



## Skills Gap Analysis by Sector Report

November 2018



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## Acronyms

CTEVT	Council for Technical Education and Vocational Training
DAG	Disadvantaged Groups
DFID	Department for International Development
ICT	Information and Communication Technology
IWDR	Industry Workforce Development Roadmaps
MNC	Multi-National Company
OJT	On-the Job Training
PwD	Persons with Disability
सीप	Skills for Employment Program

## Executive Summary

This research report covers the analysis of firm-level survey conducted as part of the Inception Phase of Skills for Employment Programme. This report is based on discussions with 238 firms across Nepal representing the five sectors under study and based across Nepal. The goal of this report is to understand the quantum of the skill related challenges in each of the sectors in Nepal and to test the hypotheses developed during the macroeconomic survey.

The five sectors that are covered in this report include **Commercial Agriculture, Light Manufacturing, Hydropower, Tourism and Information & Communication Technology**. Based on study of literature and discussions with the stakeholders in the earlier report, these sectors were identified as the ones with the most potential for economic and social transformation of Nepal.

Through the research, the following are the key findings for each of the five sectors were identified. Across these 238 firms, the total number of employees is 18,638 – they are expected to create an additional 14,050 jobs over the next four years, i.e. a growth of 75% in terms of workforce. Extrapolating this for the overall economy of Nepal over the next four years, it is estimated that an additional 500,000 to 600,000 jobs will be created (refer to Annex 1 for the estimation).

An individual chapter for each of the sectors is covered in this report. This section covers the summary of each of the sector analysis.

- **Commercial Agriculture**
  - Out of the firms surveyed, only 7% are currently exporting overseas (average of approximately 15% of revenue from exports) while 66% mentioned that they have no intention of exporting overseas
  - While the growth rates in terms of revenue and manpower have been steady over the last two years, the firms surveyed are bullish about their prospects over the next four years.
  - Skill-related challenge was identified by 54% of the respondents.
  - The firms surveyed reported an average attrition rate of 10.1% per annum, while the average attrition rate of women employees to be 6.5% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas
  - The firms indicated that they will be increasing their total employment by approximately 20.1% per annum over the next four years
  - 47.4% of the employees in the firms surveyed are women, only 1.7% of the employees are People with Disabilities (PwDs), while 47.2% of the employees are from Disadvantaged Groups (DAGs)
  - Typical examples of skills gaps that were highlighted by the respondents included lack of marketing knowledge, lack of customer relation skills, lack of communication skills, and lack of creativity.
  - While on-the-job experience remains the preferred skill development model for the firms, skill development models such as pre-employment work readiness training and sponsoring of a training provider seem to have significant preference among the respondents.
  - The firms indicated that they needed support for both pre-employment and continuous-employment trainings – close to 2/3rd of the respondents mentioned these. Another 1/3rd of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

- **Light Manufacturing**

- Out of the firms surveyed, only 22% are currently exporting overseas (average of approximately 17% of revenue from exports) while 48% mentioned that they have no intention of exporting overseas
- Skill-related challenge was identified by 56% of the respondents.
- The firms surveyed reported an average attrition rate of 20.0% per annum, while the average attrition rate of women employees to be 28.7% per annum.
- The firms indicated that they will be increasing their total employment by approximately 18.7% per annum over the next four years.
- 50.7% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 60.1% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of marketing knowledge, lack of plant/ machine operation skills, lack of communication skills, and lack of critical thinking.
- On-the-job experience, along with pre-employment work readiness training, in-house training and sponsoring of a training provider seem to have significant preference among the respondents.
- The firms indicated that they needed support for both pre-employment and continuous-employment trainings – close to 70% of the respondents mentioned these. Another 2/3rd of the respondents mentioned that they needed support in providing tools and solutions to improve productivity.

- **Hydropower**

- Out of the firms surveyed, only 2% are currently exporting overseas (average of approximately 5% of revenue from exports) while 80% mentioned that they have no intention of exporting overseas
- Skill-related challenge was identified by 66% of the respondents.
- The firms surveyed reported an average attrition rate of 7.9% per annum, while the average attrition rate of women employees to be 2.8% per annum.
- The firms indicated that they will be increasing their total employment by approximately 10.2% per annum over the next four years.
- 21.7% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 14.1% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of project management skills, lack of practical knowledge, and lack of awareness of latest technologies.
- On-the-job experience, along with pre-employment work readiness training and in-house training seem to have significant preference among the respondents.
- The firms indicated that they needed support for continuous-employment trainings – close to 2/3rd of the respondents mentioned this. Another 1/3rd of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

- **Tourism**

- Out of the firms surveyed, only 15% are currently exporting overseas (average of approximately 8% of revenue from exports) while 76% mentioned that they have no intention of exporting overseas
- Skill-related challenge was identified by 56% of the respondents.
- The firms surveyed reported an average attrition rate of 6.2% per annum, while the average attrition rate of women employees to be 6.5% per annum.
- The firms indicated that they will be increasing their total employment by approximately 9.5% per annum over the next four years.

- 28.3% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 38.2% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of communication skills and lack of guest relationship management.
- On-the-job experience, along with in-house training and pre-employment work readiness training seem to have significant preference among the respondents.
- The firms indicated that they needed support for pre-employment trainings – close to 65% of the respondents mentioned these. Another 40% of the respondents mentioned that they needed support in upskilling the existing workers and in providing managerial skills training for senior and middle management.
- **ICT**
  - Out of the firms surveyed, 23% are currently exporting overseas (average of approximately 13% of revenue from exports) while 55% mentioned that they have no intention of exporting overseas.
  - Skill-related challenge was identified by 66% of the respondents.
  - The firms surveyed reported an average attrition rate of 6.3% per annum, while the average attrition rate of women employees to be 8.6% per annum.
  - The firms indicated that they will be increasing their total employment by approximately 28.4% per annum over the next four years.
  - 17.5% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 26.6% of the employees are from Disadvantaged Groups (DAGs)
  - Typical examples of skills gaps that were highlighted by the respondents included lack of project management skills, lack of practical knowledge, and lack of marketing/ business development.
  - On-the-job experience along with in-house training seems to have significant preference among the respondents.
  - The firms indicated that they needed support for pre –employment and continuous-employment trainings – close to 50% of the respondents mentioned this. Another 55% of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

As the next step to this report, the team is validating the findings through ideation labs. Using the findings from this report and the macroeconomic survey, ideation labs (one for each sector) will be conducted to identify the solutions. The end goal is to develop an Industry Workforce Development Roadmap (IWDR) for each of the five sectors under focus during the Inception Phase of the programme.

## 1. Background of the study

A poor educational system, a history of conflict and political instability, and other symptoms of poverty leave many Nepalese with limited employable knowledge and skills. Nepal's tertiary education system is also poorly regarded by employers who say there is a "gap between academia and industry" and "graduates do not meet the requirements needed". At the same time, slower job and wage growth (labour demand) in more skilled industries are not in-step with skilled graduates (labour supply), impelling many skilled people to migrate to developed countries for better job prospects, stability, and wages while leaving behind many semi- or unskilled workers. A market gap is created as workers fail to meet the skill demand and/or wages are comparatively too low to make working worth their while.

Nepal's TVET system was created to help bridge the skills gap and comprises formal, informal, and non-formal education, but despite numerous providers, an estimated 62% of youth cannot access TVET<sup>1</sup>. There is a gap between employers' demands and training providers (TPs) offerings. Employers themselves are hesitant to invest significantly in training as trainees are likely to work for a short period before taking learnt skills and leaving for better opportunities. In addition, small domestic markets limit firms' ability to increase wages (and retain staff) and, in some cases, firms opt to employ cheaper, abundant foreign labour or automate. The World Bank has estimated that if the investment-to-GDP ratio, growth of human capital, and growth of productivity stay at recent historical averages, Nepal's potential or trend rate of growth would slow to an average of just 3 percent per year from 2017 to 2030 (World Bank, 2017). This indicates that there is a need to improve the productivity of the workforce across the country.

In response, DFID has designed the Nepal Skills for Employment Programme (सीप) and has competitively selected Louis Berger, Inc., a global consulting firm, to deliver the £17 million technical assistance project to better train and place Nepalese in both domestic and international jobs. By primarily using a Challenge Fund mechanism, सीप will partner with the private sector to bring in innovative training models to address market failures and key skill gaps while also leveraging private sector resources. Models will focus on solutions for training and job placement in the ICT, tourism, commercial agriculture, light manufacturing, and hydropower sectors, all of which are key economic drivers for Nepal.

The project will also look at partnering with relevant government entities to evaluate and recommend public training models, as well as develop skilling capacity at the provincial level. Along the way, सीप will provide targeted support to build capacity in key skilling areas with other Development Partners. Literature indicates that the employer-provided training creates significant gains for both workers and firms. It helps increase the productivity of the employers and wages of the workers (Lynch, 1994) (Glick, Huang, & Mejia, 2015).

The migration piece of सीप will focus on harnessing the benefits of migration for Nepal's workforce and economic development. सीप will demonstrate a number of cost-effective models to increase migrants' skills and incomes; lower financing and other costs of travelling abroad; and, increase savings and investment of remittances. Cross-cutting will be financial literacy. सीप will

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<sup>1</sup> Source: <https://www.adb.org/sites/default/files/publication/176564/tvet-hrd-south-asia-nepal.pdf>.

work in tandem with efforts by the International Labour Organization (ILO) and other key counterparts in Nepal and Asia, which depends heavily on Nepali migrants.

As a result, the project will help reduce the skills mismatch, reaching over 90,000 (45,000 from the Skills Strengthening Component and 45,000 from the Migration Component) Nepalese with an increase in income attributed to the project. . Of these beneficiaries, for skills component, at least 70% will be in key sectors for structural transformation, at least 50% will be women; and at least 40% will be from disadvantaged groups (including a 10% of total component target for those living with disability to access employment). Similarly for migration component, at least 33% of the beneficiaries will be women; and at least 40% will be from disadvantaged groups.

As DFID's implementing partner on this initiative, Louis Berger will coordinate its strategies and activities with the major public, the private sector, donor community, including donor agencies, and other stakeholders who are involved in providing support to the GoN in skills development and employment generation. Louis Berger's team partners for this project include British Council (BC), the International Organization for Migration (IOM), Frost & Sullivan (F&S), Institute for Integrated Development Studies (IIDS), and Clear Horizon (CH).

## 1.1 Scope of this report

This report covers the analysis of the skills assessments by sector, trade, and province. These assessments will, among many things, consolidate and present key gaps and potential in skills; assess existing public and private training models; and, recommend models for testing through impact assessment (MEL) or through innovation via the Challenge Fund. It looks at job roles in demand and the skill gaps based on industry's requirement. The objective is to identify the skill gaps by sector, trade and province based on the macro, meso and micro analysis. A total of 238 firms were surveyed across the five sectors, as shown in the tables below.

Sectors	Small	Medium	Large	Foreign	Total
Commercial Agriculture	23	12	6	1	41
Hydropower / Construction	14	12	15	4	41
ICT	24	21	2	4	47
Light Manufacturing	30	19	5	3	54
Tourism	17	29	9	4	55
TOTAL	108	93	37	16	238

Table-1: Profile of Stakeholders interviewed (by Sectors and Nationalities)

The interviews were conducted in 6 Cities across Nepal. These included Kathmandu, Nepalgunj, Birgunj, Bhairahawa, Biratnagar, and Narayanghat. Please note that some firms had multiple offices across Nepal.

Location	Total
Kathmandu	160
Narayanghat	26
Biratnagar	26
Nepalgunj	20
Birgunj	12
Bhairahawa	20
Others	50
TOTAL	238

Table-2: Profile of Stakeholders interviewed (by Location)

#### Key Activities in this stage

- Conduct discussions with 238 firms across the five sectors (by sub-sectors).
- Consolidate and analyse the information collected through the macro-economic and firm-level surveys
- Assess existing training models and conduct a comprehensive review of regional and global best practices. This will be led by and in consultation with सीप partners on Skills and MEL components.

## 2. Profile of Commercial Agriculture Sector in Nepal

The agriculture sector is an employment provider for a large number of people traditionally employed in this sector. It provides jobs for a number of uneducated and unskilled labour. Agriculture also provides employment opportunities through allied industries. According to the International Labour Organization, in 2010 agriculture contributed to 19.8% of the total employment. One interesting point to be noted is that while in developing countries a major proportion of labour is involved in agriculture, in developed economies only a small proportion is involved in agriculture. Agriculture accounts for approximately 3.9% of the global gross domestic product (GDP) (World Bank, 2014).

The agriculture sector in Nepal remains its premier GDP contributor with agriculture having accounted for 28.8% of the nation's GDP in FY 2016 / 2017, and is estimated to have contributed 27.6% to the national GDP in 2017 / 18 (MoF, 2018). This also directly translates to the employment sphere where the agriculture sector engages two-thirds of the population (IBN, 2017). Agriculture is still subsistent by nature, and contribution of the agriculture sector to GDP has seen a steady decline since FY 2010 / 11. However, the sector has reported being undergoing a gradual shift from subsistence to commercial agriculture (IBN, 2017).

Some of the key findings from the survey include:

- Out of the firms surveyed, only 7% are currently exporting overseas (average of approximately 15% of revenue from exports) while 66% mentioned that they have no intention of exporting overseas
- While the growth rates in terms of revenue and manpower have been steady over the last two years, the firms surveyed are bullish about their prospects over the next four years.
- Skill-related challenge was identified by 54% of the respondents.
- The firms surveyed reported an average attrition rate of 10.1% per annum, while the average attrition rate of women employees to be 6.5% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas
- The firms indicated that they will be increasing their total employment by approximately 20.1% per annum over the next four years
- 47.4% of the employees in the firms surveyed are women, only 1.7% of the employees are People with Disabilities (PwDs), while 47.2% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of marketing knowledge, lack of customer relation skills, lack of communication skills, and lack of creativity.
- While on-the-job experience remains the preferred skill development model for the firms, skill development models such as pre-employment work readiness training and sponsoring of a training provider seem to have significant preference among the respondents.
- The firms indicated that they needed support for both pre-employment and continuous-employment trainings – close to 2/3rd of the respondents mentioned these. Another 1/3rd of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

Profile of the Firms	Labour Profile	Social Inclusion	Skill Development
<b>41</b> firms interviewed	<b>18</b> Average employees per firm	<b>98.9%</b> Share of Nepalese employees	<b>56%</b> believe skill is a limiting factor for growth
<b>7%</b> of the firms export	<b>56%</b> Mentioned wages have grown in last 2 years	<b>47.4%</b> Share of Women employees	<b>Preferred Models</b> OTJ experience (27%), Sponsor Training Provider (22%), In-house training (17%)
<b>4.6%</b> Average annual growth in revenue (historic)	<b>10.1%</b> Annual Attrition in workforce	<b>47.2%</b> Share of DAG employees	<b>Job Roles</b> Entry Level and Technical roles (Skilled Workers, Technicians, Veterinarians, machine operators/ repair, labourers)
<b>7.3%</b> Expected annual growth in revenue future	<b>20.1%</b> Expected annual growth in workforce size	<b>1.7%</b> Share of PwD employees	

Figure-3: Summary of the results for Commercial Agriculture, N=41

Source: सीप Firm Level Survey (2018)

## 2.1 Profile of Companies Interviewed

A total of 41 companies in the sector were interviewed across Nepal. A detailed list of stakeholders interviewed is provided in Annex 2.

The distribution of the companies by size is indicated in the figure below.

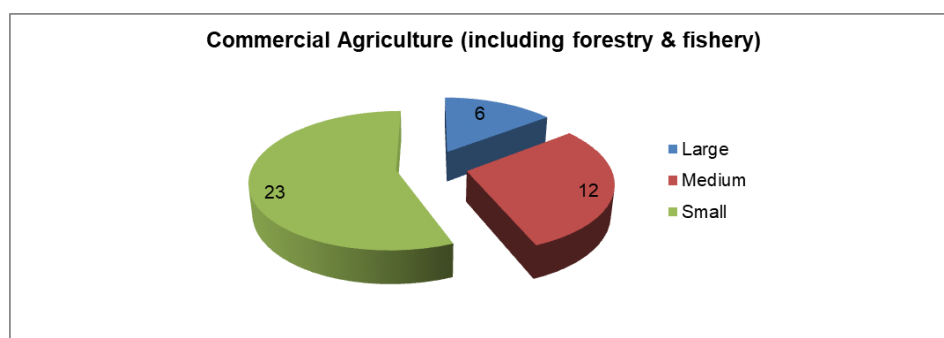


Figure-4: Distribution of firms surveyed by size, N=41

Source: सीप Firm Level Survey (2018)

Geographically, they are well-distributed across various Provinces of Nepal. However, a majority of them have presence in Province 3. The figure below indicates the number of surveyed firms with offices in the major cities (multiple options). Others included cities such as Bhaktapur, Suryabinayak, Makwanpur, Nuwakot, Janakpur, Sirutar, and Jhapa.

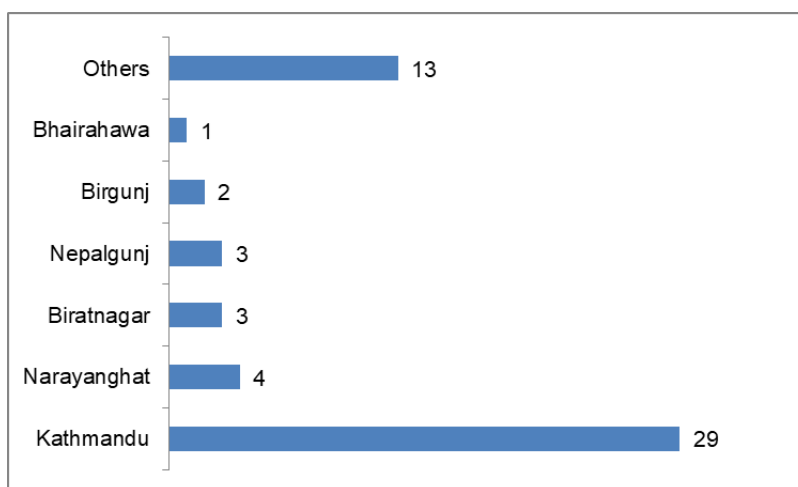


Figure-5: Distribution of firms surveyed by geographical presence, N=41

Source: सीप Firm Level Survey (2018)

Out of the firms surveyed, only 7% are currently exporting overseas (average of approximately 15% of revenue from exports) while 66% mentioned that they have no intention of exporting overseas. Out of the firms which export, the export destinations include Germany, the Netherlands, Australia, and China. For the companies which do not export currently, but intend to export over the next 2-4 years, the popular destinations are South Asian countries (India, Bangladesh) and Middle-East. Most of these are medium-sized firms.

Among the companies which have no intention of exports, some of the reasons mentioned include sufficiency of domestic market, lack of policy support for exports, lack of capital, and lack of export-quality products.

Out of the 41 firms surveyed, only 1 mentioned itself as a Multi-national company (MNC) and only two mentioned they have equity investment from outside Nepal. However, 15 firms (i.e. 37% of the sample) mentioned that they import raw material from overseas. This shows there is limited international exposure for the Nepalese Commercial Agriculture sector.

In terms of growth of revenue over the last two years (2016-2018), 51% of the firms surveyed mentioned that they have experienced a growth of over 5% per annum. However, the firms were bullish about their future prospects with 3/4<sup>th</sup> of the firms surveyed mentioned they expected a growth of more than 5% per annum over the next four years (2019-2023).

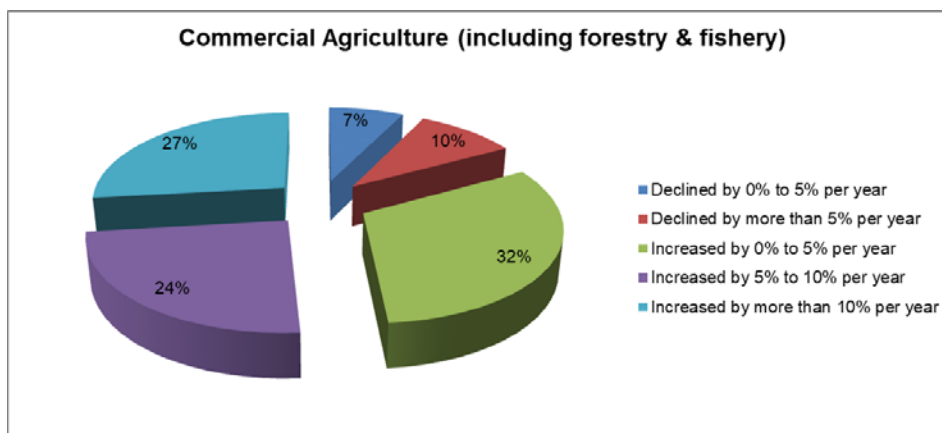


Figure-6: Distribution of firms surveyed by revenue growth in last two years, N=41

Source: सीप Firm Level Survey (2018)

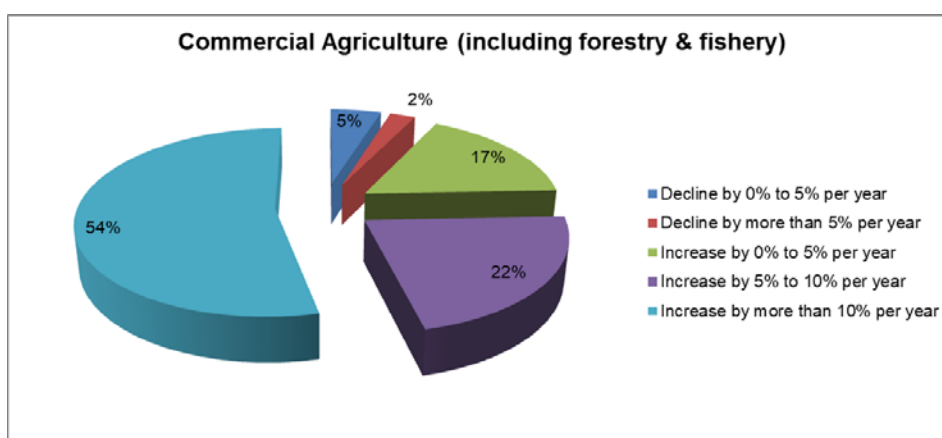


Figure-7: Distribution of firms surveyed by expected revenue growth in next four years, N=41

Source: सीप Firm Level Survey (2018)

Over the same period (2016-2018), 73% of the firms surveyed mentioned that they have experienced a workforce growth of less than 5% per annum – 24% have seen a decline in the workforce numbers during this period. However, only 12% of the firms mentioned that they expect their workforce declining in the next four years – 2/3<sup>rd</sup> of the firms expected their workforce to increase by over 5% over this period.

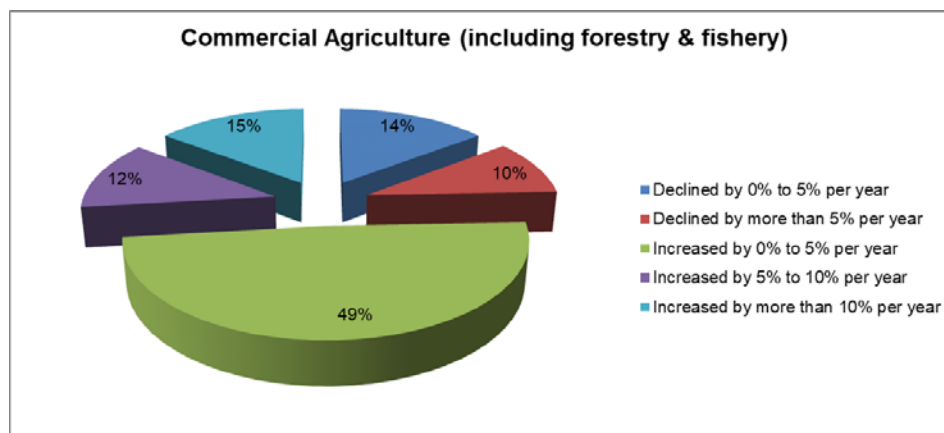


Figure-8: Distribution of firms surveyed by workforce growth in last two years, N=41

Source: सीप Firm Level Survey (2018)

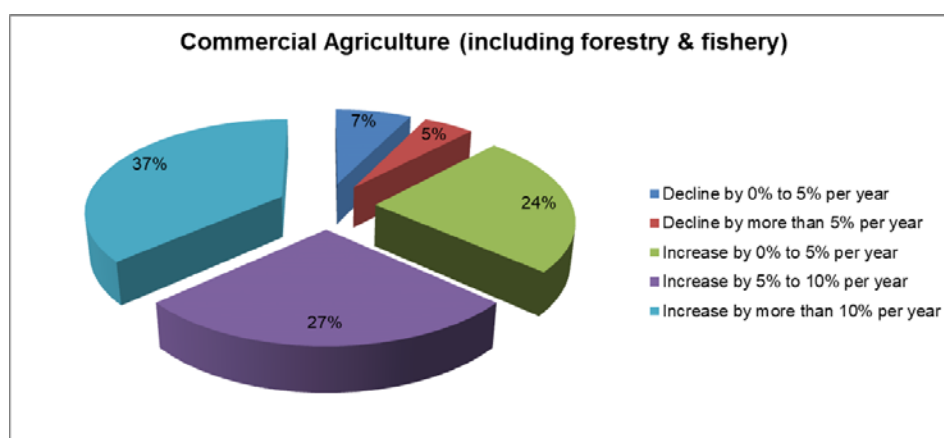


Figure-9: Distribution of firms surveyed by expected workforce growth in next four years, N=41

Source: सीप Firm Level Survey (2018)

The firms surveyed indicated that their top challenges to achieve their growth targets include lack of government policies or regulations which help businesses grow, high cost or lack of availability of labour at required skill level, and high cost of transportation. Skill-related challenge was identified by more than 50% of the respondents.

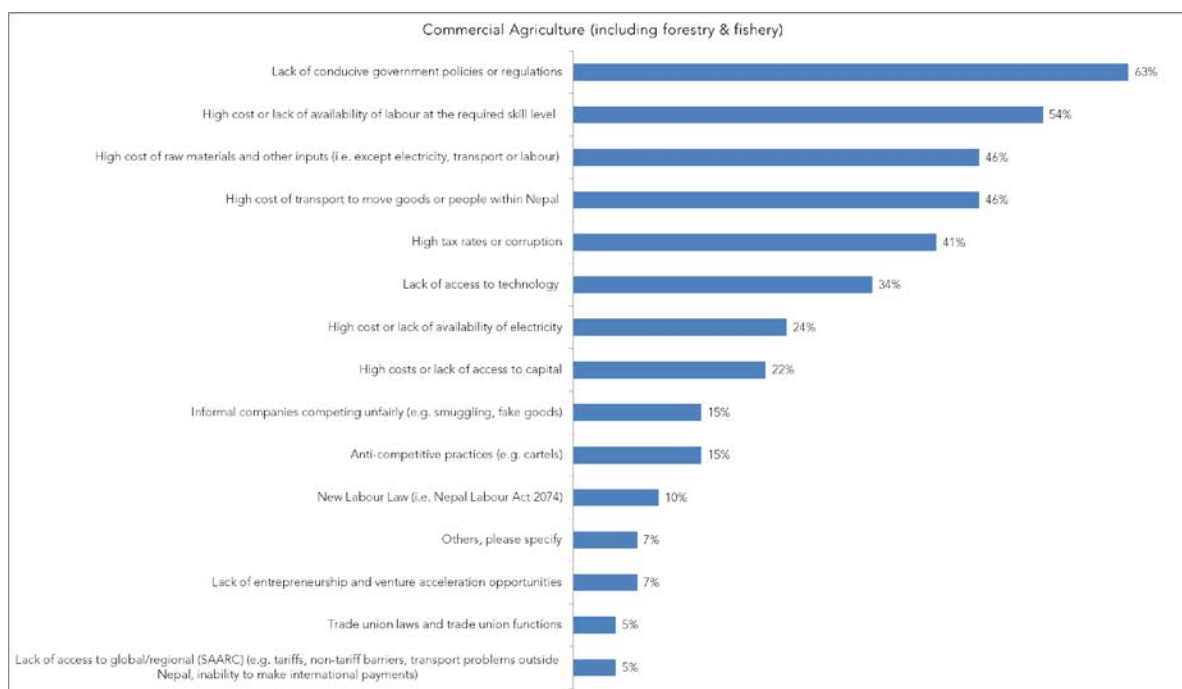


Figure-10: Distribution of responses on top challenges that hamper their company from achieving their growth targets, N=41

Source: सीप Firm Level Survey (2018)

## 2.2 Labour Profile of the Companies Interviewed

These 41 firms employed 745 employees – an average of 18 employees per firm. This number was approximately 697 employees in 2016 – i.e. the companies have hired an average of 1 additional employee over the last two years.

The breakdown by job categories of the total employees and by demographic segments is indicated in the figure below.

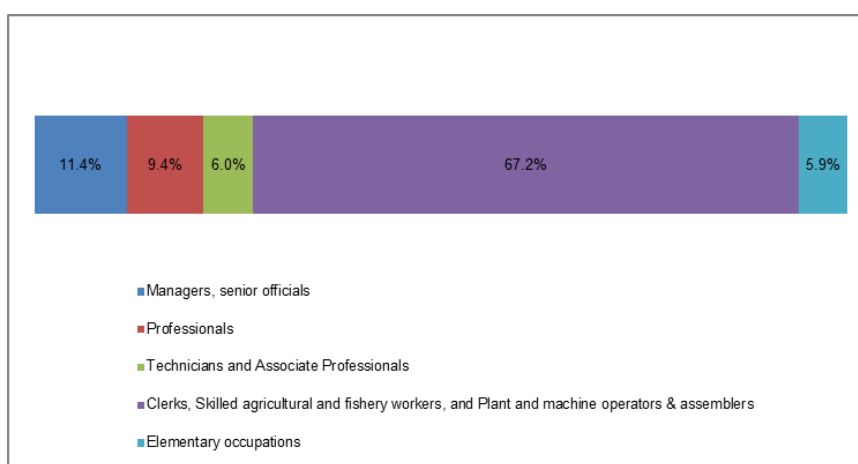


Figure-11: Distribution of employees by job categories, N=41

Source: सीप Firm Level Survey (2018)

In terms of demographic proportions, **98.9%** are Nepalese. The foreign employees were reported to be from India or the Netherlands (i.e. the countries where these companies export to).

