermediate: NPR 15–20,000/month Senior: NPR 20–50,000/month	Reported growth between 10% and 30% per year
ICT	Junior: NPR 21,700/month Intermediate: NPR 50,140/month Senior: NPR 135,000/month	Reported growth between 10% and 20% per year
Light manufacturing	Junior: NPR 13,750/month Intermediate: NPR 25,000/month Senior: NPR 40,500/month	Reported growth on par with inflation
Agro-processing	Reported as on par with minimum wages.	Estimated to be on par with minimum wage trend

Source: Table 4 on page 5 of Lemma, A., Henley, G., Hoque, S. and te Velde, D. (2017). *The Nepal Labor Market: A Four Sector Case Study.* Supporting Economic Transformation Program. London: ODI.

Firms in all sectors except agro-processing found it hard to retain labor with most hiring unskilled labor or skilled workers with little experience, providing on-the-job training and then finding that staff retention was a challenge. In the agro-processing sector, hiring skilled technicians was challenging and most high-skilled labor (engineers, machine operators, upper-level management) is brought in from abroad (around 5% of workers). Whilst this is a

[21] Lemma, A., Henley, G., Hoque, S. and te Velde, D. (2017). *The Nepal Labor Market: A Four Sector Case Study.* Supporting Economic Transformation Program. London: ODI. Page 2.

small percentage, better provision of technical engineering and machinery courses at TVET and higher education within Nepal, could help to reduce these skill shortages.

A recent World Bank (2018) *Systematic Country Diagnostic* for Nepal[22] outlined three key sectors that have strong and unexploited comparative advantage for future growth: 1) Hydropower, 2) Tourism, and 3) Agribusiness and cement

The diagnostic identified skills shortages in several of these areas. It also highlighted that better skills training is needed (both base and specialist skills) as part of the TVET offer as there is a mismatch between what firms need and what technical skills training TVET institutes are currently providing. A 2016 TVET Labor Market Survey[23] identified similar sectors that required low and mid-level technically skilled labor (with the addition of health). This survey also found that the demand for TVET graduates was underestimated since the majority of employers did not feel that graduates with no experience had sufficient skills.

In the area of tourism and hotel management, the 2017 *Education Sector Analysis*[24] noted that there was scope for expansion but few degree programs in these areas, demonstrating a mismatch in the labor market supply of skilled labor. Similarly, a World Bank report[25] commented on how Nepal scores low in relation to global inclusion, higher education and skills.

One study noted that even where people have the relevant skills, many of them lack linkages to prospective employers (social networks) making it hard to access jobs.[26] Another study conducted recently concludes the following as in high demand such as agriculture, forestry, fishery, wholesale and retail trade, manufacturing, and construction sub-sector have high employability and thus can absorb a larger share of the workforce entering into the labor market every year.[27]

These findings show that Nepal has challenges in both the supply of skilled labor from existing TVET programs as well as gaps in its provision in some course offerings.

1.4 Social/Educational and Political Context

The perception of general education and TVET has remained different in our society. For instance, TVET is often considered as a second option for academically weak students at school level or for those who drop out from formal education. While some of the traditional and indigenous skills are still valued and practiced in communities through which families make their living, the same skills offered in classrooms have resulted in low turnout rate. The demarcation between white-collar and blue-collar jobs has deeply rooted in the mind-set of parents and thus TVET is perceived as inferior to general education. We have to change this

[22] World Bank Group (2018*b*). *Nepal Systematic Country Diagnostic: A New Approach for a Federal Nepal.* Washington DC: World Bank.

[23] CTEVT (2016). *Labor Market Survey: Analysis of Emerging Needs of Technical Human Resources in the Country.* Bhaktapur: Council for Technical Education and Vocational Training, Research and Information Division.

[24] NIRT and AIR (2017). *Nepal Education Sector Analysis.* Kathmandu, Nepal.

[25] World Bank Group (2018*a*). *Op. Cit.* Page 8.

[26] Accountability Initiative (Acin) (2016). *Op. Cit.*

[27] Lamichhane R., et al, (2021). Economic Sub-Sector and Labor Market Analysis in Nepal. Kathmandu.

perception by strengthening institutional quality and their program capacity, and by improving relevance and widespread recognition of TVET programs.
The gross and net enrollment, promotion, repetition and dropout rates presented below in table 1.5 provides some evidence about low level of performance and the overall quality and efficiency of TVET programs. Both CEHRD and CTEVT run TVET programs have performed almost equally low. Hence, improving performance of existing TVET schools/institution becomes one of the major directions for this TSSP. Once this milestone activity is reached, only then expansion of TVET services becomes meaningful and relevant.

1.5 TVET Development Context

Technical and vocational skills[28] were in practice in Nepal, and elsewhere as well, since time immemorial. Although these traits remained mostly as indigenous skills, there was once a glorious time in history when Nepal was famed in the region for its unique arts, crafts and architecture. It was not very long ago that the country was a surplus producer and exporter of food grains in the region. Things have dramatically changed over the past few decades and more so in recent times. Advancements in technology have transformed our values, priorities and needs. Lack of access to these advances pushed many countries like Nepal much behind in the race of prosperity. Nevertheless, our continuing attempt in maximizing our resource potentials, especially human resources, will sooner or later bring back our glorious past and prosperity. The following paragraphs describe evolutionary pathways that led us to reach where we are today in this sector.

BEFORE 1911 BS. Nepal TVET dates decades back in history when indigenous skills were transferred from one generation to another through informal methods. Kathmandu valley was famous in the region during Malla regime and was known for arts, handicrafts, and specific architecture. A family or cast-based traditional apprentice system was the oldest form of occupational skill training that was widely used in Nepal. There was a special Decree for citizens to learn some kind of skills and be involved in production and business. One of the earliest references of skill acquisition in Nepal dates back to the King Jayasthiti Malla regime (1382-1035 BS) who divided the entire population into 67 occupational groups and sub groups (MOE 2009).

RANA Regime (1911-2007 BS). During this period, no TVET relevant national policies except for some programs such as ayurvedic, medicine and veterinary training existed (Sharma, 2005). The Department of Labor as well as the Department of Small and Cottage Industry were established in 1986 which facilitated the start of skills training, but these programs were not structured. Formal technical education was started in 1930 BS, when a technical school in Kumari Chowk, Kathmandu was established. In 1942 BS, engineering section was introduced by offering a two-year sub-overseer course for SLC graduates. In 1945 BS, the school was shifted to Tri-Chandra College and was renamed in 1950 BS as engineering school. In 1958 BS, it was again renamed as Nepal Engineering Institute and

[28] Technical in the sense of techniques or methods applied and vocational in the sense of occupation or productional related skills.

started offering an Overseer course in civil engineering and in 1971 BS added an electrical engineering course.

In 1963 BS, Technical Training Institute was established in Thapathali, Kathmandu and started an Overseer course in mechanical, automobile and electrical engineering. After introduction of New Education System Plan in 1972 BS the present Institute of Engineering (IOE) was formed (Paudyal 2018[29]).

Panchayat Era (2017-2046 BS). National Education Commission (NEC) formed in 2011 BS initiated the concept of multi-purpose school (Bhandari, 2013[30]). It was followed by establishment of Butwal Training Institute (widely known as BTI) in Butwal in 2019 BS. The emphasis in TVET continued during this period and is specifically known for establishment of present day Balaju School of Engineering and Technology (erstwhile Mechanical Training Centre, known as MTC) in 2020 BS. Technical Training Institute was established in Thapathali, Kathmandu offering 3-years' Diploma course in 2020 BS. Later in 2027 BS, the government introduced a National Education System Plan (NESP) which prioritized promoting vocational education specifically targeting youths. TVET in Nepal became prominent with the establishment of technical schools in Jumla, Jiri, Lahan, Seti and Dhankuta in 2037 BS. Similarly, the Vocational and Skill Development Training Centre was established in 2034 under the Ministry of Labor. The Technical and Vocational Education Committee (TVEC) and the Directorate of Technical and Vocational Education (DTVE) under the MOE were established in 2039 with its objectives to formulate policies, and manage and implement the system. Similarly, this period is also known for the establishment of Skill Testing Authority (STA) as an important initiative with skills testing responsibility.

MULTIPARTY DEMOCRACY RULE (2046- 2064 BS). This era is noted for the establishment of the Training Institute for Technical Instruction (TITI) in 2048 BS under CTEVT as another milestone in TEVT development. This period is also noted for transfer of basic and technician level programs such as community medical assistant (CMA), auxiliary nurse midwife (ANM), health assistant (HA), junior technician/ agriculture (JT/JTA) from Tribhuvan University to CTEVT.

FEDERAL DEMOCRATIC REPUBLIC RULE (2064 BS to date). This period covers 2 constitutional period: interim constitution (2064 BS to 2072 BS) and constitution 2072 and onwards. In order to start TVET opportunities from Grade 9, the Ministry of Education started a 4-year technical stream in 2070 BS. Similarly, the erstwhile Vocational and Skill Development Training Center was restructured into a Vocational and Skill Development Training Academy in 2075 BS. The Center is offering services from Lalitpur, Sunsari and Rupandehi districts of Nepal. With its purpose to facilitate recognition of TVET graduates, National Vocational Qualifications Framework (NVQF), started preparations under the auspices of CTEVT in 2071 BS, was approved by the Cabinet in 2078 BS. Hence, this period

[29] Paudyal, P. (2018) TVET Policies and Strategies of Nepal, Workshop Proceedings (March 2018), Diploma Engineers Association Nepal.

[30] Bhandari, U. (2013). Technical Vocational Education and Training (TVET) Development and Social Inclusion in Nepal. TEVT Development Journal Vol.13.

received much attention and contribution for the development of TVET sector not only from the government but also from development partners.

1.6 Rationale for National TVET Sector Strategic Plan (TSSP)

Despite the large number of TVET actors, the system is not performing optimally in preparing employment relevant workforce and making it a responsive system to the job market. As a result, the demand and supply gap between the employer and the producer of TVET graduates is visible (MoEST/BC/EU 2021). This has led to a situation whereby hiring foreigners in certain skills areas has become inevitable. As per Sharma (2021), estimated 500,000 infrastructure workers and 100,000 jewelry makers across the country are foreigners. Sharma (2021) also opines that 40-70% laborer in Terai are foreigners. These few examples call for a strategically directed TVET sector plan that can, *inter alia*, guide preparation of TVET principles-based legislative instruments at all government levels, and then develop institutions and ILE resources to prepare workforce ready for the business and industry/ economic sectors.

The TVET sector development context discussed above, indicates that this sector was more or less established gradually over the time and mostly remained as a non-formal sector. A planned intervention with holistic vision and a long-term strategic direction has never been prepared. This initiative is therefore fulfilling the planning gap long felt in this sector.

Over the recent past a few historic milestones have been achieved in the TVET sector, namely: approval of NVQF by the cabinet, development of NVQF, world declarations of SDGs, development of SESP and other policy instruments have paved the way for development of an integrated, holistic and a visioner planning document for the development of TVET sector.

The constitutional mandates and the new governance structure in the country has necessitated restructuring of both governance and administrative system in the TVET sector.

As such, the TVET Sector Strategic Plan (TSSP) aims to develop strategic directions for the next 10 years that will lead to achieve the following:

a) The TSSP is largely guided by its long-term vision and mission that is structured around, and responsive to, labor market demand for country's industrialization, productivity and economic development which is the foundation for sustainable prosperity.
b) Provision of necessary policies, regulatory frameworks and strategic directions for structural and functional realignment of TVET system to address constitutional provisions and the governance system. This will help bring all TVET services and service providers under a one-door system. The one-door system will minimize duplication, and ensure uniformity and quality standards across all short-term training programs implemented by federal ministries and central level agencies, provincial ministries, local governments and non-government organizations. The plan will provide standard operating procedures guidelines to be strictly followed by the implementing agencies at all levels that they are recognized and properly accredited.

c) Consolidation and consolidations of TVET programs and activities scattered across ministries, departments and private sector. This will help improve recognition and accreditation of both TVET services and service providers in the country.
d) Minimizing the gap between demand and supply of workforce by responding to the market needs and demand for qualified and competent workforce.
e) Partnership with Business and industry in developing quality TVET programs and for its implementation so as to guarantee gainful employment

1.7 Theory of Change

The vision for this TSSP is to produce a skilled *workforce for sustainable development and a prosperous Nepal* with the mission *to equip youths and adolescents with 21st century skills and technological knowhow in fulfilling market demands in a sustainable way for the world of work.* There are three important concepts embedded within the vision and mission: (i) TVET graduates must be skilled, ensuring that the courses have served their purpose and made graduates ready for the respective agencies; (ii) The system is structured around, and responsive to, labor market demand. I.e., the needs of the private sector are taken into account when planning the topics, distribution, capacity, content and availability of TVET courses; and, (iii) the workforce is prepared for *sustainable* business and enterprise that does compromise future generation's resources for short term gains.

In order to pursue this vision and mission, and based on the analysis of challenges and opportunities in the sector, the TSSP's goal for reform is: *a) to strengthen and operationalize all TVET institutions to run in their full capacity and producing relevant and competent workforce,* and *b) to change the values and acceptability of technical and vocational education programs in the country*. This will be undertaken in a phased approach. The first phase, consisting of two years, will be focused on consolidation and capacity building, to align the disparate strands of TVET and ensure there is sufficient institutional capacity to deliver quality results. The second phase, of five-years, will be focused on gainful results, when it is expected to see utilization of services increasing, and an improvement in the employability of TVET graduates. The third phase, of three-years, will follow a mid-term review, and will focus on expanding and scaling TVET provision, while maintaining the gains made in the initial two phases.

There are four key components/objectives associated with this change: (i) Equity and Access; (ii) Quality and Relevance; (iii) Governance and Management; and, (iv) Coherence and Transferability.

1. **Equity and Access:** The key issue affecting equity and access to TVET is the under-utilization of the available course capacity. This is driven by a range of factors, but analysis suggests students are unwilling to commit to long term courses (due to the length of time they will not be earning) or, once enrolled, students find their economic situation does not allow them to complete the course, which drives high drop out. Therefore, in this context, efficiency of the system is primarily an access issue – access of resources. During phase one there will be an emphasis on creating the support structures to enable students to commit to courses, and to scaleup Dual-VET apprenticeship with involvement of business and industries to enable students to earn while learning. Further, this plan will reform the existing courses to provide maximum flexibility to the students to enter and

exit from the course but their learnings are counted for the completion of the course within the given period of time along with their other commitments. During phase two, these changes will help drive increased utilization of the available capacity (from the baseline 51% to above 90%). Only at phase three will there be significant expansion of TVET services, once the existing capacity is fully utilized.

2. **Quality and Relevance:** Quality is measured by the skill acquisition and industry readiness of TVET graduates, whereas relevance is measured by whether the supply of graduates matches with the demand (i.e., does the number of graduates with specific skills equate to the number of available jobs in the respective industries?). Thus, both quality and relevance are highly determined by status of business and enterprise. Therefore, phase one will focus on strengthening and enriching the linkages with Business and Industrial Associations (BIA) at all levels, while improving the institutional capacity to improve curriculum, assessment and instruction based on BIA engagement. Phase two will focus on rolling out the improvements at existing centers, and phase three will scale it up nationwide.
3. **Coherence and Transferability:** As mentioned previously, there are disparate elements of TVET which need to be coordinated and aligned in a single structure. Governance and management will address the institutional arrangements, while coherence and transferability address the frameworks that ensure equivalency, recognizable accreditation and transferability of acquired skills into new (re)training opportunities. Therefore, this area will be a significant focus during the first phase of the TSSP. During this time, a framework to align and coordinate with the (more than) 12 ministries involved in TVET, the provincial governments and the local levels shall be established. In addition, the equivalency framework and accreditation systems will be consolidated into a coherent framework that aligns and rationalizes training pathways across the sector. During the second and third phases, this will be reviewed and updated to resolve emerging issues.
4. **Governance and Management:** The current sector is characterized by many well-planned initiatives that lack clear consistency and alignment. Therefore, the TSSP presents a model for an aligned implementation and coordination framework to align the activities of the (more than) 12 ministries, provincial government and local levels that are currently implementing TVET. The plan also sets out the requirements for a strengthened information management system to provide comprehensive data analysis on the TVET sector and inform planning at all levels. The first phase will focus on building common understanding on the roles and responsibilities of institutions within the sector, and strengthening the guidelines, mechanisms and frameworks for effective implementation (including information management system strengthening, curriculum and assessment). The second phase will focus on rolling out the new guidelines, mechanisms and frameworks consistently nationwide. The third phase will be determined by the mid-term review to identify the gaps after the initial five-year implementation period and address them.

1.8 Results Framework

VISION

Skilled human resources for sustainable development and a prosperous Nepal

MISSION

To equip human resources with 21st century skills, knowledge and attitude in fulfilling industry-ready and entrepreneurial workforce for the world of work.

GOALs

To strengthen and operationalize all TVET institutions producing relevant and competent workforce and seamless opportunity for further education.
To enhance the values and acceptability of technical and vocational education programs in the country.

Objective & Strategies

Equity and Access

Obj 1: Running TVET institutions and programs in its full capacity

Obj 2: Introducing various models of training for 'Flexible learning' opportunity.

Strategies

1.2.1 Expanding/ prioritizing and focusing TVET programs and institutes in new emerald economic areas as per the geographical and demographic needs

Quality and Relevance

Obj 1. Strengthening quality and efficiency of TVET services and system.

Obj 2. Institutional Strengthening (Support system, service delivery and establish operational norms and standards in all schools/institutions)

Obj3. Development and maintenance of infrastructure for better learning environment.

Obj 4. Improving quality and relevance of TVET programs - both short and long-term courses

Obj 5. Evidence based policy and

Coherence and Transferability

Obj 1. Accelerating NVQS implementation process

Obj 2. Standardization of certification and accreditation

Obj 3. TVET Program and System restructuring

Governance and Management

Obj 1. Restructuring of TVET governance system

Obj 2, Delineation and delegation of TVET functions

Obj 3. Establish knowledge management system

Obj 4. Strengthen school level management system

1.9 TSSP Preparation and Structure

Prior to developing TSSP, a series of analytical reports, TVET sector analysis reports, and technical papers were prepared by a group of experts and consultants supported by development agencies. The plan preparation process engaged relevant bodies at all levels of government, representatives of business and industrial groups such as FNCCI and CNI representatives from ministries and departments providing TVET related training and capacity development programs.

The TSSP is divided into five chapters. First chapter sets the backgrounds drawing upon different contexts and current status of the TVET sector in the country. References have been made about emerging trends in both general and vocational education globally. The theory of change broadly outlines the strategies of the TSSP in meeting national vision, mission and goals. The chapter basically sets the framework for the development of a strategic plan in the TVET sector.

Second chapter focuses more on lessons learned in the TVET sector mostly within the country and provides a comprehensive overview of the challenges and opportunities that lie ahead of us as a plan for the future. The plan essentially builds on these documented challenges by attempting to overcome them. Meanwhile, the opportunities helped us build the roadmap for the development of the TVET sector.