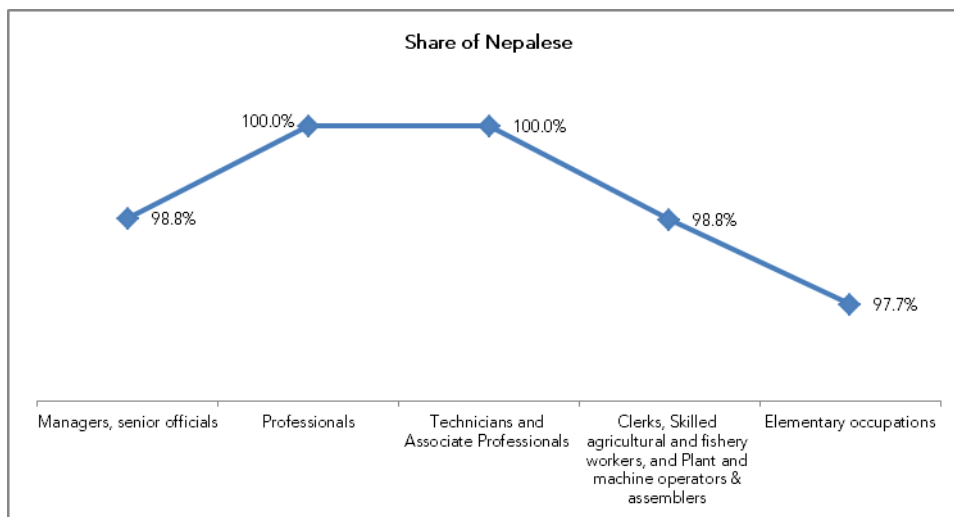


Figure-12: Share of Nepalese employees across job categories, N=41

Source: सीप Firm Level Survey (2018)

In terms of wage increases, more than one in every three firms surveyed mentioned that their wages have not increased over the last two years. However, 44% of the companies mentioned that the wages have increased by over 5% over the same period.

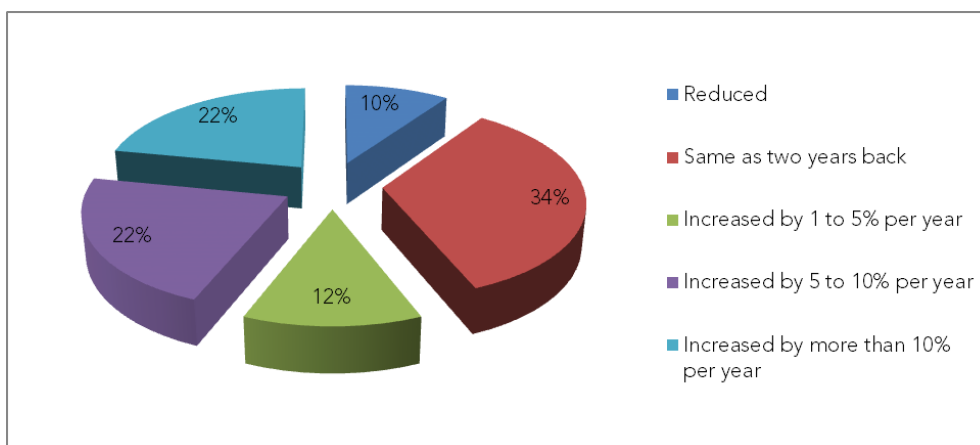


Figure-13: Wage Changes over the last two years, N=41

Source: सीप Firm Level Survey (2018)

The firms surveyed reported an average attrition rate of 10.1% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas.

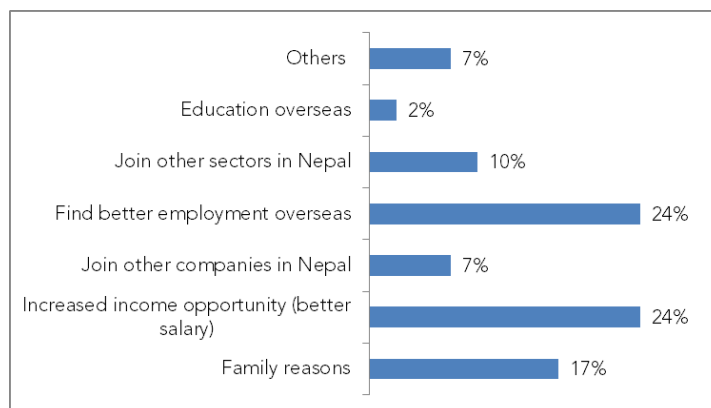


Figure-14: Reasons for Attrition of Employees, N=41

Source: सीप Firm Level Survey (2018)

According to the survey findings, the firms indicated that they will be increasing their total employment by approximately 20.1% per annum over the next four years. Only 14% of this increase will be to replace employees who leave the firms, while the remaining 86% will be to cater to higher expected demand for their products & services or to fill existing vacancies. Using this data, it is estimated that across Nepal, a total of 4,000 to 6,000 new jobs will be created in the Commercial Agriculture sector (please refer to Annex 1). The breakdown of the increase is indicated in the figure below.

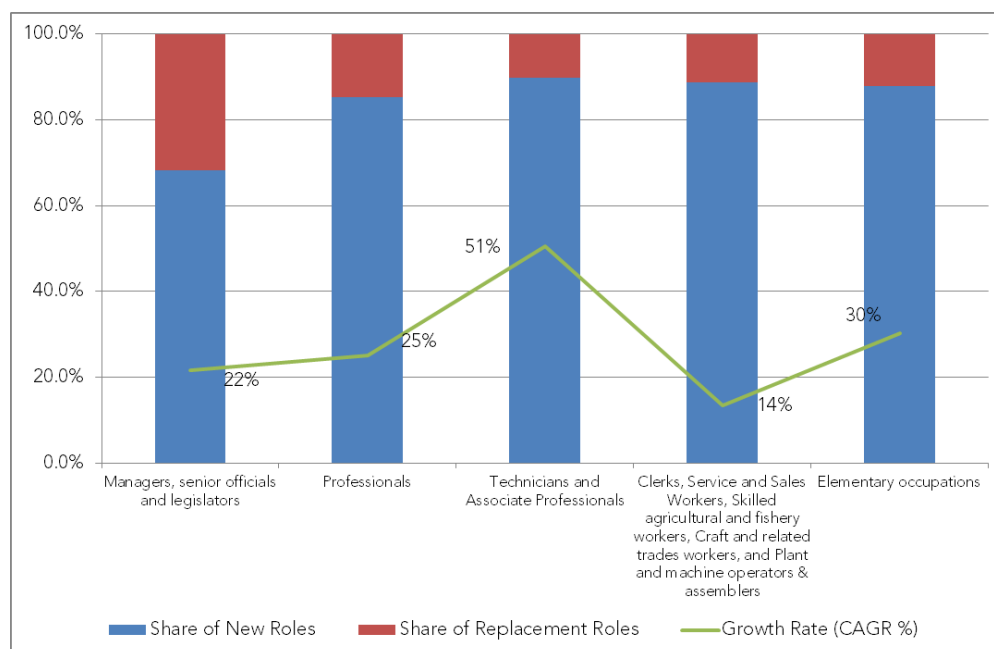


Figure-15: Expected increase in the share of number of employees over the next four years – Growth rates are per annum, N=41

Source: सीप Firm Level Survey (2018)

The respondents indicated the preferred educational qualification for the various job roles. For lower-level employees, the firms are looking for people with technical/ vocational certificate (e.g. CTEVT) or school leaving certificate.

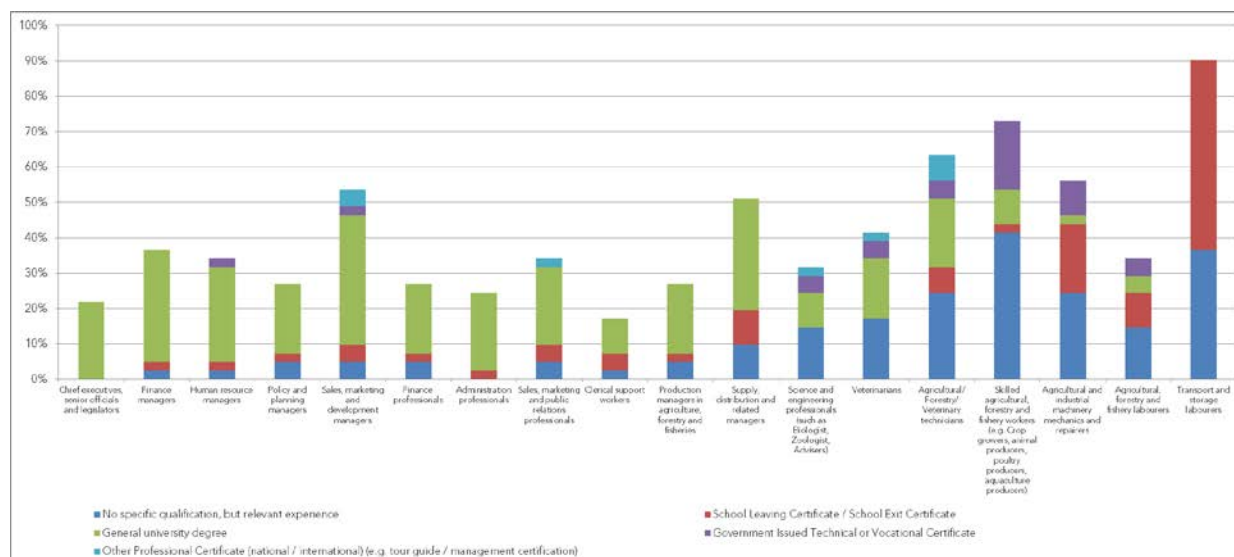


Figure-16: Expected educational qualifications for various job roles, N=41

Source: सौप Firm Level Survey (2018)

For lower level job roles, the respondents indicated difficulty in hiring. For example, for skilled agriculture, forestry or fishery workers, approximately 61% of the respondents mentioned that they had difficulty in hiring for this role, while for technicians 41% of the respondents indicated difficulty in finding candidates for this role. The figure below indicates the share of respondents who mentioned that they had difficulty in hiring for these roles – segmented into whether the difficulty is due to the lack of availability of people (i.e. not enough people available) or due to skill mismatch (i.e. not enough people with right skills are available). **There is a high correlation in difficulty of hiring workers with the educational qualification – it is more difficult to hire for job roles that require experience or that require technical/ vocational certificates.**

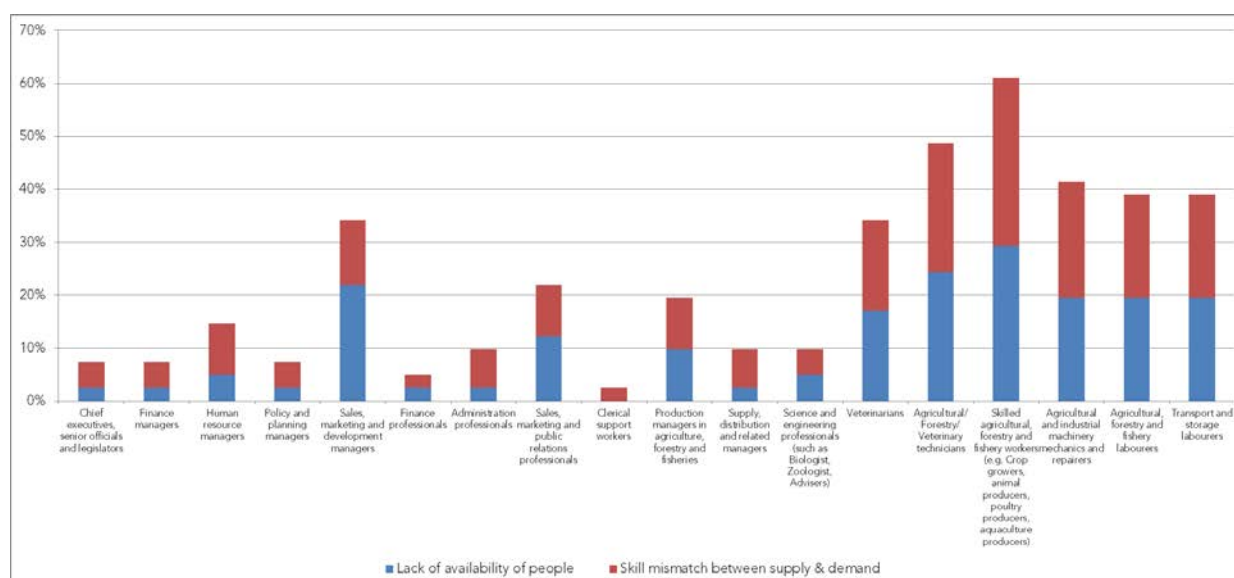


Figure-17: Difficulty in hiring for various job roles, N=41

Source: सीप Firm Level Survey (2018)

## 2.2.1 Labour Profile – Women, DAGs, and PwDs

### Women

For these 41 firms, **47.4%** of these employees are women.

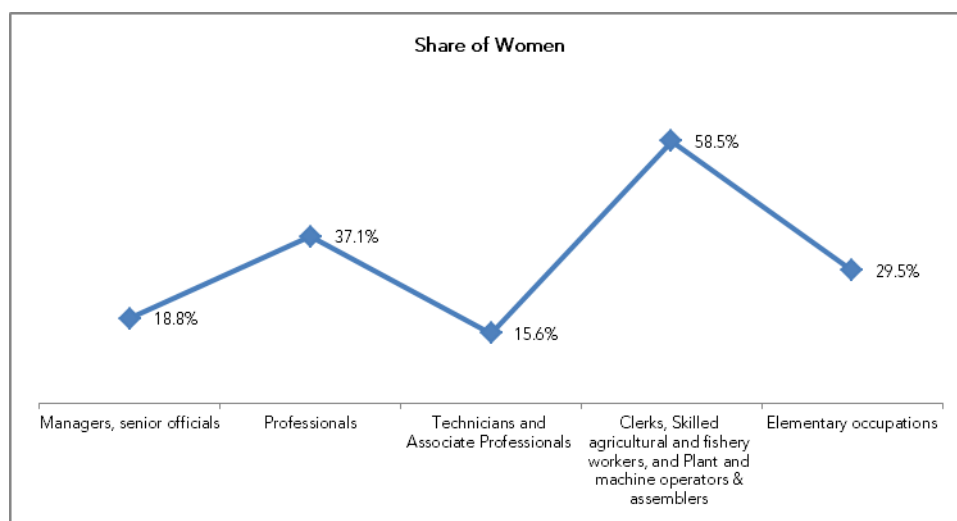


Figure-18: Share of women employees across job categories, N=41

The firms surveyed reported an average attrition rate of women employees to be 6.5% per annum. For women, the top reason for attrition was cited as family reasons.

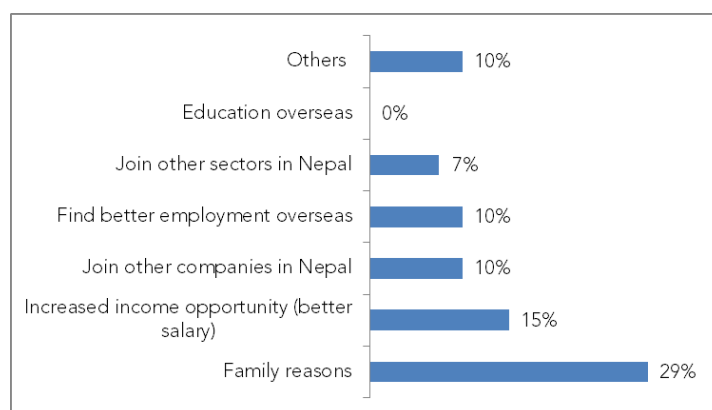


Figure-19: Reasons for Attrition of Women Employees, N=41

Source: सीप Firm Level Survey (2018)

The firms also indicated that certain job roles have a potential to increase women employment in that job role. The table below indicates the share of respondents who agree that women employment can

be increased in the respective job roles – e.g. 34% of the respondents agree that more women can be Sales, marketing and public relations professionals and only 5% agreed that women employment has a potential as Transport and storage labourers. Generally, for industry-specific job roles, the potential is indicated to be low. One possible reason could be the lack of skilled labour in the supply pool.

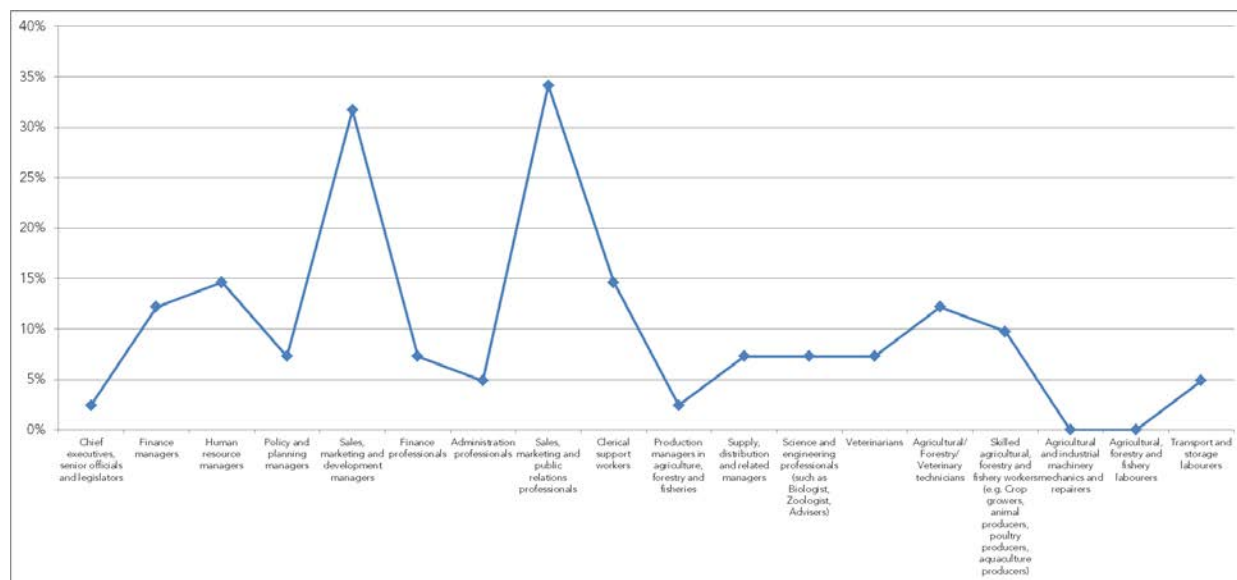


Figure-20: Share of respondents who agree there is a potential for women employment in the job role, N=41

Source: सीप Firm Level Survey (2018)

### PwDs

Out of the total current employment across these 41 firms, only 1.7% of the employees are People with Disabilities (PwDs). Close to 70% of the PwDs which these firms have hired are speech-impaired, while there is no employee with any mental disability (e.g. Autism). The reason for small numbers is attributed to several reasons such as risk of injury to such workers, labour-intensive nature of the work, or lack of skills among PwDs.

The firms expect to more than double the number of PwDs in their workforce over the next four years, but even then the share of PwDs is expected to be 1.8% of the total employment pool. The biggest jump in absolute terms is expected to be for people who have impaired hearing or have loss of motor function.

### DAGs

Out of the total current employment across these 41 firms, only 47.2% of the employees are Disadvantaged Groups (DAGs). Close to 56% of the DAGs which these firms have hired are disadvantaged *janjatis*, while another 22% relatively disadvantaged *janjatis*.

The firms also expect that over the next four years, more than half of the new employees will be from the disadvantaged groups, primarily disadvantaged *janjatis*. While most firms mentioned that they do not discriminate on the basis of caste or religion, they cited lack of such candidates with right skills as a reason for not hiring even more people from DAGs.

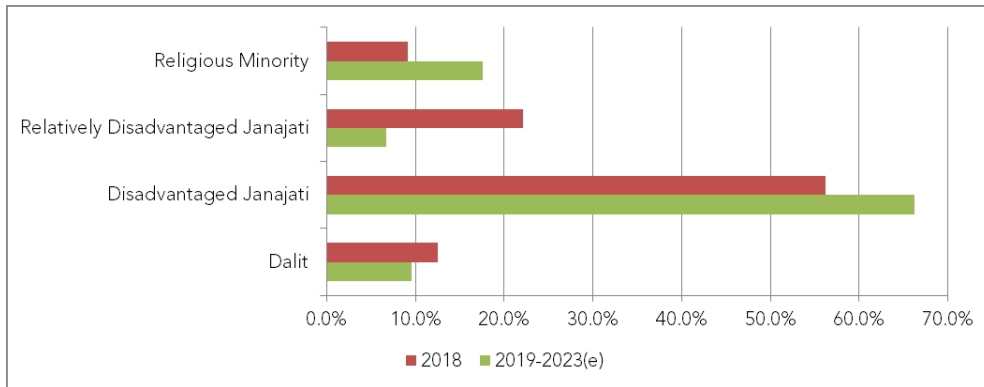


Figure-21: Share of DAGs in the labour force (2018) and (2019-2023e), N=41

Source: सीप Firm Level Survey (2018)

### 2.3 Perception and Attitude towards Skill Development

Across the companies, all of the skill categories were deemed to be of medium or high importance for their employees – at least 60% of the respondents rated all skills to be medium or high on importance.

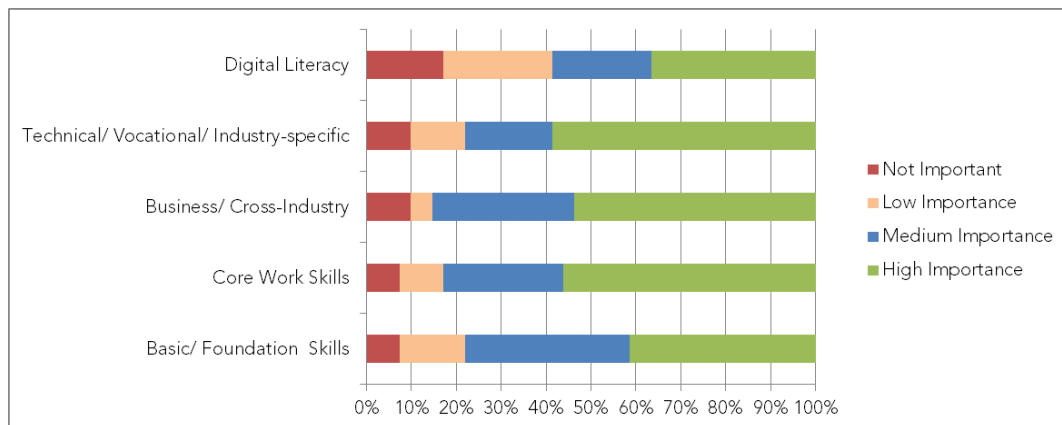


Figure-22: Importance of Skill Categories (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms also believe that their existing employees do not have significant skill gaps – only technical/ vocational skills (i.e. specialized skills, knowledge or know-how needed to perform specific duties or tasks specific to the industry) and Core Work skills (i.e. the ability to learn and adapt; read, write and compute competently; listen and communicate effectively; think creatively; solve problems independently; manage oneself at work; interact with co-workers; work in teams or groups; handle basic technology, lead effectively as well as follow supervision) were cited by over 50% of the respondents as skills where they had gaps. Typical examples of skills gaps that were highlighted by the respondents included lack of marketing knowledge, lack of customer relation skills, lack of communication skills, and lack of creativity.

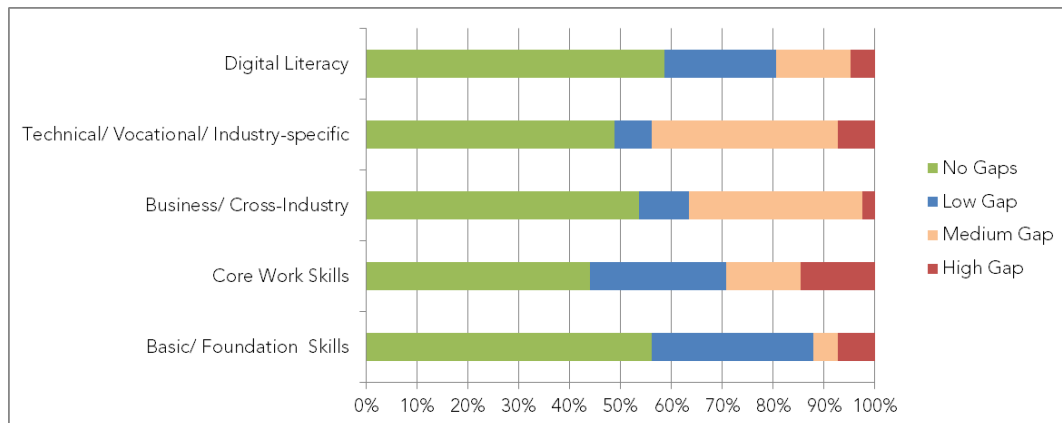


Figure-23: Skill gaps across Skill Categories (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The companies cited inability to attract skilled talent at an affordable wage and unavailability of skilled talent for their companies as top two challenges in finding and building skilled workforce.

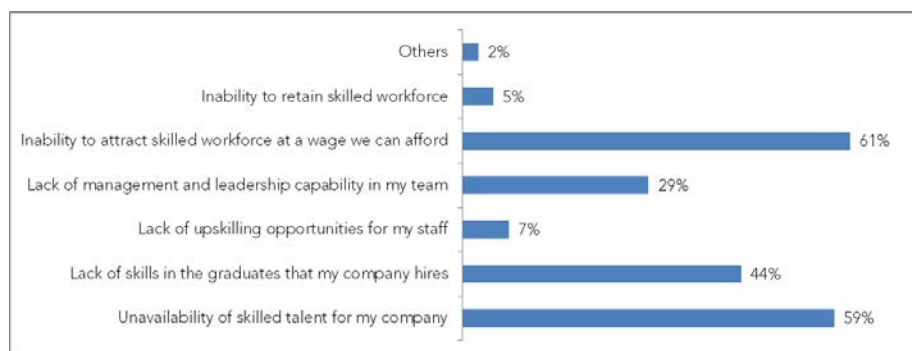


Figure-24: Challenges to finding & building a skilled workforce (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

Most respondents preferred referrals to hire staff. This might limit their access to skilled talent outside their network.

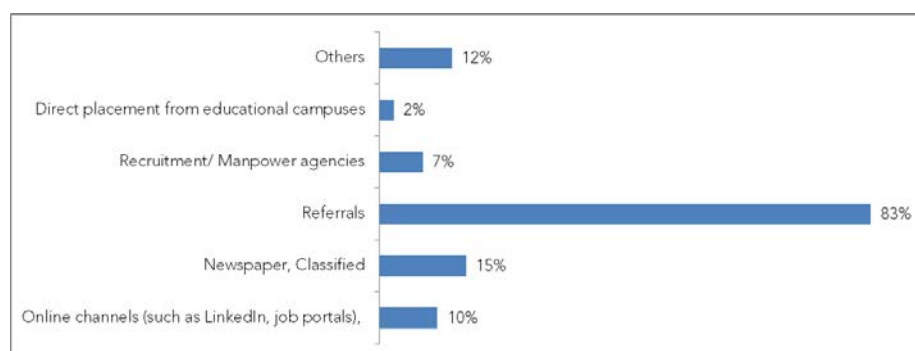


Figure-25: Sources to hire talent (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

On-the-job experience was the most common skill development model used by the firms surveyed. A significant proportion also used in-house training and mentorship programmes. Most of the skill development models were found to be impactful by the respondents.

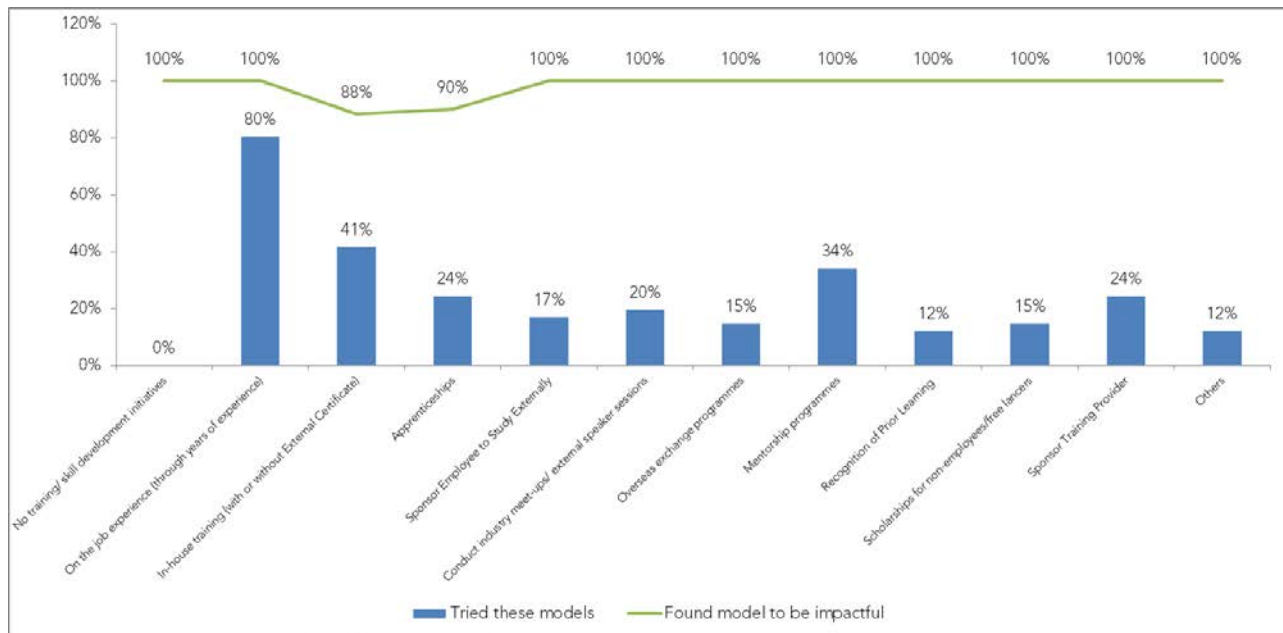


Figure-26: Skill Development models used by the firms surveyed (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

While 46% of the firms mentioned that they are willing to send their existing staff to training which is of less than one week in duration, a significant 20% mentioned that they are unwilling to send their staff for any training. Reasons cited for this was the loss of productivity that the absence of staff will create.