The third chapter is dedicated to discussing the plan (TSSP). The plan has five major components and each component is presented in a more systematic manner by highlighting specific objectives, challenges in the component, strategies, and activities. Each component includes result framework and performance indicators including baseline and expected target annually.

The fourth chapter brings cost estimates and financing strategies, including discussion on the country's fiscal frame and cost-sharing option. Finally, the fifth chapter talks about implementation strategies with a phased intervention. The ten-year TSSP will be implemented in three phases. The first phase of two years will focus on consolidation, standardization and capacity building of TVET programs and institutions. The second phase of three years will focus on improving quality relevance and productivity by ensuring full occupancy and high-income jobs for TVET graduates. The Third phase of five-years will expand TVET services by reaching throughout the country and supplying the workforce with relevant skills and competency to meet the demand in the world of work. This chapter also discusses the way forward indicating preparatory works to be carried out in order to rollout this plan.

Chapter II: Challenges, Opportunities and Lessons Learned

2.1 Background

This chapter provides a comprehensive overview on achievements made so far and on prevailing challenges and opportunities within the TVET sector, and finally builds on the lessons learned. The discussions brought in this chapter are largely drawn from the TVET Sector Analysis Report, 2022 and the TVET Sector reform strategic plan, 2022 (Technical Report). This chapter is organized according to the four main objectives/components of TSSP, e.g., *Equity and Access*, *Quality and Relevance*, *Coherence and Transferability, and Governance and Management*.

Equity and Access refers to the availability of courses to meet the supply side (the number of interested students), the demand side (the availability of suitable meaningful employment), and access and participation of students coming from different backgrounds including gender, social, economic, and physical condition. *Quality and Relevance* refers to the capacity of institutions to foster the required skills in students and ensure that these skills are those required by BIA. *Coherence and Transferability* refers to an arrangement of a coherent and one door system of TVET programs and Institutional arrangements. Finally, *Governance and Management* refers to the coordination mechanism and allocation of different roles and responsibilities among different levels of governments, ministries and actors like BIAs.

2.2 Achievements

Information on chronological development of the TVET sector in Nepal, that can also be considered achievement, has been already discussed in earlier chapter. Discussion in this chapter is specifically focused on four key components of TVET program that has been included in this TSSP – Equity and Access, Quality and Relevance, Coherence and Transferability, and Governance and Management.

EQUITY and ACCESS

Currently, CTEVT and CEHRD are the two major government wings that govern TVET programs in the country. A number of federal ministries and Business and Industrial Agencies also run specific short-term training programs. The TVET long-term opportunities are available through various implementation models listed below:

A) Technical and Vocational Education Training: altogether 1106 schools are providing TVET opportunities which are managed under the CTEVT system.
   a. Technical Education in Community Schools (TECS) has the largest coverage in 572 schools which is 52% of the total institutions
   b. Private schools are the second largest provider of TVET programs with its coverage in 429 schools which is 39% of the total institutions.
   c. Partnership schools are 42 which is 4% of the total.
   d. Constituent schools are 63 which is 5% of the total.

CTEVT is offering a 3-year Diploma program in 465 schools, 18 months Pre-Diploma in 455 schools and both Pre-Diploma and Diploma programs in 186 schools. The long-term programs are offered mostly as institution based, whereas few programs of pre-diploma level are offered in an industry-based mode as well.

B) Technical Stream in general education: altogether 485 schools are providing TVET opportunities in community schools through CEHRD. The Technical Stream of CEHRD is a five-year program that runs from grades 9-12 and one year on-the-training.

	CEHRD	CTEVT			Grand Total
		Diploma	Pre-Diploma	Total	
Programs	6	32	26	58	64
Program duration (Years)	4 + (1 yr OJT)	3	1.5	1.5-3	
Minimum entry criteria	Grade 9	SEE	SEE	SEE	

Source: TVET SAR, 2022

TVET short-term opportunities range from a few days to a year. While MOEST/CTEVT operated short-term training are at least one week long and up to one-year, short-term training programs of other ministries range from a few days to maximum 3 months.

Distribution of TVET Schools/Institutes and Programs

A total of 1591 schools offering long term programs were spread over all seven provinces (Fig 3.3) with the highest number (363) in Bagmati Province followed by Lumbini (283), Sudurpaschim (213) and 207 each in Madhesh and Province One. Karnali and Gandaki provinces were the two with the lowest number of schools (159 each).

	CEHRD	CTEVT			Grand Total
		Diploma	Pre-Diploma	Total	
#School/Institutes	485	558	548	1106	1591
Total programs offered	485	1102	956	2058	2543
Enrollment Capacity	23280	46024	38107	84131	107441
Actual Enrollment	16148	28357	10366	38723	54871
Actual Enrollment in %	29	52	19	71	51

Source: TVET SAR, 2022

Disaggregation of access to schools by province shows that Province One (56%) followed by Madhesh (49%) and Lumbini (47%) had the largest share of Technical Stream/ CEHRD schools. In comparison to those provinces, Karnali (58%), Sudurpaschim (43%) and Gandaki (42%) had access to the largest share of CTEVT schools. Although in small proportion compared to the first categories of schools, all provinces have presence of both CTEVT and CEHRD schools.

Distribution of programs suggest that 32 programs (50% of total 64 programs) are currently offered at the Diploma level, followed by 26; 41% at the Pre-Diploma level and 6.9% in the

technical stream. By sectors, engineering held the largest share (47% of total 64 programs) and was followed by health (27%) and agriculture (13%).

Similarly, 84% (of the 753) local levels had access to technical schools. Conversely, 16% local levels (120) were yet to have this facility. By sectors, engineering occupied the largest share (42%) of the overall enrolment capacity followed by agriculture (33%) and health sector (21%).

Access to TVET programs has been made easy by putting relaxing entry criteria in place. For instance, Grade 8 completion is the only eligibility criteria for the technical stream. Similarly, all who completed School Education Examination (SEE) are eligible for Pre-Diploma and Diploma programs.

Students/Graduates

The TVET system has made significant contributions through outputs such as graduate preparations and development of systems and tools for facilitating the TVET operations. So far, it has prepared 353,572 graduates for long term courses. Likewise, certified through skills testing, it has facilitated training to more than 387,695 individuals in various occupations.

Following the then Prime Minister's vision to open CTEVT approved schools with one in each 753 local levels, the school numbers started to increase and its number grew to 1591 in 2078. All these provisions had 107,411 enrolment places but such expansion was not supported by student enrolment. For instance, it was 90% on average in 2074 which plunged to 51% in 2078. As against the growth rate of the technical schools, the enrolment rate in general has been negative in both Pre-Diploma and Diploma programs.

Indicators	CEHRD	CTEVT			Nepal
		Diploma	Pre-Diploma	Total	
Student number in surveyed schools (2078)	**16,262**	**28,357**	**10,366**	**38,723**	**54,985**
% of Girls	41.0	43.6	45.4	42.6	43.1
% of Dalits	12.1	10.1	12.2	12.2	11.1
% of Janajatis	31.7	30.9	31.1	31.4	31.2
% of Madhesis	15.4	16.9	13.5	14.7	15.8

Source: TVET SAR, 2022

Scholarships

CTEVT had scholarship provisions for up to 10% of the enrolled capacity to support the less privileged from an inclusion and equity perspective. Yet, 27.5% Diploma and 74.9% Pre-Diploma level scholarships remained unused in 2078. Furthermore, Province governments as well as several local governments also providing scholarships to the needy youth, however these are not explicit through any formal reports yet.

QUALITY and RELEVANCE

This performance area presents status in key elements of a quality assurance system: accreditation, instructors' management, curriculum, and lab facilities-machines, tools and equipment.

Progress has been made in the development of institution's 'Accreditation System' which has been piloted recently and is in the course of its implementation. Furthermore, there exist many skills standards, curriculum and learning materials developed with the involvement of industries.

Instructors' training system under the CTEVT has received an international recognition as well. Qualified instructors serve as the backbone of the TVET system. Out of the total, where 63.6% of the teachers are currently engaged in approved positions. Some schools have managed to hire additional instructors and assistant instructors from schools' own resources. Findings suggest significant improvement in hiring good quality instructors and improving instructional-learning-environment (ILE) in schools. CTEVT manages instructors through 4 types of contract provisions: i) permanent; ii) service contract (called as *Sewa Karar*); and iii) part-time.

According to the data, on average 2.88 instructors per program (vis-à-vis requirement of 3) were available for Pre-Diploma programs. Out of them 0.31 instructors per program had 'permanent' contracts, 0.74 were in 'temporary' contracts and the majority (1.83 per program) were in 'service' contracts**.** As the total instructional staff (4.0) was insufficient against a requirement of 5 instructional staff (shortfall of 20%), schools' ILE was maintained through part-time instructors. On average, 1.26 instructors (25.2%) were hired on a part-time basis.
Similarly, on average, 6.13 instructors per program (vis-à-vis the requirement of 10) were available for Diploma level. Of these only 0.71 instructors per program had a 'permanent' position. As such, 1.97 were in 'temporary' contract and the majority; 3.45 per program were in 'service' contract. Because the total instructional staff (6.13) was insufficient in contrast to the CTEVT requirement of 10 (a shortfall of 38.7%), schools hired 4.52 instructors on part-time basis which was 89% more than allowed by the CTEVT provisions. By way of training, of the total Diploma level instructors in the responding schools, 24.5% had instructional skills training. Training institutes for technical instructions (TITI) at federal level and Instructors' Training Centers (ITCs) at province level provide instructors/ teacher preparation services. Above findings suggest significant improvement in hiring good quality instructors and improving instructional-learning-environment (ILE) in schools.

Regarding quality of courses, a range of testing tools and assessment systems are in place to administer quality and competency of graduates. Schools generally offered their programs in technical school premises as well as through On-the Job-Training (OJT) models of workplace-based training. In the case of short courses, all 1696 hours curricula had mandatory provision of 576 hours OJT. Technical stream curricula, on the other hand, had a provision for one year of OJT during the school-based education making it 12.5 years (2 years after grade 10 + 6 months' OJT) education.

The formative assessment in practice assesses learner's competency on specific tasks. Likewise, CTEVT also conducts final examinations. The National Examination Board (NEB) conducts exams for All technical stream students. Finally, the National Skill Testing Board (NSTB) is tasked with assessing competencies of elementary to level 4 candidates.

Findings suggest that the grade promotion rate in the technical stream appears to be slightly in a declining trend. Pre-Diploma level cycle completion rate for 2076 intake was 38% while it was 52% for Diploma 2072 intake. Survival rate was 59% for Diploma level and for the technical stream was 57.9%.

One of the important factors to measure relevancy of the course is employment rate. Employment rate of Technical Stream graduates was 29% compared to Pre-Diploma (61%) and Diploma (66%) graduates under CTEVT schools. The higher employment rates with CTEVT graduates appears to be linked with standards and curriculum developed by CTEVT used by training providers/ stakeholders. The NSTB certificates are immensely useful for ensuring recognition of skills learned in the in/non formal sector. Similarly, records of the Training Institute for Technical Instructions (TITI) suggests that although limited in number, its expertise has been used to train both national and international TVET professionals.

Besides, representation of Business and Industry Associations (BIAs) in CTEVT Assembly and Council, in NSTB, in Sector Skills Committees and in School Management Committees (SMCs) provides a platform where different stakeholders can converse in the development and implementation of relevant TVET programs in schools.

COHERENCE and TRANSFERABILITY

Current TVET system has many actors and stakeholders that bring diverse interest and demand for a variety of skills and competencies. Some discourses have already begun in prioritizing the focus of TVET more into employment and in ensuring a decent job, while at the same time opening windows for different career pathways. MOEST, in collaboration with CEHRD and CTEVT, has conducted a series of consultations with other federal ministries, provincial and local government bodies and the BIAs to consolidate diversity of TVET programs as coherent and accredited programs that any service providers can and should offer. Approval of NVQF provides the necessary direction in this regard. The low turnout rate in TVET programs and shortage of relevant and competent workforce in the market is although awkward to note, it is a challenge to be addressed in this plan.

GOVERNANCE AND MANAGEMENT

Legislative Provision

As per the constitutional provisions, TVET is the concurrent rights of the three tiers of government. The roles and responsibilities of the TVET sector has been divided in the constitutional unbundling report as follows.

Federal Government	*Provincial Government*	*Local Government*
• National Policy, curriculum model, qualification, standardization of skill test and regulation of technical education and vocational trainings. • Determination of national standards of educational institutions. • Determination of equalization/equal status of education al qualification. • Determination of national standards relating to scholarship and stipend.	• Provincial human resource projection and formulation of education plan and implementation. • Provincial policy curriculum and course materials preparation, implementation and regulation of technical education and vocational trainings. • Scholarship management of technical education and vocational trainings. • Labor market study. • Decent work and occupational health and safety.	• Plan formulation, operation permission and regulation technical education and vocational training. • Distribution and implementation of curriculum and teaching material. • Management of school teachers and employees. • Construction and maintenance of educational infrastructures. • Management of student encouragement and scholarships. • Protection and standardization of educational knowledge, skills and technology of local level.

Source: Federalism Implementation and Administration Restructuring Coordination Committee, 2073

Further, the Local Government Operation Act 2074 has mandated local government with the responsibility of governance and management of both Basic and Secondary school level education. School-based TVET programs receive their funding support through the local government while concerned agencies such as CTEVT and CEHRD provide technical and logistic support through their appropriate units.

While ***Technical Stream*** programs in schools are managed by CEHRD and have developed their own operational guidelines, ***Technical Education*** programs of CTEVT are managed and governed under the CTEVT Act, 2045. These regulatory provisions provide necessary support for schools and institutions with the mandate to preparing high level technical workforce[31]. Nevertheless, due to the new federal context, timely amendment in the CTEVT Act has become a necessary condition for setting the governance and management as per the constitutional provision and to address the country's needs of competent workforce.
Approval of NVQF by the Cabinet has now paved the way for establishing both vertical and horizontal permeability across formal, vocational and informal sectors.

[31] CTEVT Act, 2045 (amendment 2064).

Institutional Provision

At the federal level, MoEST and a number of other ministries provide a range of short and long-term TVET programs. Both CEHRD and CTEVT programs are being offered by 1591 schools and institutions throughout the country. Institutions such as, Curriculum Development Centre (CDC) prepare curricula for the technical stream and the teacher training responsibility rests on CEHRD. Similarly, National Examination Board (NEB) is another institution under MoEST that is responsible for examination and certification of technical stream students.

CTEVT, on the other hand, is responsible for both quality assurance and implementation responsibilities. The quality assurance responsibility includes research, national standards, curriculum framework as well as model standards and curriculum development, instructors' preparation, monitoring & evaluation (M&E), assessment and certification of both formal and in/non formal learning. While the Office of the Controller of Examinations (OCEs) under CTEVT is responsible for the assessment and certification of long-term programs, the National Skills Testing Board (NSTB) organizes skills tests for all short-term training program graduates. It has also initiated Recognition of Prior Learning (RPL) helping certification of competences gained in in-formal/non-formal setting and facilitating pathways for their integration in the formal TVET system. Training Institute for Technical Instructions (TITI) provides training opportunities to TVET professionals, including managers and administrative staff. CTEVT has a provincial office in each province responsible for delivering its federal level mandates.

The other federal ministries include Ministry of Labor, Employment and Social Security and Ministry of Industry, Commerce and Supplies implement or facilitate the implementation of short-term programs. However, the Ministry of Culture, Tourism and Civil Aviation (MoCTCA) through the National Academy of Tourism and Hospitality Management (NATHM) and Mountain Academy, apart from short-term training, also offers Bachelor's and Master's level programs.

Financing

The overall budget allocation to the education sector has been comparatively low and almost always it has remained below our expectation. The budget that goes to the TVET sector is undoubtedly low which has remained at or below 6% for several years now. Nevertheless, increasing trends in development partner's interest in this sector is quite notable in recent years. Several TVET projects are in operation with the financial and technical assistance from the development partners.

Monitoring and Evaluation

CEHRD and CTEVT have their own monitoring and evaluation (M&E) units that oversee this function in their respective schools. As TVET is a complex education system requiring a lot of technical backstopping, M&E focused on learning outcomes is one of the areas that require substantial improvement and capacity building.

Knowledge Management

CTEVT has its MIS and CEHRD has its own IEMIS that provide comprehensive information about both general and technical vocational education and training programs. Since several ministries and service providers at all tiers of governments operate TVET programs of long and short-term

nature, a coordinated and holistic system for TVET information management has become a necessity. Coordination and record keeping systems are also needed to document all seminars/ workshops and knowledge exchange activities that these different organizations frequently conduct. A coordinated system is also necessary for conducting knowledge exchange meetings/ studies

2.3 Challenges

ACCESS AND EQUITY

TVET services have expanded significantly in recent years. The expansion of TVET services and strengthening existing schools is a major challenge in the sector. This is because a large number of schools offer a large number of TVET enrolment opportunities. However, low enrolment rate (19%-71%, averaging 51%), low cycle completion rate, and low employment rate suggest the expansion as less useful in achieving its objective. Low survival (39% – 85%) and completion (19%-75%) rates with high dropout rates (CEHRD: 14.5% – 38.8% per year increasing with each grade). Possible reasons that have been put forward are:

- Low entry requirements/weak entry criteria, meaning students that are not ready for the course are enrolled regardless of ability and prior understanding
- Pressure to enter the workforce and bring income into the households
- Pressure to migrate abroad to bring remittance to the household
- Long duration of courses and absence of modular structure means courses are not flexible to students' conflicting commitments and financial obligations
- Students without the necessary background knowledge enroll in unsuitable courses

Furthermore, the scholarship quotas under CTEVT have remained vacant suggesting that the cost of courses is not prohibitive, but rather the absence from the labor market is a major concern for young people.

There is limited, or no, vertical expansion (further educational opportunity) after Diploma level. This, combined with associated recognition issues with qualifications have contributed to lower the attractiveness of TVET programs. That said, discussions with stakeholders revealed a lot of students engage in multiple short-term courses. This is unlikely to be a good use of resources of students' time since it results in a plethora of low stakes qualifications.

The student support system with responsibility in all kinds of counselling, hostel facility, and access to persons with disability, gender and disability-friendly restrooms, employment facilitation for wage/ self-employment and enterprise development is limited mainly to sharing some information to students capable of approaching school management. It is not put in place as a spontaneously working system.

Despite free TVET under CEHRD, the schools under technical stream have been collecting resources from parents under 'parent's contribution' heading proving that the objective of enhancing access to all through 'free education' is not fully met.

QUALITY, RELEVANCE & EFFICIENCY

One central challenge to TVET is that the quality and relevance of the available outcome is assessed by employers that they are not industry-ready. The TVET SAR 2022 presents considerably low graduate number and employment rates annually allowing space for BIAs comment 'that they are unable find TVET graduates for their enterprise/industry' Ceremonial participation of BIAs was noted as another critical limitation in the standard and curriculum development context. Ceremonial representation of BIAs in various bodies under CTEVT – Assembly and Council -- could partially explain the crux of the problem behind the relevance issue. Even the SSCs, mainly due to issues with their formation process, have yet to assume their actual roles: a) in labor market information system (LMIS); b) policy formulation and implementation; and c) employment facilitation. This macro level tendency was found to be replicated at the school level where only one member was a BIA representative on the average of every 6.5 members of the SMC. As a result, TVET does not follow the requirements of industry, nor does it expand into new areas. Due to narrow understanding of TVET which confine it mainly in engineering, agriculture and health, other vocational occupations in banking, marketing, fashion design etc. that could offer horizontal expansion are excluded by the sector.

Underfunding and lack of expertise has resulted in limited counselling, lack of reliable market appraisal, lack of properly trained trainers, insufficient laboratories for practical training, limited or no on-the-job-training opportunities and very insignificant employment and financial linkages support.

In particular, there is an inadequate number of instructors in place, which has resulted in a high level of reliance on part-time instructors which is harmful from a quality perspective. For those who receive training, the current instructors' training is mostly focused on instructional skills but not on workplace-based and occupational skills upgradation (OSU) training.

Regarding facilities, Inadequate machines and equipment in many schools was the reason for serious issues with quality and efficiency aspects in the sector.

TVET curricula are heavily theory focused with limited provision for practical training and some contents are irrelevant which makes it difficult to complete within the specified duration. They are often criticized for paving a path towards university access rather than facilitating preparation of a competent workforce. These problems were common to all the programs alike.

Assessment remains problematic. The absence of monitoring focusing on measurement of learning outcomes is one major limitation in the current achievement assessment system. Examinations are theory focused and achievements are rated in percentage terms as in general education. TVET graduates need to be assessed based on the competence assessment through practical assessment in the real workplace which calls for current assessment practices at NEB. This limitation, to some extent, exists with OCEs in CTEVT. The latter is severely criticized by students/ graduates based on the duration taken to publish results after completion of the final assessment event. For TVET reform and NVQS operationalization, formative assessment is absolutely necessary. However, current understanding of formative assessment is limited to regular theory focused internal tests. This assessment process might not achieve the objective of formative assessment. It undermines the overwhelming potential of formative assessment.

COHERENCE AND TRANSFERABILITY

- The Pre-Diploma graduate certificates do not carry any credit value requiring them to invest another 3 years' study period should they pursue Diploma level qualification. This condition has to be clearly conveyed to students and parents during their Pre-Diploma level enrolment process for helping them making informed decision making in this regard
- Delay in the implementation of NVQF leads to lack of relationship between NVQS, and CTEVT and CEHRD programs; that between CTEVT and CEHRD; and that even within CTEVT Pre-Diploma, Diploma and RPL/ skills test achievements persist.
- Short term training has remained as a stand-alone qualification limiting graduates' opportunity for furthering education - horizontal and vertical progression.
- Absence of credit accumulation and transfer system (CATS) has adversely affected learners' possibility for multi exit/entry from and to further their education while also engaging themselves relevant employment
- There are many schools who opine that OJT is best done within school compound itself which is largely not true
- Requirement of spending whole study/ learning duration for completing a qualification makes the current TVET system inflexible and unfriendly to learners interested in supporting their own study
- Lack of identification of occupations aligned with NVQF levels/ qualifications offered under Technical Stream and BIAs
- The current TVET Policy 2076 is part of the National Education Policy. Hence, it is known to only limited stakeholders and hardly referred to. As explained above, some of its provisions conflict with TVET principals.
- CTEVT assumes both implementation and regulatory responsibilities. As such CTEVT is overburdened with implementation responsibility of over 1000 Technical Schools
- Current Technical Stream schools offering qualifications (up to Grade 12) are operational under Local Level. However, the one-year OJT provision promulgated in the Education Act (Eighth amendment) makes it a 5 years program (Grades 9 and 10; 2 years after Grade 10/ SEE and 1 year OJT). Therefore, the current Technical Stream is not school education.
- Unless a federal TVET Act in the federal context is promulgated, the sector fragmentation will continue to grow and continue the current sector chaotic situation. For instance, the TVET was considered fragmented not only among various ministries, it was also fragmented even within MoEST.
- This fragmentation is at its worst condition now as in parallel to the fragmentation at the federal level, it has been now replicated at the province level with TVET relevant programs at least within two ministries (MoSD) in seven provinces. With the handover of Technical Stream schools at the local levels, this problem has further deepened and extended at the 753 local levels.
- Many projects such as Employment Fund, Enhanced Skills for Sustainable and Rewarding Employment (ENSSURE), Safer Migration (SaMi), Enhanced Vocational Education and Training (EVENT), Skills Development Project, TVET Public Private Partnership (TVET PP) (divided into Dakshyata and Sachymta sub projects) provided immense opportunity for short term training.

GOVERNANCE AND MANAGEMENT

- Lack of authentic and automated LMIS established by/ through SSCs has been perennial problem
- The management information system (MIS) which is expected to include TVET MIS (TMIS), Labor Market Information System (LMIS) and Financial Management Information System (FMIS), except for some progress with TMIS, the rest is weak. For instance, schools hardly keep abreast of information on what is demanded in the market and what their graduates are doing.
- The TVET system, particularly CEHRD and CTEVT, suffer due to lack of updated TMIS. Despite efforts of many years, LMIS is lacking. Even the FMIS is not well placed
- Both CEHRD and CTEVT system, albeit their current, capacity, lack HR capacity to prepare workforce that meet the 21st Century, leave alone the industry revaluation 4 (IR4) needs in the both domestic and world employment markets
- The instructors training is mainly limited to instructional skills development or professional development and that too mostly if not exclusively, for Technical Stream instructors and CTEVT staff.
- Precarious is understanding on TVET including that at school level
- Monitoring is largely considered a ritual.
- Some kind of communication mechanism such as notice board exists in schools but it does not as standard communication strategy explaining message, media, timing, duration targeting the audience
- Current meagre shares and fluctuations in budget have two implications that TVET: i) is not adequately financed; and ii) is not getting share which is essential to meet the government's vision of increasing the TVET enrolment to 70%.
- Unless a well-funded human resources management (HRM) plan including international opportunities is developed and operationalized also for ensuring planned capacity building of staff, it will be almost impossible to build capacity at the both school, provincial and federal level. It eventually means continuation of 'usual-business' practices
- TVET is by and large considered supply side responsibility. This approach opposes one of the fundamental principles of TVET i.e., TVET should be closely related to demand. Although, equity is another principal but the entry point must be demand side analysis for ensuring relevance. In that sense, TVET is nothing but an 'economics' where market forces need to work freely.
- Albeit a very powerful Act, it needs change in the federal governance context through a federal TVET Act embracing TVET principles:
    - i) demand-based,
    - ii) systemic autonomy with capacity to interact and address the ever-changing needs of the both domestic and international employment markets,
    - iii) and in analogy to it (bullet 'ii' above), BIAs participation that is capable of making policy influence for preparing a workforce capable to compete also in the international employment market.
- At the provincial level, no autonomous TVET institution exists under the Ministry of Social Development (MoSD) for managing TVET schools. On the other hand, MoSDs have limited staff to assume this responsibility, let alone possessing necessary expertise to deal

with complex issues associated with TVET. Therefore, this important limitation with provincial MoSD/ MoE needs to be addressed through immediate, mediate and long-term capacity development plan.

This situation largely holds true in case of local level as well and therefore, calls for a continued productive partnership for technical inputs between these agencies and CTEVT. However, even such collaboration has not started yet.

2.4 Opportunities

EQUITY and ACCESS

A large number of schools with limited enrolment and spare capacity offers a large opportunity to improve the scale of service delivery with minimal increases in costs. Rather than establishing new schools, new programs could be added in the existing schools and use a shift system that could offer TVET opportunities to a large number of students from a single school. There are an estimated 841 thousand youths living in communities without employment that could be engaged in meaningful employment if there is market-researched, quality training. Similarly, skills and recognition of the estimated 4.4 million workers in the informal sector could be enhanced through existing workers training and RPL. Widening NSTB capacity and operationalization of NTQS could truly help not only the short-term training graduates but it could also support learners in the non/ informal sector.

In addition, Nepal has a large migrant workforce. In general, migrants leave as unskilled and return with experience, some skills, yet few credentials or qualifications to gain further employment. A system of recognizing the skills and knowledge they have gained abroad through RPL and providing pre-departure skills training would enable migrants get better work and returns. This would contribute to GDP via remittances, and also assure their meaningful employment in Nepal. In addition, entrepreneurship training could be useful for returnees to mobilize savings they have built up while abroad.

Modular competency and credit-based curricula provide opportunity for both horizontal and vertical progression which could even facilitate diagonal progression in general education. This approach could open learning opportunities to a large number of learners, since students will be able to start, pause and complete their studies at a pace that allows balance between their studies and other (such as financial and family) commitments. This, to a large extent, could offer the opportunity of 'earning while learning' in true sense. Meanwhile, scaling up of the dual-VET apprenticeship and the training to the existing workers could benefit larger number of Nepalese youths for their sustainable livelihood. The possible beauty of such arrangement is that even a short-term training graduate could further their education while also engaging in employment, self-employment and managing own enterprise

QUALITY AND RELEVANCE

BIA engagement is critical to ensuring the relevance of TVET. However, this can only be achieved once the TVET system is integrated and the coordination mechanisms between institutions are

established (see below). Once that is achieved, BIA needs to become more than ceremonial participation in leadership. Instead, BIA needs to be engaged for market research for demand-driven planning, scaling up of learning and earning programs, identifying skill gaps with existing workforce, and curriculum development to enhance missing components. CTEVT has experience in conducting employment market research, fundamental for development of market relevant standards and curriculum. CTEVT has also proven competence in standards and curriculum development following internationally recognized methods. In addition, for some institutions collaboration with business and industry for its graduates is already being practiced, offering opportunities to scale initiatives.

Training Institute for Technical Instructions (TITI) with expertise in instructor training has been serving the nation for long in the past by providing instructional skills training. Its expertise is known in many countries in Asia. It develops instructional training framework/modules for pedagogical and occupational skills to implement at national level and through provincial level institutes for development of quality instructors as required by the industry. It also conducts national level research and innovation and implements B. Tech., M. Tech and Ph. D. programs to strengthen and facilitate quality instructor development. It acts as a central level technical-knowledge center. Proven expertise with TITI could be expanded across the country to help prepare instructors' competency by establishing Provincial Instructors Training Institutes (P-ITIs) (Figure 4.2). Mobilizing Chief/consultant Master Trainers at TITI, this opportunity could be availed at P-ITI for training of Technical Stream and private sector instructors.

Assessment in TVET needs to put a greater emphasis on practical skill acquisition. Instructors need to be capable of assessing the skills they are teaching and giving constructive feedback (formative assessment) so that students are able to focus their practice. This still development needs to feed directly into an operational accreditation system that will recognize practical achievement, as well as theoretical knowledge, and provide evidence for students seeking employment.

Application of Develop-A-Curriculum (DACUM) process by including expert workers (after verification from On-the Street Research) could make curriculum market responsive. Other methods such as functional analyses and co-design could be also helpful

- training and orientation of school heads/ principals and instructors has massive opportunity to reform school level instructional-learning environment (ILE).
- TVET graduates must be assessed based on the competence assessment through practical assessment in the real workplace which calls for current assessment practices at NEB.
- Some of the CTEVT constituent schools have state-of-art practical learning facilities with well-trained instructors.
- CTEVT has established a system for assessing learners' competence achieved from both short and long-term programs. It has a nation-wide known skills testing system which works closely with business and industry.
- CTEVT through various policy instruments has made efforts to enhance collaboration with BIAs.
- By developing a national curriculum frameworks and improving existing curricula through the involvement of Sector Skills Committee/Council, possibility of facilitating self-employment and enterprise development models also exist.

- The expertise the TVET system, particularly the CTEVT has, could be used for building the existing capacity of all fronts of TVET. Capacity building activities targeting head teachers/ principals and instructors could solve large number school/ implementation level problems. This could help start reform from the school level. The TITI, through provincial and local level collaboration, could conveniently harness this opportunity by working with provinces and local levels
- The learning exchange meetings even at school level could help instructors and students from each other. Particularly, in federal context where transfer of staff among provinces is extremely limited, knowledge exchange could help transfer knowledge among stakeholders, particularly, the instructors
- The immense TITI potential is largely limited in Kathmandu and therefore, remains from unleashing this potential for TVET reform at province and local levels.

COHERENCE AND TRANSFERABILITY

- Application of NVQF could help ensure recognition and also prepare higher NVQ Level graduates such through Advance Diploma (Level 5: expert workers) and Bachelor's level (Level 6) and gradually beyond it.
- As the provinces and local levels are close to the BIAs/ economic sectors, by offering more relevant study programs/ qualifications could be prepared through effective coordination between these stakeholders.
- Operationalization of NVQF would establish equivalency between TVET and general education and therefore, could facilitate vertical and horizontal, and even diagonal progression between them (Fig 5.2). It could also establish equivalency between CEHRD and CTEVT qualifications. Such an arrangement could help establish recognition of certificates for both employment and further education. As such, it would address the current recognition problem as well as expand access in TVET.
- Properly designed courses on the basis of national Competency standards developed with the support from expert workers in the respective industries could provide opportunity for modular, competency and credit-based curricula that could facilitate multi entry and exit opportunities. This could meaningfully make TVET an opportunity for students from low economic background.. This approach will also open pathways for competencies learned through short term training and non/ informal sectors.
- Operationalization of NVQF will connect all the TVET system initiatives across the provinces and local level through quality assurance systems, particularly knowledge management, standards/ curriculum, teacher accreditation/ licensing, and assessment and certification.
- CTEVT could even move to higher education level following CTEVT Act 2045 amendment 2064 Article 6.16 mandate on higher level technical workforce preparation. Surprisingly CTEVT has not made initiatives on harnessing such massive mandate that could solve many problems appearing in TVET system.

Age	Education Levels	General Education		Governance		TVET	NVQ Level	Linking short courses/ prior learned competencies with long term programs

26 25 24	Tertiary Education	Doctoral Level	Federal and Provincial Level (Schools also be with Diploma and Pre-Diploma programs)	Doctoral Level	L-8	
23 22		Master Level		Master Level	L-7	
21 20 19		Bachelor Level		Bachelor Level	L-6	
18	Post-Secondary Education			Advance Diploma	L-5	
17 16	Secondary Education	Grade 11 to 12	Local Level	Diploma	L-4	
15 14		Grade-9 to 10		Pre-diploma[32]	L-3	L-1 & 2 and RPL
13 12 11	Basic Education	Grade-6 to 8		Preparatory TVET		
10 9 8 7 6		Grade-1 to 5		Elementary/Literacy TVET		
5 4		ECD (kinder Garten)				

Figure 5. 3 Proposed TVET structure and alignment with general education

Note:

1. long term Courses will be modular, competency-based and credit based with multi entry and exit options
2. Duration of modular courses could be 6 months including OJT and will fit into various semesters of Pre-Diploma (L3) and Diploma (L4) qualifications. It may however be subject to consideration of the curriculum development experts.

GOVERNANCE AND MANAGEMENT

- Expertise includes labor market research, standard/ curriculum develop/ revision, testing various TVET implementation models, teacher preparation and quality assurance including assessment and certification
- CTEVT schools particularly, the constituents have highly qualified (academic and training) instructional staff with capacity to manage technical schools with proven relevance to the BIAs/ economic sector

[32] Pre-diploma with credit accumulation and transfer through modular courses and training programs with credit.

- CTEVT has also proven expertise in conducting TVET research, managing MIS (both TVET MIS and LMIS) and organizing knowledge exchange events such as subject specific workshops/ seminars and research journal publication
- The learning exchange meetings even at school level could help instructors and students from each other. Particularly, in federal context where transfer of staff among provinces is extremely limited, knowledge exchange could help transfer knowledge among stakeholders, particularly, the instructors
- On the financing front, in the federal context, the provincial and local levels also have resources for TVET. This budget could be mobilized for enhancing TVET quality
- Close collaboration between schools and business and industry through the preparation of industry-ready graduates could be one way for reducing costs of TVET.
- Operationalization of NVQF with detail plan of action.
- Federalization of TVET schools could help facilitate linkages between TVET and BIAs/ economic sectors and help enhance quality and relevance of the courses offered
- Province and Local governments are gradually becoming aware of their constitutional mandates in TVET sector. Both province and local levels have resources for education sectors which could be mobilized for developing TVET at both province and local levels. As such, planning of more BIAs relevant programs/ courses means the possibility of mobilizing financial resources at these levels.
- Train relevant MoEST staff at federal level and other staff at province, district and local levels. Possibility of mobilizing BIAs through institute level Memorandum of Understanding (MoUs) through Sector Skills Councils (or any other names) continued to exist.

2.5 Lessons Learned

Transition from TVET into work

Several studies and technical papers have categorically pointed out the mismatch between TVET graduates (supply) and employment (demand).[33] This may be largely because graduates lack relevant skills and have "*inadequate practical opportunities*"[34], but it may also be due to the relevance of the program to the demand. There are modalities that have shown encouraging results, for example, the EVENT project prioritized increased access to TVET for disadvantaged youth, including those living in less developed regions, females, Dalit, marginalized Janajatis and people with disabilities. Modalities included innovative financing schemes, like voucher-based and results-based financing mechanisms. The results from the project were encouraging, as 89% had "accessed employment", and 80% of the training graduates earned "gainful income". A key component had been "job placement", which more than 90% found satisfactory or moderately satisfactory.[35]

[33] Accountability Initiative (Acin) (2016). *Tracer Study of the Graduates of Diploma and TSLC Programs under CTEVT.* Kathmandu: Acin Private Limited.
[34] *Ibid.* Page 4.
[35] *Ibid.* Page i.

Getting better results from vocational training involves a host of issues, from parents' perceptions of educational prestige, to ministerial coordination, and ensuring adequate funds. Given the youth bulge, however, it ought to be prioritized in education planning in Nepal.

Abundant opportunity for expansion

The demand and supply scenarios discussed earlier and in the following chapters provide an ample opportunity for expanding TVET institutions and programs. Only that it will require careful planning, better coordination with employers and the market, and providing market relevant competencies. Unless graduates of various TVET programs are able to secure decent employment, investment made in this sector cannot be justified. Therefore, schools/ parents/ students must be oriented to these outcomes from the beginning of the program. Unless, it is done so, TVET programs, as have generally been in the past, will not be different from general education.

Both national and international markets appear to be friendly and welcoming for Nepali workforce. We can and must capitalize on this emerging trend so as to fulfil our national long-term vision of *Prosperous Nepal and Happy Nepali*.

Enhancing Market Relevance of our Programs

All the Technical stream and Pre/Diploma courses appear to have been approved either by CEHRD or CTEVT and were based on needs of the time/ presumably market when these schools were established or decided to start the programs. Since then, these courses have been offered by public or private agencies alike notwithstanding the demands for related graduates. Unless they are approved to start new courses, once they are permitted to operate, even private sector schools keep on offering the same course. This is perhaps one of the reasons for low efficiency and outcomes and suggests inefficiency in the sector is more due to policy decisions than management level deficiency.