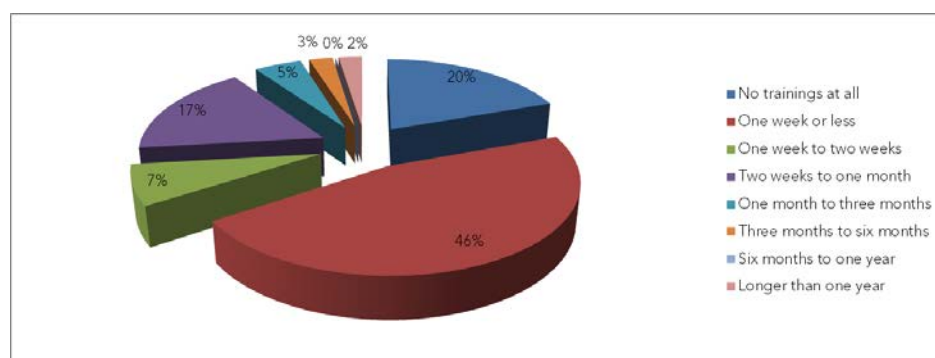


Figure-27: Preference of the duration of the skill development training (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

In terms of spending on skill development, 34% of the firms surveyed did not spend anything while 29% spent between 1 and 2% of their revenues on skill development.

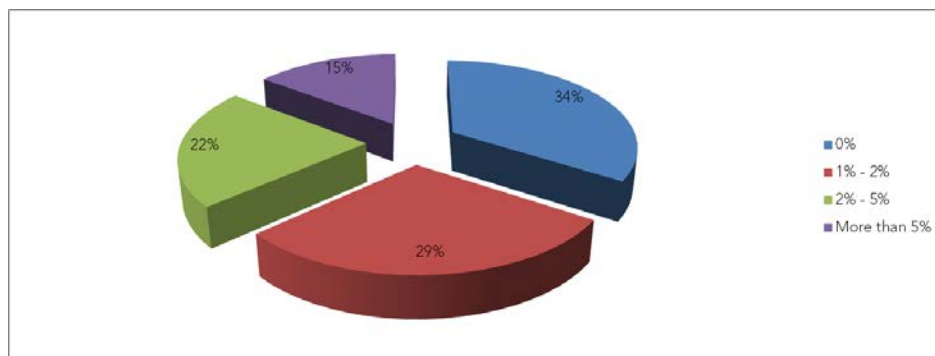


Figure-28: Spending on the skill development training as %age of revenue (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

While most respondents agreed that skilled employees earn better wages and have faster career progression, approximately 53% did not agree that skilled employees are easier to retain.

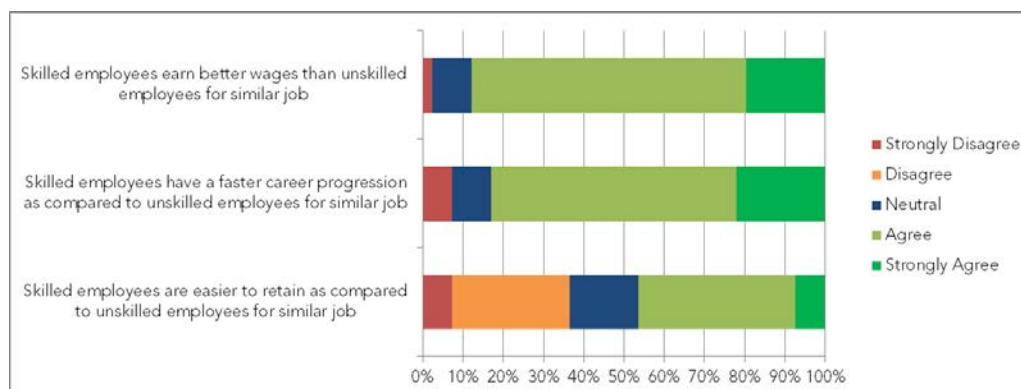


Figure-29: Perception towards skilled employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms indicated that they would invest more in developing the skills of your employees if they see a reduced risk of staff leaving after the training and if they see a stronger evidence of the benefit to company's profitability/ performance.

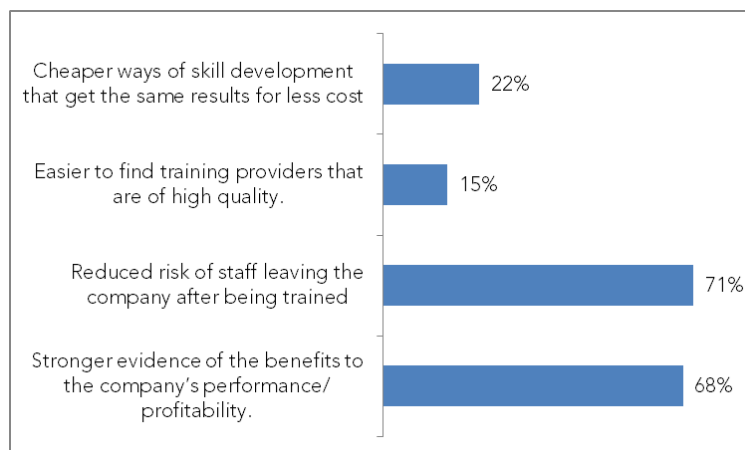


Figure-30: What would make their company invest more in developing the skills of their employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

With the new labour law (Nepal Labour Act 2074), the firms did not expect their skill development investment to reduce. However, a significant proportion sees the impact on their recruitment strategies and a need to hire more "stable" skilled labour.



Figure-31: Impact of new labour law (Nepal Labour Act 2074) on workforce strategies (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

## 2.4 Potential Collaboration with DFID सीप

The survey also tried to understand potential plans of the respondent firms towards skill development.

While most companies plan to continue the existing programmes, a significant proportion also wanted to develop new programmes or to scale up the existing programmes. This is expected given the perceived efficacy of the programmes deployed by the firms.

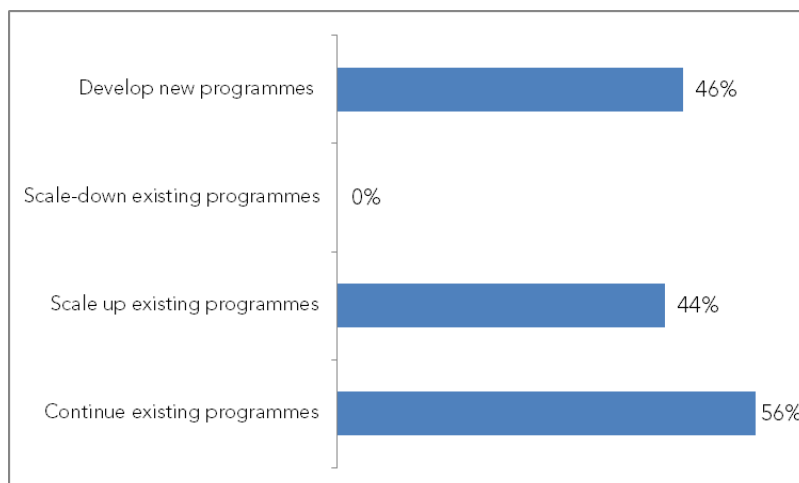


Figure-32: Future plans to develop/invest in skills of staff over the next four years (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

While on-the-job experience remains a favourite of the firms, skill development models such as pre-employment work readiness training and sponsoring of a training provider seem to have significant preference among the respondents.

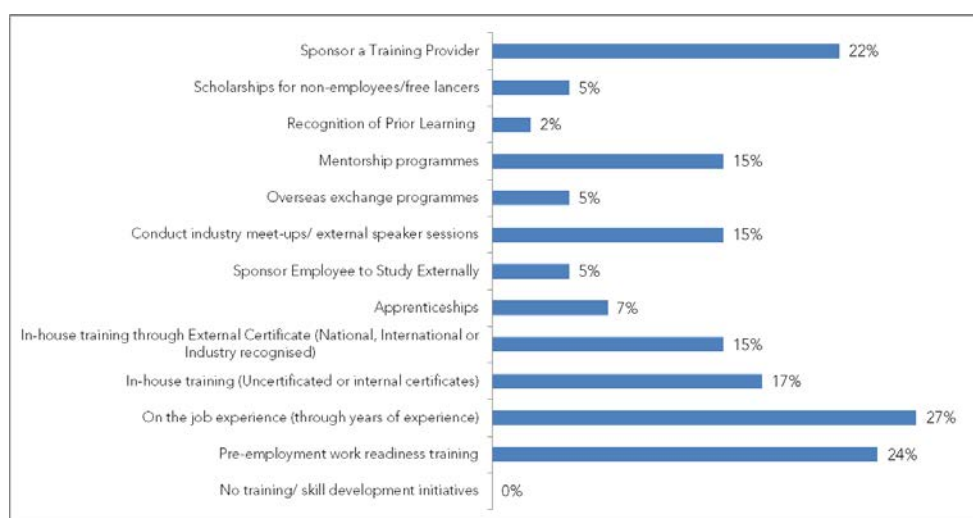


Figure-33: Preferred skill development models over the next four years (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms indicated that they needed support for both pre-employment and continuous-employment trainings – close to 2/3<sup>rd</sup> of the respondents mentioned these. Another 1/3<sup>rd</sup> of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

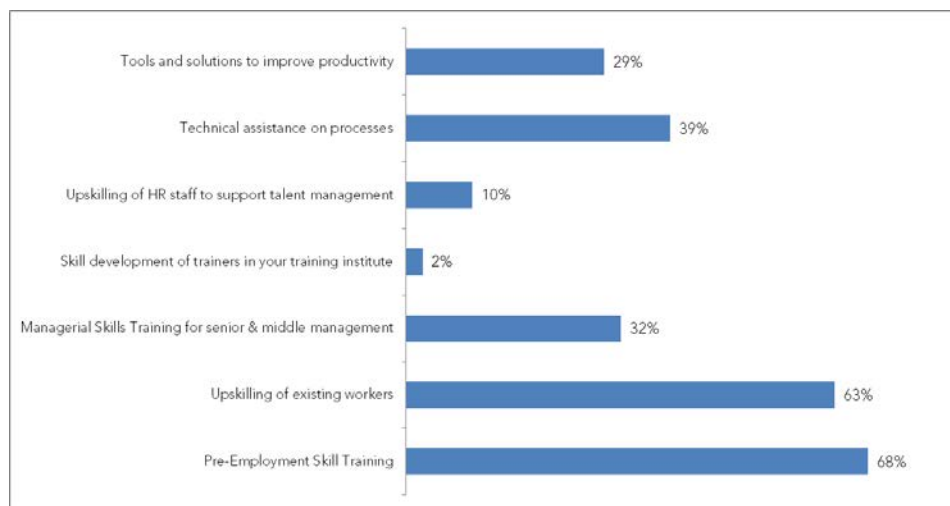


Figure-34: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms also indicated that financial and technical support will be the best modality of any possible skill development partnerships for them.

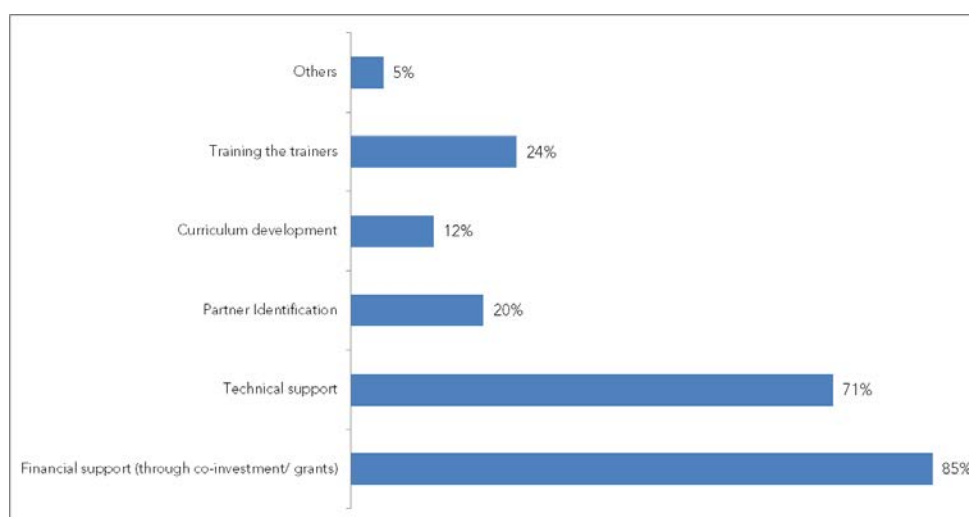


Figure-35: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

### 3. Profile of Light Manufacturing Sector in Nepal

In the absence of a GoN definition of light manufacturing, the ILO defines “Enterprises whose production uses partially processed materials to produce items of relatively high value for end-users or intermediates for use by other industries; mainly small consumer goods (clothes, shoes, consumer electronics and home appliances)” – (ILO, 2017). A major portion of industry in Nepal is comprised of manufacturing sector firms, and the development of this sector is important to the government in terms of generating employment opportunities, promoting trade, enhancing national income growth, and poverty alleviation (IBN, Sector Profile: Manufacturing, 2018).

The contribution of this sector to GDP, which stood at 5.5% in FY 2016/2017, is estimated to marginally shrink to 5.4% in FY 2017/2018 (MoF, 2018). However, production of manufacturing sector has been estimated to grow by 8.0% in 2018, more than double the annual average growth of this sector (3.0%) during the last decade. This has been attributed to regular supply of fuel, electricity, and raw materials, decline in general strikes leading to creation of favourable industrial environment (MoF, 2018).

Some of the key findings from the survey include:

- Out of the firms surveyed, only 22% are currently exporting overseas (average of approximately 17% of revenue from exports) while 48% mentioned that they have no intention of exporting overseas
- Skill-related challenge was identified by 56% of the respondents.
- The firms surveyed reported an average attrition rate of 20.0% per annum, while the average attrition rate of women employees to be 28.7% per annum.
- The firms indicated that they will be increasing their total employment by approximately 18.7% per annum over the next four years.
- 50.7% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 60.1% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of marketing knowledge, lack of plant/ machine operation skills, lack of communication skills, and lack of critical thinking.
- On-the-job experience, along with pre-employment work readiness training, in-house training and sponsoring of a training provider seem to have significant preference among the respondents.
- The firms indicated that they needed support for both pre-employment and continuous-employment trainings – close to 70% of the respondents mentioned these. Another 2/3rd of the respondents mentioned that they needed support in providing tools and solutions to improve productivity.

Profile of the Firms	Labour Profile	Social Inclusion	Skill Development
54 firms interviewed	74 Average employees per firm	98.1% Share of Nepalese employees	56% believe skill is a limiting factor for growth
22% of the firms export	76% Mentioned wages have grown in last 2 years	50.7% Share of Women employees	Preferred Models OTJ experience (39%), In-house training (34%), Sponsor Training Provider (24%)
5.5% Average annual growth in revenue (historic)	20.0% Annual Attrition in workforce	60.1% Share of DAG employees	Job Roles Entry Level and Supervisory roles (Supervisors, Plant & Machine Operators, Labourers)
8.1% Expected annual growth in revenue future	18.7% Expected annual growth in workforce size	0.5% Share of PwD employees	

Figure-36: Summary of the results for Light Manufacturing, N=54

Source: सशुष Firm Level Survey (2018)

### 3.1 Profile of Companies Interviewed

A total of 54 companies in the sector were interviewed across Nepal. A detailed list of stakeholders interviewed is provided in Annex 2.

The distribution of the companies by size is indicated in the figure below.

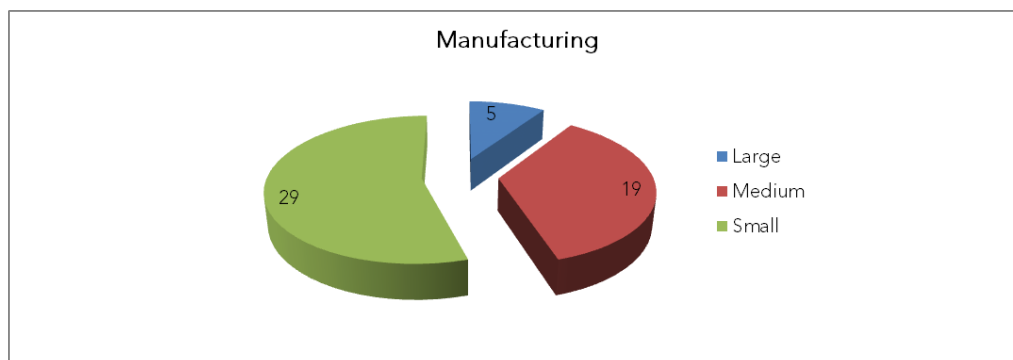


Figure-37: Distribution of firms surveyed by size, N=54

Source: सीप Firm Level Survey (2018)

Geographically, they are well-distributed across various Provinces of Nepal. However, a majority of them have presence in Province 3. The figure below indicates the number of surveyed firms with offices in the major cities (multiple options). Others included cities such as Pokhara, Chitwan, Gorkha, Janakpur, Amlekhgunj, Bara, Itahari, Jumla, and Butwal.

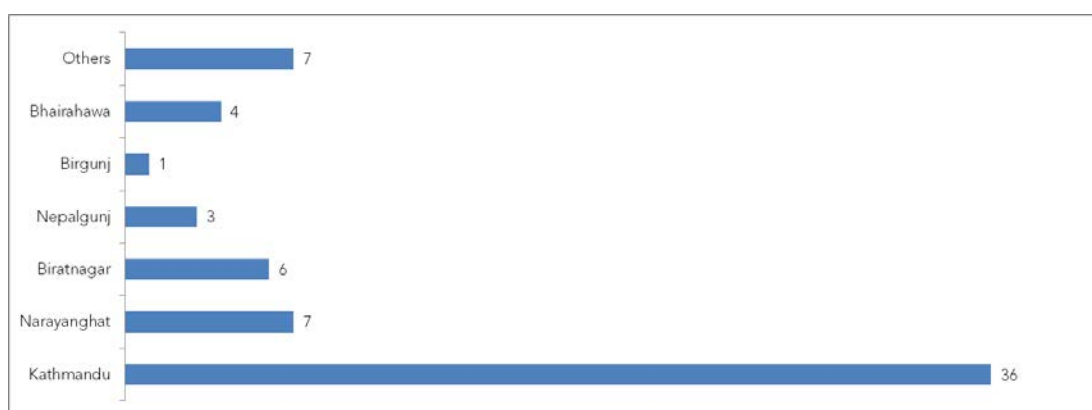


Figure-38: Distribution of firms surveyed by geographical presence, N=54

Source: सीप Firm Level Survey (2018)

Out of the firms surveyed, only 22% are currently exporting overseas (average of approximately 17% of revenue from exports) while 48% mentioned that they have no intention of exporting overseas. Out of the firms which export, the export destinations include the USA, Canada, Japan, Australia, New Zealand, India, China, and the Europe. For the companies which do not export currently, but intend to export over the next 2-4 years, the popular destinations are South Asian countries (India, Bangladesh), China and the USA. Almost 70% of these are small-sized firms.

Among the companies which have no intention of exports, some of the reasons mentioned include sufficiency of domestic market, and lack of capital.

Out of the 54 firms surveyed, only 3 described themselves as a Multi-national company (MNC) and only 5 mentioned they have equity investment from outside Nepal. However, 31 firms (i.e. 58% of the sample) mentioned that they import raw material from overseas. This shows there is decent international exposure for the Nepalese Light Manufacturing sector.

In terms of growth of revenue over the last two years (2016-2018), 58% of the firms surveyed mentioned that they have experienced a growth of over 5% per annum. However, the firms were bullish about their future prospects with 87% of the firms surveyed mentioned they expected a growth of more than 5% per annum over the next four years (2019-2023).

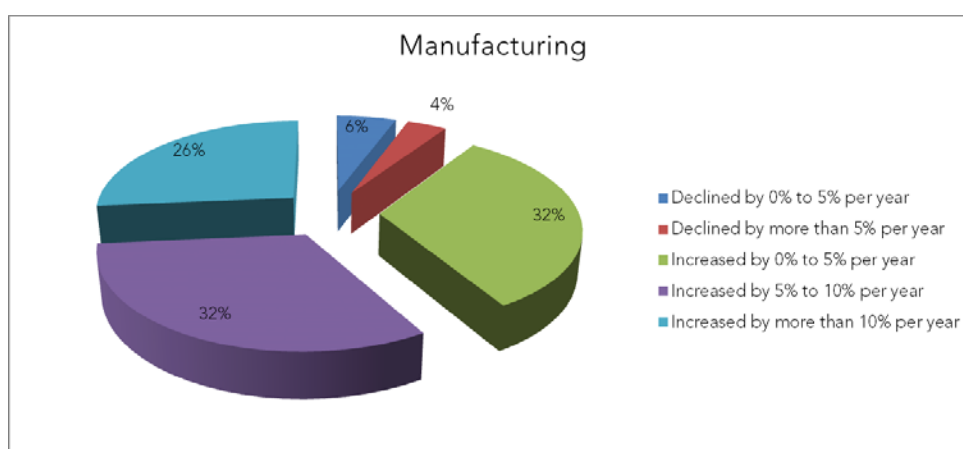


Figure-39: Distribution of firms surveyed by revenue growth in last two years, N=54

Source: सीप Firm Level Survey (2018)

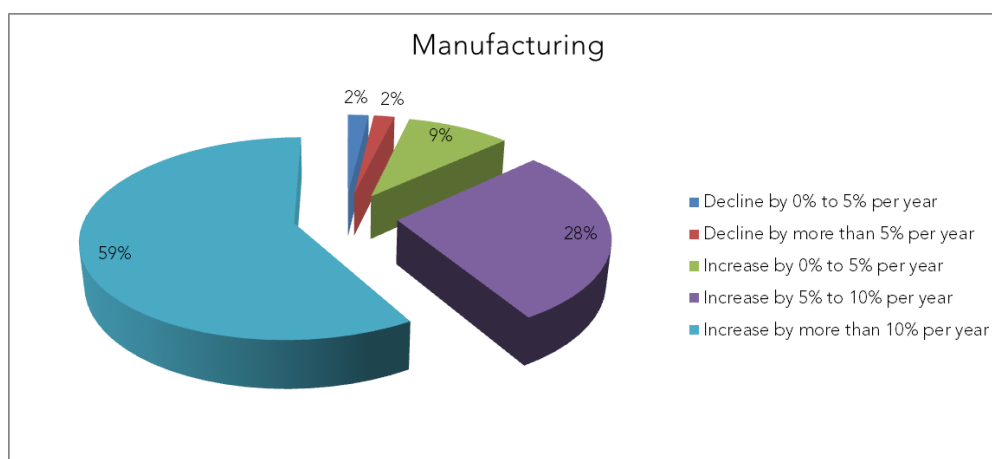


Figure-40: Distribution of firms surveyed by expected revenue growth in next four years, N=54

Source: सीप Firm Level Survey (2018)

Over the same period (2016-2018), only 11% of the firms surveyed mentioned that they have experienced a workforce growth of less than 5% per annum – only 7% have seen a decline in the

workforce numbers during this period. This is expected to continue in the future - only 6% of the firms mentioned that they expect their workforce declining in the next four years.

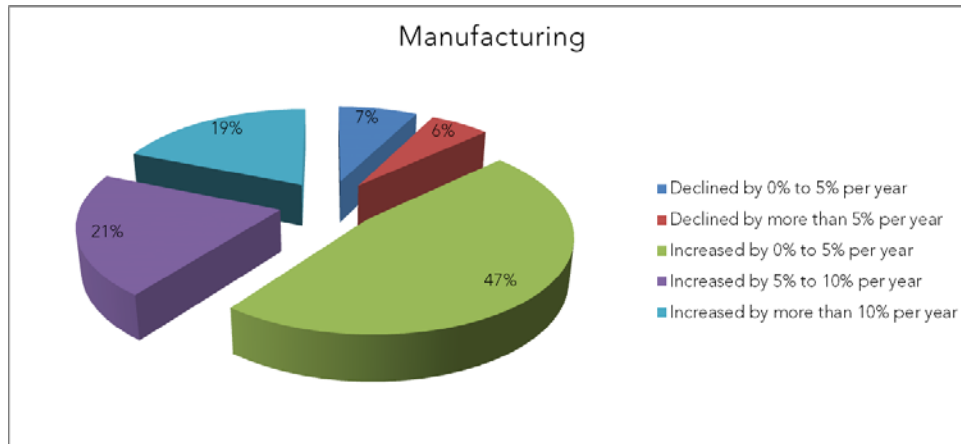


Figure-41: Distribution of firms surveyed by workforce growth in last two years, N=54

Source: सीप Firm Level Survey (2018)

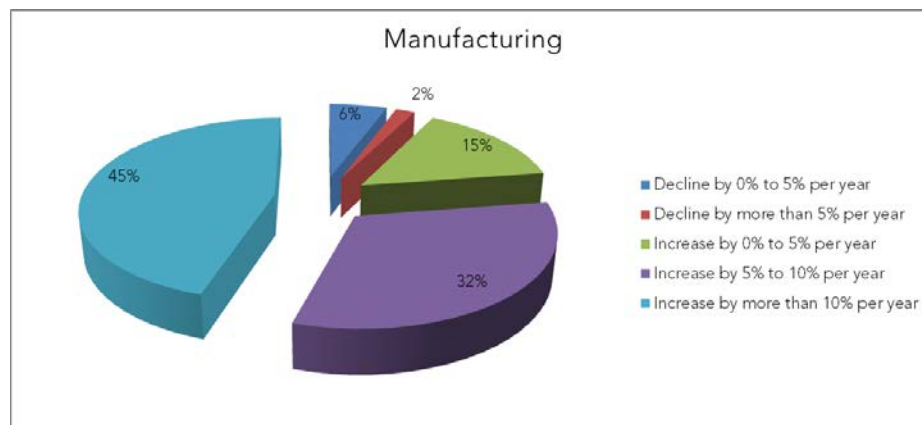


Figure-42: Distribution of firms surveyed by expected workforce growth in next four years, N=54

Source: सीप Firm Level Survey (2018)

The firms surveyed indicated that their top challenges to achieve their growth targets include lack of skill at affordable costs, lack of government policies or regulations that help businesses grow, high cost of raw material, high corruption and tax rates, and high cost of transportation. Skill-related challenge was identified by more than 50% of the respondents.

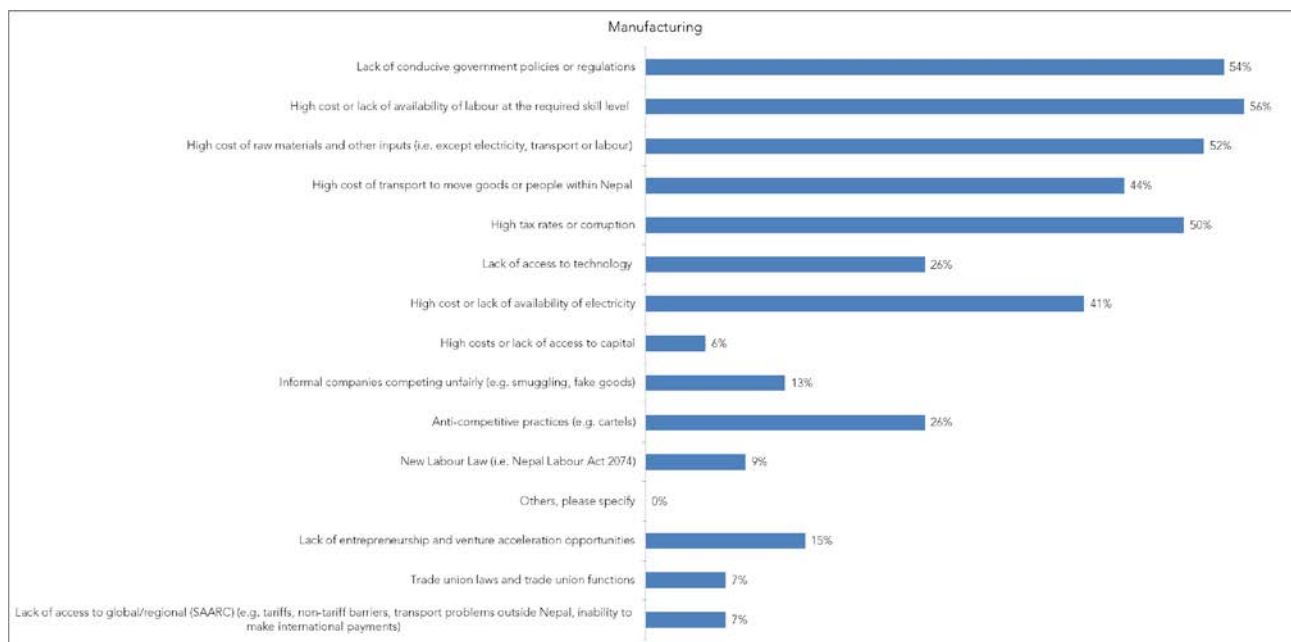


Figure-43: Distribution of responses on top challenges that hamper their company from achieving their growth targets, N=54

Source: सीप Firm Level Survey (2018)

### 3.2 Labour Profile of the Companies Interviewed

These 41 firms employed 4,005 employees – an average of 74 employees per firm. This number was approximately 3,720 employees in 2016 – i.e. an average growth rate of 3.7% over the last two years.

The breakdown by job categories of the total employees and by demographic segments is indicated in the figure below.

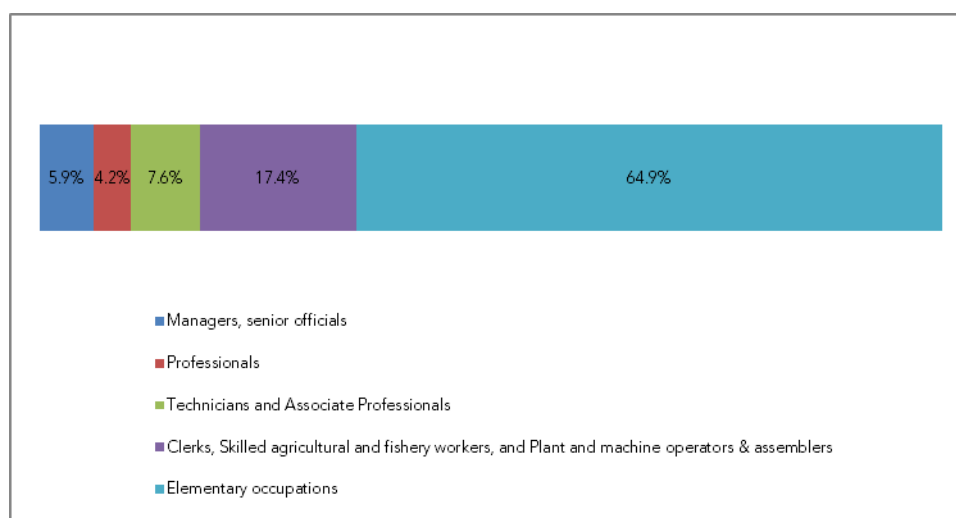


Figure-44: Distribution of employees by job categories, N=54

Source: सीप Firm Level Survey (2018)

In terms of demographic proportions, **98.1%** are Nepalese. The foreign employees were reported to be from India, Australia or the USA.

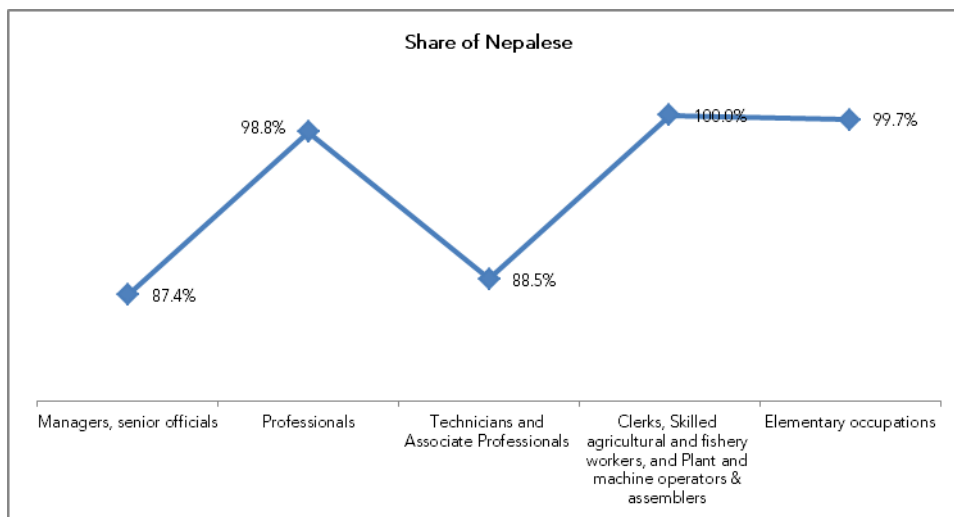


Figure-45: Share of Nepalese employees across job categories, N=54

Source: सीप Firm Level Survey (2018)

In terms of wage increases, 24% of the firms surveyed mentioned that their wages have not increased over the last two years. However, 50% of the companies mentioned that the wages have increased by over 5% over the same period.

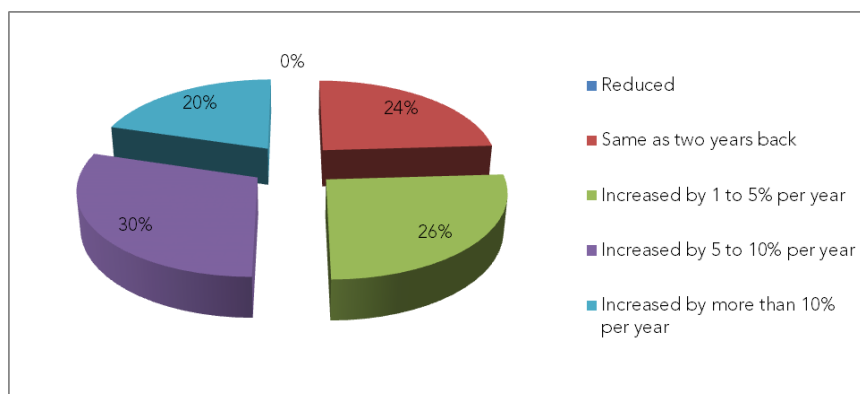


Figure-46: Wage Changes over the last two years, N=54

Source: सीप Firm Level Survey (2018)

The firms surveyed reported an average attrition rate of 20.1% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas.

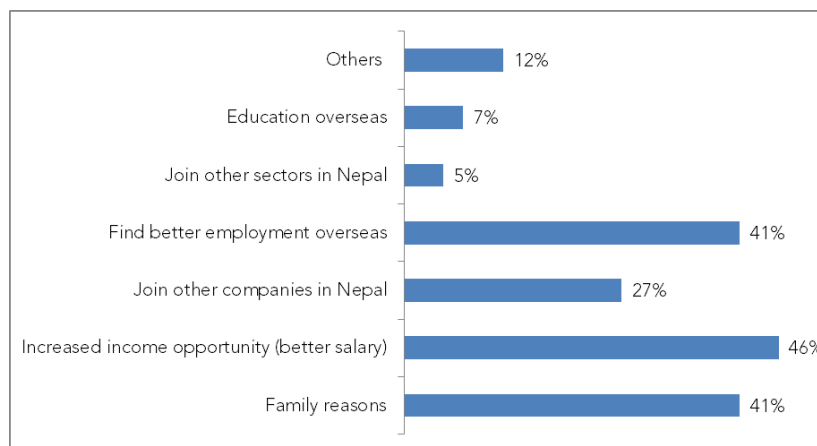


Figure-47: Reasons for Attrition of Employees, N=54

Source: सीप Firm Level Survey (2018)

According to the survey findings, the firms indicated that they will be increasing their total employment by approximately 18.7% per annum over the next four years. Only 22% of this increase will be to replace employees who leave the firms, while the remaining 78% will be to cater to higher expected demand for their products & services or to fill existing vacancies. Using this data, it is estimated that across Nepal, a total of 290,000 to 360,000 new jobs will be created in the Light Manufacturing sector (please refer to Annex 1). The breakdown of the increase is indicated in the figure below.

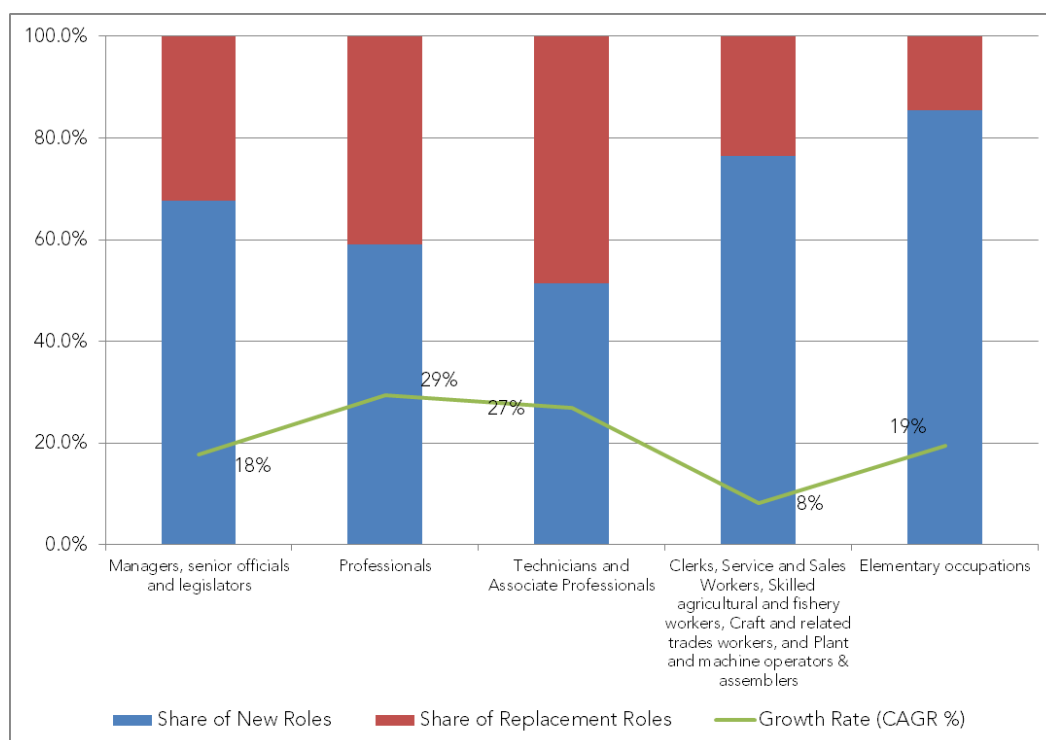


Figure-48: Expected increase in the share of number of employees over the next four years – Growth rates are per annum, N=54

Source: सीप Firm Level Survey (2018)

The respondents indicated the preferred educational qualification for the various job roles. For lower-level employees, the firms are looking for people with experience or for school leaving certificate.

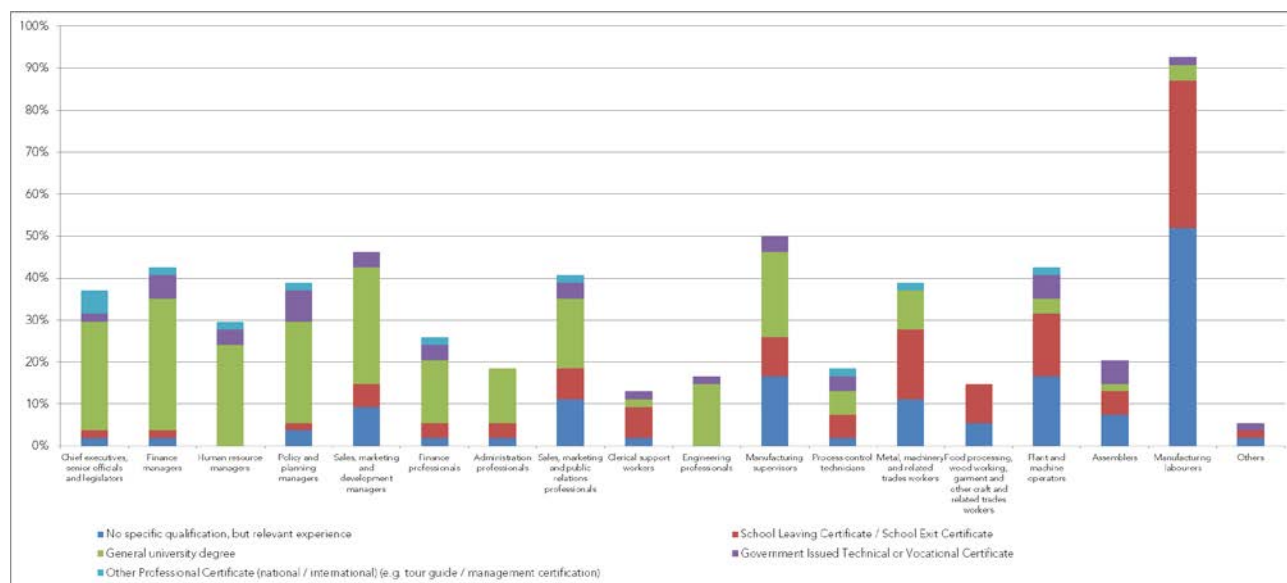


Figure-49: Expected educational qualifications for various job roles, N=54

Source: सीप Firm Level Survey (2018)

For lower level job roles, the respondents indicated difficulty in hiring. For example, for skilled manufacturing labourers, approximately 61% of the respondents mentioned that they had difficulty in hiring for this role, while for manufacturing supervisors 36% of the respondents indicated difficulty in finding candidates for this role. The figure below indicates the share of respondents who mentioned that they had difficulty in hiring for these roles – segmented into whether the difficulty is due to the lack of availability of people (i.e. not enough people available) or due to skill mismatch (i.e. not enough people with right skills are available). **There is a high correlation in difficulty of hiring workers with the educational qualification – it is more difficult to hire for job roles that require experience or that require technical/ vocational certificates.**

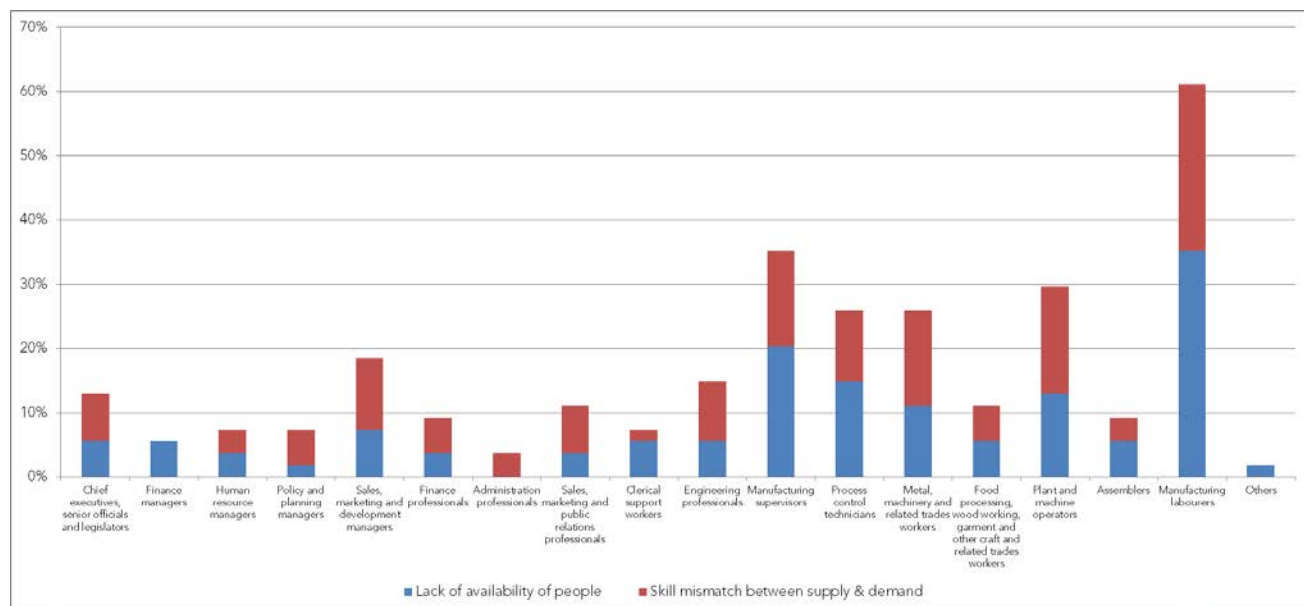


Figure-50: Difficulty in hiring for various job roles, N=54

Source: सीप Firm Level Survey (2018)

### 3.2.1 Labour Profile – Women, DAGs, and PwDs

#### Women

For these 54 firms, **50.7%** of these employees are women. However, most of these employees are at junior levels.

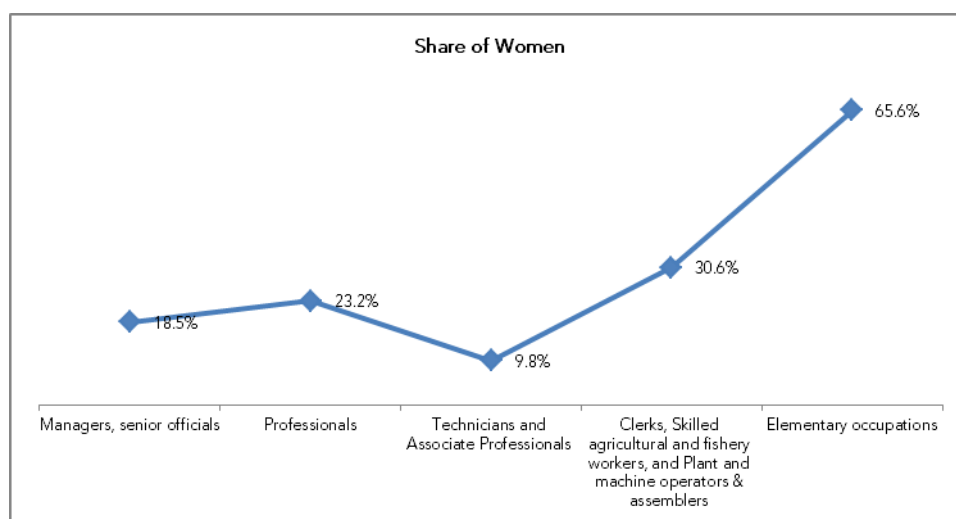


Figure-51: Share of women employees across job categories, N=54

The firms surveyed reported an average attrition rate of women employees to be 28.7% per annum. For women, the top reason for attrition was cited as family reasons.

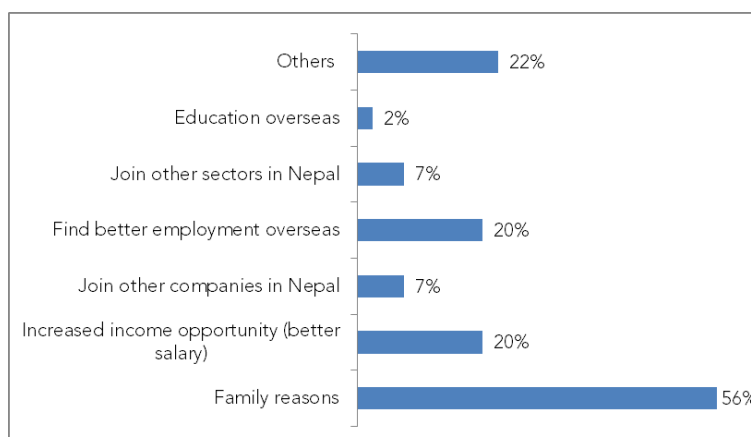


Figure-52: Reasons for Attrition of Women Employees, N=54

Source: शीप Firm Level Survey (2018)

The firms also indicated that certain job roles have a potential to increase women employment in that job role. The table below indicates the share of respondents who agree that women employment can be increased in the respective job roles – e.g. 22% of the respondents agree that more women can be Sales, marketing and public relations managers and 17% agreed that women employment has a potential as manufacturing labourers.

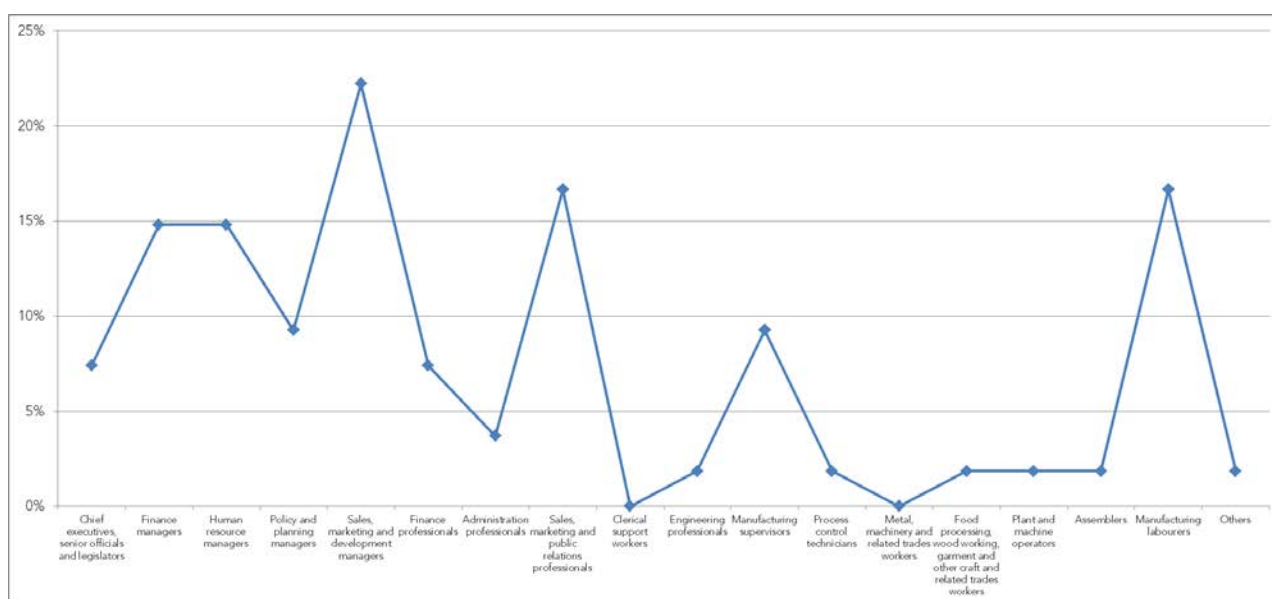


Figure-53: Share of respondents who agree there is a potential for women employment in the job role, N=54

Source: शीप Firm Level Survey (2018)

### PwDs

Out of the total current employment across these 54 firms, only 0.5% of the employees are People with Disabilities (PwDs). Close to 36% of the PwDs which these firms have hired are speech-impaired,

while 31% of the PwDs in these firms are hearing-impaired. The reason for small numbers is attributed to several reasons such as risk of injury to such workers, labour-intensive nature of the work, or lack of skills among PwDs.

The firms expect to increase the number of PwDs in their workforce by 26% over the next four years, but even then the share of PwDs is expected to be 0.6% of the total employment pool. The biggest jump in absolute terms is expected to be for people who have impaired speech or hearing.

### DAGs

Out of the total current employment across these 54 firms, 60.1% of the employees are Disadvantaged Groups (DAGs). Close to 60% of the DAGs which these firms have hired are disadvantaged *janjatis*, while another 20% relatively disadvantaged *janjatis*.

The firms also expect that over the next four years, one in every three of the new employees will be from the disadvantaged groups, primarily disadvantaged *janjatis*. While most firms mentioned that they do not discriminate on the basis of caste or religion, they cited lack of such candidates with right skills as a reason for not hiring even more people from DAGs.

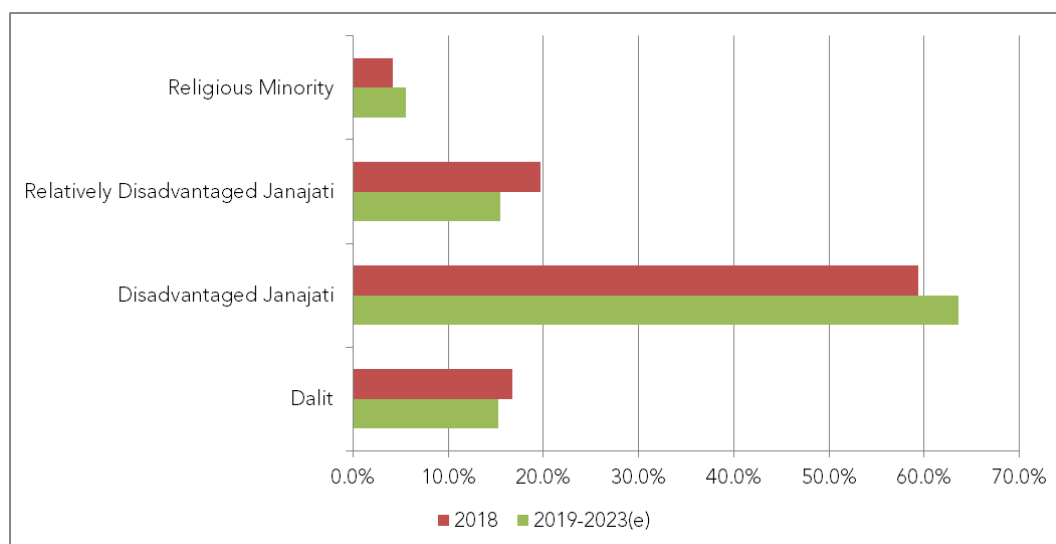


Figure-54: Share of DAGs in the labour force (2018) and (2019-2023e), N=54

Source: सौच Firm Level Survey (2018)

### 3.3 Perception and Attitude towards Skill Development

Across the companies, all of the skill categories were deemed to be of medium or high importance for their employees – at least 70% of the respondents rated all skills to be medium or high on importance.

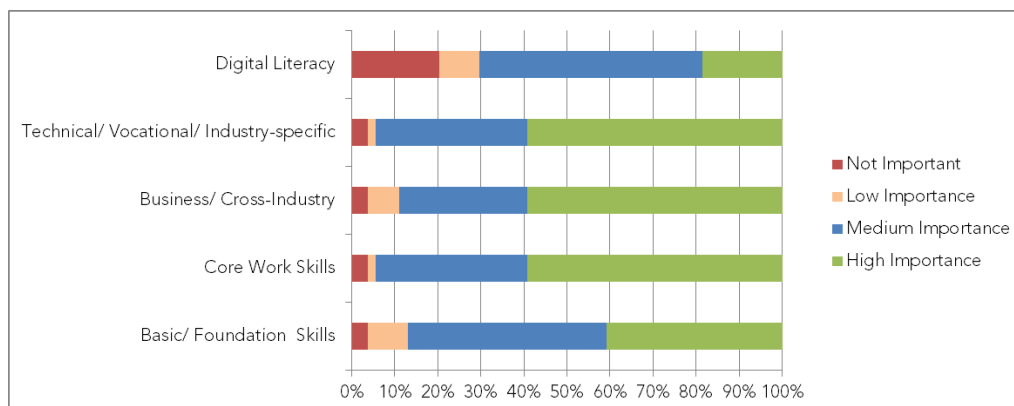


Figure-55: Importance of Skill Categories (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

The firms also believe that their existing employees do not have significant skill gaps – only technical/ vocational skills (i.e. specialized skills, knowledge or know-how needed to perform specific duties or tasks specific to the industry) and Core Work skills (i.e. the ability to learn and adapt; read, write and compute competently; listen and communicate effectively; think creatively; solve problems independently; manage oneself at work; interact with co-workers; work in teams or groups; handle basic technology, lead effectively as well as follow supervision) were cited by over 50% of the respondents as skills where they had gaps. Typical examples of skills gaps that were highlighted by the respondents included lack of marketing knowledge, lack of plant/ machine operation skills, lack of communication skills, and lack of critical thinking.

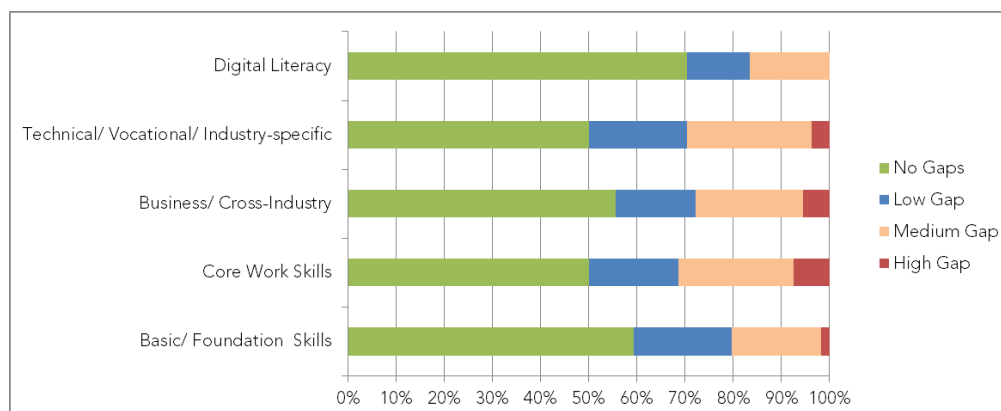


Figure-56: Skill gaps across Skill Categories (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

The companies cited inability to attract skilled talent at an affordable wage and unavailability of skilled talent for their companies as top two challenges in finding and building skilled workforce.



Figure-57: Challenges to finding & building a skilled workforce (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

Most respondents preferred referrals to hire staff. This might limit their access to skilled talent outside their network.