Workplace-based training (WBT) provision in the curriculum

WBT models such as on-the-job training (OJT) are not new in the sector. Therefore, in Pre-Diploma curricula and Technical stream, though not initially, is now provisioned. In Diploma, though not specifically under the OJT nomenclature, various modes of WBT models are provisioned. But the question is whether these models are implemented as provisioned in the curricula and if done so, how purposefully and seriously they are done. Yet, during many exchanges with school headteacher/ principals, they explained their difficulty that often, employers do not cooperate, and others, they do not have resources to support students during OJT. Even NRs. 15,000 per student allocated for Technical stream was insufficient for a one-year long OJT, which needs to be availed after completing Grade 12. Unless statutory provisions enforce at least the public sector agencies to allow such opportunity, this problem may remain. Also, the end-of-course OJT in TVET steam has not been practical as OJT needs to move by semester/ or at least by year allowing students to fine tune their skills learned while they were still in school. Similarly, unclear OJT provisions in the Diploma curriculum have been reason for them to be ineffective as implementation of this provision has remained at the discretion of school management or related instructors.

Regular assessment and Improvement

Various indicators under the efficiency chapter have shown a serious need to put a quality instructional learning environment (ILE) in place. One way of achieving this is by enhancing students' learning outcomes, which is possible through lean but effective formative assessment focused on regular measurement of learners' learning outcomes.

Incentives for instructors

Schools appear to have a focus, at the most, on practical training limited to learning purposes. However, TVET schools must target services by establishing market linkage. Proven evidence suggests that income from such arrangements could avail financial incentives to both students and instructors.

Support for CEHRD

The government has been investing a huge amount of resources in the Technical stream, but its efficiency is questionable. Therefore, an intensive focus is required to improve its performance through reform in curricula, teacher training and improvement in machine and equipment. Unless a concerted effort is in place, problems in the Technical stream will remain. It is difficult to understand the factor that bars mobilizing its proven competencies in research, curriculum development, instructor's development, for instance for reforming CEHRD TVET efforts.

Quality assurance body

CTEVT has over three decades of experience, which, albeit with some limitations, has enriched it with expertise in research, standards and curriculum development, skills testing, and instructor's development and assessment. With the implementation of NVQS for several years now, we have an understanding of how the TVET system can be reformed. Therefore, CTEVT, as also provisioned in the governments' budget speech 2077/78, could be developed as a quality assurance body. Albeit need for overall curriculum reform, apparently, there is no reason why Technical Stream schools should not follow the CTEVT curriculum or use the instructors' training resources it has. Therefore, unless effective collaboration exists between these two institutions, putting effort to improve these elements at the Technical Stream will only 'reinvent the wheels.'

Operationalizing NVQS

TVET is wrongly conceived as a second option or a strategy to keep weak students in education so that they can engage in employment. However, as shown by this study, the TVET graduates have a tendency to pursue further education. As informed by workshop participants, when parents and students realize a narrow academic path after current TVET qualification levels, they leave their studies as early as Grade 10 and return to general education in Grade 11. Similarly, lack of recognition and further educational opportunity have affected enrollment in Pre-Diploma and Diploma programs. Therefore, it has been urgent to operationalize NVQS to facilitate a seamless academic path while also enhancing employment opportunities. There are no reason why technically competent people have to be certified and recognized by people who do not understand these critical elements of education[36].

[36] Pradhan, H. 2019. Struggle for Development and Operationalization of NVQS in Nepal. Progress and Pitfalls in Nepal TVET (Chapter from Book in progress).

Expansion of apprenticeship program

Butwal Training Institute has been offering TVET programs through apprenticeship models of implementation for many years now. CTEVT has also started this model in Pre-Diploma level. So far there have been very encouraging outcomes and also and so have been the responses of Business and Industries. Therefore, this implementation model needs to be considered in the Technical Stream and Diploma programs as well.

Chapter III: TVET Strategic Direction

3.1 Background

This chapter is the main body part of the TSSP that draws upon the context, challenges, opportunities and lessons learned discussed earlier in chapters one and two. These contexts and backgrounds were instrumental in framing the vision, mission, goals and objectives/components for the TVET sector in the country. The strategic directions for TVET sector development are geared more toward coordination and collaboration between and among different actors and stakeholders, in producing market ready labor-force for decent work, and in expanding outreach of TVET services throughout the country.

The chapter begins with some discussion on contexts that calls for new strategic direction for reform in the TVET sector. The contexts are essentially the legislative and policy provisions, revisions and endorsement tools such as NVQF and NVQA. A brief summary of these contexts are discussed below:

TVET provisions in the Constitution: The Constitution of Nepal ensures 'right to education' as a fundamental right. Furthermore, the constitution mandates education to be scientific, technical, vocational, empirical, and employment and service oriented. The report on unbundling of constitutional provisions in the education sector has defined allocation of TVET functions in a federalized context. Accordingly, at the federal level, MoEST is responsible for sector strategic visioning; coordination of policy/laws between ministries and government institutions; and overall management of formal TVET programs and clarifying financial arrangements. As such, this TSSP is developed in response to the constitutional mandates.

TVET provisions in other Legislative/ policy Instruments: CTEVT is currently operating under CTEVT Act 2045. CEHRD is also operating Technical Education programs in schools under Education Act 2028 and regulation. The Local Government Operation Act (LGOA), 2076 requires school level education including TVET programs to be devolved to the local government. Similarly, and as per the Constitution, provincial governments need to develop and implement TVET acts and policies, in line with the federal TVET Act (currently under development process) with relevant guidelines. All these legislative and constitutional provisions require a systematic and thorough reform in existing structural and operational modality.

On 3 May 2020 (2077/1/21 BS), the government approved the National Qualification Framework (NQF) including the National Vocational Qualification Framework (NVQF) which also guided us in rethinking the entire TVET system.

TVET provisions in the Fifteenth Plan (2019/20-2023/24): The Fifteenth Plan has long-term national strategies of achieving rapid, sustainable and employment-oriented economic growth and ensuring affordable, quality health care and education. It considers: i) quality human capital and entrepreneurial work culture and full utilization of its potential, ii) increase in production and productivity by enhancing knowledge and skills as well as using capital, technology, infrastructure and energy; and iii) national commitment to achieving SDGs as drivers of transformation by 2030.

Provisions related to occupation and employment in the Charter of the United Nations:
In clauses (1), (2), (3) and (4) related to basic human rights of Article 23 of the Charter of the United Nations, people have the right to work, the right to freely choose employment, the right to receive appropriate remuneration respecting labor, from being unemployed. The right to be safe, the guarantee of social security and the right to equal pay for equal work without discrimination have been provided.

The 2015 World Education Forum – Incheon Declaration, 2015: The World Education Forum 2015 (World Education Forum-WEF) held in Incheon, South Korea in 2015 has declared a common commitment in five major thematic areas to expand education opportunities for all by 2030. The main five priority areas of the Incheon Declaration are Right to education, Equity in education, Inclusive education, Quality education, and Lifelong learning.

This vision provides additional impetus to countries to strive for quality technical and vocational education and training at the secondary and higher education levels. The suitable Development Goal 4 requires countries to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. In order to fulfill the 4th goal of sustainable development, the Incheon conference has determined targets to be achieved in 10 indicators. Among them, the goals related to technical and vocational education are as follows:

Target 4.3: By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Target 4.5: By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

Target 4.b: By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programs, in developed countries and other developing countries [37]

National Employment Policy 2015: National Employment Policy 2071 has specific objective to create opportunities to prepare workforce with skills and knowledge necessary for the labor market. This objective is intended to achieve through coordination with basic and vocational education, career counselling and enhancement of appropriate skills. Its Policy 10.11 intends to provide entrepreneurship and self-employment oriented agricultural training to rural youth, women, Madhesi, indigenous nationalities, Muslim, differently able, conflict affected, people at risk and marginalized and depleting populations.

National Education Policy, 2019. The policy has envisioned and "educated, civilized, healthy and capable human resource, social justice, transformation and prosperity" as its vision for the nation. With regard to technical and vocational education, the NEP-2019 has clearly set the direction as 'technical education is for all', which is in line with the SDG target of 75% of youths in age above 18 to be skilled by 2030. The plan intends to provide technical and vocational

[37] https://unstats.un.org/sdgs/metadata/?Text=&Goal=4

education and skills development programs linked with apprenticeship for all interested citizens in the country.

Similarly, it also intends to increase quality training for preparing skilled people for the construction sector. Skills development training will be developed as major program to create employment in this sector. The workforce necessary for tourism industry will be supplied by encouraging private sector to establish training centers (Policy 10.35). By working with private sector, various skills development training will be availed to address demands for workforce in the tourism and IT industry (Policy 10.36). The policy has important provision to provide skills training to encourage people to start micro, small and medium level enterprises (Policy 11.1).

3.2 Vision, Mission and Goal

There are three important concepts embedded within the vision and mission: (i) TVET graduates must be skilled, ensuring that the courses serve the purpose and graduates are ready for the world of work; (ii) The system is structured around, and responsive to, labor market demand. i.e., the needs of the public and private sector employee are taken into account when planning the topics, distribution, capacity, content and availability of TVET courses; and, (iii) the workforce is prepared for *sustainable* business and enterprise that complements future generation's readiness and resourcefulness for significant gains.

Vision	Skilled human resources for sustainable development and a prosperous Nepal.
Mission	To equip human resources with 21st century skills, knowledge and attitude in fulfilling industry-ready and entrepreneurial workforce for the world of work.
Goal	To strengthen and operationalize all TVET institutions to run in their full capacity producing relevant and competent workforce and seamless opportunity for further education. To enhance the values and acceptability of technical and vocational education programs in the country.

3.3 Strategic Components

The TSSP has four key result components and each component has its own objectives, strategies and specific interventions. The four key components are:

a) Equity and Access
b) Quality and Relevance
c) Coherence and Transferability
d) Governance and Management

3.4 Guiding Principles

a) Employment[38] first – programs with high demand and employability to receive top priority.
b) Focus on standard modular, competency and credit-based short-term skilling/ up-skilling/ reskilling training programs– addressing the need of existing and aspiring migrant workers.
c) Recognition and expansion of multi-stakeholder led programs – training programs conducted by various ministries, BIAs and others are recognized and fully accredited.
d) TVET System Restructuring in-line with the constitutional mandate and market demand.
e) Vertical and horizontal expansion of qualifications and programs focusing on NVQF.
f) Demand driven and market led program intervention.
g) Public Private Productive Partnership (4P).
h) Coordination among three levels of government.
i) Building on the current achievements/ strengths with institutions and human resources.
j) Implementation of dual-VET apprenticeship in collaboration with BIAs for workplace-based learning, apprenticeship, on-the-job training.
k) Implementation of flexible learning opportunities with multi entry and multi exit options.
l) Implementation of recognition of Prior Learning system
m) Implementation of integrated TVET fund with sector wide approach (SWaP) funding modality.
n) Earning while learning.

[38] Employment includes: i) salary/wage employment; ii) self-employment of all kinds; and iii) enterprise development.

3.5 Component 1. Equity and Access

The key issue affecting equity and access to TVET is the under-utilization of the available course capacity. This is driven by a range of factors, but analysis suggests students are unwilling to commit to long term courses (due to the length of time they will not be earning) or, once enrolled, students find their economic situation does not allow them to complete the course, which drives high drop out. Therefore, in this context, efficiency of the system is primarily an access issue. During phase one there will be an emphasis on creating the support structures to enable students to commit to courses, and to reform the flexibility of courses so that students can adapt their study commitments around other commitments. During phase two, these changes will help drive increased utilization of the available capacity (from the baseline 51% to above 90%). Only at phase three will there be significant expansion of TVET services, once the existing capacity is fully utilized.

As reported in the TVET Sector Analysis Report, 2022 currently there are 1,591 schools in operation under CEHRD and CTEVT that provide TVET programs in the country. While CEHRD supported TVET programs are in operation only in publicly funded community schools, CTEVT also manages schools under other models such as private and partnership schools, apart from its Technical Education programs in Community Schools (TECS) and constituent school models. The first three models have helped expand the sector widely which, to some extent, has also addressed the equity issue. For instance, the student fee provisions in public, TECS and partnership models are relatively lower than that in the private schools. Government has also availed various scholarship provisions through CTEVT programs for enhancing equity. Considering Technical Stream as school level education, it is a free education. Finally, the government plan to offer TVET opportunities up to Bachelor's degree level[39] is another important strength of the system related to access.

Wastage of TVET scholarship quota and deteriorating enrollment in this stream of education is one of the major challenges that is impeding access and equity. The dilemma between demand and supply whereby, employment rate of TVET graduates is very low on one hand, while on the other, businesses and industries fail to find suitable employees for them. This is a serious mismatch between demand and supply that this plan aims to address during the plan period. Attempts will be made to fully utilize available resources and then to expand services to reach out nationally.

Demand for short-term training programs is huge and growing. A number of training programs are being offered by many stakeholders (government agencies - federal, province, local levels, private sector, NGOs and International Development Partners). Because these programs are scattered and not fully endorsed by the TVET system, questions about their recognition and accreditation is always an issue. As a result, these training programs are limited in fulfilling immediate needs, but fail to provide value for a career path and employability. The plan will develop a TVET system whereby all short and long-term training programs are properly accredited with an appropriate value system that is recognized and appreciated across employing agencies within the country and abroad, including its recognition in individuals' career paths.

[39] Budget speech 2079/80.

Strategic Direction

Optimization of existing capacity – both program and institutional capacity

Large number of schools with limited enrolment could be utilized for facilitating optimum utilization of the scarce resources through their merger. Rather than establishing new schools, new programs such as civil aviation, railway engineering, tunnel engineering, solar and telecommunication as a few examples, could be added in the existing schools and possibly also use multiple-shift that could offer TVET opportunities to a large number of students from a single school. Also, availing full board scholarships for students from local levels is unfeasible/ economic for establishing schools. These strategies could help enhance financial efficiency as well and sustain the hiring required number of instructors on a regular basis. Similarly, by using aptitude tests and mobilization of local representatives in the selection process, scholarships could be fully mobilized as they have better ideas about the needy students. Modular competency and credit-based curricula provide opportunity for both horizontal and vertical progression which could even facilitate diagonal progression in general education. This approach could open learning opportunities to an immensely large number of learners at all levels. This, to a large extent, could offer the opportunity of 'earning while learning' in true sense. Introduction of preparatory TVET in grades 6 to 8 targeting counselling of students on TVET could help them make informed-decisions on whether or not to enroll in Secondary level or Pre-Diploma level.

Component 1: Equity and Access

Objectives	Strategies
1.1 Running TVET institutions and programs in full capacity	1.1.1 Strengthening TVET programs and Institutional Capacity.
	1.1.2 Introducing multi shift institutional learning environment (ILE) for 'Flexible learning' opportunity.
	1.1.3 Accommodation facility for needy people.
	1.1.4 Managing transportation and mobility for outreach networking and communication.
1.2 **Introducing various models of training for flexible learning opportunity**	1.2.1 Focusing TVET programs and institutes in new emerald economic areas as per the geographical and demographic needs.
	1.2.2 Up-skilling and re-skilling opportunity for existing workers and returnee migrants
	1.2.3 Enhancing geographical, gender and social inclusion through various scholarship and incentive schemes
	1.2.4 Establishing a multi entry and multi exit education structure for enhancing access to include work needing learners for 'Flexible learning' and 'earning while learning'.
	1.2.5 Conducting skills mapping program for expanding /merging/ abating TVET programs and institutes.

3.6 Component 2: Quality, Relevance and Efficiency

Quality is measured by the skill acquisition and industry readiness of TVET graduates, whereas relevance is measured by whether the supply of graduates matches with the demand (i.e., does the number of graduates with specific skills equate to the number of available jobs in the respective industries?). Thus, both quality and relevance are highly determined by business and enterprise. Therefore, phase one will focus on strengthening and enriching the linkages with BIA at all levels, while improving the institutional capacity to improve curriculum, assessment and instruction based on BIA engagement. Phase two will focus on rolling out the improvements at existing centers, and phase three will scale it up nationwide.

Existing institutions like CEHRD, CTEVT, and TITI have long experience and the capacity in conducting employment market research, development of market relevant standard and curriculum, and implementation, monitoring and evaluation of TVET programs. In terms of physical infrastructure, some of the constituent schools have state-of-art learning facilities with well-trained instructors. BIAs have continuously raised their concern about lack of competent human resources. Hence, collaborative efforts - implementation, monitoring and assessment - could help prepare industry-ready graduates. Productive partnership with BIAs/economic sectors will help enhance the relevance of graduates. Collaboration between business and industry and the government in running apprenticeship programs is one of the strong strategies in ensuring quality and relevance of the TVET program and institutions in the country.

Instructors' management, the TVET lifeline, has been problematic due to an inadequate, under qualified, untrained and unsecured job tenure number of instructors in place, which has resulted in high level of job turnover and reliance on part-time instructors which is harmful from the quality perspective. TVET schools lack approved teacher positions forcing schools to keep instructors on temporary/contract basis which trigger bothersome turnover. The current instructors' training is mostly focused on instructional skills but not on workplace-based and occupational skills upgradation (OSU) training. As there is no mechanism for instructor licensing, recognition of TVET instructors is shadowed and under-valued, which leads to a lack of commitment for professionals in that profession.

Similarly, curricula are heavily theory focused with limited provision for practical training and some contents are irrelevant which makes it difficult to complete within the specified duration. They are often criticized for paving the path for university access rather than facilitating preparation of a competent workforce. These problems were common to all the programs alike. Ceremonial participation of BIAs was noted as another critical limitation in the standard and curriculum development context. Lack of coherence between CTEVT skills testing levels and NVQ levels and the current programs on offer is equally striking. Connected to this problem is lack of coordination triggered coherence between and among NSTB standards and curriculum and that under Curriculum Development Division. Inadequate machine and equipment in many schools was the reason for serious issues on practical tests for quality and efficiency aspects in the sector.

Quality of instructors and other TVET professional licensing system has an impact on internal efficiency, which is measured by indicators including promotion rate, drop-out rate, cycle completion and survival rates.

As per the findings, the number of learners in the technical stream gets reduced with rise in their Grades which means high drop-out rate and also limited promotion rate in Grades 11 and 12 for instance. Similarly, very small cycle completion and survival rate (within 3 years after the course duration) in CTEVT and the latter in CEHRD poses questions about the TVET efficiency.

Most of these problems are also applicable in the short-term skills training programs rampantly available across the country, now being organized even by Ward Levels within Local government.

Strategic Direction

Availability and Retention of Instructors at Schools

Teachers and instructors' jobs in the TVET system will be made attractive, demanded and value added by the ensuring career path and dignified placement, and provision of fringe benefits. The minimum standards for TVET instructors including other TVET professionals needs to be developed. These standards will be the basis for licensing instructors and other professionals such as assessors, curriculum development facilitators, etc.

Operationalizing Accreditation System

Full operationalization of the accreditation system will help enhance quality and relevance of TVET programs. Without any accreditation system TVET schools are neither incentivised nor coerced to deliver a certain level of quality to operate. This has resulted in a high degree of variance in the quality of programmes offered by the TVET schools and some level of mistrust from prospective students and the industries. If accreditation procedures were in place, institutional competition would drive TVET schools to seek legitimacy and prestige. In this case, legitimacy provided by government regulations and standards would be necessary to convey a positive reputation and to attract more resources and clients (here prospective TVET students). As a result, TVET schools would adopt management practices and standards that allow them to be legitimate and prestigious.