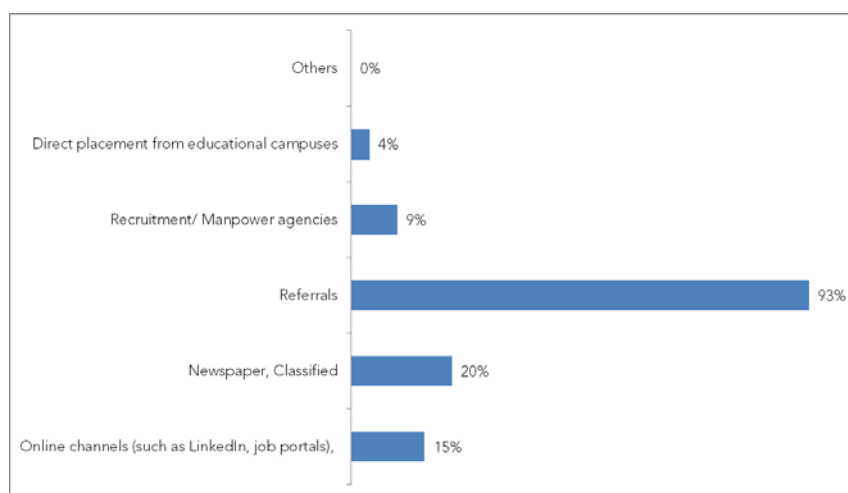


Figure-58: Sources to hire talent (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

On-the-job experience was the most common skill development model used by the firms surveyed. A significant proportion also used in-house training, sponsoring training provider and mentorship programmes. Most of the skill development models were found to be impactful by the respondents.

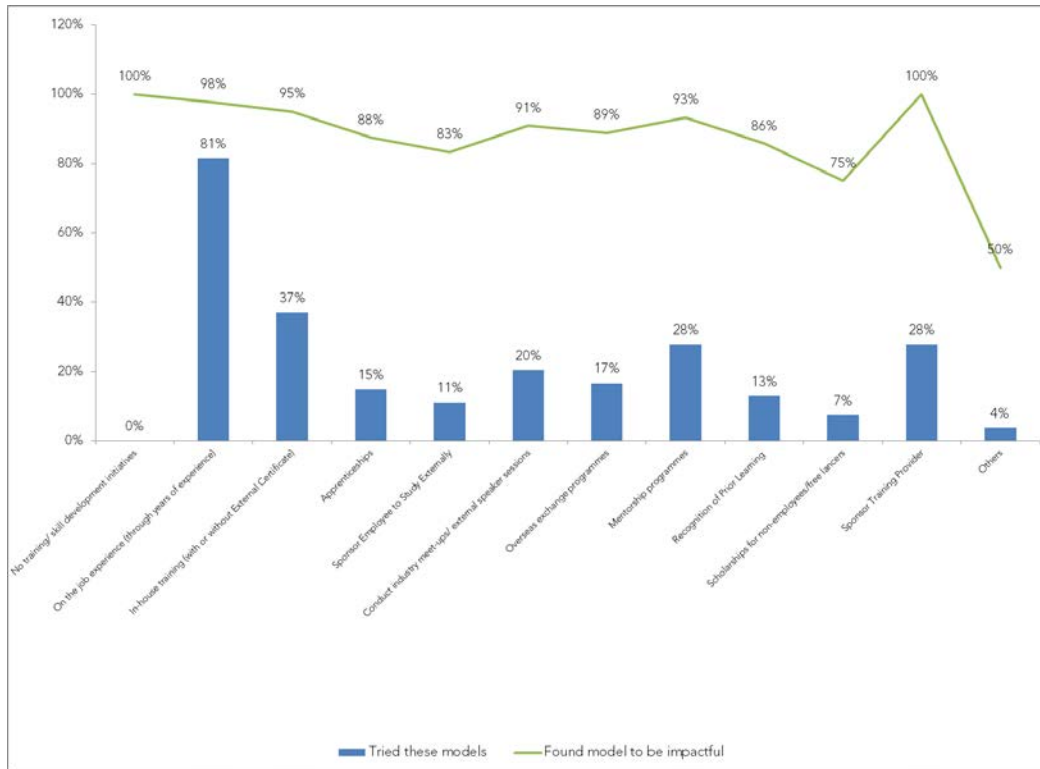


Figure-59: Skill Development models used by the firms surveyed (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

While 33% of the firms mentioned that they are willing to send their existing staff to training which is of less than one week in duration, a significant 22% mentioned that they are unwilling to send their staff for any training. Reasons cited for this was the loss of productivity that the absence of staff will create.

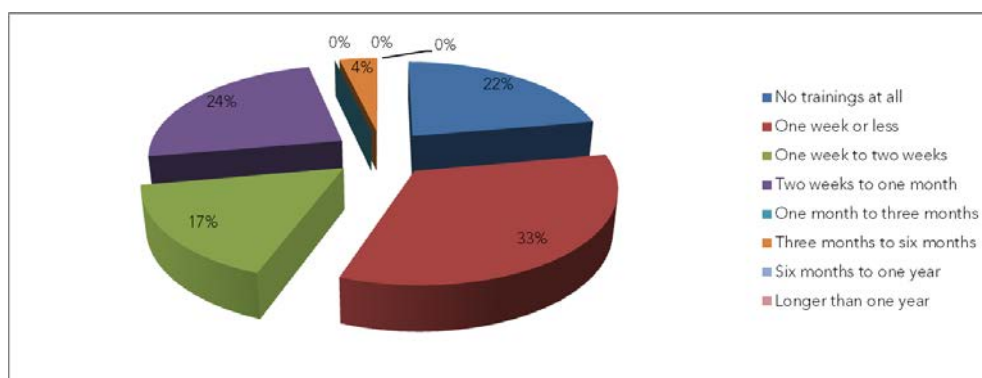


Figure-60: Preference of the duration of the skill development training (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

In terms of spending on skill development, 34% of the firms surveyed did not spend anything while 33% spent between 1 and 2% of their revenues on skill development.

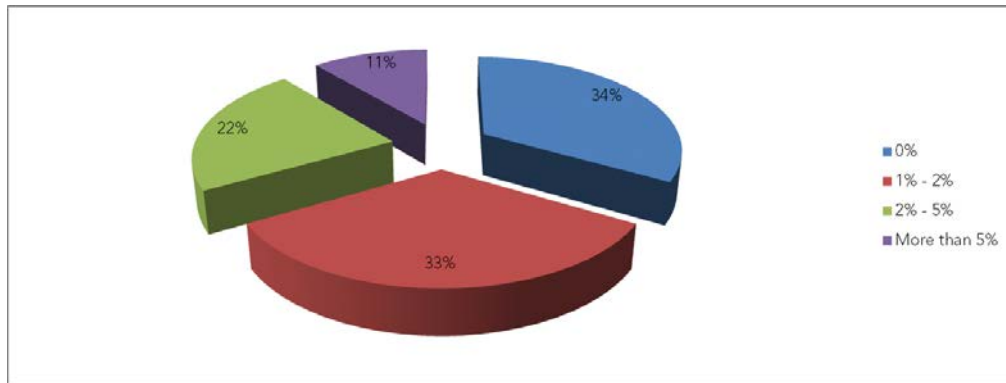


Figure-61: Spending on the skill development training as %age of revenue (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

While most respondents agreed that skilled employees earn better wages and have faster career progression, approximately 50% did not agree that skilled employees are easier to retain.

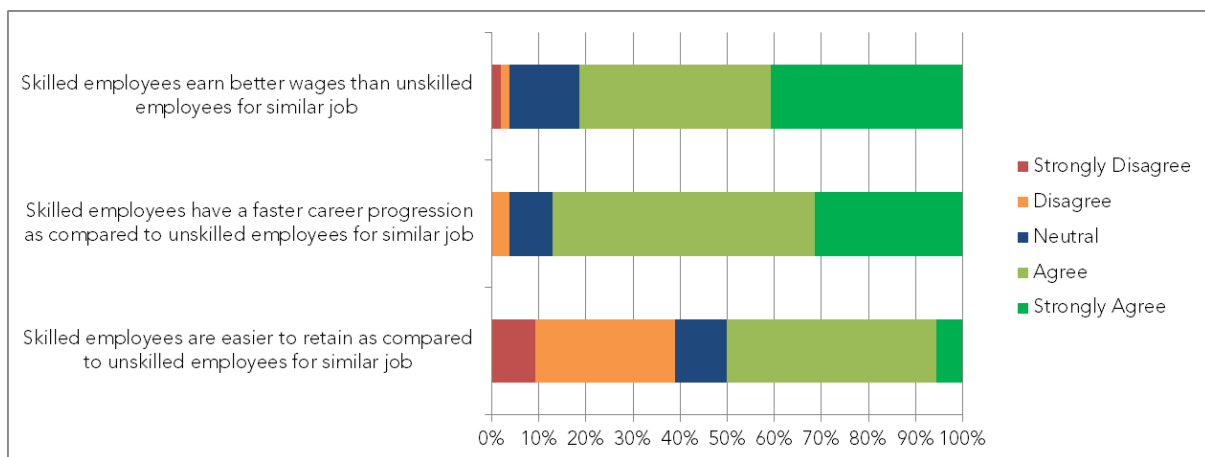


Figure-62: Perception towards skilled employees (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

The firms indicated that they would invest more in developing the skills of your employees if they see a reduced risk of staff leaving after the training and if they see a stronger evidence of the benefit to company's profitability/ performance.

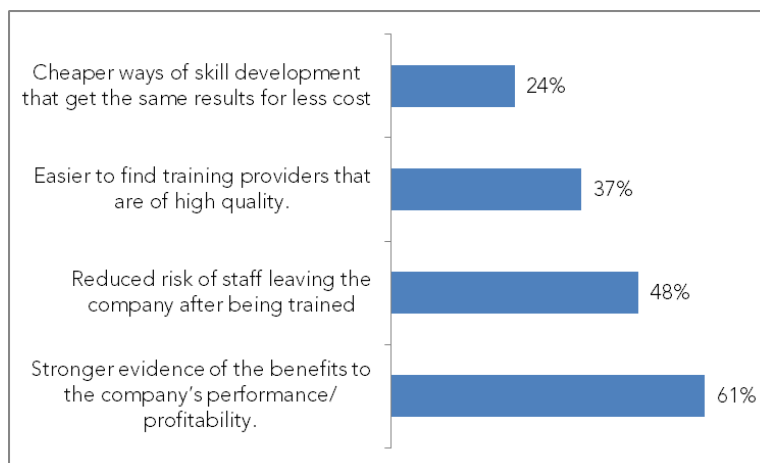


Figure-63: What would make their company invest more in developing the skills of their employees (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

With the new labour law (Nepal Labour Act 2074), the firms did not expect their skill development investment to reduce. However, a significant proportion sees the impact on their recruitment strategies and a need to hire more “stable” skilled labour.

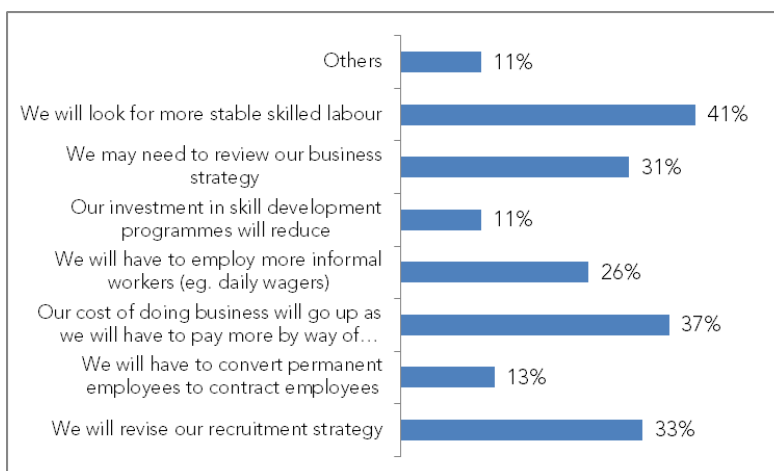


Figure-64: Impact of new labour law (Nepal Labour Act 2074) on workforce strategies (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

### 3.4 Potential Collaboration with DFID सीप

The survey also tried to understand potential plans of the respondent firms towards skill development.

While most companies plan to continue the existing programmes, a significant proportion also wanted to develop new programmes or to scale up the existing programmes. This is expected given the perceived efficacy of the programmes deployed by the firms.

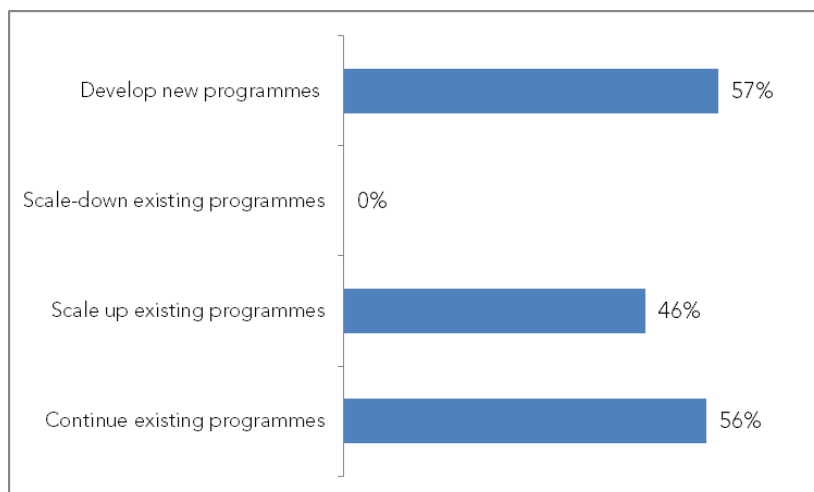


Figure-65: Future plans to develop/invest in skills of staff over the next four years (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

While on-the-job experience remains a favourite of the firms, skill development models such as pre-employment work readiness training in-house training and sponsoring of a training provider seem to have significant preference among the respondents.

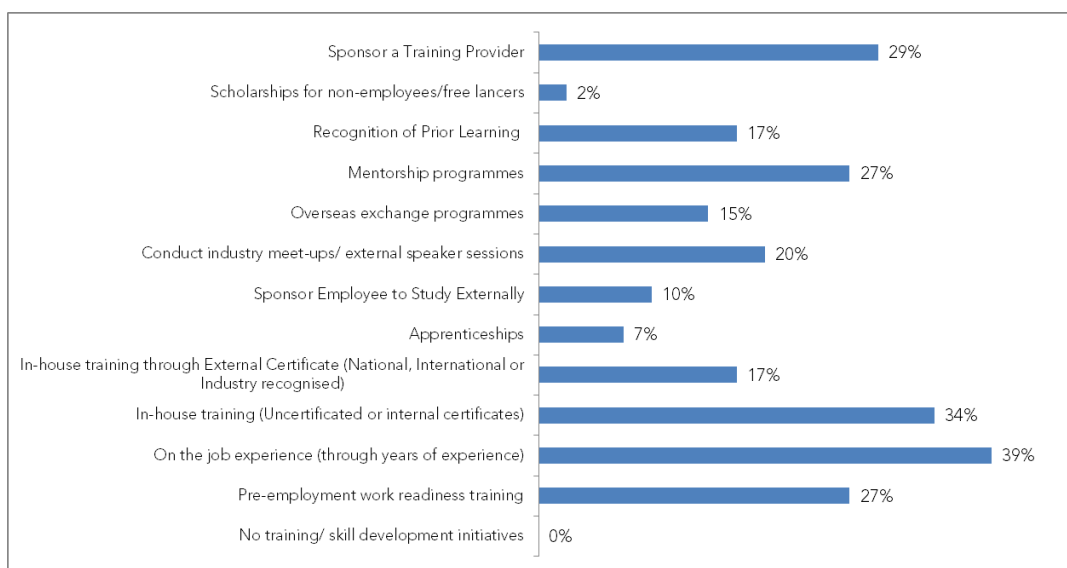


Figure-66: Preferred skill development models over the next four years (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

The firms indicated that they needed support for both pre-employment and continuous-employment trainings – close to 70% of the respondents mentioned these. Another 2/3<sup>rd</sup> of the respondents mentioned that they needed support in providing tools and solutions to improve productivity.

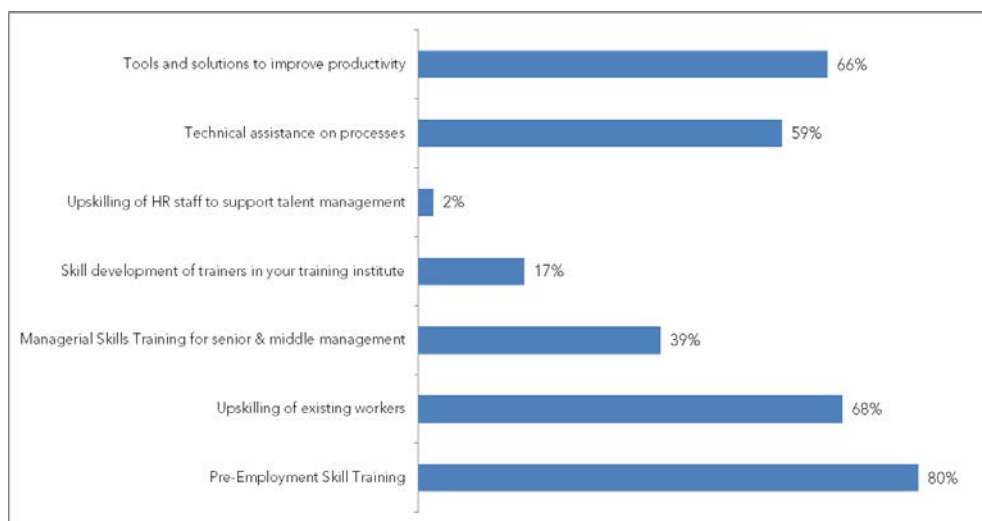


Figure-67: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

The firms also indicated that financial and technical support will be the best modality of any possible skill development partnerships for them.

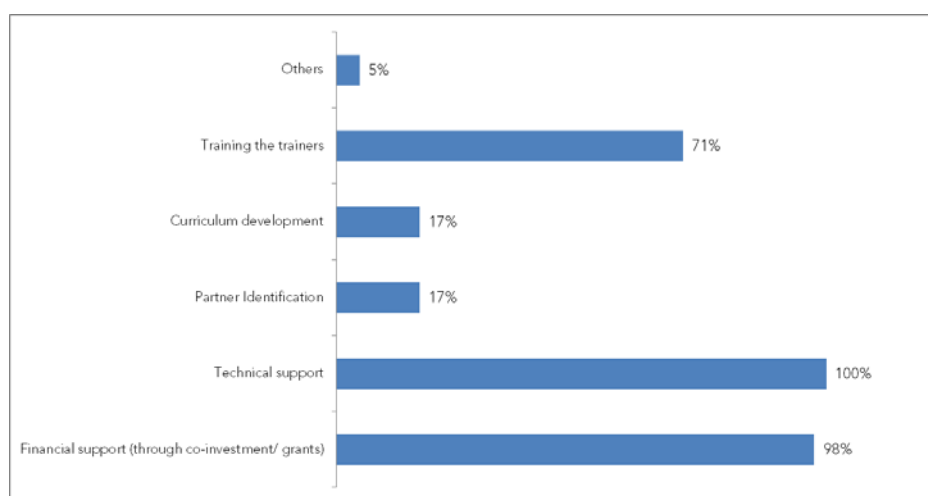


Figure-68: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=54

Source: सीप Firm Level Survey (2018)

## 4. Profile of Hydropower Sector in Nepal

Nepal has significant hydropower potential. Across the three large river systems in Nepal - Koshi River system, Gandaki (Narayani) River system, and Karnali (Goghra/Mahakali) River system - 43,000 MW has been identified as economically viable (IHA, 2018). As of September 2018, just above 1,006 MW (73 above 1 MW) of this was installed (DoED, 2018). Even though Nepal is expected to be a net importer of power over long-term, as of now, there is significant energy shortage in Nepal. For example, the shortfall in electricity supply to meet domestic load requirements was about 410 MW in late 2013, when peak demand reached 1,202 MW. This led to blackouts of up to 14 hours a day (IHA, 2018). In February 2016, Nepal's government declared 2016–2026 the “national energy crisis reduction and electricity development decade”, with ambitious targets to end the current power shortages. Even though Nepal's electricity generation is dominated by hydropower, only about 1% of the energy need is fulfilled by electricity (IPPAN, 2018)

Some of the key findings from the survey include:

- Out of the firms surveyed, only 2% are currently exporting overseas (average of approximately 5% of revenue from exports) while 80% mentioned that they have no intention of exporting overseas
- Skill-related challenge was identified by 66% of the respondents.
- The firms surveyed reported an average attrition rate of 7.9% per annum, while the average attrition rate of women employees to be 2.8% per annum.
- The firms indicated that they will be increasing their total employment by approximately 10.2% per annum over the next four years.
- 21.7% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 14.1% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of project management skills, lack of practical knowledge, and lack of awareness of latest technologies.
- On-the-job experience, along with pre-employment work readiness training and in-house training seem to have significant preference among the respondents.
- The firms indicated that they needed support for continuous-employment trainings – close to 2/3rd of the respondents mentioned this. Another 1/3rd of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

Profile of the Firms	Labour Profile	Social Inclusion	Skill Development
41 firms interviewed	215 Average employees per firm	87.3% Share of Nepalese employees	66% believe skill is a limiting factor for growth
2% of the firms export	83% Mentioned wages have grown in last 2 years	21.7% Share of Women employees	Preferred Models In-house training (22%), Pre-employment training (22%), Overseas Exchange Programme (15%)
5.6% Average annual growth in revenue (historic)	7.9% Annual Attrition in workforce	14.1% Share of DAG employees	Job Roles Project Management and Technical roles (Engineers, Project Managers, Specialised construction skills, labourers)
7.1% Expected annual growth in revenue future	10.2% Expected annual growth in workforce size	0.5% Share of PwD employees	

Figure-69: Summary of the results for Hydropower, N=41

Source: सौप Firm Level Survey (2018)

#### 4.1 Profile of Companies Interviewed

A total of 41 companies in the sector were interviewed across Nepal. A detailed list of stakeholders interviewed is provided in Annex 2.

The distribution of the companies by size is indicated in the figure below.

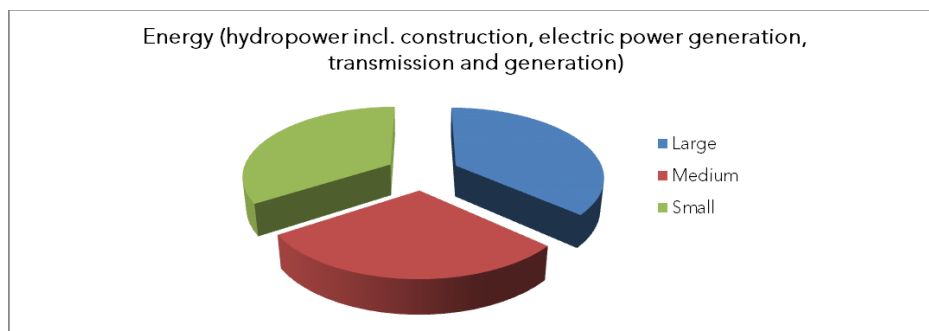


Figure-70: Distribution of firms surveyed by size, N=41

Source: सीप Firm Level Survey (2018)

Geographically, they are well-distributed across various Provinces of Nepal. However, a majority of them have presence in Province 3. The figure below indicates the number of surveyed firms with offices in the major cities (multiple options). Others included cities such as Pokhara, Jumla, Butwal, among others.

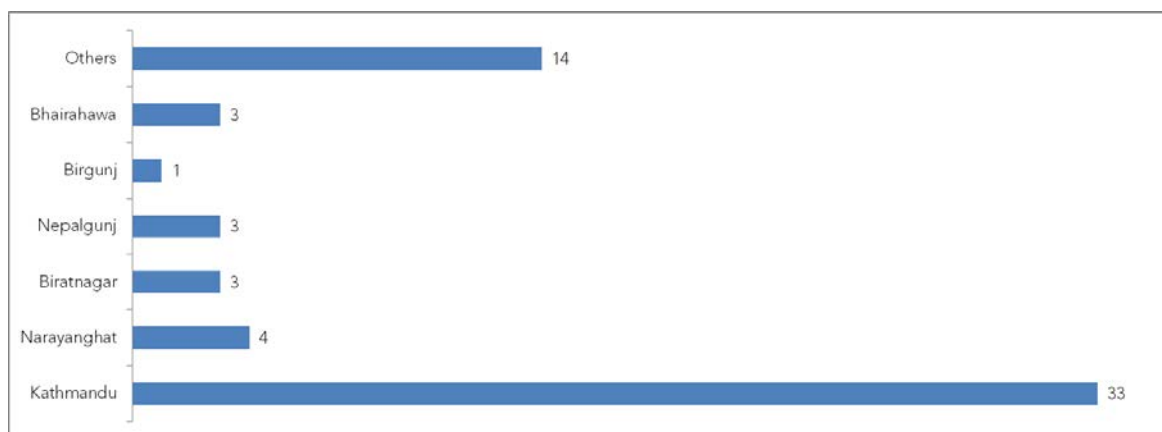


Figure-71: Distribution of firms surveyed by geographical presence, N=41

Source: सीप Firm Level Survey (2018)

Out of the firms surveyed, only 2% are currently exporting overseas (average of approximately 5% of revenue from exports) while 80% mentioned that they have no intention of exporting overseas. Out of the firms which export, the export destinations included India. For the companies which do not export currently, but intend to export over the next 2-4 years, the popular destinations are South Asian countries (India, Bangladesh) and China.

Among the companies which have no intention of exports, some of the reasons mentioned include sufficiency of domestic market, lack of policy support for exports, and lack of scale.

Out of the 41 firms surveyed, only 4 described themselves as a Multi-national company (MNC) and only two mentioned they have equity investment from outside Nepal. However, 23 firms (i.e. 56% of the sample) mentioned that they import raw material from overseas. This shows there is limited international exposure for the Nepalese Hydropower sector.

In terms of growth of revenue over the last two years (2016-2018), 56% of the firms surveyed mentioned that they have experienced a growth of over 5% per annum. However, the firms were bullish about their future prospects with 2/3<sup>rd</sup> of the firms surveyed mentioned they expected a growth of more than 5% per annum over the next four years (2019-2023).

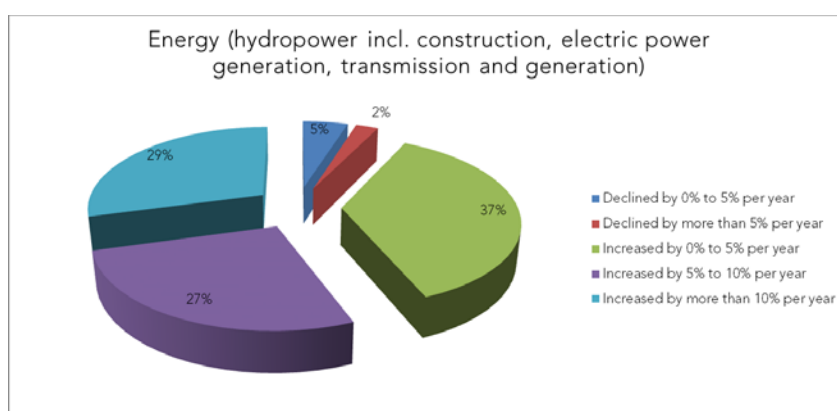


Figure-72: Distribution of firms surveyed by revenue growth in last two years, N=41

Source: सीप Firm Level Survey (2018)

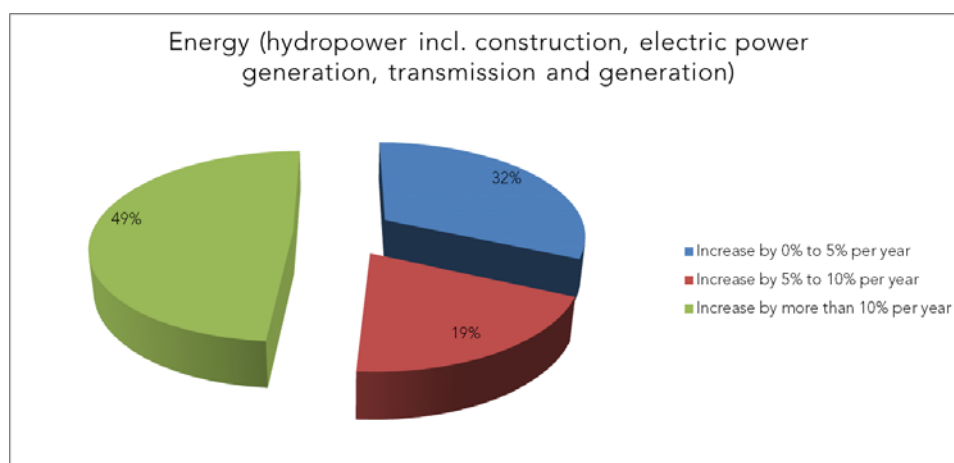


Figure-73: Distribution of firms surveyed by expected revenue growth in next four years, N=41

Source: सीप Firm Level Survey (2018)

Over the same period (2016-2018), 46% of the firms surveyed mentioned that they have experienced a workforce growth of less than 5% per annum – 7% have seen a decline in the workforce numbers during this period. However, only 5% of the firms mentioned that they expect their workforce

declining in the next four years – 2/3<sup>rd</sup> of the firms expected their workforce to increase by over 5% over this period.

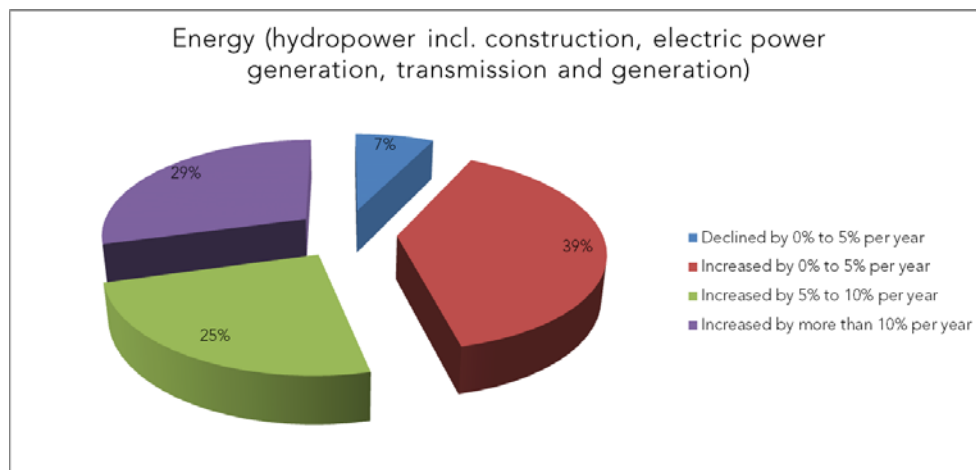


Figure-74: Distribution of firms surveyed by workforce growth in last two years, N=41

Source: सीप Firm Level Survey (2018)

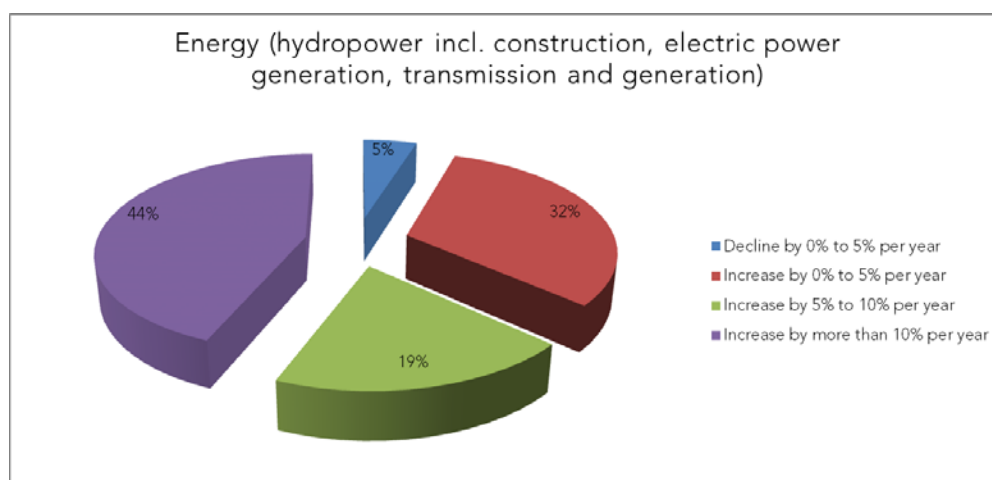


Figure-75: Distribution of firms surveyed by expected workforce growth in next four years, N=41

Source: सीप Firm Level Survey (2018)

The firms surveyed indicated that their top challenges to achieve their growth targets include lack of government policies or regulations which help businesses grow, high cost or lack of availability of labour at required skill level, and high cost of raw material. Skill-related challenge was identified by more than 60% of the respondents.

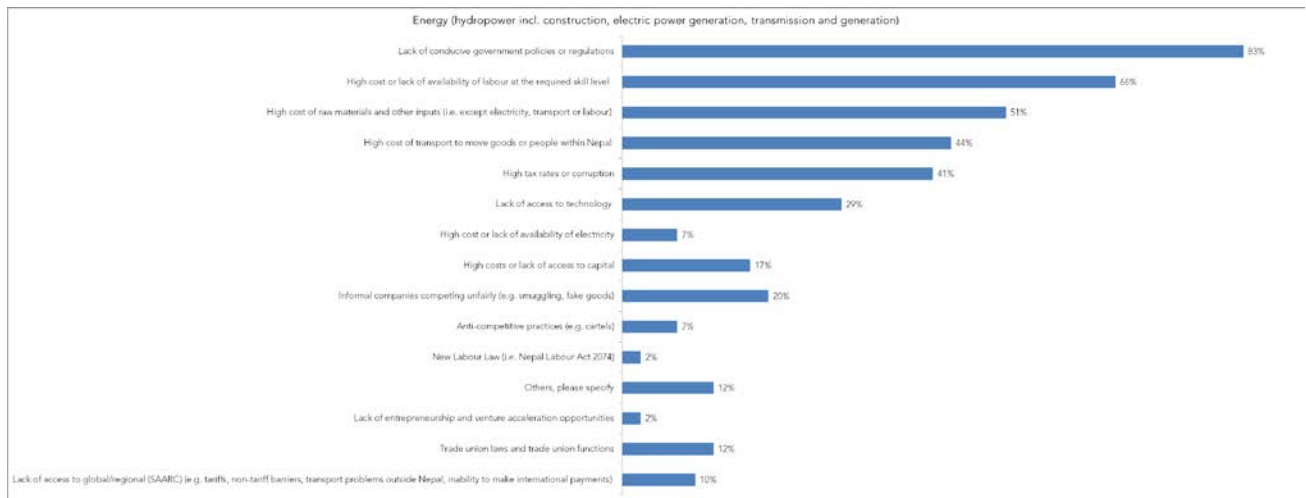


Figure-76: Distribution of responses on top challenges that hamper their company from achieving their growth targets, N=41

Source: शीप Firm Level Survey (2018)

## 4.2 Labour Profile of the Companies Interviewed

These 41 firms employed 8,812 employees – an average of 215 employees per firm. This number was approximately 8,273 employees in 2016 – i.e. an average growth of 3.2% over the last two years.

The breakdown by job categories of the total employees and by demographic segments is indicated in the figure below.

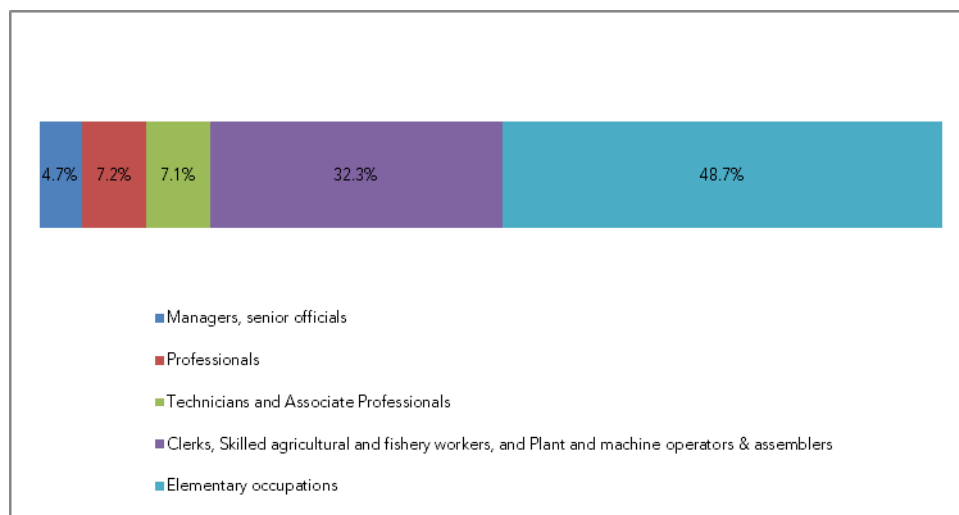


Figure-77: Distribution of employees by job categories, N=41

Source: शीप Firm Level Survey (2018)

In terms of demographic proportions, **87.3%** are Nepalese. The foreign employees were reported to be from India.

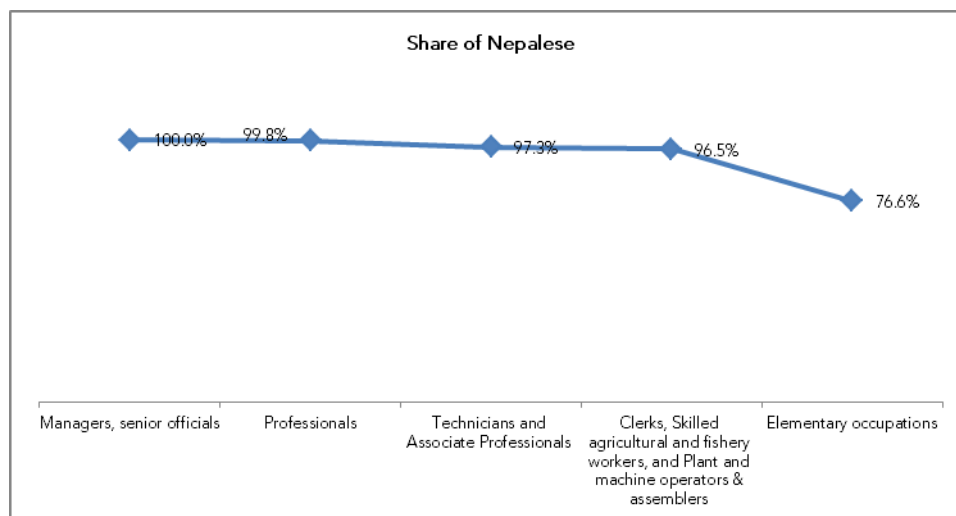


Figure-78: Share of Nepalese employees across job categories, N=41

Source: शीप Firm Level Survey (2018)

In terms of wage increases, only 17% of the firms surveyed mentioned that their wages have not increased over the last two years. 56% of the companies mentioned that the wages have increased by over 5% over the same period.

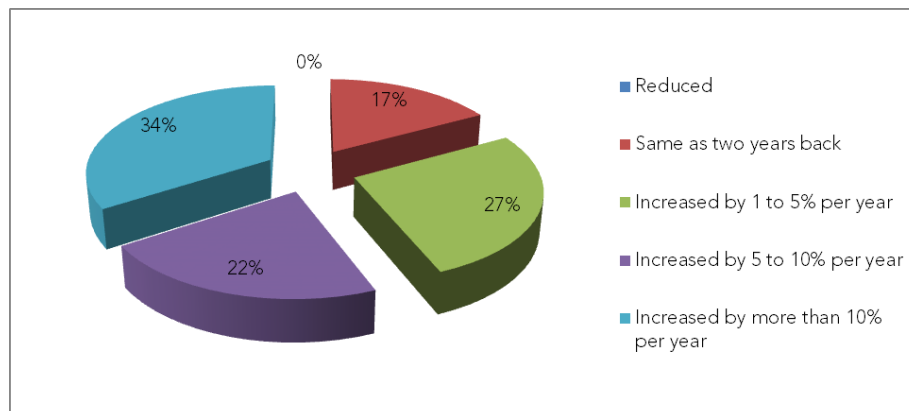


Figure-79: Wage Changes over the last two years, N=41

Source: शीप Firm Level Survey (2018)

The firms surveyed reported an average attrition rate of 7.9% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas.

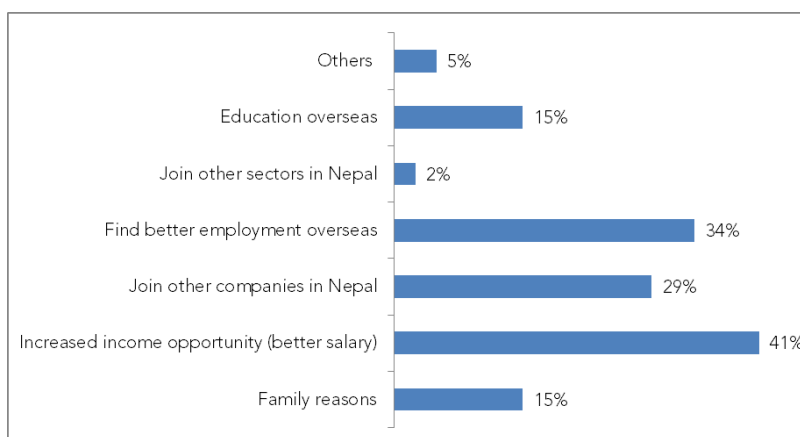


Figure-80: Reasons for Attrition of Employees, N=41

Source: सीप Firm Level Survey (2018)

According to the survey findings, the firms indicated that they will be increasing their total employment by approximately 10.2% per annum over the next four years. Only 26% of this increase will be to replace employees who leave the firms, while the remaining 74% will be to cater to higher expected demand for their products & services or to fill existing vacancies. Using this data, it is estimated that across Nepal, a total of 10,000 to 14,000 new jobs will be created in the sector (please refer to Annex 1). The breakdown of the increase is indicated in the figure below.

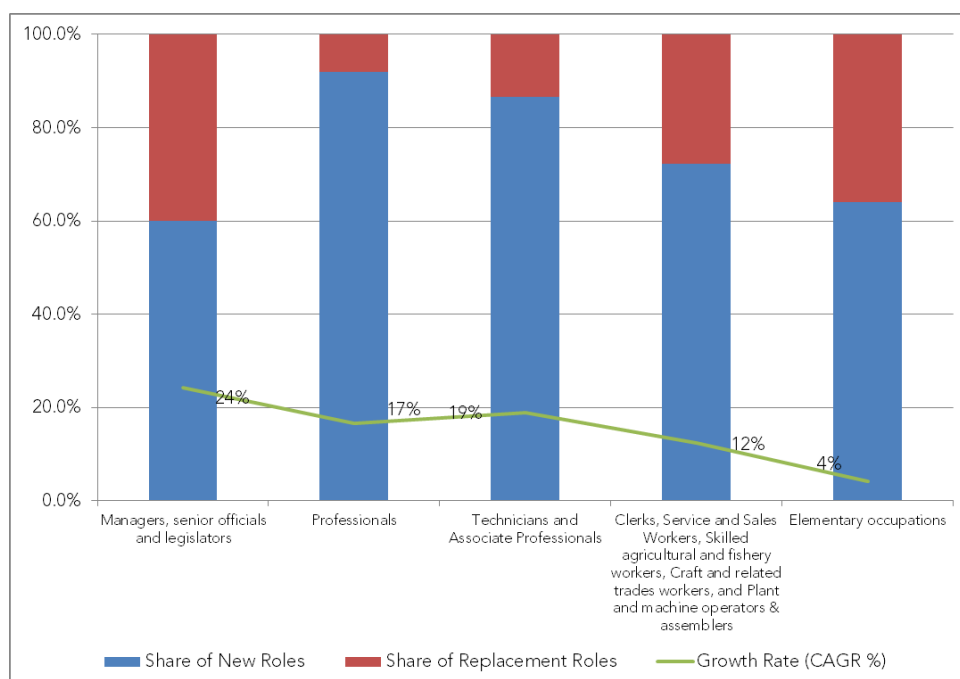


Figure-81: Expected increase in the share of number of employees over the next four years – Growth rates are per annum, N=41

Source: सीप Firm Level Survey (2018)

The respondents indicated the preferred educational qualification for the various job roles. For lower-level employees, the firms are looking for people with technical/ vocational certificate (e.g. CTEVT) or school leaving certificate.

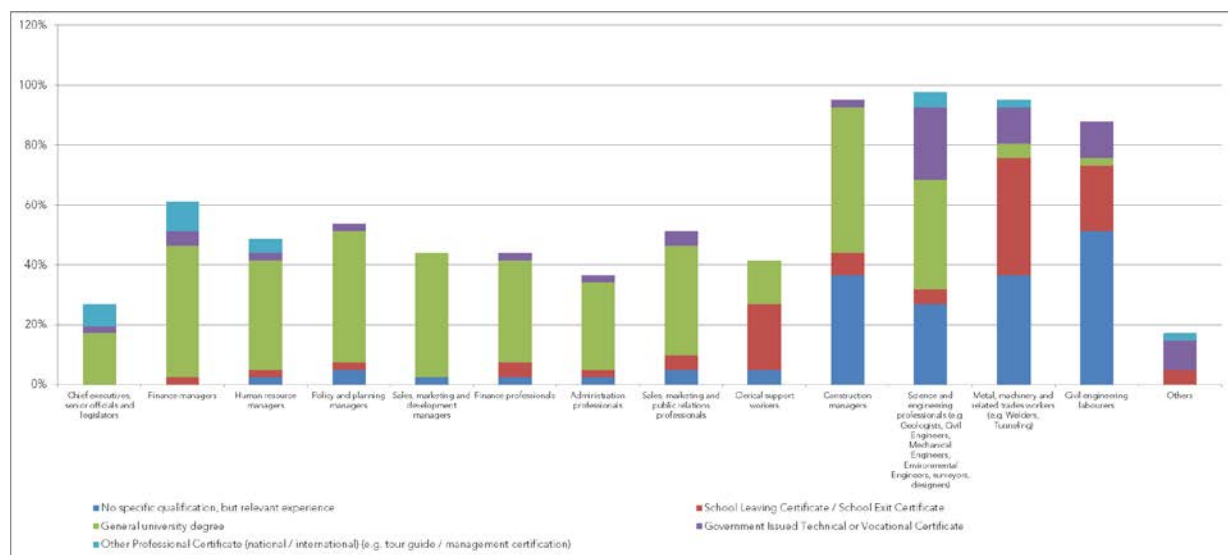


Figure-82: Expected educational qualifications for various job roles, N=41

Source: सीप Firm Level Survey (2018)

For lower level job roles, the respondents indicated difficulty in hiring. For example, for skilled civil engineering labourers, approximately 82% of the respondents mentioned that they had difficulty in hiring for this role, while for metal & machinery related workers 76% of the respondents indicated difficulty in finding candidates for this role. The figure below indicates the share of respondents who mentioned that they had difficulty in hiring for these roles – segmented into whether the difficulty is due to the lack of availability of people (i.e. not enough people available) or due to skill mismatch (i.e. not enough people with right skills are available). **There is a high correlation in difficulty of hiring workers with the educational qualification – it is more difficult to hire for job roles that require experience or that require technical/ vocational certificates.**

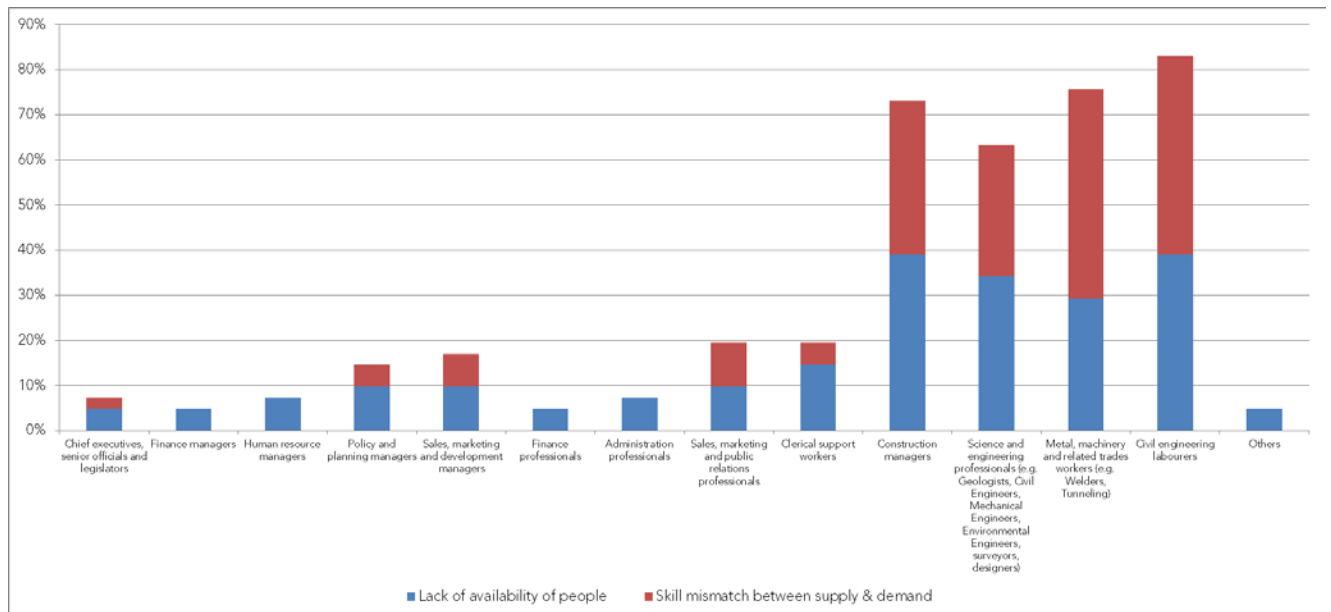


Figure-83: Difficulty in hiring for various job roles, N=41

Source: सीप Firm Level Survey (2018)

#### 4.2.1 Labour Profile – Women, DAGs, and PwDs

##### Women

For these 41 firms, **21.7%** of these employees are women.

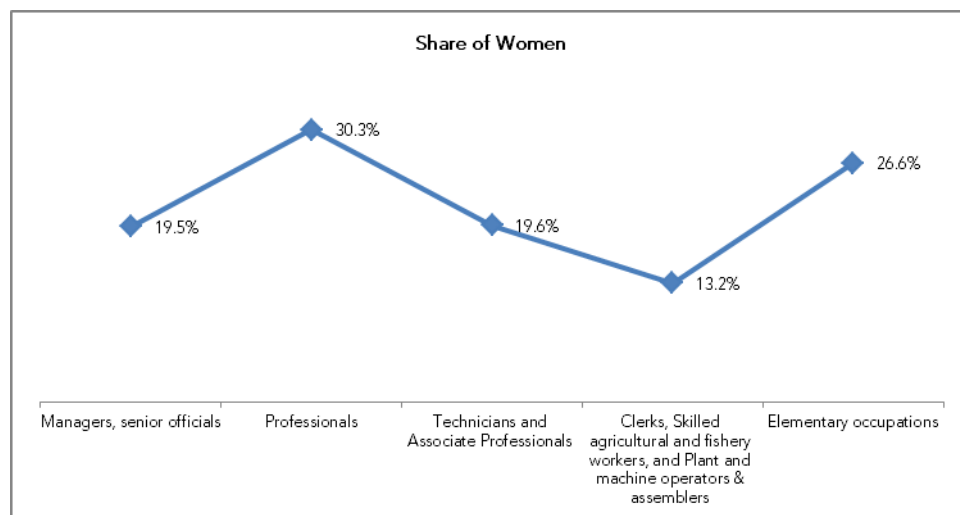


Figure-84: Share of women employees across job categories, N=41

The firms surveyed reported an average attrition rate of women employees to be 2.8% per annum. For women, the top reason for attrition was cited as family reasons.

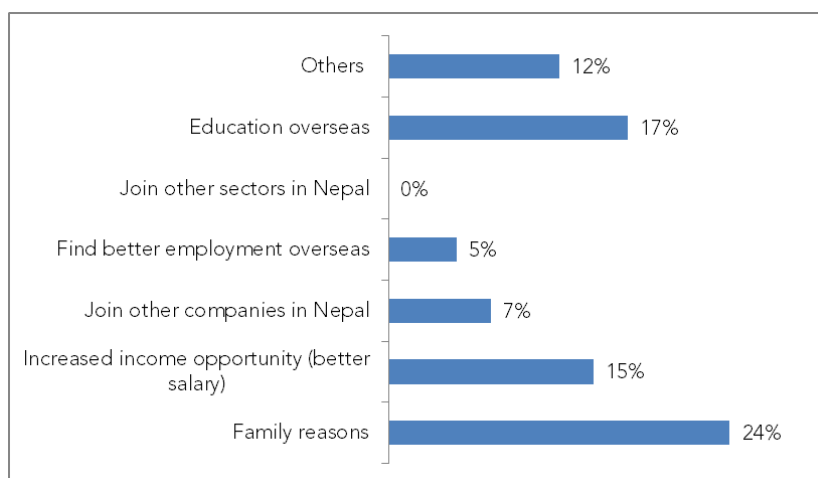


Figure-85: Reasons for Attrition of Women Employees, N=41

Source: सीप Firm Level Survey (2018)

The firms also indicated that certain job roles have a potential to increase women employment in that job role. The table below indicates the share of respondents who agree that women employment can be increased in the respective job roles – e.g. 32% of the respondents agree that more women can be Sales, marketing and public relations professionals and less than 5% agreed that women employment has a potential as metal and machinery specialists.

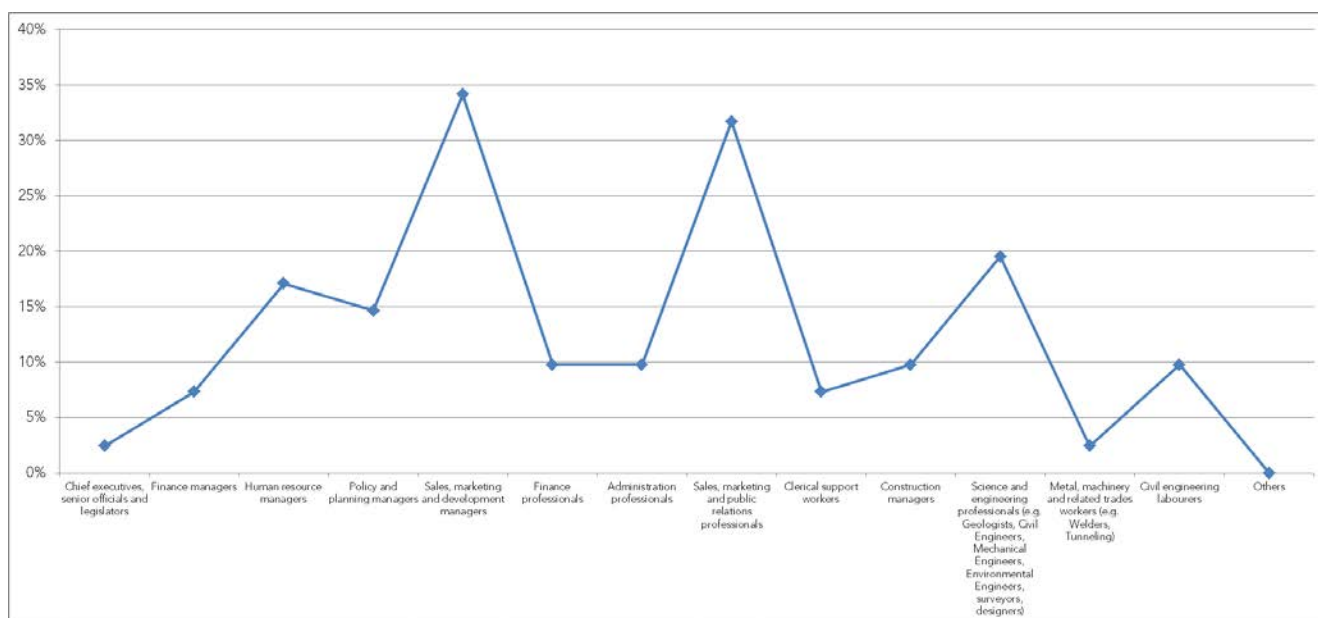


Figure-86: Share of respondents who agree there is a potential for women employment in the job role, N=41

Source: सीप Firm Level Survey (2018)

PwDs

Out of the total current employment across these 41 firms, only 0.5% of the employees are People with Disabilities (PwDs). Close to 38% of the PwDs which these firms have hired are speech-impaired, while 27% of the PwDs are motor-impaired. The reason for small numbers is attributed to several reasons such as risk of injury to such workers, labour-intensive nature of the work, or lack of reference to skilled PwDs.

The firms expect to increase the number of PwDs in their workforce by 53% over the next four years, but even then the share of PwDs is expected to be 1.5% of the total employment pool. The biggest jump in absolute terms is expected to be for people who have impaired speech or have loss of motor function.

### DAGs

Out of the total current employment across these 41 firms, only 14.1% of the employees are Disadvantaged Groups (DAGs). Close to 36% of the DAGs which these firms have hired are relatively disadvantaged *janjatis*, while another 27% disadvantaged *janjatis*.

The firms also expect that over the next four years, the number of employees belonging to DAGs will more than double. While most firms mentioned that they do not discriminate on the basis of caste or religion, they cited lack of such candidates with right skills as a reason for not hiring even more people from DAGs.

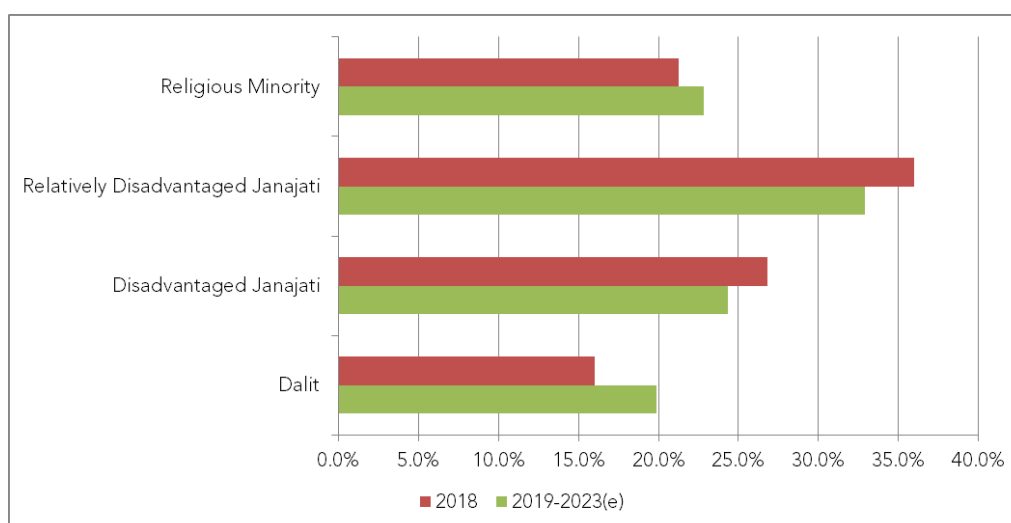


Figure-87: Share of DAGs in the labour force (2018) and (2019-2023e), N=41

Source: सीप Firm Level Survey (2018)

### 4.3 Perception and Attitude towards Skill Development

Across the companies, all of the skill categories were deemed to be of medium or high importance for their employees – at least 80% of the respondents rated all skills to be medium or high on importance.