Role and capacity of TITI and ETCs is enhanced

At present, Training Institute for Technical Instructions (TITI) with expertise in instructor training has been serving at the federal level since the long time by providing instructional skills training. ITI could be expanded across the provinces to help enhance instructors' competency by merging and integrating the Education training center. Mobilizing Chief/consultant Master Trainers at TITI, this opportunity could be availed at Provincial Teacher Training Center (PTTC) for training of Technical Stream and private sector instructors. Similarly, introduction/ scaling up of workplace-based training could not only enhance quality but also widen opportunities for graduates' employment opportunities. Further, training and orientation of school heads/ principals and instructors has a massive opportunity to reform the school level institutional learning environment (ILE). Opportunity also exists to train relevant MoEST staff at federal level and other staff at province, district and local levels. Possibility of mobilizing BIAs through institute level Memorandum of Understanding (MoUs) through Sector Skills Councils continued to exist.

Development and Revision of Competency Standards and Curricula

Enhancing quality requires putting the right curriculum, instructors and right infrastructure in place. The curricula will be revised/developed in line with the national curriculum framework and competency standards elaborated according to the NVQF. Similarly, nationally and internationally proven workplace-based ILE such as apprenticeship models needs scaling up for better quality and relevance. Quality and relevance of stand-alone skills training needs to be assessed in view of making it part of a particular long term TVET qualification.

Monitoring and supervision system is strengthened

Absence of monitoring focusing on measurement of learning outcomes is one major limitation in the current achievement assessment system. Examinations are theory focused and achievements are rated in percentage terms as in general education. Considering National Examination Board (NEB) mandate to take examination of up to Grade 12 and the duration of Diploma and Technical Stream (Diploma programs: 3 years and Technical Stream: 2.6 years[40],[41] after SEE), the National Education Policy 2019 vision to bring TVET examination under NEB appears to be not only contradictory but could be legally wrong as well. Even more serious problem in this regard is that the TVET graduates must be assessed based on the competence assessment through practical assessment in the real workplace which calls for current assessment practices at NEB. This limitation to some extent exists even with OCEs in CTEVT. There are 7 provincial NEB offices and 7 provincial CTEVT offices involved to take examinations of general education plus technical stream and pre-diploma and diploma level respectively. These 14 offices could be integrated into 7 offices and the TVET sector examination should be formative assessment and practical based on the CTEVT system of examination.

Component 2: Quality and Relevance

Objectives	Strategies
2.1 Strengthening quality and efficiency of TVET services and system.	2.1.1 Operationalizing the Accreditation system
	2.1.2 Operationalizing National and provincial Quality Assurance system (NQAS) and mechanism to integrate Occupational standards and curricula.
	2.1.3 TVET M&E system is strengthened and linked with NPC's M&E system
	2.1.4 Making skills testing and assessment mandatory for all training providers
	2.1.5 Strengthening institutional capacity in assessment/ examination system (OCEs)
	2.1.6 Ensuring Sector Skills Council (SSC) through legislative provision.

[40] According to CEHRD guidelines, the Technical Stream OJT has to be completed within 6 months after Grade 12 study completion.

[41] According to National Education Act (8th amendment), the OJT was provisioned as '1 year' after completion of Grade 12 study.

	2.1.7 Enhancing the instructor's capacity building system by expanding the wings of TITI at province and integrating with the Education training center.
	2.1.8 Enhancing norms, standards and minimum requirements and benchmarks for newly established institutes/ training centers, instructor selection and quality control.
	2.1.9 Developing selection, placement and recruitment system by stand-alone teacher service commission and expanding at province level.
2.2 Institutional Strengthening including infrastructure and learning environment (Support system, service delivery and establish operational norms and standards in all schools/institutions)	2.2.1 Ensuring the number of quality instructional staff as per curriculum requirement
	2.2.2 Reducing instructors' turnover by the provision of permanent positions and review and reform benefits and conditions of services of instructors.
	2.2.3 Widening Instructors' capacity development opportunity and professional growth.
2.3. Development and maintenance of infrastructure for better learning environment.	
	2.3.1. Improving the physical Learning environment in school/institutions/training centers.
	2.3.2. Availability and proper use of laboratory, library, e-library, ICT lab & services, tools, equipment and machines for experiment and practice.
2.4 Improving quality and relevance of TVET programs - both short training and long-term courses.	2.4.1. Improving the modality of short-term training programs to make them standardized, remove duplication and uniformity.
	2.4.2. Reforming occupational standards and curricula based on NVQS level descriptors and facilitating flexible learning, modular based, competency based and credit-based curriculum.
	2.4.3. Integrating curricula of technical stream (grade 9-12) and pre-diploma & diploma level.
	2.4.4. Development and revision of innovative TVET programs/curriculum and occupational standards in new emerald & emerging economic sectors by the collaboration with BIAs and other stakeholders.
	2.4.5. Increasing collaborative programs and activities with DPs and BIAs for internship, OJT, apprenticeship and Dual TVET system model bring into practice.
	2.4.6. Enhance cross-fertilization in ILE through ICT based distance/virtual learning and e-learning resources
	2.4.7. Widening workplace based practical training programs with the collaboration of private sectors.
	2.4.8. Establishing a business incubation Centre, Sales outlet, production unit at institute level for earning while learning.
	2.4.9. Introducing and implementing a dual TVET system with the active, meaningful and collaborative actions of BIAS by the development of guidelines & policy provisions.

2.5 Improving evidence-based policy and planning making practices.	2.5.1 Continuing publication of TVET sector research reports
	2.5.2 Enhancing utilization of TVET outputs and outcomes
	2.5.3 Increasing BIAs participants in TVET development workshops and missions
2.6. Providing technical support and supervision.	2.6.1. Creating the structure and role to provide technical support and supervision in current educational structure and organizations.
2.7. Introducing and using technology in TVET	2.7.1. Modern ICT technology will be used in office management and instructional management.
	2.7.2. Institutes & training centers will be equipped with tools, equipment and machines to fulfil and match with the industry ready human power and introducing new technology curriculum in Nepal.

3.7 Component 3: Coherence and Transferability

As discussed previously, there are disparate elements of TVET which need to be coordinated and aligned in a single structure. Governance and management will address the institutional (re)arrangements, while coherence and transferability address the frameworks that ensure credit transfer, equivalency, recognizable accreditation, certification, permeability and transferability of acquired skills into new training opportunities. Therefore, this area will be a significant focus during the first phase of the TSSP. During this time, a framework to align and coordinate the (more than) 16 ministries involved in TVET, the provincial governments and the local levels shall be established. In addition, the credit transfer, equivalency framework, certification and accreditation systems will be consolidated into a coherent framework that aligns and rationalizes training pathways across the sector. During the second and third phases, this will be reviewed and updated to resolve emerging issues.

The Government of Nepal has approved the National Qualifications Framework (NQF) with National Vocational Qualifications Framework (NVQF) as an integral part having eight qualification levels. Offering a Bachelor's degree level in TVET is one example in this regard. National Skills Testing Board (NSTB) has been offering its services for over 40 years. It has been serving people with 1-4 levels of skills in various sectors – formal, informal and non-formal- through assessment and certification competencies. It has also started the Recognition of Prior Learning (RPL) approach of assessment and certification in support of competencies gained in the informal and non-formal sector. Following its mandate, it has expertise in assessing and certifying elementary and Level 1 to 4 graduates. Currently, it has been working on extending this service for Level 5 as well. It has helped workers to get recognition of their competence and also move into higher skills levels. However, caution is required for coherence between the government approved NQF/NVQF levels linking to academic purposes since NSTB skills levels are recognized only for employment. As of 2022, NSTB has 61 Accredited Skills Test Centers and 7464 skills test assessors trained for the assessment purpose. It has also prepared Master Assessors (35) and Model Assessors (38). These resources have been mobilized for quality skills assessment and certification.

Strategic direction

Operationalization and further elaboration of NVQF

Operationalization of NVQS, among others, will address most of the issues discussed such as coherence and transferability, recognition and accreditation, and relevance of skills to the world of work. However, operationalizing NVQF requires collaboration with universities, BIAs, and other employers such as public service commissions, teacher service commission, and so forth.

Further elaboration of NVQF is deemed necessary to establish equivalency and transferability not only between general and TVET programs (and CTEVT and CEHRD programs), but also in properly mainstreaming short-term training programs into professional and skills certification that will open up permeability across streams of education.

Credit and credit transfer schemes are clearly defined and translated

The Pre-Diploma graduate certificates do not carry any credit value requiring them to invest another 3 years should they pursue Diploma level qualification. This condition has to be addressed properly by making clear linkage with career and occupational pathways. Clarity and alignment is needed between CTEVT and CEHRD programs under the provisions made in NQF/NVQF. Further, short term training has remained as a stand-alone qualification limiting graduates' opportunity for furthering education - horizontal and vertical progression. Absence of credit accumulation and transfer system (CATS) has adversely affected learners' possibility for multi exit/entry from and to further their education while also engaging themselves in relevant employment.

Component 3: Coherence and Transferability

Objectives	Strategies
3.1 Accelerating NVQS implementation process	3.1.1 Restructuring TVET qualifications and accreditation system (ref. Strategy1.1.1)
	3.1.2 Revisiting the scope and responsibility of NVQA
	3.1.3 Strengthening and expansion of skills testing board including its realignment with NVQS
	3.1.4 Integrating competencies learned in in/non formal sector
	3.1.5 Redefining short-term training program for credit-based market demanded modular based with multi-level entry and exit option as per NVQF Level descriptor
3.2 Standardization of certification and accreditation	3.2.1 Ensuring recognition of TVET qualifications
	3.2.2 Redefining Curricular weightage in each level and in each program course
	3.2.3 Level descriptors are expanded to cover and include various short-term training programs

3.3 TVET Program and System restructuring	3.3.1 Developing CTEVT as National Vocational Qualifications Authority that will focus on all technical aspects such as Equivalence, Accreditation, Assessment and certification, technical support, instructor preparation, Curriculum Development, Standard development and research of TVET programs for schools and higher education institutions.
	3.3.2 Developing CEHRD as an administrative and management body of Technical-stream TVET programs implemented by local levels.
	3.3.3 Developing a coordination mechanism between and among ministries, Universities, BIAs and other stakeholders in developing nationally recognized TVET programs – both short-term training programs and pre-diploma and diploma courses.

3.8 Component 4: Governance and management

The current TVET sector is characterized by initiatives that lack clear consistency and alignment under a wholistic system. Therefore, the TSSP presents a model for an aligned implementation and coordination framework to align the activities of the (more than) 12 ministries, provincial government and local levels that are currently implementing TVET. The plan also sets out requirements for a strengthened information management system to provide comprehensive data analysis of the TVET sector and inform planning at all levels. The first phase will focus on building common understanding about roles and responsibilities of institutions within the sector, and strengthening the standard operation guidelines, mechanisms and frameworks for effective implementation (including information management system strengthening, curriculum and assessment). The second phase will focus on rolling out the new guidelines, mechanisms and frameworks consistently throughout the nation. The third phase will be determined by the mid-term review to identify any gaps in the system after the initial five-year implementation period and will focus on addressing those gaps and shortfalls.

Under the CTEVT Act (1988), CTEVT is both an implementing agency and a regulatory body of TVET programs in schools and at the higher-education level. Besides, CTEVT also regulates short-term training and skills development programs through skills testing board. At the province level, currently, there is no TVET body under the Ministry of Social Development (MoSD)[42] for managing TVET programs in schools/institutions. On the other hand, MoSDs have limited staff to assume this responsibility, let alone possessing necessary expertise to deal with complex issues associated with TVET. Therefore, this limitation with provincial MoSDs needs to be addressed through immediate, mediate and long-term capacity development plan. This situation largely holds true in case of local level as well and therefore, calls for a continued productive partnership for technical inputs between these agencies and CTEVT.

As provisioned in the Constitution and Local Governance Operation Act, CTEVT Act, the TVET responsibilities are allocated at three levels: federal, provincial and local levels. Following these provisions, at federal level, a National Vocational Qualifications Authority (NVQA) is considered necessary to assume the overall quality assurance responsibility. The overall implementation responsibility will be entrusted to province and local levels.

Strategic Direction:

National Vocational Qualifications Authority (NVQA) - will be formed in the Council for Technical Education and Vocational Training (CTEVT) that will include other sectoral ministries, National Planning Commission, Ministry of Finance and donors are major federal level stakeholders. The Business and Industry Associations and their members, and relevant economic sectors (BIAs), universities and international development partners/ INGOs through their respective wings are considered to have stake ranging from federal to local levels. NVQA

[42] The Names of provincial ministers taking responsibility for TVE varies by province. Therefore, MoSD is used in this report to represent these ministries as appropriate.

will build on the systems and human resources experience gained over the last 30 years. It will be responsible for quality assurance of the whole national TVET system which, following the recommendations during the consultative workshops, are as follows: i) Program (curriculum and standard) development, ii) Technical responsibilities, such as Equivalence, Accreditation, Assessment and certification, technical support, instructor preparation, research to TVET institutions; iii) Coordination; and iv) BIA connected Model/ CoEs.

Center for Education and Human Resources Development (CEHRD) – will provide administrative and financial support to Technical Stream schools implemented by local levels. Given the capacity at the local levels, the CEHRD will continue to offer its services and mobilize Educational Development Coordination Unit (EDCU) for monitoring and other assistance to TVET programs. However, for all the quality assurance related services, it will collaborate with the NVQA developed systems explained above.

Sectoral Ministries - Over 12 ministries are currently engaged in TVET related activity with both long and short-term programs. They will be coordinated through MOEST to use the standards and curriculum developed by CTEVT and their program quality and certification and accreditation will be assessed by NVQA. While the Ministry of Finance will be responsible for managing resources, the National Planning Commission will be requested to make projections for necessary human resources preparation.

Business and Industry Associations (BIAs) – will have three major roles as leaders and active members of: i) TVET governance institutions; ii) Sector Skills Councils (SSCs) and Iii) Training provider's for Conducting work-based training.

National and international development partners - TSSP envisages all national public and international financial support are channeled through federal treasury (SWAp). However, in case of international mandates, some of the international development partners are not able to contribute the financial resources to the government treasury, these agencies will align their programs/ actions with the TSSP objectives, strategies and interventions.

Province and Local Level

The Ministry of Social Development (MoSD) and Ministry of Education (MoE) whose name may further vary by provinces will be the major TVET implementing bodies at the province level. It will assume its responsibilities through Provincial TVET Authority (P-TVEA) with roles and responsibilities: i) provincial policy aligned with federal TVET Act and policies; ii) implement the federally developed standards and curriculum; iii) with support from TITI prepare teachers/ instructors and iv) collaborate with all relevant stakeholders at federal, provincial and local levels, and v) manage TVET schools. The local levels will have roles and responsibilities specified as mandated by the Constitution and Local Government Operation Act.

Consolidated and coordinated TVET information management system (TMIS)

The TVET management information system (TMIS) will be strengthened to coordinate and share information with the Labor Market Information System (LMIS) and Financial

Management Information System (FMIS), and the Education Management Information System (EMIS).

One of the major tasks under this component is therefore to realign and restructure governance and management of both system and functions of TVET programs and institutions as per the constitutional mandates and as a measure to enhance efficiency and effectiveness of TVET services delivery.

Management of different skills training programs run by multiple public and private institutions is another area that this plan has focused on to consolidate through a one door system so as to improve quality and credibility of these programs.

Structural and functional reform has also been necessitated in the institutional structure due to the multiple and overlapping authority that govern and manage the TVET activities in the country. Program-wise, all TVET programs – regardless of duration (short and long) and provider (public, private and partnership) – are required to be credited allowing learners' horizontal and vertical progression.
CTEVT's Quality assurance role as research, standard/curriculum development, chief master instructors' development, examination/assessment and certification and technical backstopping will balance between technical and management roles. It implies relieving CTEVT from its implementation role which is, as per the constitution, expected to be at the provincial and/or at the local level.

Component 4: Governance and Management

Reform objectives		Strategies
Restructuring of TVET governance system	4.1.1.	Formulate the TVET principle guided TVET Act and regulation at federal, provincial and local levels.
	4.1.2.	Reforming TVET policies in the context of new federal, provincial and local level TVET Acts
	4.1.3.	Restructuring of CTEVT by strengthening administrative, management and governance functions to be managed by separate entity. All technical, pedagogical and quality assurance to be managed by CTEVT.
	4.1.4.	Operationalizing HRM plan covering federal, provincial and local level TVET authorities
	4.1.5.	Enhancing coordination among and within federal, provincial and local levels for synergy and coherence
	4.1.6.	Facilitating BIAs for availing financial incentives to students during OJT
Delineation and delegation of TVET functions	4.2.1	Segregating regulatory and implementation responsibilities through the new federal TVET Act.
	4.2.2	Developing Standard Operating Guidelines with specific roles, responsibilities and timeline for implementing the TSSP
	4.2.3	Putting technical backstopping system in place in collaboration with federal, provincial and local levels
	4.2.4	Capacity of TVET bodies at all levels will be built to perform effectively and efficiently.
Establish knowledge	4.3.1	Continuing publication of TVET sector research reports
	4.3.2	Increasing knowledge exchange events
	4.3.3	Operationalizing Communication strategy

management system	4.3.4. Enhancing TVET research and development activities (Tracer study, impact study, EMIS, TVET MIS, LMIS, Need assessment etc)
	4.3.5 Enhancing skill mapping
Strengthen school level management system	4.4.1 Supporting learners through institutionalized Learners' Support System (LSS)
	4.4.2 Strengthening Human resources capacity of school management
	4.4.3 Strengthening school capacity to establish school funds.
	4.4.4 Enhancing school level facilities (toilet, electricity, library, first aid, canteen, GESI unit and active School management committee)

3.9 Results Framework: Next Page

Vision	**Skilled human resources for sustainable development and a prosperous Nepal**
Mission	**To equip human resources with 21st century skills, knowledge and attitude in fulfilling industry-ready and entrepreneurial workforce for the world of work.**
Goal	**1. To strengthen and operationalize all TVET institutions producing relevant and competent workforce and seamless opportunity for further education.** **2. To enhance the values and acceptability of technical and vocational education programs in the country.**

Component	**1. Equity and Access**	**2. Quality and Relevance**	**3. Coherence and Transferability**	**4. Governance and management**
Objectives & Strategies	**1.1. Running TVET institutions and programs in its full capacity**	**2.1. Strengthening quality and efficiency of TVET services and system.**	**3.1. Accelerating NVQS implementation process**	**4.1. Restructuring of TVET governance system**
	1.1.1. Strengthening TVET programs and Institutional Capacity.	2.1.1. Operationalizing the Accreditation system	3.1.1. Restructuring TVET qualifications and accreditation system (ref. Strategy1.1.1)	4.1.1. Formulate the TVET principle guided TVET Act and regulation at federal, provincial and local levels.
	1.1.2. Introducing multi shift institutional learning environment (ILE) for 'Flexible learning' opportunity.	2.1.2. Operationalizing National and provincial Quality Assurance system (NQAS) and mechanism to integrate Occupational standards and curricula.	3.1.2. Revisiting the scope and responsibility of NVQA	4.1.2. Reforming TVET policies in the context of new federal, provincial and local level TVET Acts
	1.1.3. Accommodation facility for needy people.	2.1.3. TVET M&E system is strengthened and linked with NPC's M&E system	3.1.3. Strengthening and expansion of skills testing board including its realignment with NVQS	4.1.3. Restructuring of CTEVT by strengthening administrative, management and governance functions to be managed by separate entity. All technical, pedagogical and quality assurance to be managed by CTEVT.

Component	1. Equity and Access	2. Quality and Relevance	3. Coherence and Transferability	4. Governance and management
	1.1.4. Managing transportation and mobility for outreach networking and communication	2.1.4. Making skills testing and assessment mandatory for all training providers.	3.1.4. Integrating competencies learned in in/non formal sector	4.1.4. Operationalizing HRM plan covering federal, provincial and local level TVET authorities
	1.2. Introducing various models of training for flexible learning opportunity	2.1.5. Strengthening institutional capacity in assessment/ examination system (OCEs)	3.1.5. Redefining short term training program for credit-based market demanded modular based with multi-level entry and exit option as per NVQ Level descriptor	4.1.5. Enhancing coordination among and within federal, provincial and local levels for synergy and coherence
	1.2.1. Focusing TVET programs and institutes in new emerald economic areas as per the geographical and demographic needs.	2.1.6. Ensuring Sector Skills Council (SSC) through legislative provision.	**3.2. Standardization of certification and accreditation**	4.1.6. Facilitating BIAs for availing financial incentives to students during OJT
	1.2.2. Up- skilling and reskilling opportunity (skilling, reskilling and up-skilling) for existing worker and returnee migrants	2.1.7. Enhancing the instructor's capacity building system by expanding the wings of TITI at province and merging and integrating the Education training Centre.	3.2.1. Ensuring recognition of TVET qualifications	**4.2. Delineation and delegation of TVET functions**
	1.2.3. Enhancing geographical, gender and social inclusion through various scholarship and incentive schemes	2.1.8. Enhancing norms, standards and minimum requirements and benchmarks for newly established institutes/ training centers, instructor's selection and quality control.	3.2.2. Redefining Curricular weightage in each level and in each program course	4.2.1. Segregating regulatory and implementation responsibilities through the new federal TVET Act.
	1.2.4. Establishing a multi entry and multi exit education structure for enhancing access to include work needing learners for 'Flexible	2.1.9. Developing the selection, placement and recruitment system by stand-alone teacher service	3.2.3. Level descriptors are expanded to cover and include various short-term training programs	4.2.2. Developing Standard Operating Guidelines with specific roles, responsibilities and timeline for implementing the TSSP

Component	1. Equity and Access	2. Quality and Relevance	3. Coherence and Transferability	4. Governance and management
	learning' and 'earning while learning'.	commission and expanding at province level.		
	1.2.5. Conducting skills mapping program for expanding /merging/ abating TVET programs and institutes.	**2.2. Institutional Strengthening (Support system, service delivery and establish operational norms and standards in all schools/institutions)**	**3.3. TVET Program and System restructuring**	4.2.3. Putting technical backstopping system in place in collaboration with federal, provincial and local levels
		2.2.1. Ensuring the number of quality instructional staff as per curriculum requirement	3.3.1. Developing CTEVT as National Vocational Qualifications Authority that will focus on all technical aspects such as Equivalence, Accreditation, Assessment and certification, technical support, instructor preparation, Curriculum Development, Standard development and research of TVET programs for schools and higher education institutions.	4.2.4. Capacity of TVET bodies at all levels will be built to perform effectively and efficiently.
		2.2.2. Reducing instructors' turnover by the provision of permanent positions and review and reform benefits and conditions of services of instructors.	3.3.2. Developing CEHRD as an administrative and management body of Technical-stream TVET programs implemented by local levels.	**4.3. Establish knowledge management system**
		2.2.3. Widening Instructors' capacity development opportunity and professional growth.	3.3.3. Developing a coordination mechanism between and among ministries, Universities, BIAs and other stakeholders in developing nationally recognized TVET programs – both short term training	4.3.1. Continuing publication of TVET sector research reports

Component	1. Equity and Access	2. Quality and Relevance	3. Coherence and Transferability	4. Governance and management
			programs and pre-diploma and diploma courses.	
		2.3. Development and maintenance of infrastructure for better learning environment.		4.3.2. Increasing knowledge exchange events
		2.3.1. Improving the physical Learning environment in school/institutions/training centers.		4.3.3. Operationalizing Communication strategy
		2.3.2. Availability and proper use of laboratory, library, e-library, ICT lab & services, tools, equipment and machines for experiment and practice.		4.3.4. Enhancing TVET research and development activities (Tracer study, impact study, EMIS, TVET MIS, LMIS, Need assessment etc.)
		2.4 Improving quality and relevance of TVET programs - both short training and long-term courses.		4.3.5. Enhancing skill mapping
		2.4.1. Improving the modality of short-term training programs to make them standardized, remove duplication and uniformity.		**4.4. Strengthen school level management system**
		2.4.2. Reforming occupational standards and curricula based on NVQS level descriptors and facilitating flexible learning, modular based, competency based and credit-based curriculum.		4.4.1. Supporting learners through institutionalized Learners' Support System (LSS)

Component	1. Equity and Access	2. Quality and Relevance	3. Coherence and Transferability	4. Governance and management
		2.4.3. Integrating curricula of technical stream (grade 9-12) and pre-diploma & diploma level.		4.4.2. Strengthening Human resources capacity of school management
		2.4.4. Development and revision of innovative TVET programs/curriculum and occupational standards in new emerald & emerging economic sectors by the collaboration with BIAs and other stakeholders.		4.4.3. Strengthening school capacity to establish school funds.
		2.4.5. Increasing collaborative programs and activities with DPs and BIAs for internship, OJT, apprenticeship and Dual TVET system model bring into practice.		4.4.4. Enhancing school level facilities (toilet, electricity, library, first aid, canteen, GESI unit and active School management committee)
		2.4.6. Enhance cross-fertilization in ILE through ICT based distance/virtual learning and e-learning resources		
		2.4.7. Widening workplace based practical training programs with the collaboration of private sectors.		
		2.4.8. Establishing a business incubation Centre, Sales outlet, production unit at institute level for earning while learning.		
		2.4.9. Introducing and implementing a dual TVET system with the active,		

Component	1. Equity and Access	2. Quality and Relevance	3. Coherence and Transferability	4. Governance and management
		meaningful and collaborative actions of BIAS by the development of guidelines & policy provisions.		
		2.5. Improving evidence based policy and planning making practices.		
		2.5.1 Continuing publication of TVET sector research reports		
		2.5.2 Enhancing utilization of TVET outputs and outcomes		
		2.5.3 Increasing BIAs participants in TVET development workshops and missions		
		2.6. Providing technical support and supervision.		
		2.6.1. Creating the structure and role to provide technical support and supervision in current educational structure and organizations.		
		2.7. Introducing and using technology in TVET		
		2.7.1. Modern ICT technology will be used in office management and instructional management.		
		2.7.2. Institutes & training centres will be equipped with tools, equipment and machines to fulfil		

Component	1. Equity and Access	2. Quality and Relevance	3. Coherence and Transferability	4. Governance and management
		and match with the industry ready human power and introducing new technology curriculum in Nepal.		

Chapter IV: Financing

4.1 Background

In general, budget allocation to the overall education sector has almost always remained below expected mark of 20 percent of the national budget. Apparently, the TVET budget as a share of the national education budget has also remained low at or below 6% for many years. Impact of low budget in education sector on the quality of institutions and TVET services provided under both CTEVT and CEHRD system. Government is making its best attempt to manage resources in a more coordinated and participatory manner to allocate it more judiciously and toward high productivity sub-sector within the education sector. Given the current level of government spending on education, including TVET, the sector is very low, additional investment is necessary to enhance quality and relevance of education programs whether it is general or TVET. Growing interest and commitments from a number of development partners in the TVET sector is quite encouraging to note. Moreover, increasing interest and partnership of the private sector, especially BIAs interest in running TVET programs is a positive sign.

Following the GDP growth target set by the fifteenth plan and SDG (Scenario A), NRs 759.7 billion is estimated as a financial requirement for10 years of TSSP. Majority of financial resource requirements are in the medium and long run of the proposed plan period (2023-2032). Of the total estimated cost, federal, provincial, and local governments are expected to share 14.1%, 13.6% and 31.7% respectively. Further, the short-run, medium-run and long-run financial resource requirements are 7.3%, 32.5% and 60.1% respectively.

Distribution of estimations by objectives suggest that expanding TVET for better access, and equity, and innovation is the single largest cost (88.4%) of strategic reform initiatives. Within the expansion, improving access has been a major priority and thus is expected to incur 74.0% of the total proposed costs. However, in the alternative growth scenario (Scenario B) in which economy grows by an average rate of 4.6 percent per annum, the cost of reform initiatives implementation would reduce to NRs. 533.39 billion. Estimates further show that on average NRs. 31.73 billion will be required annually from the public sources in TVET. It suggests that the current estimated NRs. 20 billion[43] spent in TVET from the public sources falls significantly short compared to what is required even in the ongoing scenario.

The status of financing in sub-sectors of education over the past two fiscal years is shown in Table 4.1. The share of basic education is the highest, followed by secondary education and educational management. Share of technical education just above non-formal education in the list.

Table 4.1: Sub-sectoral federal investments in education

Subsector	2019/20		2020/21	
	Budget (NPR 10 million)	Percent	Budget (NPR 10 million)	Percent
ECED/PPE	273.32	1.67	293.80	1.71

[43] This figure is often presented as annual public investment in TVET.

Basic level	6,807.28	41.57	8,497.43	49.49
Secondary level	2,834.84	17.31	3,313.41	19.30
Technical education	47.72	2.49	955.89	5.57
Higher education	1,763.40	10.77	1,762.44	10.26
Non-formal education and life-long learning	134.52	0.82	58.47	0.34
Educational management	4,154.07	25.37	2,289.78	13.33
Total	**16,375.59**	**100**	**17,171.22**	**100**

Source: Ministry of Finance (budget booklets)

As shown in Table 4.2, it is estimated that the school sector will receive sums of Rs 131.84 billion, Rs 149.78 billion, Rs 169.48 billion, Rs 183.56 billion, and Rs 198.73 billion consecutively for five years from 2021/22 to 2025/26. This does not include the investments that the provincial and local governments are likely to make from their own resources.

Table 4.2: Resource estimation based on GDP

s.n.	Description	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
1	GDP growth (%)	4.01	4.2	6.03	5.81	5.72	6.00
2	GDP (NPR billion)	4,266	4,466	4,714	4,982	5,272	5,588
3	Inflation (%)	6.00	5.8	5.6	5.3	5.3	5.3
4	National budget as percentage of GDP	29.76	29.92	30.042	30.008	29.569	29.508
5	Size of national budget on basis of GDP (NPR billion)	1,269.67	1,136.70	1,262.84	1,403.57	1,554.13	1,807.45
6	Investment in education sector as percentage of GDP	4.1	4.2	4.5	4.7	4.8	5.0
7	Percentage of education budget in total national budget	11.64	10.93	14.2	15.3	16.1	17.0
8	Budget for investment/funding in the education sector to be received from GDP (NPR billion)	147.2	180.5	212.1	240.0	260.0	281.4
9	Percentage of school sector share in total education budget	70.6	70.6	70.6	70.6	70.6	70.6
10	Budget to be available to school sector from GDP (NPR billion)	121.25	131.84	149.78	169.48	183.56	198.73

Source: CBS 2021; projections based on, among others, IMF 2021 and NPC 2019

4.2 Financial Estimates for TEVT

Based on the proposed interventions under various performance areas explained in Chapter 3, financial resources required to implement this reform plan has been estimated. Two alternative growth scenarios that will drive the demand for labor force in the economy.

- **Scenario A**: In the planned growth scenario, the government is expected to achieve the growth targets laid-out in the Fifteen Plan as well as projected in the Sustainable Development Goals (SDG).
- **Scenario B**: In the business-as-usual growth scenario, the country shall economically progress in the same growth path as has been the case for the last 10-years. In other words, in this scenario, the country's economy will grow by an average 4.6% per annum for the next ten years.

Rest of this chapter follows Scenario A and estimated cost has been presented in Table 4.2. The resources estimated following the alternative scenario are detailed in Annex C.

4.3 Methods of financial estimations

Methods of these estimations were as follows:

a. First, intervention activities were determined under four objective pillars of TSSP and related strategies under them (Chapter 3). Moreover, for each intervention, baseline and distribution targets across the reform period were also ascertained.
b. In the second stage, the unit and associated prices based on the current standards and norms were agreed upon for each of the specific activities under each strategy. When the current standards and norms for units or prices were not available or not applicable, informed assumptions following the consultation with key stakeholders were made.
c. Third, the cost was calculated for a 10-years reform period. The first three years (1st Phase – 2023-2025) is considered preparatory phase. The next three years (2nd Phase) will see intensification and full-fledged reform, and in the remaining four years (3rd Phase) will step-up on accelerated growth. All cost estimates are on constant (today's) prices.

4.4 Total financial requirements and its distribution

As shown in Table 4.3, NRs 760 billion is estimated to be a financial requirement for the 10 years of TSSP period. As per the estimations, the first phase, second phase, and the third phase financial resource requirements are 5%, 63% and 32% respectively.

Table 4.3 Estimated costs by TSSP Components and Duration (in NRs. Arab (billion)

Code	Objectives/Components	Total Amount	%	1st Phase (2023/24-24/25)	2nd Phase (2025/26-29/30)	3rd Phase (2029/30-31/32)
10000	**Equity and Access**	671.65	88.4%	31.23	431.86	208.56
20000	**Quality and Relevance**	45.60	6.0%	2.26	16.34	27.00

30000 and 40000	**Coherence and Transferability**	14.97	1.8%	1.12	9.77	4..08
40000 and 50000	**Governance and Management**	27.43	3.7%	2.07	18.09	7.27
	Grand Total	**759.65**	**100.0%**	**36.68**	**476.06**	**246.91**

Distribution of estimations by objectives suggest that expanding TVET for better access and equity, and innovation is the single largest cost (88.4%) of strategic reform initiatives. Within the expansion, improving access has been a major priority and thus is expected to incur 74.0% of the total costs. Ensuring equity and expansion of programs and institutes priority areas are proposed to cost 8.9% and 5.5% respectively.

The second objective pillar is to enhance the quality and relevance of TVET services (6%) which include improving instructors' capacity, reforming standards, and curriculum, upgrading physical infrastructure, creating efficiency in examination and assessment, among others.

The other reform areas such as coherence and relevance, and governance and management is estimated to cost about slightly over 5% of the total cost. Despite low resource requirements, these reform areas are equally critical to achieve desired reform objectives.

4.5 Sources of Finance

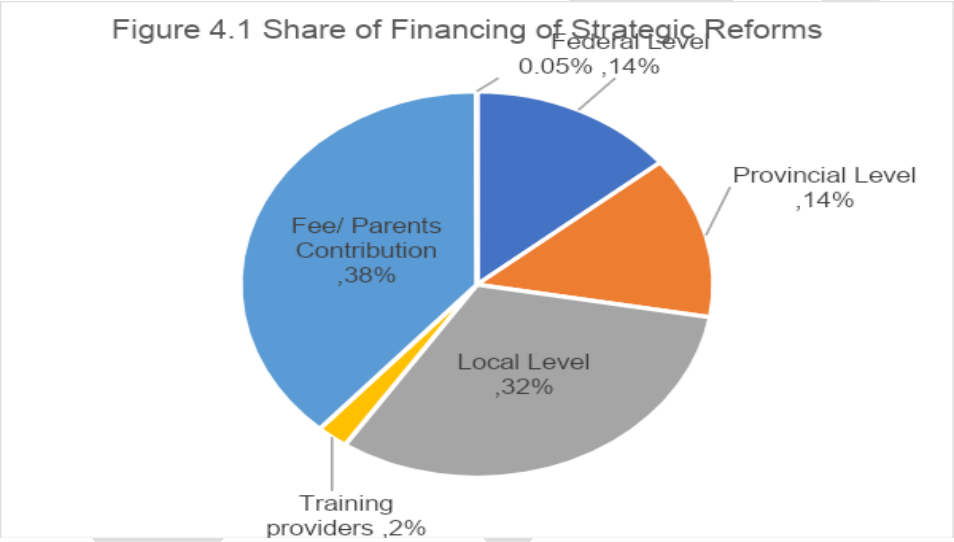
In-terms of sources of financing, nearly 60% of the costs are to be borne by the public sector including federal, provincial, and local government entities (Table 4.4). Similarly, the private sector comprising training providers, parents of the trainee students and business and industrial sectors are to contribute the remaining 40% share.

Table 4.4 Estimated financing sources for TSSP (in NRs. Arab (billion)

Sector	Cost center	Total	%	First Phase (Two-year)	Second Phase (Five-year)	Third Phase (Three-year)
Public	**Federal Level**	107.1	14.1	4.9	64.5	37.7
	Provincial Level	103.5	13.6	10.7	56.4	36.3
	Local Level	240.8	31.7	20.7	134.1	86.1
	Subtotal-Public	451.3	59.4	36.3	254.9	160.2
Private	Training providers	16.4	2.2	2.3	9.7	4.4
	Fee/ Parents Contribution	291.6	38.4	17.2	192.0	82.4
	Business & Industry	0.4	0.05	0.0	0.2	0.1
	Subtotal-Private		40.6	19.5	202.0	86.9
	Grand Total	**759.7**	**100.0**	**55.8**	**456.9**	**247.0**

The public sector entities include federal, provincial, and local governments and are expected to share 14.1%, 13.6% and 31.7% respectively of the total estimates (Figure 4.1). Federal quality assurance body (CTEVT) is expected to oversee all functions under quality assurance responsibility – research, preparing competency standards and curriculum; standards of processes and procedures, instructors' preparation and accreditation, program/ institutional accreditation, technical backstopping (monitoring), assessments and certification, equivalency – related to maintaining excellence in TVET ecosystem. This agency is also expected to implement 2-3 centers of excellence/ model schools in each province to serve as a quality indicator for the other schools. The provincial government could have an important role in advocating demand driven TVET programs, providing affiliations, establishing industry linkages and ensuring enhanced employment prospects for TVET graduates and back-stopping local governments. They could implement programs at schools above Diploma level. However, they could also partner with Local levels in implementing secondary level programs. The latter could link-up graduates with local economic development and market. These allocations of responsibilities have influenced financial resources distribution.

Figure 4.1 Share of Financing of Strategic Reforms



On the private financing, out-of-pocket expenses by the students (or parents' contribution) has a significant share of strategic reform financing. In fact, the out-of-pocket expenditure is estimated to contribute nearly 38.4% of the total proposed costs of reform effort. The private sector training providers (institutes) are estimated to contribute 2.2% of the total estimated costs of the proposed reform. Business and industries have insignificant cost sharing estimation.