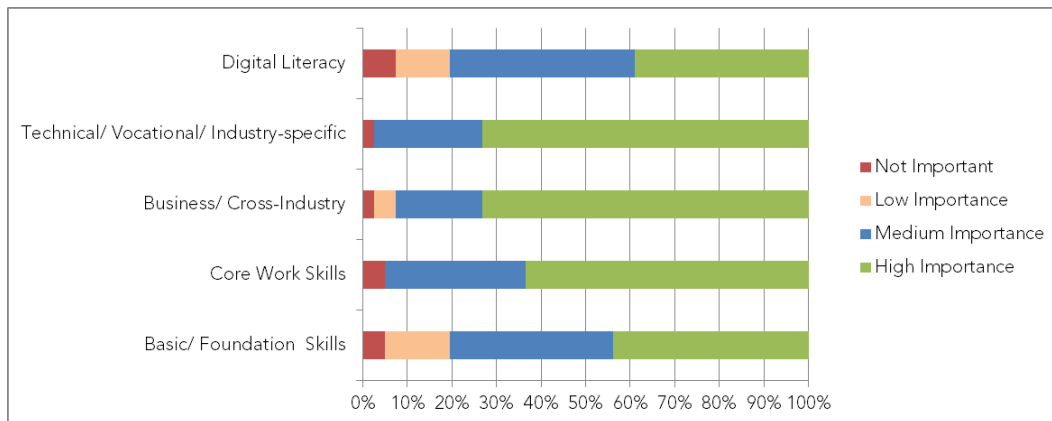


Figure-88: Importance of Skill Categories (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms also believe that their existing employees do not have significant skill gaps – only technical/ vocational skills (i.e. specialized skills, knowledge or know-how needed to perform specific duties or tasks specific to the industry) and Business/ Cross-Industry skills (such as Project Management, Accounting & Finance, Small Business Management, Marketing, Sales, Public Relations, Human Resource Management, & Leadership) were cited by over 60% of the respondents as skills where they had gaps. Typical examples of skills gaps that were highlighted by the respondents included lack of project management skills, lack of practical knowledge, and lack of awareness of latest technologies.

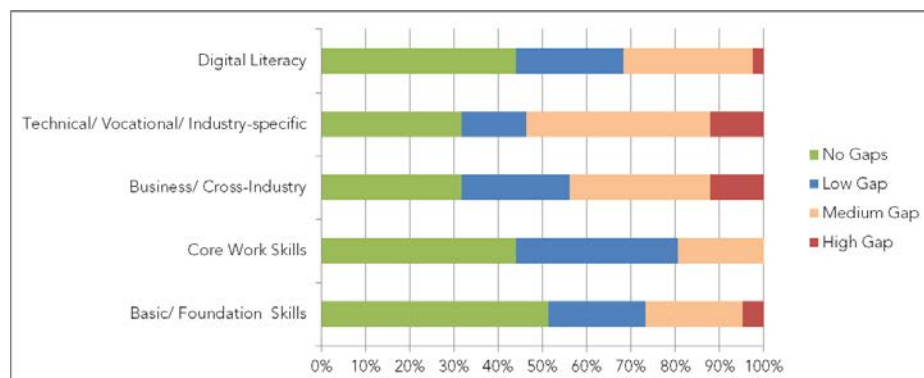


Figure-89: Skill gaps across Skill Categories (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The companies cited inability to attract skilled talent at an affordable wage and unavailability of skilled talent for their companies as top two challenges in finding and building skilled workforce.



Figure-90: Challenges to finding & building a skilled workforce (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

Most respondents preferred referrals to hire staff. This might limit their access to skilled talent outside their network.

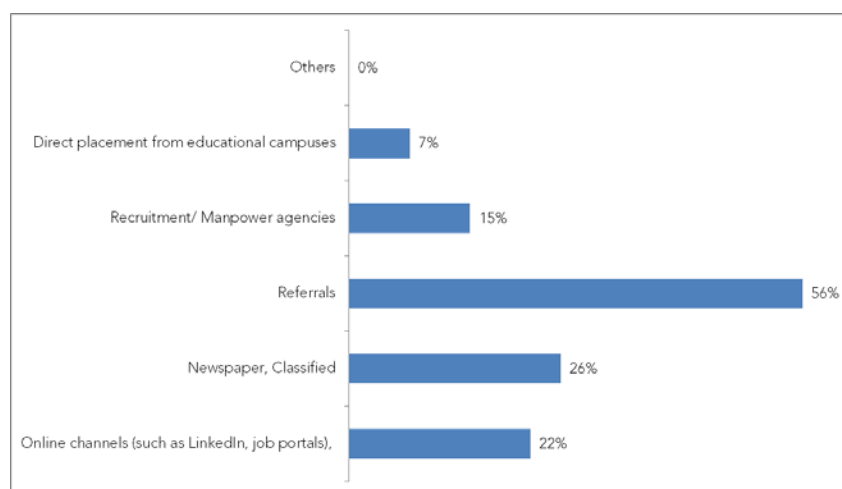


Figure-91: Sources to hire talent (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

On-the-job experience was the most common skill development model used by the firms surveyed. A significant proportion also used in-house training and mentorship programmes. Most of the skill development models were found to be impactful by the respondents.

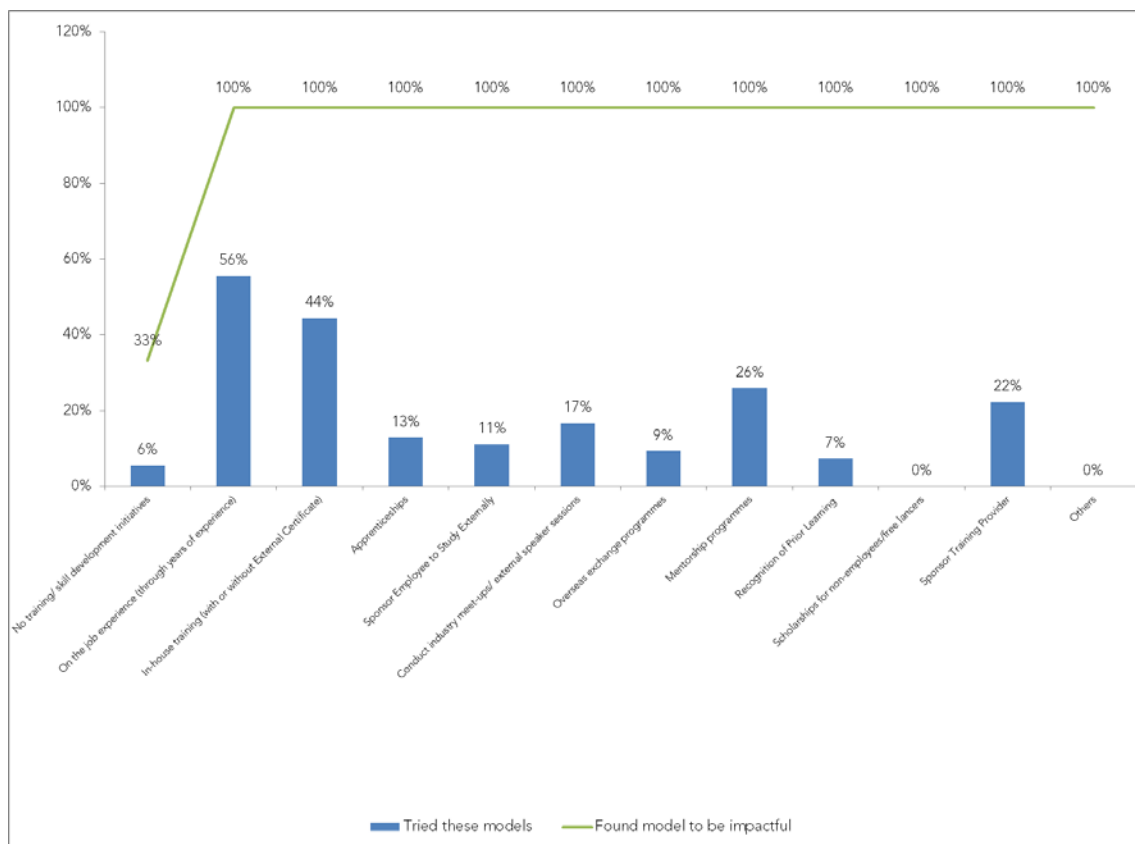


Figure-92: Skill Development models used by the firms surveyed (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

While 44% of the firms mentioned that they are willing to send their existing staff to training which is of less than one week in duration, a significant 27% mentioned that they are willing to send their staff for trainings between two weeks and a month long. Reasons cited for this was the loss of productivity that the absence of staff will create.

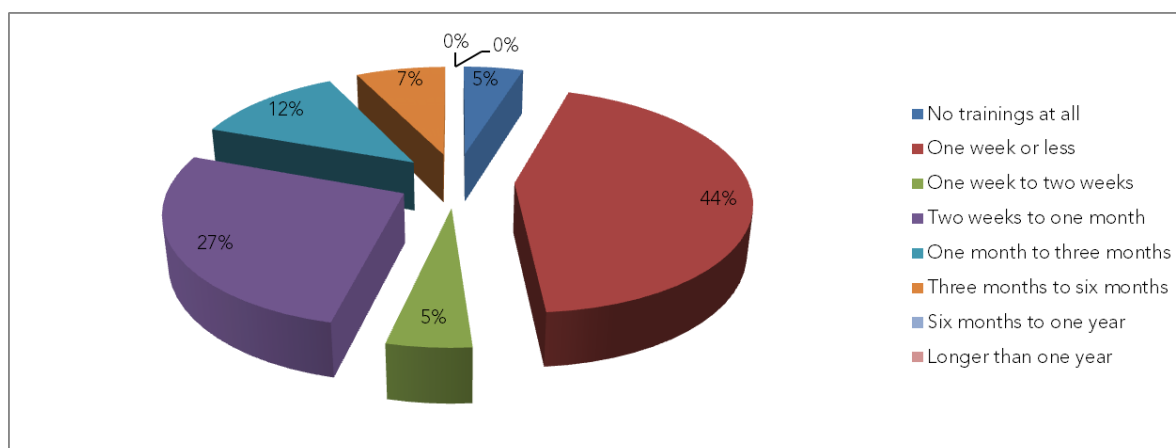


Figure-93: Preference of the duration of the skill development training (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

In terms of spending on skill development, 29% of the firms surveyed did not spend anything while 47% spent between 1 and 2% of their revenues on skill development.

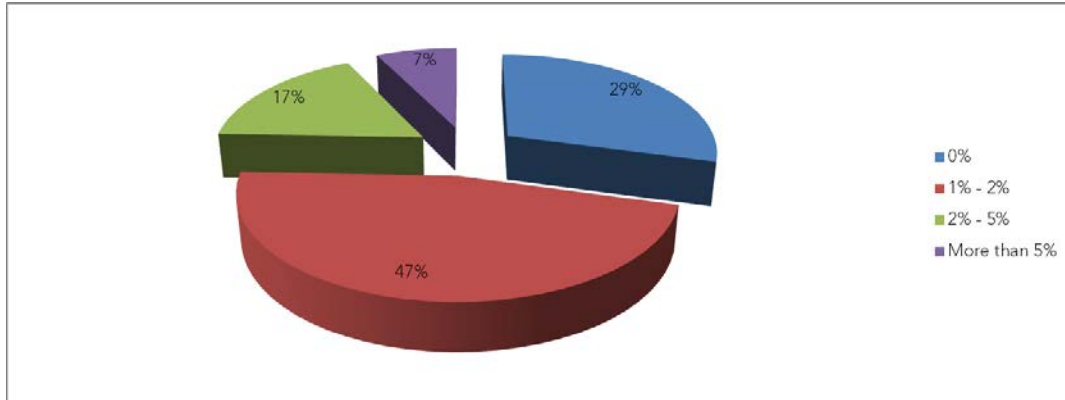


Figure-94: Spending on the skill development training as %age of revenue (%age of respondents), N=41

Source: सौप Firm Level Survey (2018)

While most respondents agreed that skilled employees earn better wages and have faster career progression, approximately 37% did not agree that skilled employees are easier to retain.

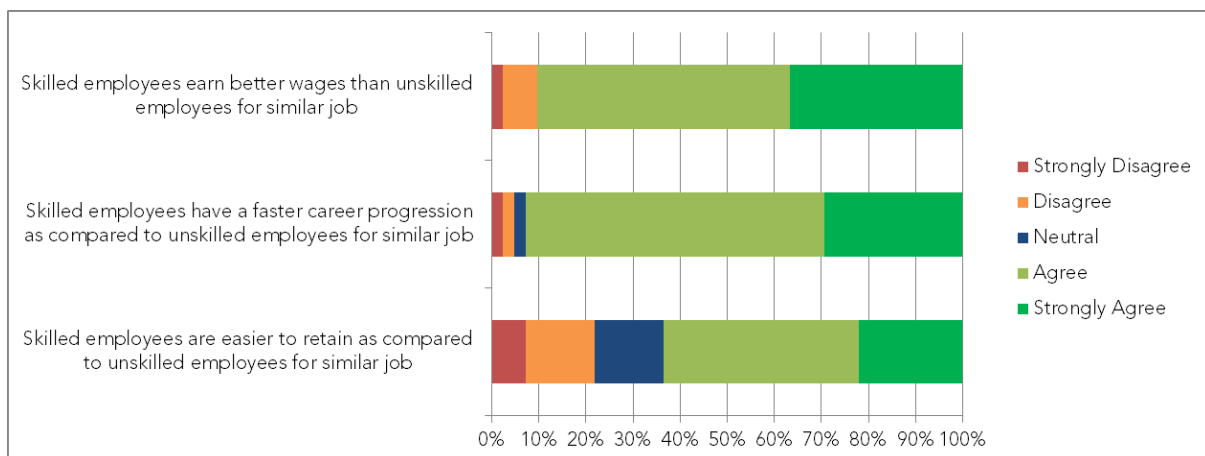


Figure-95: Perception towards skilled employees (%age of respondents), N=41

Source: सौप Firm Level Survey (2018)

The firms indicated that they would invest more in developing the skills of your employees if they see a reduced risk of staff leaving after the training and if they see a stronger evidence of the benefit to company's profitability/ performance.

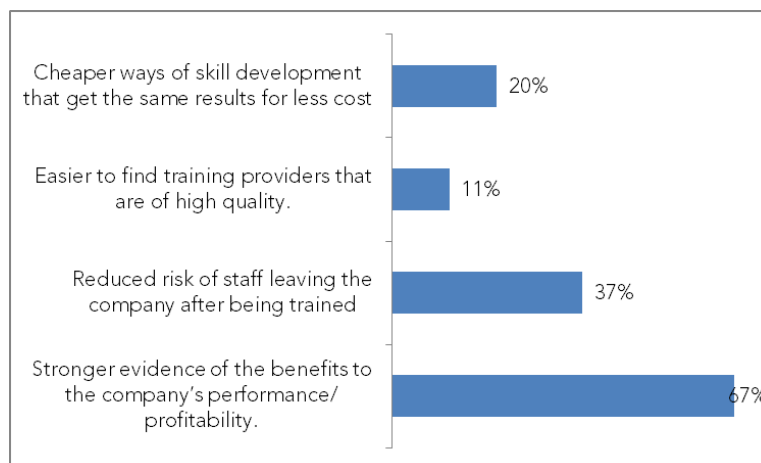


Figure-96: What would make their company invest more in developing the skills of their employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

With the new labour law (Nepal Labour Act 2074), the firms did not expect their skill development investment to reduce. However, a significant proportion sees the impact on their recruitment strategies and a need to re-look their recruitment strategies.

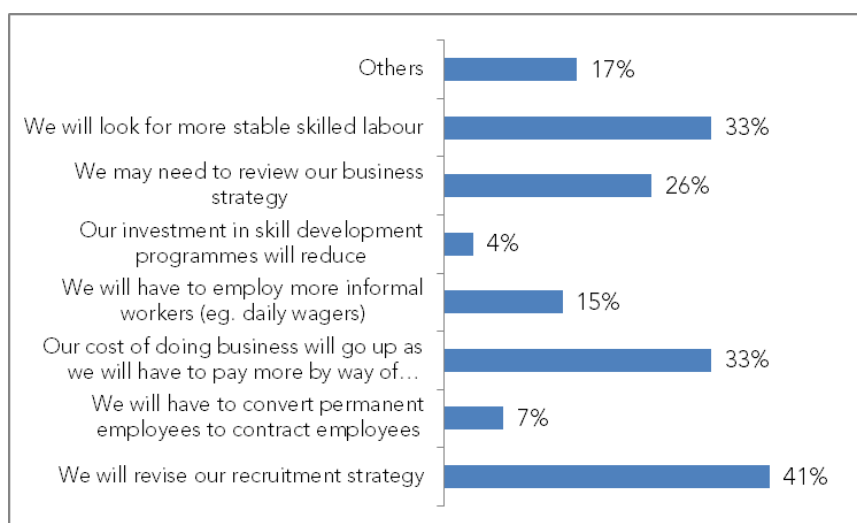


Figure-97: Impact of new labour law (Nepal Labour Act 2074) on workforce strategies (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

#### 4.4 Potential Collaboration with DFID सीप

The survey also tried to understand potential plans of the respondent firms towards skill development.

While most companies plan to continue the existing programmes, a significant proportion also wanted to develop new programmes or to scale up the existing programmes. This is expected given the perceived efficacy of the programmes deployed by the firms.

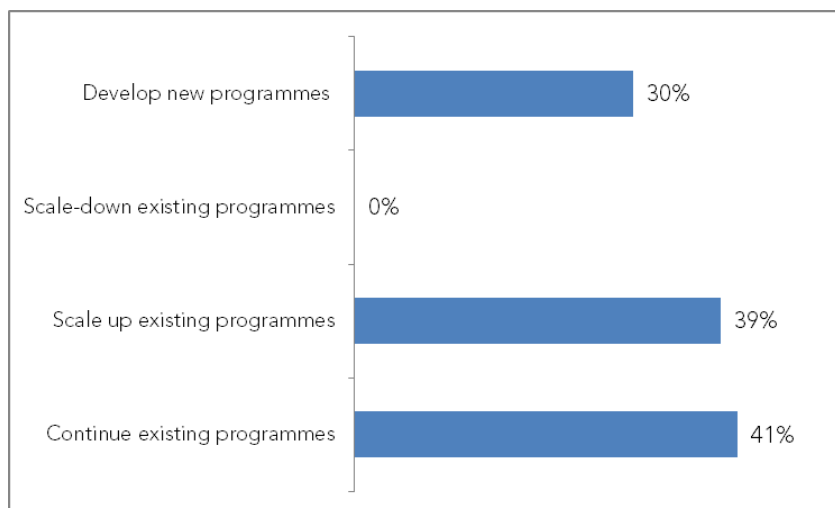


Figure-98: Future plans to develop/invest in skills of staff over the next four years (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

While on-the-job experience remains a favourite of the firms, skill development models such as pre-employment work readiness training and in-house training seem to have significant preference among the respondents.

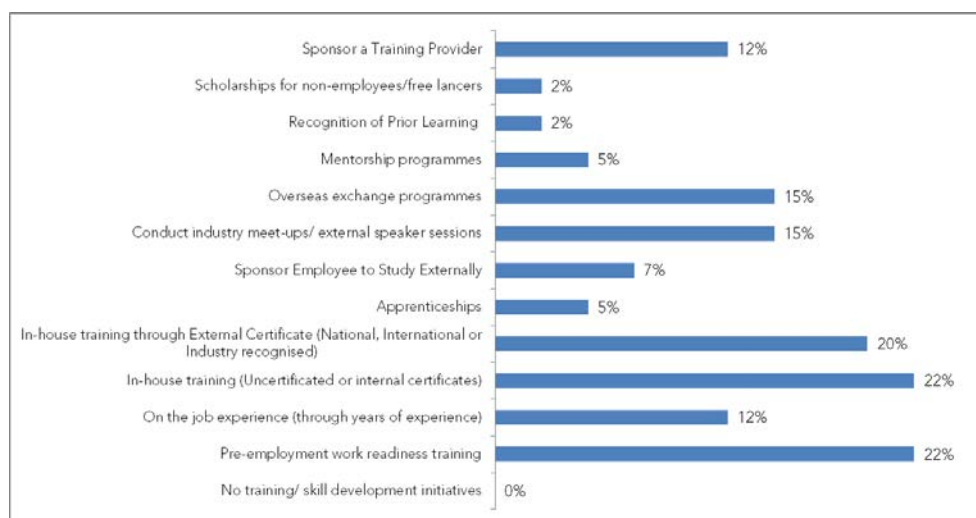


Figure-99: Preferred skill development models over the next four years (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms indicated that they needed support for continuous-employment trainings – close to 2/3<sup>rd</sup> of the respondents mentioned this. Another 1/3<sup>rd</sup> of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

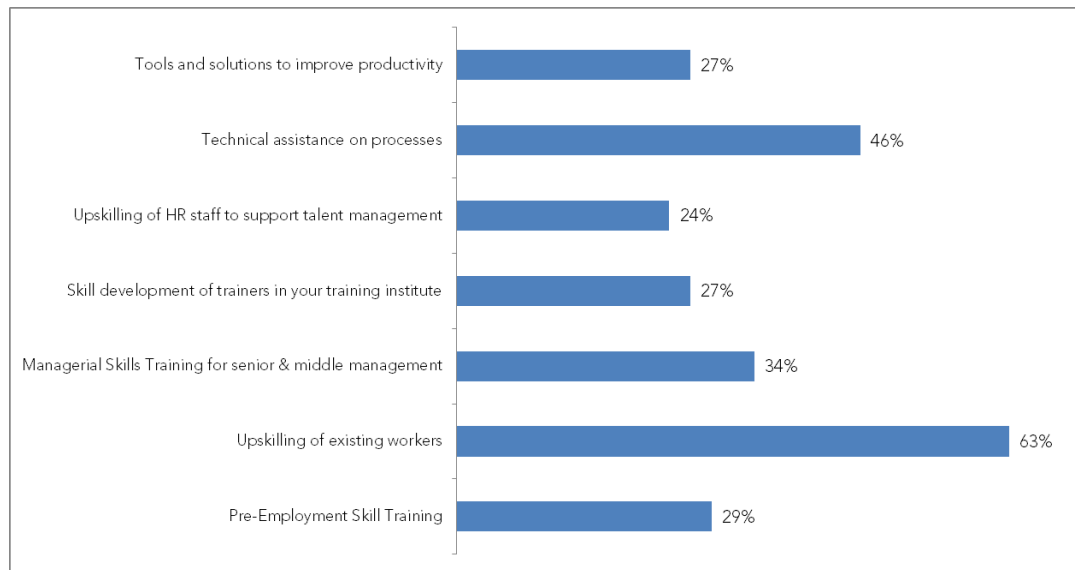


Figure-100: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

The firms also indicated that financial and technical support will be the best modality of any possible skill development partnerships for them.

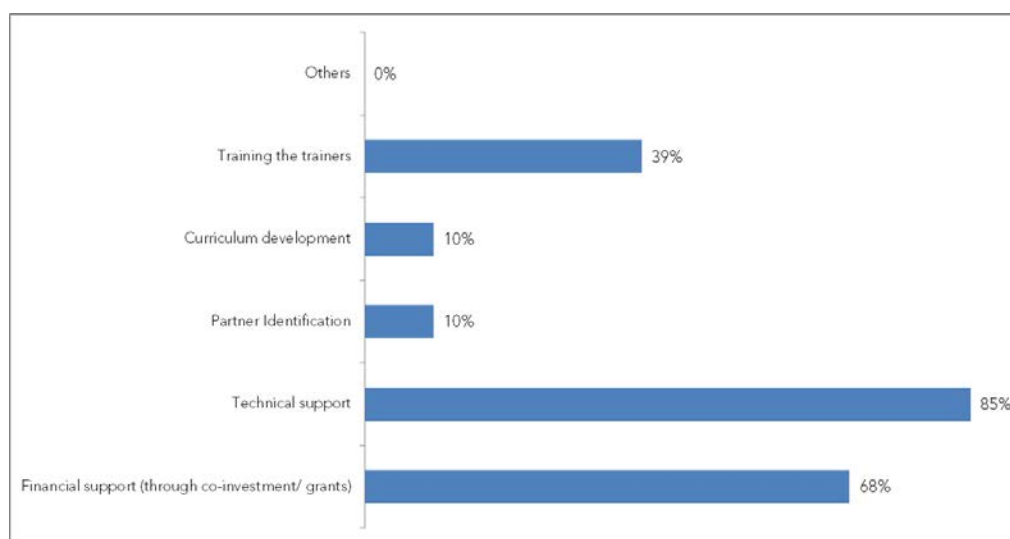


Figure-101: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=41

Source: सीप Firm Level Survey (2018)

## 5. Profile of Tourism Sector in Nepal

The tourism sector in Nepal is a priority sector of the Nepalese government, with tourism being highlighted as one of the key sectors in Nepal Economic Vision 2030, which is envisioned to support Nepal's target of graduating to lower-middle-income-country by 2030. Especially in light of NPR 58.52 billion in foreign exchange earnings from the tourism industry 2017, a significant jump of 40% from 2016 (NRB, 2018).

As per the Nepal Tourism Statistics 2017, number of international tourists visiting Nepal grew by 25% to 940,218 from 753,002 in 2016 (MoCTCA, 2018). The Department of Tourism has attributed this to stabilisation of the tourism sector following the 2015 earthquakes, and tourism promotional initiatives taken in recent years.

Some of the key findings from the survey include:

- Out of the firms surveyed, only 15% are currently exporting overseas (average of approximately 8% of revenue from exports) while 76% mentioned that they have no intention of exporting overseas
- Skill-related challenge was identified by 56% of the respondents.
- The firms surveyed reported an average attrition rate of 6.2% per annum, while the average attrition rate of women employees to be 6.5% per annum.
- The firms indicated that they will be increasing their total employment by approximately 9.5% per annum over the next four years.
- 28.3% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 38.2% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of communication skills and lack of guest relationship management.
- On-the-job experience, along with in-house training and pre-employment work readiness training seem to have significant preference among the respondents.
- The firms indicated that they needed support for pre-employment trainings – close to 65% of the respondents mentioned these. Another 40% of the respondents mentioned that they needed support in upskilling the existing workers and in providing managerial skills training for senior and middle management.

Profile of the Firms	Labour Profile	Social Inclusion	Skill Development
55 firms interviewed	51 Average employees per firm	98.7% Share of Nepalese employees	56% believe skill is a limiting factor for growth
15% of the firms export	72% Mentioned wages have grown in last 2 years	28.3% Share of Women employees	Preferred Models In-house training (22%), Pre-employment readiness training (18%), OTJ experience (15%)
4.0% Average annual growth in revenue (historic)	6.2% Annual Attrition in workforce	38.2% Share of DAG employees	Job Roles Managerial Level (Travel attendant/ conductors/ guides, HR/ Finance/ Marketing Managers)
6.4% Expected annual growth in revenue future	9.5% Expected annual growth in workforce size	0.5% Share of PwD employees	

Figure-102: Summary of the results for Tourism, N=55

Source: सौप Firm Level Survey (2018)

## 5.1 Profile of Companies Interviewed

A total of 55 companies in the sector were interviewed across Nepal. A detailed list of stakeholders interviewed is provided in Annex 2.

The distribution of the companies by size is indicated in the figure below.

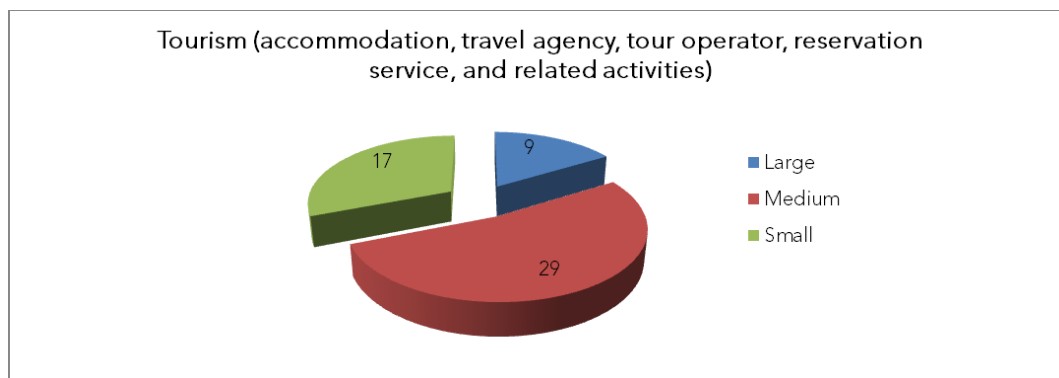


Figure-103: Distribution of firms surveyed by size, N=55

Source: सीप Firm Level Survey (2018)

Geographically, they are well-distributed across various Provinces of Nepal. However, a majority of them have presence in Province 3. The figure below indicates the number of surveyed firms with offices in the major cities (multiple options). Others included cities such as Pokhara, Chitwan, Lumbini, Lalitpur, Surkhet, among others.