In the alternative growth scenario (Scenario B), the cost of reform initiatives would reduce to NRs. 533.39 billion. The figures in Annex C suggest that on average NRs. 31.73 billion will be required annually suggesting even the current estimated NRs. 20 billion spent in TVET from the public sources falls significantly short compared to what is required even in the ongoing scenario. The detailed breakdown of the costs across the reform period as well as sources of financing is detailed in Annex C.

4.6 Comparison between 2079/80 (actual) and 2080/81 budget (estimated)

Figure 4.2: Comparison of 2079-80 Actual Budget and 2080/81 Projected Budget

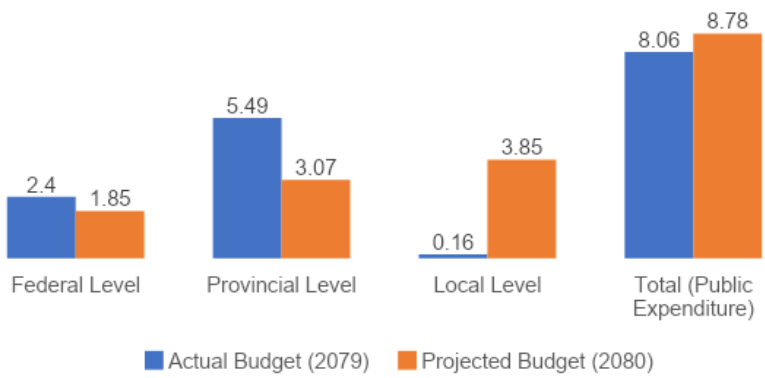


Figure 4.2 shows how the projected budget (2080/81) calculated based on Scenario A deviates in comparison to the current fiscal year (2079/80) actual budget. For the first year of the reform period (i.e., BS 2080/81), the proposed financing structure suggests moderate increment in existing public expenditure (i.e., FY 2079/80) from NRs. 8.06 billion to NRs. 8.78 (an increment of 8.9%) (Figure 4.2). However, there are changes in cost responsibilities of three levels of government. For example, the local government's budget is projected to increase to NRs. 3.85 billion. from existing NRs. 0.16 billion. This is due to the fact that major responsibilities of 9-12 TVET education is being gradually devolved to local levels as per the constitutional mandate. In corollary, the share of federal and provincial budgets in the TVET sector is likely to decrease by NRs. 0.55 and NRs. 2.42 billion, respectively.

Chapter V: Implementation Strategies

5.1 Background

As discussed in earlier chapters, current context and constitutional provisions require a thorough review and reform in the TVET sector in Nepal. Undoubtedly, the TVET sector holds the key to fulfilling national vision and aspirations. However, there's a lot more that remains to be done to strengthen and uplift this sector so as to become market responsive by providing a competent workforce with market relevant skills. As this sector draws interest from multiple agencies both within the public and private sector, coordination and collaboration with each of these bodies is crucial. One of the fundamental approaches to TVET reform is to gradually move TVET programs away from classroom-based and Instructor center pedagogy to learner center and work-based learning.

The Government of Nepal has prepared this TSSP in collaboration and cooperation received from different levels of governments, primary stakeholders such as the business and industrial groups, medium and small entrepreneurs, employees, and the workforce. This plan provides a holistic vision and strategic direction for the next ten years by targeting specific groups of population, providing relevant competencies, and ensuring employment in national and global job markets.

Lessons from our past planning and implementation experience suggest inadequate preparations and ground work readiness before launching such a long term and high-stake plans, which has resulted in not meeting satisfactory results. Taking in view of the lessons learned, implementation of TSSP will begin by doing adequate preparation and readiness. The plan is therefore divided into three phases.

5.2 Strategic Direction

5.2.1 Phased Implementation

First Phase: Coordination, consolidation and Institutional capacity building of the plan will run for two-years primarily focusing on strengthening institutional capacity and delivery systems by consolidating and harmonizing among different service providers to operate through one-door TVET systems. Existing TVET institutions and service providers will be capacitated to run in their full capacity. Policies, NCS, curricula, teacher development and standards of operation will be developed and enforced to ensure quality and relevance of program intervention. The first phase will ensure certification and accreditation standards are not only aligned with individuals' career development path but are also market led and serves market needs and their demand.

Second Phase: Gainful Results of the plan will run for five-years primarily focusing on minimizing the mismatch between demand and supply of workforce within the country and in global markets. The second phase will implement TVET programs designed specifically targeting local and international markets, implement market oriented modular programs in partnership with business and industrial groups, medium and small entrepreneurs, and other social and service sectors including government administrative services.

The second phase will expand and pilot different models of TVET such as, a hybrid model that combines local and international practices in the field of TVET, dual-VET apprenticeship that runs work-based skills training and regular education simultaneously that gives opportunity for

graduates to practice their skills in related industries or occupational institutions. The results of these piloting will help institutionalize models that are appropriate for Nepali context.

Implementation of these models, capacity and quality of institutional delivery will be closely monitored against expected results in both occupancy, productivity, and in gainful employment. Once the models with high productivity and gainful employment are determined, the program will move to the third phase.

Along with expansion and piloting of several models, the second phase will strategically implement merger /transfer, consolidation and amalgamation of both programs and institutions for managing the TVET system efficiently and effectively. A standard procedures and criteria will be developed and applied for this purpose. Provision of incentive schemes will be developed to facilitate institutions to adopt merger.

Third Phase: Expansion of TVET Services of the plan will run for three-years primarily expanding both its outreach throughout the country and producing employable graduates to meet the projected workforce demand both in-country and internationally. The third phase will thus support the long-term vision of Nepal "Prosperous Nepal and Happy Nepali", by producing competent work force with relevant competencies and enhancing their opportunity for gainful employment.

5.2.2 Preparation of SOPs with action-plans and required policies

This TSSP is a visionary document that broadly outlines the vision, mission, goals and objectives in a way that the TVET sector reform activities are aligned to achieving the national aspiration of *Prosperous Nepal and Happy Nepali.* Since the TVET sector needs both reform in existing programs and services, restructuring is also needed to realign competing functions and structure so that the efficiency and effectiveness in the delivery of TVET services is ensured. Hence, a number of preparatory works including a focused assessment and analysis in some of the key areas is instrumental in determining the best reform in the sector.

Development of evidence-based action-plan in specific areas have been included as part of preparatory work to launch the overall TVET plan. These will be short and precisely developed action-plans with clearly articulated actions, timelines and implementing authority, including resources required and sources of funding.

Development of a consolidated regulatory framework – MOEST will form a senior policy making team led by MOEST with representatives from CTEVT and BIAs, provincial and local governments, and line ministries to review and recommend a revised policy for TVET sector. This will help minimize duplication, confusion and self-competing policies and programs in the TVET sector.

This will also include operationalizing NQF/NVQF, NVQS and other regulatory tools and framework that has been part of the TVET reform. Further, the policy making team will also develop TVET regulatory bodies in both provincial and local level.

SOP with Action-plan for Restructuring of TVET Structure and Functions – MOEST will form a joint team consisting of CEHRD, CTEVT, BIAs and other ministries conducting vocational skills training, which will be facilitated by an experienced national expert in governance and management. This Technical team will review all technical papers, study reports, national policies and frameworks such as NQF/NVQF, constitutional mandate, and the national and international best practices and produce a restructuring plan for the TVET sector.

SOP with Action-plan for consolidation of <u>TVET Programs and curricula</u> – MOEST will form a joint team consisting of CEHRD, CTEVT, CDC and BIAs which will be facilitated by an experienced national expert in TVET program and curricula. In view of the current mismatch between demand and supply of relevant and competent workforce in the market, the team will update the list of programs and the curricula focusing more into high demand and high value skills areas.

SOP with Action-plan for short-term skills training – We have sufficiently noted in the technical reports and in this plan document that the demand for short-term skills training courses is growing both within the country and abroad. MOEST in coordination with CTEVT and BIAs will form a team to conduct a fresh market survey to determine skills demand and supply situation both in-country and internationally.

Support will be needed from registered foreign employment agencies operating in Nepal and internationally to determine areas of skills and quality of labor demand. Registered foreign employment agencies will be further required to work closely with the MoEST/CTEVT certified institutions for foreign employment.

SOP with Action-plan for Institutional Capacity Building Plan - A joint team will be formed including CTEVT, CEHRD, and BIAs to develop/update a complete and comprehensive profile of TVET institutions currently in operation and those with high prospects for this service. The plan will develop a framework of technical and financial support to TVET institutions to help them build their institutional infrastructure and technical support for allowing their teachers to receive training and capacity building.

Institutions receiving financial and technical support will be required to run in their full capacity and produce graduates with relevant competencies. The capacity building action-plan will also cover human resource planning and development.

SOP with Action-plan for Monitoring and Evaluation System development – One of the weakest components in the education sector, after the federal structure has been in place, is the monitoring and follow-up support. TVET programs have also suffered in meeting quality targets due to lack of necessary support in time. In collaboration with the provincial and local governments and in partnership with the private sector a robust system of monitoring, evaluation and follow-up support plan will be prepared.

5.3 Tentative Schedule of Strategic Action

Activity	Yr 1	Yr 2	Yr 3-7	Yr 8-10
PHASE I: Coordination, Consolidation and Institutional capacity building				
A. Preparatory works and Development of Standard of Operation Procedure				
a. Development of a consolidated regulatory framework	√			
b. SOP with Action-plan for Restructuring of <u>TVET Structure and Functions</u>	√			
c. SOP with Action-plan for consolidation of NCS, <u>TVET Programs and curricula, and Teacher development</u>	√			
d. SOP with Action-plan for short-term skills training	√			

e. SOP with Action-plan for Institutional Capacity Building Plan	√			
f. SOP with Action-plan for Monitoring and Evaluation System development	√			
g. Action plan for running existing TVET institutions and programs in its full capacity				
B. System restructuring/realignment – structure and function	√			
a. TVET authority at the provincial and local level is set-up with clearly delineated roles and functions with adequate staffing				
b. CTEVT and CEHRD have clearly defined roles and responsibility				
c. NQF/NVQF is further elaborated and NTQAA is established				
h. Skills Testing Board is strengthened and expanded				
i. Standards of certification and accreditation is clearly aligned with between academic and occupational career				
j. An independent and an apex body is formulated to oversee the TVET sector in the country				
k. TEMIS and monitoring system is in place				
C. Refined short and long-term skills development programs				
a. TVET programs and curricula are refined, tested and rolled-out				
b. Institutions are certified to run short-term modular training providers				
D. Collaboration and partnership				
a. Partnership with BIAs and other private sector is reached for program implementation and cost sharing				
b. Partnership with the labor department and registered manpower agencies to make sure all migrant workers receive skills training from recognized training centers.				
c. Coordination and collaboration with inter-ministries, DPs and private sector for funding TVET sector				
d. Cost-sharing scheme is agreed between and among different level of governments, BIAs and other private sectors				
E. Capacity Development				
e. Institutions receive infrastructure support				
f. Instructors receive capacity building				
g. Capacity of provincial and local authority is developed				
h. Capacity of CEHRD, CTEVT is developed				

F. TVET programs run in their full capacity				
a. *Institutions are standardized and strengthened according to their capacity in specific domains.*				
b. *TVET institutions operate in their full capacity*				
c. *Dropouts and unemployment rates are substantially reduced*				
d. *Different models of TEVT are tested, refined and expanded (hybrid, dual VET, apprenticeship, etc.*				
PHASE II: Gainful results				
a. *Programs with high job-placement and high income are supported for expansion*				
b. *Gainful employment is regularly assessed and supported*				
c. *Programs are closely monitored and back-up support provided*				
PHASE III: Expansion of TVET Services				
a. *TVET programs are expanded to all municipalities*				
b. *Provisions are made to support needy students with appropriate scholarships and residential facility*				
c. *Number of TVET graduates increased meet market demand*				

5.4 Key Performance Indicators for assessing progress

Key Performance Indicators		
	Baseline (2021)	**Targets (20**32 or before**)**
1. Equity and Access		
Local levels with TVET institutes	635 LGs	709 LGs
Long-term program enrolment capacity	107411	203,904
Short course enrolment capacity	NA	503,253
Enrollment rate	51% (of 107411)	100% (203,904)
Full board Scholarship to students from Local level without TVET institutes	80 (in 118 LLs)	440 (in 44 LLs)
Girls participation ratio	0.43:1	1:1
Share of social inclusion	45%	45%
Share of schools with GESI Coordinator	in some schools	100%
Cost for GESI specific tools per students	NA	NPR. 1000
Merit scholarships in each school and in each program	1 in each program	2 in each program
Classified scholarships in each school and in each program	3 in programs with 40 enrolment and 4 in programs with 48 enrolments	8 in each program (48 students in each program)
Full board scholarship for *bipanna*, females, *loponmukh aadibashi*, *janjati* (indigenous nationality), Dalit, people	560	1120

Key Performance Indicators		
	Baseline (2021)	**Targets (20**32 or before**)**
from remote areas, Learners with disabilities (LWD), conflict affected		
LWD friendly infrastructures (ramp, toilet, class room)	Toilet:36.4%	100%
Share of schools for LWD	0.13%	2%
Expansion of Vertical Qualifications and Horizontal programs	Does not exist after Diploma (Vertical expansion)	Advance Diploma (Level-5) Bachelors' level (Level 6)
	Programs are mainly in Engineering, Health and Agriculture sectors (Horizontal expansion)	Other sectors such as railways, tunnel, aviation engineering, banking, insurance, fashion design etc.
2. Quality and Relevance		
Accreditation of schools/ programs	NA	**50%**
Instructors number per program	**CEHRD= 5.9** **Pre-Diploma= 2.88** **Diploma= 6.13**	7-instructor per program
Reduce share of temporary/ service contract (%)	**CEHRD= 63.6%** **Pre-Diploma= 89.2%** **Diploma= 88.4%**	**25%**
Development of standards and curricula as per NVQF level descriptors	**0 (20**21**)**	100%
Instructional skills training	**CEHRD= 0%** **CTEVT = 61%**	90%
Occupational Skills Upgradation (OSU) training	**CEHRD= 0%** **CTEVT = 1.6%**	50%
% of schools with >75% workable machines	**CEHRD= 61%** **Pre-Diploma= 51%** **Diploma= 61%**	**>90%**
Application of formative assessment	Not exactly as formative assessment method	**100%**
Duration of results publication after final examination	**6 months**	**2 months**
Duration of skills testing/ RPL results publication	**4 months**	**1 month**
Cycle completion rate (for students who complete specific qualification of study continuously, semester **1** to **4)**	**Pre-Diploma= 38%** **Diploma= 52%**	**>90%**
Survival rate (within additional **3** years' time) (for students who complete specific qualification of study continuously, semester **1** to **4)**	**CEHRD= 57.9%**	**>90%**
Promotion rate to Grade **12 (**diploma level)	**61%**	**>90%**
No. of long-term program graduates	Technical stream: 16505; Pre-Diploma: 240840; Diploma: 96227; Total: 353572 till 2078	166,277
No. of short courses program graduates	Skills test number as proxy indicators= 37924	226,464
NVQF based competency standards	No baseline data available	225

Key Performance Indicators		
	Baseline (2021)	**Targets (20**32 or before**)**
NVQF based curricula (modular competency and credit based)	271 curricula (NVQ aligned curricula does not exist)	150
Employment rate	**CEHRD= 29%** **Pre-Diploma= 60%** **Diploma= 66%**	**>80%**
Sector Skills Councils established by law	**0** (currently 3 Sector Skill Committee in place but they are not legally registered	**>20**
Share of BIAs in CTVET bodies	**CTEVT Assembly = 17%**	**>50%**
	CTEVT Council = 0	**>50%**
	NSTB = 50%	**>50%**
	School management Committee = 11%	**>50%**
Share of schools with BIAs in SMC	**CEHRD = 38%** **CTEVT = 32%**	**100%**
Share of BIAs in SMC	**CEHRD =13%** **CTEVT =18%**	**<50%**
3. Coherence and Transferability		
Application of NVQF level descriptors based curricula	**CTEVT= 0%** **CEHRD= 0%**	**100%**
Implementation of new education qualification structure	Pre-diploma = 1.5 yrs. Diploma = 3 yrs. Technical Stream = 2.5 yrs. after Grade 10	Pre-diploma = 2 yrs. Diploma = 2 yrs.
	Advance Diploma does not exist	Advance Diploma = 1 yr.
	Bachelor's degree does not exist	Bachelor = 3 yrs.
	Curricula are not credit, modular and competency based which requires students to complete all the course duration in one go. It has made the TVET a rigid system.	All curricula are credit, modular and competency based to allow multi entry and multi exist. TVET programs are made flexible.
	All short courses are standalone (not credited)	Short courses are made part of long-term qualification.
4. **School Governance and Management**		
Share of schools with headteacher/ principal who attended schools' management training	15.2%	75%
Share of schools with Student Career Counselling Unit (CCU)	CTEVT= 41% CEHRD= 34%	**100%**
Share of schools with graduate support for employment	CTEVT= 42% CEHRD= 42%	**100%**
Share of schools with graduate support for self -employment/ enterprise development	CTEVT= 47% CEHRD= 50%	**100%**

Key Performance Indicators		
	Baseline (2021)	**Targets (20**32 or before**)**
Share of schools with tracer study system	CTEVT= 32% CEHRD= 20%	**100%**
Share of schools with Production Unit	CTEVT= 17% CEHRD= 15%	**100%**
Schools with required annual budget	vary with school models	Estimated NPR. 186,000 per year per school with 3 programs
Federal TVET Act promulg**ated**	CTEVT Act 2045 (Amended in 2018)	2023
CTEVT converted into National TVET Qualifications **Authority**(NVQA)	CTEVT assumes both quality assurance and implementation responsibilities	CTEVT assumes quality assurance responsibility
Provincial TVET Act	Bagmati and Gandaki have TVET Acts but the rest do not have	2023
Federal and Provincial TVET policy	Federal TVET Policy as part of Education Policy 2019 Bagmati and Gandaki have TVET Policy but the rest do not have it	2023
Coordination mechanism among and within federal, provincial and local levels	Does not exist	Coordination mechanism operation among and within federal, provincial and local levels
SWAp approach of financing in TVET	Does not exist	All resources are mobilized in SWAp approach
NVQF and NSCO aligned studies	Does not exist	2023
BIAs/SSCs/ economic sectors led Employment market baseline and projections	Does not exist	2023
BIAs/SSCs/ economic sectors led realtime operational LMIS in place	Does not exist	2023
Federal level research, innovation, technical issues focused seminars	**Some practice**	1 annually
TMIS/LMIS/FMIS operation	Some level of standalone in each component exist	TMIS/LMIS/FMIS in operation

5.5 Risks and mitigation measures

SN	Risks	Assumptions
1	The TVET Act remains unchanged.	Principles based Federal TVET Act and Policy with similar instruments at the provincial and local level will be in place. It will ensure Government/ MoEST leadership, BIAs/ economic sectors' ownership and all inter/ national development partners' productive partnership
		In case of delay in achieving the above, some of the reform provisions are possible to be implemented even under the current governance system. For instance, curricula reform and implementation, and assessment and certification following government approved NVQF.

2	Current TVET system structure will continue without changes	The CTEVT system will be restructured into National Vocational Qualifications Authority (NVQA) to ensure clarity on regulatory and implementation responsibility.
		● Only one NVQA will be responsible for all quality assurance actions (– research, standards/ curricula development (with some flexibility for localization), institutes and teachers accreditation/ licensing, M&E and assessment and national certification accreditation, equivalency, and model/COE schools and teacher preparation in each province). ● NVQS, under NVQA, will serve as the basis of reform in all these TVET performance areas.
3	Lack of TVET related HR capacity at MoEST/ CTEVT/CEHRD /CDC/ NEB	● HR management plan encompassing all organizations (TVET related ministries, TVET Assemblies, Councils, Boards, Authorities) - at all levels (federal, province and local levels) - will be prepared and systematically implemented to ensure their own capacity development While creating structures for implementation of this TSSP, the existing HR expertise within these institutions will be retained.
4	Business and industry do not take ownership of the TVET programs	Government through the TVET Act and following TVET Principles establishes: i) At least 50% members of all TVET bodies – TVET Assemblies, Councils, Boards, Authorities- at all levels – federal, province and local levels- have members from Business and Industry/ economic sectors ii) At least 20 Occupational Skills Sector Councils. It is however subject to sector studies proposed in the TSSP As far as possible, most of these bodies will be represented by Chairpersons and Vice Chairpersons of the related economic/ occupational sectors.
		The legislative instruments will incentivize BIAs/ economic sectors to ensure their effective participation in the TVET actions.
5	Lack of funding for implementation of this plan	Government in partnership with Business and Industry and inter/national development partners will ensure the required budget.
		Partnership of BIAs/ economic sectors will be highly emphasized for avoiding investing in physical resources that could be replaced by such participation.
		● As far as possible, international support will be sought in grant form. Enough measures will be in place to ensure its prudent and justifiable mobilization.
		Current and future programs funded by international development assistance that cannot be channeled through SWAp approach will also share, prioritize and implement the actions/ interventions identified by the TSSP.
6	The economy will follow the traditional growth trajectory	● Government will be able to put in place its targeted growth on which the graduate number is projected in this plan. Government will ensure the TVET sector reform through various interventions under each objective and strategies of this TSSP.
		●

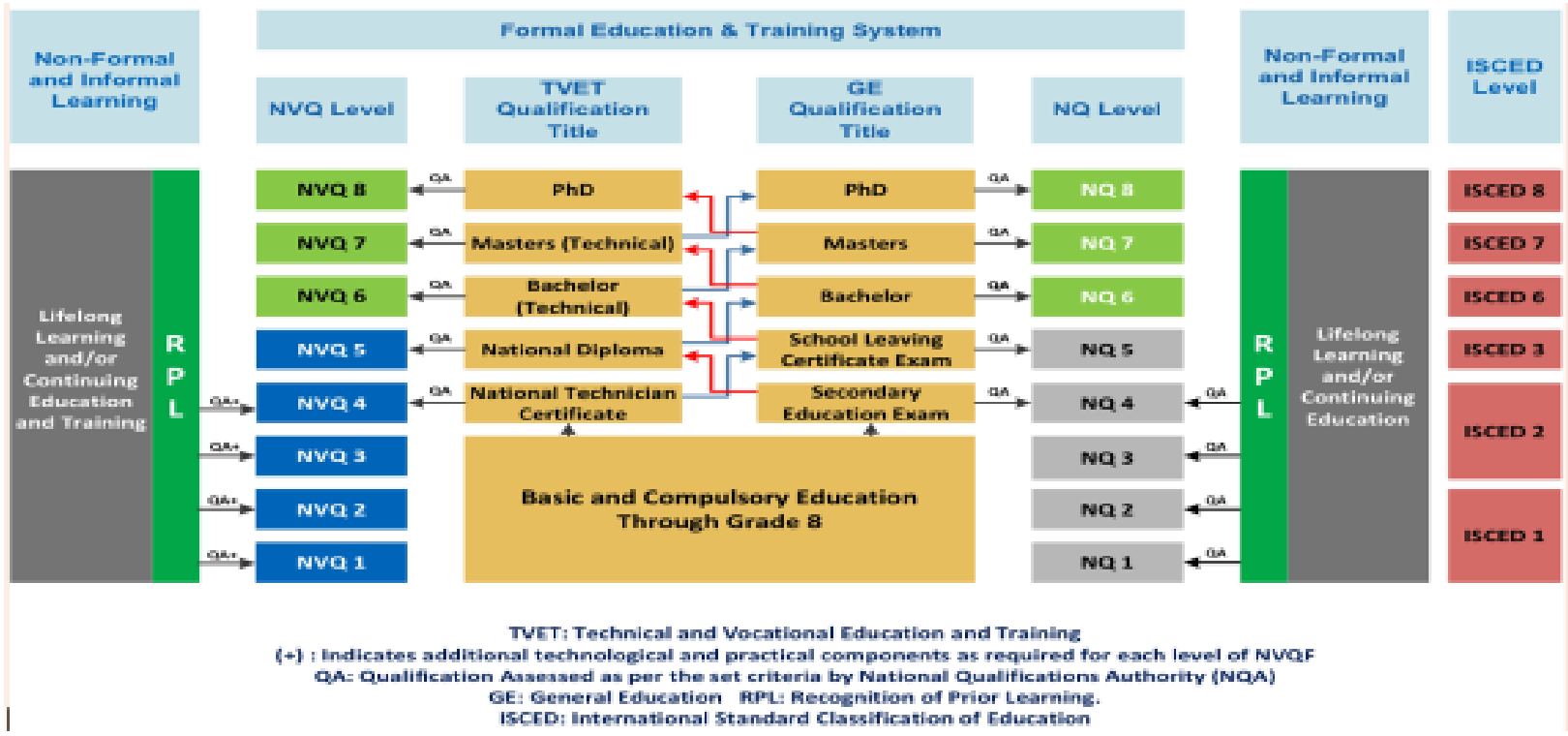
5.1 Annual Strategic Implementation Plan & Annual Workplan and Budget (ASIP & AWPB)

As with the MOEST/CEHRD's regular planning and implementation procedure, this plan only provides a broad vision and direction for TVET development. The TVET coordination and implementation body will translate objectives and strategies into implementation plan in a joint and consultative process that will include governments, development partners and the implementing stakeholders such as BIAs.

Each objective components, strategies, results frame and the Key Performance Indicators will provide the annual planning process as a basic for setting the annual targets for each component. This exercise of annual planning process has been considered most effective in education sector for timely adjustments and course-correction when it becomes necessary due external factors such as COVID-19, and change in political leaderships.

Annex A: National Qualifications Framework

NATIONAL QUALIFICATIONS FRAMEWORK



TVET: Technical and Vocational Education and Training
(+) : Indicates additional technological and practical components as required for each level of NVQF
QA: Qualification Assessed as per the set criteria by National Qualifications Authority (NQA)
GE: General Education RPL: Recognition of Prior Learning.
ISCED: International Standard Classification of Education

Annex B: Projection Tables

Scenario 1 (Planned Growth)

Year	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88
Sectoral Growth	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
Human health and social work activities	6.53	10.5	10.5	10.5	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Agriculture, forestry and fishing	2.64	5.4	5.4	5.4	4.9	4.9	4.9	4.9	4.9	5.0	5.0
Engineering Replated	6.37	12.2	12.2	12.2	14.9	14.9	14.9	14.9	14.9	15.0	15.0
Accommodation and food service activities	11.20	17	17	17	6.2	6.2	6.2	6.2	6.2	8.0	8.0
Projection											
Health	120016	132617	146542	161929	178608	197004	217296	239677	264364	291593	321627
Agriculture and Forestry	1599319	1685683	1776709	1872652	1964412	2060668	2161641	2267561	2378672	2497605	2622485
Engineering	1157363	1298561	1456985	1634737	1878313	2158182	2479751	2849234	3273770	3764835	4329561
Hospitality	54637	63926	74793	87508	92933	98695	104814	111313	118214	127671	137885

Cumulative Projection (2022-2031)

Year	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88

Sector/Course	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Health	**120016**	**132617**	**146542**	**161929**	**178608**	**197004**	**217296**	**239677**	**264364**	**291593**	**321627**
Short Term	*26476*	*29255*	*32327*	*35722*	*39401*	*43459*	*47936*	*52873*	*58319*	*64326*	*70951*
Pre Diploma	*33437*	*36948*	*40827*	*45114*	*49761*	*54886*	*60540*	*66775*	*73653*	*81239*	*89607*
Diploma	*60103*	*66414*	*73388*	*81093*	*89446*	*98659*	*108821*	*120029*	*132392*	*146028*	*161069*
Agriculture and Forestry	**1599319**	**1685683**	**1776709**	**1872652**	**1964412**	**2060668**	**2161641**	**2267561**	**2378672**	**2497605**	**2622485**
Short Term	*1322298*	*1393702*	*1468962*	*1548285*	*1624151*	*1703735*	*1787218*	*1874792*	*1966656*	*2064989*	*2168239*
Pre Diploma	*216039*	*227705*	*240001*	*252961*	*265356*	*278358*	*291998*	*306306*	*321315*	*337381*	*354250*
Diploma	60983	64276	67747	71405	74904	78575	82425	86464	90700	95235	99997
Engineering	**1157363**	**1298561**	**1456985**	**1634737**	**1878313**	**2158182**	**2479751**	**2849234**	**3273770**	**3764835**	**4329561**
Short Term	*794761*	*891722*	*1000512*	*1122574*	*1289838*	*1482024*	*1702845*	*1956569*	*2248098*	*2585313*	*2973110*
Pre Diploma	*292121*	*327760*	*367747*	*412612*	*474091*	*544731*	*625896*	*719154*	*826308*	*950255*	*1092793*
Diploma	*70480*	*79079*	*88726*	*99551*	*114384*	*131427*	*151010*	*173510*	*199363*	*229268*	*263658*
Hospitality	**54637**	**63926**	**74793**	**87508**	**92933**	**98695**	**104814**	**111313**	**118214**	**127671**	**137885**
Short Term	*29858*	*34934*	*40873*	*47821*	*50786*	*53935*	*57279*	*60830*	*64602*	*69770*	*75351*
Pre Diploma	*21513*	*25171*	*29450*	*34456*	*36592*	*38861*	*41271*	*43829*	*46547*	*50270*	*54292*
Diploma	*3266*	*3821*	*4471*	*5230*	*5555*	*5899*	*6265*	*6653*	*7066*	*7631*	*8242*
Total	**2931335**	**3180786**	**3455030**	**3756826**	**4114266**	**4514549**	**4963502**	**5467785**	**6035020**	**6681705**	**7411559**

Short Term	*2173392*	*2349613*	*2542674*	*2754403*	*3004177*	*3283153*	*3595278*	*3945064*	*4337675*	*4784397*	*5287651*
Pre Diploma	*563110*	*617583*	*678025*	*745143*	*825801*	*916837*	*1019704*	*1136065*	*1267823*	*1419145*	*1590941*
Diploma	*194832*	*213590*	*234332*	*257280*	*284289*	*314560*	*348520*	*386656*	*429522*	*478163*	*532966*

Annual Labour Force Projection

Year	**2077-78**	**2078-79**	**2079-80**	**2080-81**	**2081-82**	**2082-83**	**2083-84**	**2084-85**	**2085-86**	**2086-87**	**2087-88**
Sector/Course	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
Health	**7353**	**12602**	**13925**	**15387**	**16679**	**18397**	**20291**	**22381**	**24687**	**27229**	**30034**
Short Term	*1622*	*2780*	*3072*	*3394*	*3679*	*4058*	*4476*	*4937*	*5446*	*6007*	*6626*
Pre Diploma	*2049*	*3511*	*3880*	*4287*	*4647*	*5125*	*5653*	*6236*	*6878*	*7586*	*8368*
Diploma	*3683*	*6311*	*6973*	*7706*	*8353*	*9213*	*10162*	*11209*	*12363*	*13636*	*15041*
Agriculture and Forestry	**41118**	**86363**	**91027**	**95942**	**91760**	**96256**	**100973**	**105920**	**111110**	**118934**	**124880**
Short Term	*33995*	*71404*	*75260*	*79324*	*75866*	*79583*	*83483*	*87574*	*91865*	*98333*	*103249*
Pre Diploma	*5554*	*11666*	*12296*	*12960*	*12395*	*13002*	*13640*	*14308*	*15009*	*16066*	*16869*
Diploma	*1568*	*3293*	*3471*	*3658*	*3499*	*3670*	*3850*	*4039*	*4237*	*4535*	*4762*
Engineering	**69293**	**141198**	**158424**	**177752**	**243576**	**279869**	**321569**	**369483**	**424536**	**491065**	**564725**
Short Term	*47583*	*96961*	*108790*	*122062*	*167264*	*192186*	*220822*	*253724*	*291529*	*337215*	*387797*
Pre Diploma	*17490*	*35639*	*39987*	*44865*	*61479*	*70640*	*81165*	*93258*	*107154*	*123946*	*142538*
Diploma	*4220*	*8599*	*9648*	*10825*	*14833*	*17043*	*19583*	*22500*	*25853*	*29905*	*34390*
Hospitality	**5503**	**9288**	**10867**	**12715**	**5425**	**5762**	**6119**	**6498**	**6901**	**9457**	**10214**

Short Term	*3007*	*5076*	*5939*	*6948*	*2965*	*3149*	*3344*	*3551*	*3771*	*5168*	*5582*
Pre Diploma	*2167*	*3657*	*4279*	*5006*	*2136*	*2269*	*2409*	*2559*	*2717*	*3724*	*4022*
Diploma	*329*	*555*	*650*	*760*	*324*	*344*	*366*	*388*	*413*	*565*	*610*
Total	**123267**	**249451**	**274243**	**301796**	**357440**	**400283**	**448952**	**504283**	**567234**	**646686**	**729853**
Short Term	*86208*	*176221*	*193061*	*211729*	*249774*	*278976*	*312125*	*349786*	*392611*	*446722*	*503253*
Pre Diploma	*27259*	*54473*	*60441*	*67118*	*80657*	*91036*	*102867*	*116361*	*131758*	*151322*	*171797*
Diploma	*9799*	*18758*	*20742*	*22949*	*27009*	*30271*	*33960*	*38136*	*42865*	*48641*	*54803*
Advance Diploma		*1837*	*3517*	*3889*	*4303*	*5064*	*5676*	*6368*	*7151*	*8037*	*9120*

Annex C Major Indicators by Provinces, 2078

SN	Indicators								
1	**No. of schools (2078)**	**Nepal**	**Province 1**	**Madhesh**	**Bagmati**	**Gandaki**	**Lumbini**	**Karnali**	**Sudur Pash**
1.1	Academic schools/Institutes	1,591	207	207	363	159	283	159	213
1.2	Short term providers/ institutes								

2	**Programs in offer (2078)**	**Nepal**	**Province 1**	**Madhesh**	**Bagmati**	**Gandaki**	**Lumbini**	**Karnali**	**Sudur Pash**
2.1	**Total programs**	**2,543**	**360**	**339**	**597**	**230**	**458**	**242**	**317**
2.2	No. of Programs by Province								
a	Agriculture	850							
b	Engineering	1,000							
c	Forestry	47							
d	Health	606							
e	Hospitality	20							
f	Others	20							

3	**Enrolement capacity (2078)**	**Nepal**	**Province 1**	**Madhesh**	**Bagmati**	**Gandaki**	**Lumbini**	**Karnali**	**Sudur Pash**
3.1	**Enrolement capacity**	**107,411**	**15,456**	**14,562**	**24,837**	**9,760**	**19,380**	**10,148**	**13,268**
3.2	**Enrolement capacity by program**	**Nepal**	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
a	CEHRD. Technical stream	23,280	4560	3984	3888	2400	4704	1440	2304
b	Pre-Diploma	38,107	5560	4344	7905	3810	6488	4360	5640
c	Diploma	46,024	5336	6234	13044	3550	8188	4348	5324
3.3	**Enrollment Capacity by programs**	**Nepal**	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
a	Agriculture	35,760	4512	2920	5960	4080	6176	5600	6512

b	Engineering	45,141	6864	8112	10057	3680	8514	3408	4506
c	Forestry	1,880	80	80	240	200	440	440	400
d	Health	23,062	3760	3370	7932	1550	4020	700	1730
e	Hospitality	770	120	40	360	170	40		40
f	Others	798	120	40	288	80	190		80

5	**Actual enrolment (2078)**	**Nepal**	**Province 1**	**Madhesh**	**Bagmati**	**Gandaki**	**Lumbini**	**Karnali**	**Sudur Pash**
5.1	**Actual enrolment**	54,871	7,648	7,956	12,827	4,728	10,492	3,948	7,272
5.2	**Actual enrolment (%)**	51	49	55	52	48	54	39	55
5.3	**Sector-wise Actual Enrollment**	**Nepal**	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
a	Agriculture	17,553	2533	1674	3813	1464	2850	2031	3188
b	Engineering	26,305	4002	4778	6190	1209	5085	1777	3264
c	Forestry	1,098	91	47	145	75	217	275	248
d	Health	9,374	1148	1499	4121	542	1465	120	479
e	Hospitality	315	21	52	120	59	52		11
f	Others	226	20		111		56		39

6	**Expansion**	**Nepal**	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
6.1	No. of LLs with access to schools	637	106	100	105	72	100	71	83
6.2	LLs with access to schools (%)	85	76	74	88	84	91	90	94

7	**School type**	**Nepal**	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
7.1	**Schools type under CTEVT**	**1,106**	112	124	282	109	185	129	165
a	Constituent schools	6	7	8	17	12	10	4	5

b	Technical Education in Community Schools (TECS)	52	39	55	109	55	83	104	127
c	Partnership	4	13	8	6	6	4	2	3
d	Private	39	53	53	150	36	88	19	30
7.2	**Schools under Technical Stream**	30	95	85	85	50	100		

8	**Number of current students (2078)**	Total	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
1	**Total enrolled in academic programs**	**54,985**							
2	**Share in disaggreagated categories**								
a	Share of Girls	43.1	42	37	45	47	41	50	43
b	Share of Dalits	11.1							
c	Share of Janajatis	31.2							
d	Share of Madhesis	15.8							

	Performance area: 3.7 Relevance Indicators	**Nepal**	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
1	Share of schools with BI/A in SMC	34.1	33.7	18.5	34.7	29.3	29.7	54.3	41.1
2	Average members in SMC	6.5	7.2	4.6	6	5.6	7.4	8.3	6.6
3	Average Business and Industry members in SMC	1.0	0.9	0.5	1	1	0.8	1.7	1.2
4	Share of schools with support from Business and Industry Associations (BIAs) in OJT/ internship	48.9	86.5	61.1	73.4	75.9	82.4	80.4	71.2
5	Share of schools with BIAs in OJT/ internship/ employment facilitation committee	23.0	76.4	55.6	65.3	70.7	76.9	89.1	75.3
6	Share of schools with BIAs in school operations	22.8	2.1	1.2	1.6	1.9	2.2	2.4	2
7	Share of schools with Bis in examination operations	13.8	15.7	11.1	15.3	3.4	17.6	15.2	16.4
8	Share of schools with annual labor market research	13.4	9	11.1	21	8.6	18.7	6.5	13.7