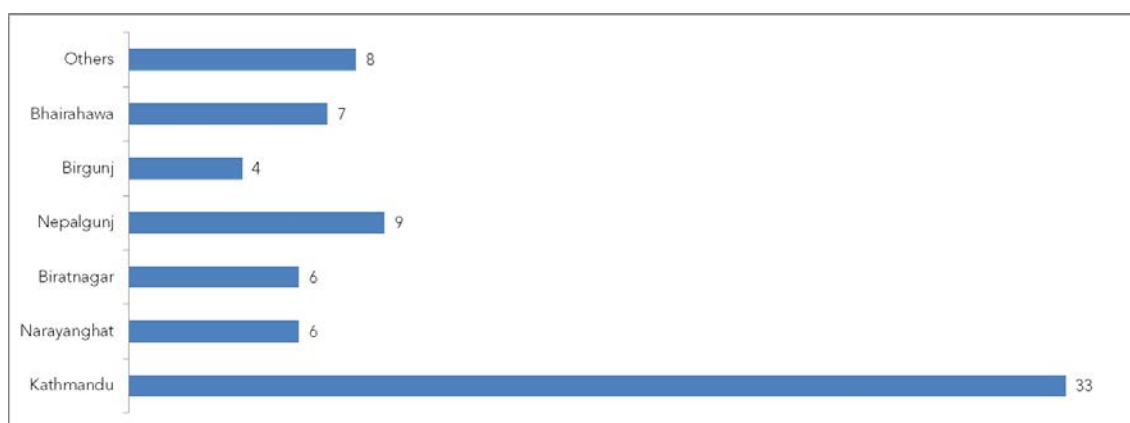


Figure-104: Distribution of firms surveyed by geographical presence, N=55

Source: सीप Firm Level Survey (2018)

Out of the firms surveyed, only 15% are currently exporting overseas (average of approximately 8% of revenue from exports) while 76% mentioned that they have no intention of exporting overseas. Out of the firms which export, the export destinations include the India, the Middle East (e.g. Qatar, UAE, Japan and the USA). For the companies which do not export currently, but intend to export over the next 2-4 years, the popular destinations are India and China.

Among the companies which have no intention of exports, some of the reasons mentioned include lack of scale and lack of capital.

Out of the 55 firms surveyed, only 4 described themselves as a Multi-national company (MNC) and only 1 mentioned they have equity investment from outside Nepal. Only 4 firms mentioned that they import raw material from overseas. This shows there is very limited international exposure for the Nepalese Tourism sector.

In terms of growth of revenue over the last two years (2016-2018), 42% of the firms surveyed mentioned that they have experienced a growth of over 5% per annum. However, the firms were bullish about their future prospects with 66% of the firms surveyed mentioned they expected a growth of more than 5% per annum over the next four years (2019-2023).

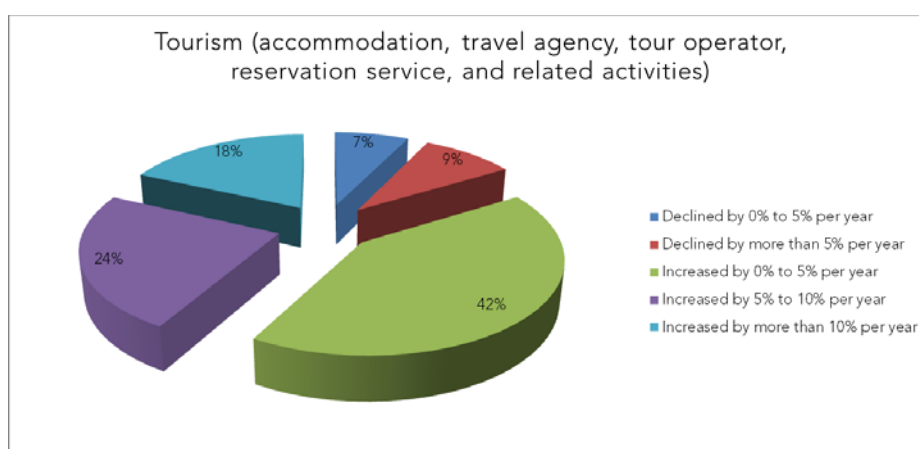


Figure-105: Distribution of firms surveyed by revenue growth in last two years, N=55

Source: सीप Firm Level Survey (2018)

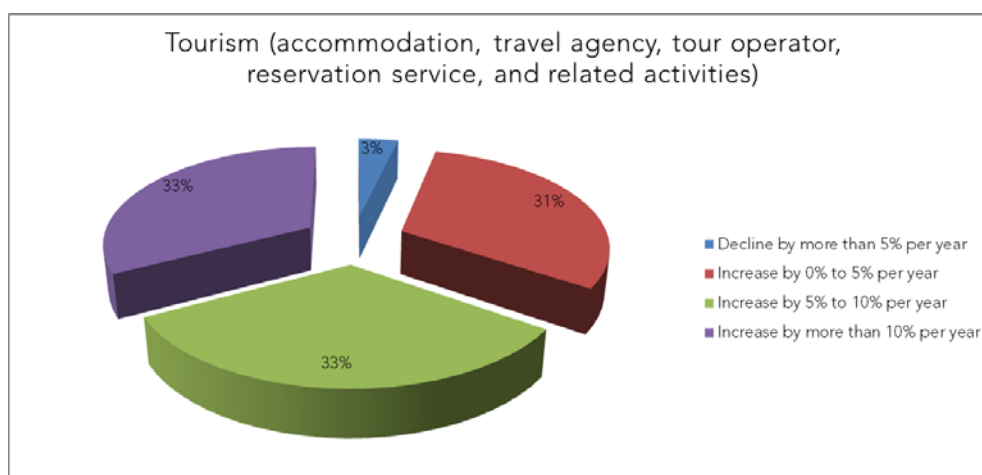


Figure-106: Distribution of firms surveyed by expected revenue growth in next four years, N=55

Source: सीप Firm Level Survey (2018)

Over the same period (2016-2018), 20% of the firms surveyed mentioned that they have experienced a decline in terms of workforce growth. However, the firms surveyed felt their growth in number of workforce will be higher over the next four years.

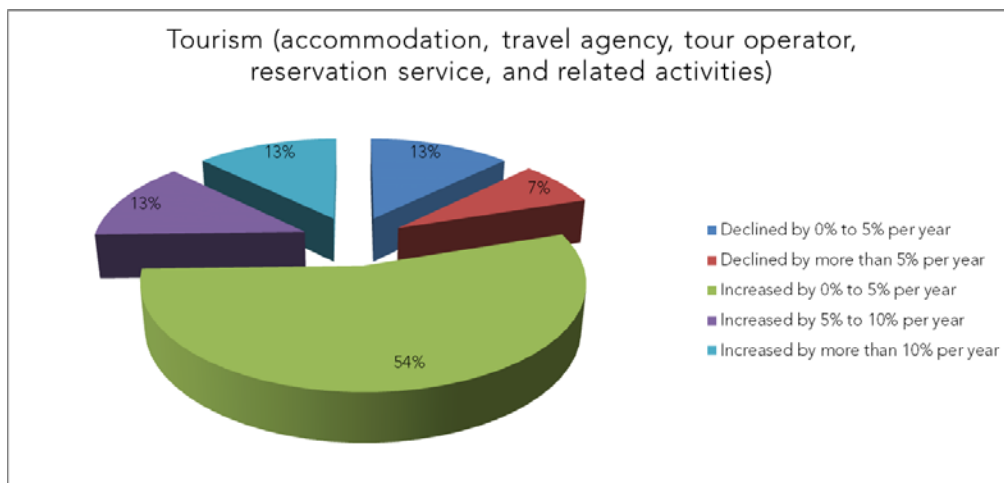


Figure-107: Distribution of firms surveyed by workforce growth in last two years, N=55

Source: सीप Firm Level Survey (2018)

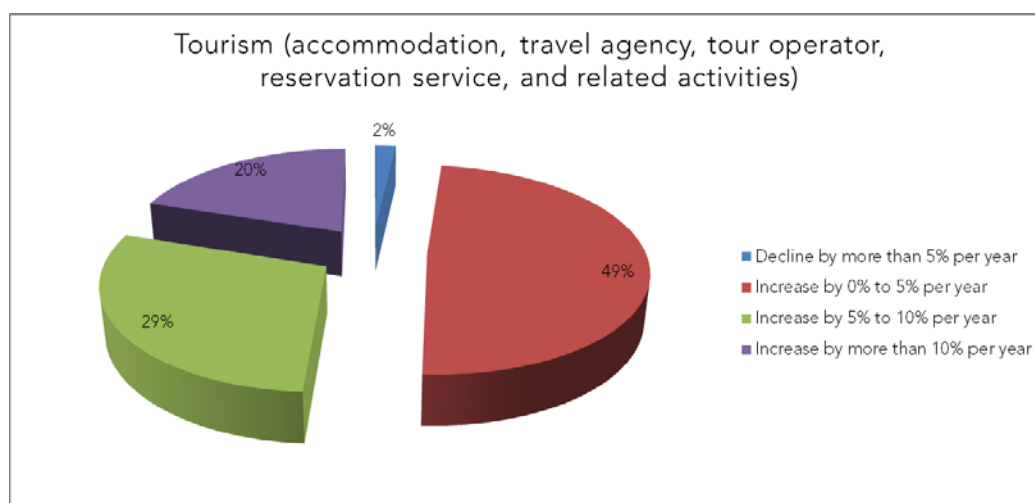


Figure-108: Distribution of firms surveyed by expected workforce growth in next four years, N=55

Source: सीप Firm Level Survey (2018)

The firms surveyed indicated that their top challenges to achieve their growth targets include lack of skill at affordable costs, and lack of government policies or regulations which help businesses grow. Skill-related challenge was identified by more than 50% of the respondents.

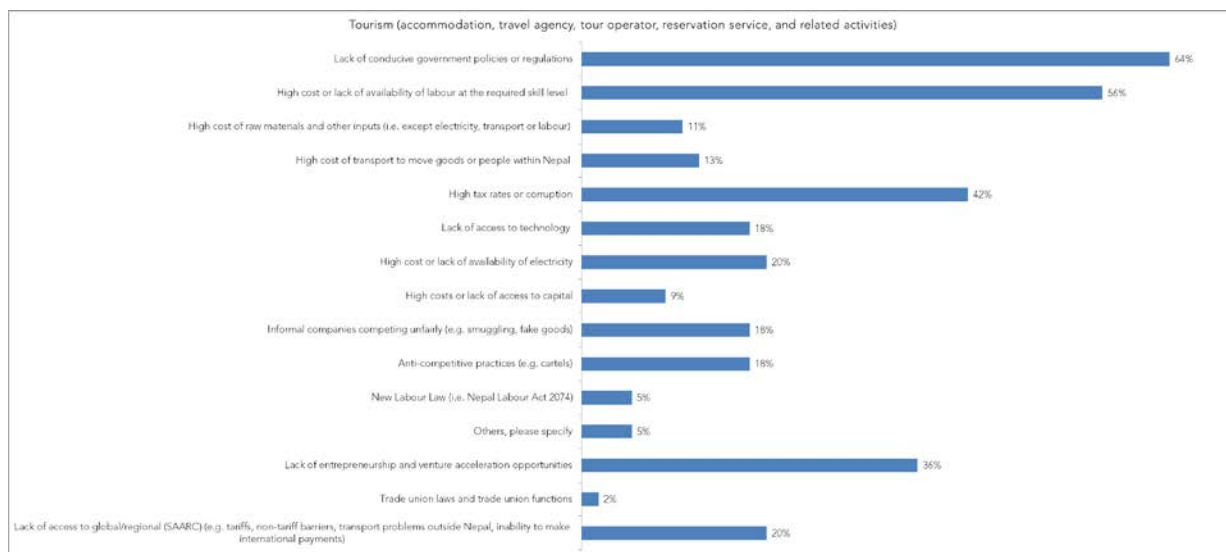


Figure-109: Distribution of responses on top challenges that hamper their company from achieving their growth targets, N=55

Source: शीप Firm Level Survey (2018)

## 5.2 Labour Profile of the Companies Interviewed

These 41 firms employed 2,815 employees – an average of 51 employees per firm. This number was approximately 2,644 employees in 2016 – i.e. an average growth rate of 3.2% over the last two years.

The breakdown by job categories of the total employees and by demographic segments is indicated in the figure below.

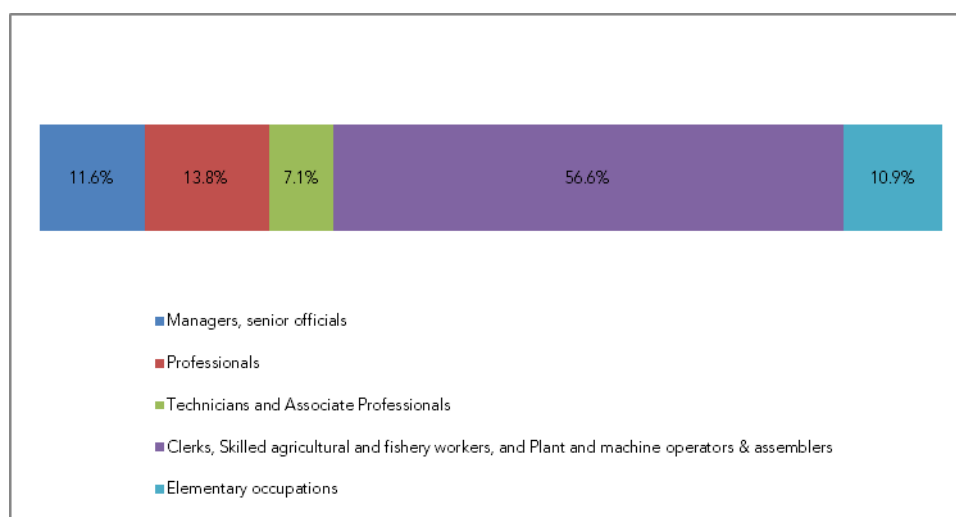


Figure-110: Distribution of employees by job categories, N=55

Source: शीप Firm Level Survey (2018)

In terms of demographic proportions, **98.7%** are Nepalese. The foreign employees were reported to be from India.

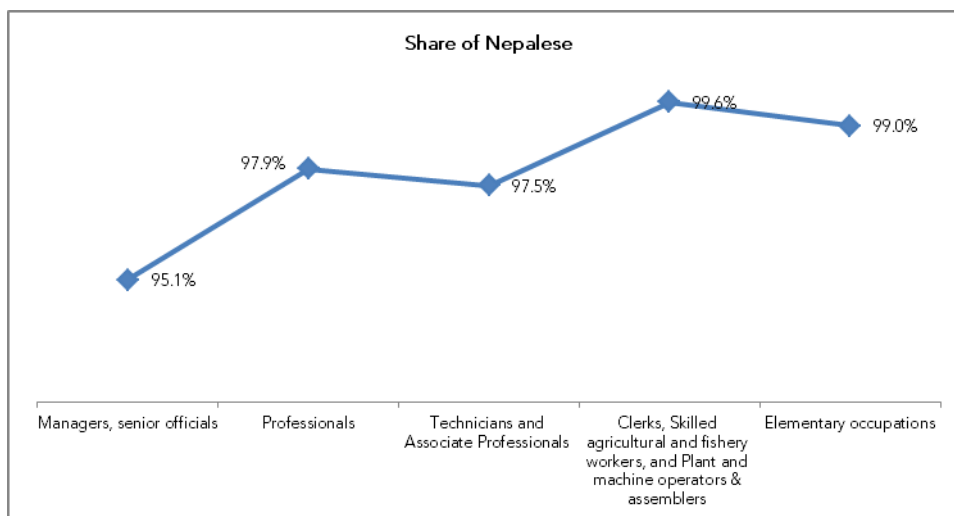


Figure-111: Share of Nepalese employees across job categories, N=55

Source: शीप Firm Level Survey (2018)

In terms of wage increases, 28% of the firms surveyed mentioned that their wages have not increased over the last two years. However, 52% of the companies mentioned that the wages have increased by over 5% over the same period.

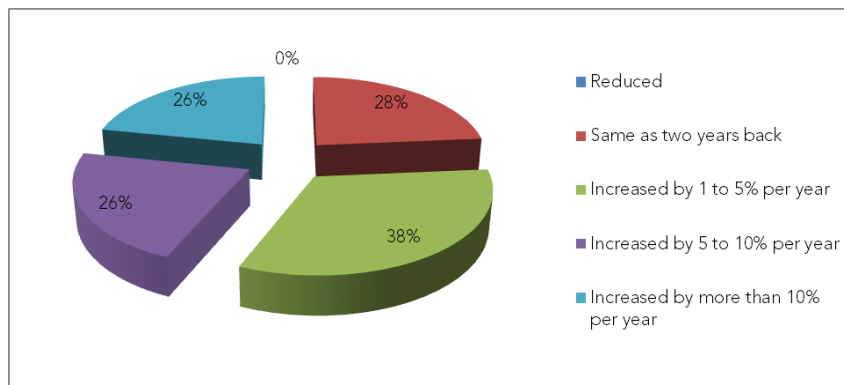


Figure-112: Wage Changes over the last two years, N=55

Source: शीप Firm Level Survey (2018)

The firms surveyed reported an average attrition rate of 6.2% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas.

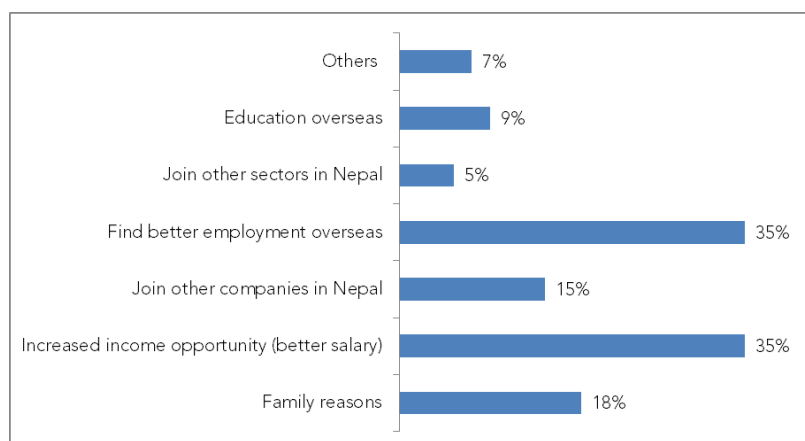


Figure-113: Reasons for Attrition of Employees, N=55

Source: सीप Firm Level Survey (2018)

According to the survey findings, the firms indicated that they will be increasing their total employment by approximately 9.5% per annum over the next four years. Only 26% of this increase will be to replace employees who leave the firms, while the remaining 74% will be to cater to higher expected demand for their products & services or to fill existing vacancies. Using this data, it is estimated that across Nepal, a total of 160,000 to 210,000 new jobs will be created in the Tourism sector (please refer to Annex 1). The breakdown of the increase is indicated in the figure below.

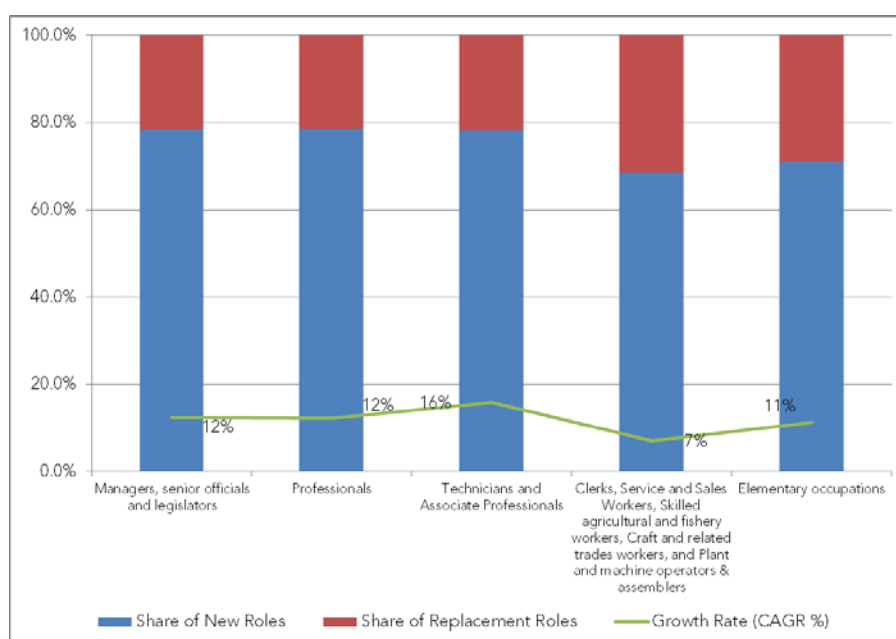


Figure-114: Expected increase in the share of number of employees over the next four years – Growth rates are per annum, N=55

Source: सीप Firm Level Survey (2018)

The respondents indicated the preferred educational qualification for the various job roles. For lower-level employees, the firms are looking for people with experience or government issued technical or vocational certificate.

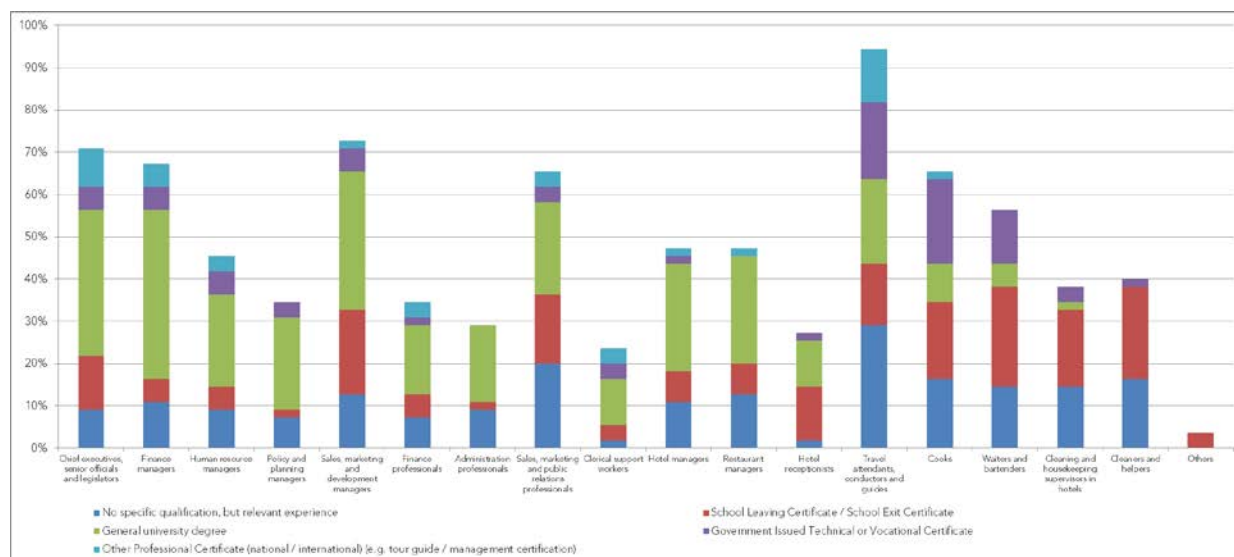


Figure-115: Expected educational qualifications for various job roles, N=55

Source: सौप Firm Level Survey (2018)

For lower level job roles, the respondents indicated difficulty in hiring. For example, for skilled travel attendants, conductors and guides, approximately 52% of the respondents mentioned that they had difficulty in hiring for this role. The figure below indicates the share of respondents who mentioned that they had difficulty in hiring for these roles – segmented into whether the difficulty is due to the lack of availability of people (i.e. not enough people available) or due to skill mismatch (i.e. not enough people with right skills are available).

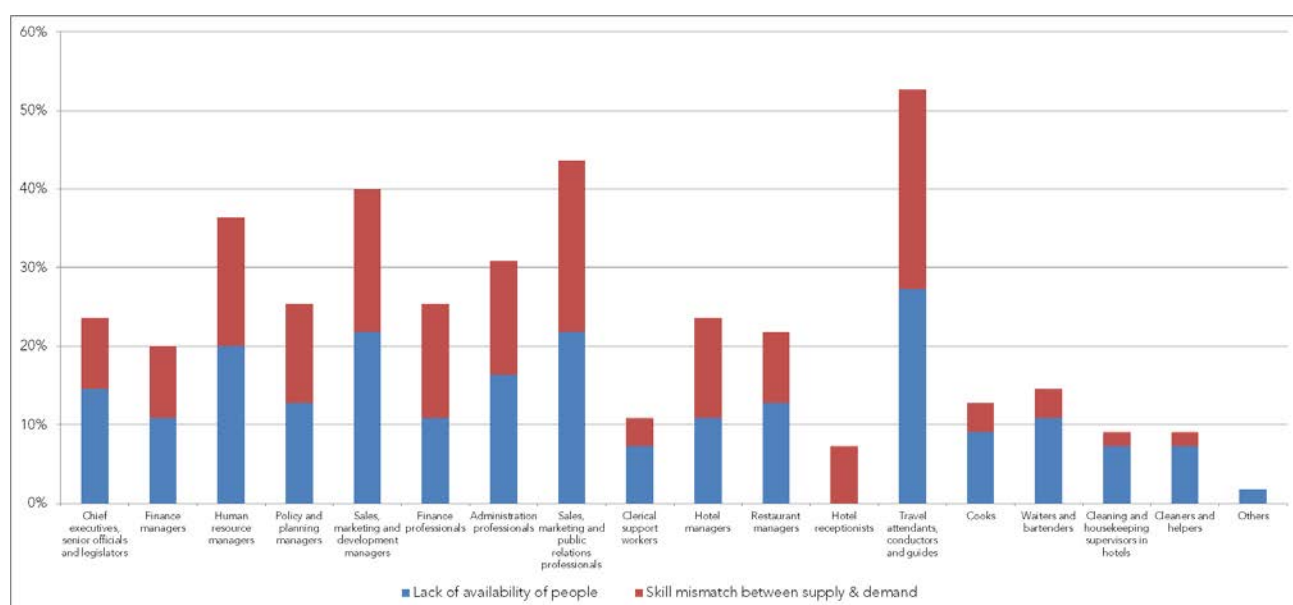


Figure-116: Difficulty in hiring for various job roles, N=55

Source: सीप Firm Level Survey (2018)

### 5.2.1 Labour Profile – Women, DAGs, and PwDs

#### Women

For these 55 firms, only **28.3%** of these employees are women. However, most of these employees are at junior levels.

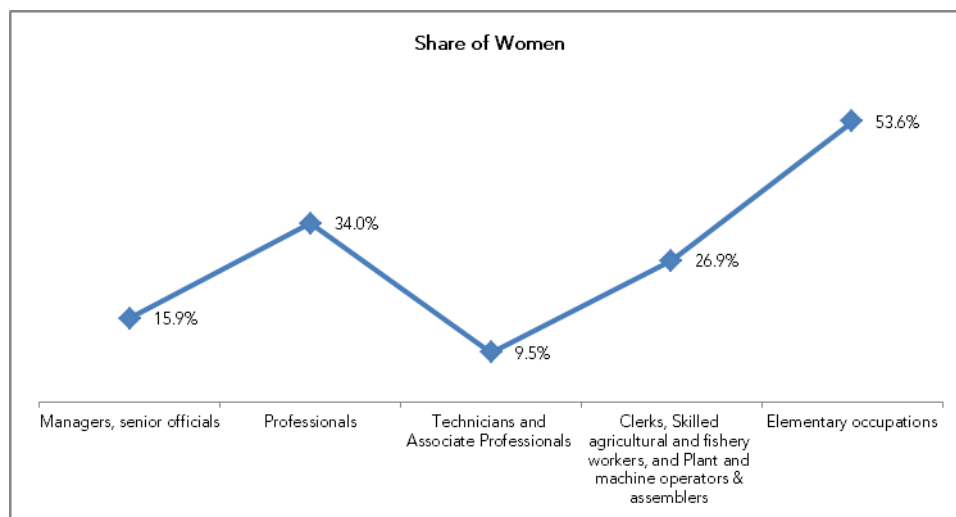


Figure-117: Share of women employees across job categories, N=55

The firms surveyed reported an average attrition rate of women employees to be 6.5% per annum. For women, the top reason for attrition was cited as family reasons.

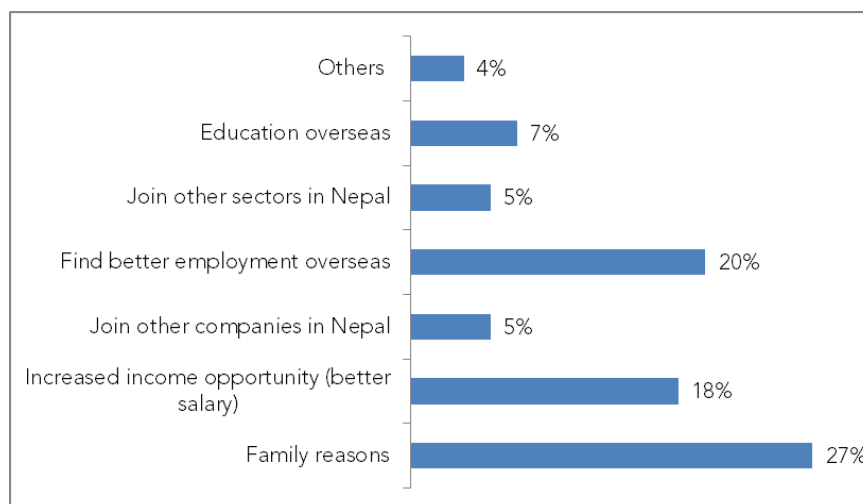


Figure-118: Reasons for Attrition of Women Employees, N=55

Source: सीप Firm Level Survey (2018)

The firms also indicated that certain job roles have a potential to increase women employment in that job role. The table below indicates the share of respondents who agree that women employment can be increased in the respective job roles – e.g. 33% of the respondents agree that more women can be Hotel managers and 24% agreed that women employment has a potential as housekeeping supervisors and finance managers.

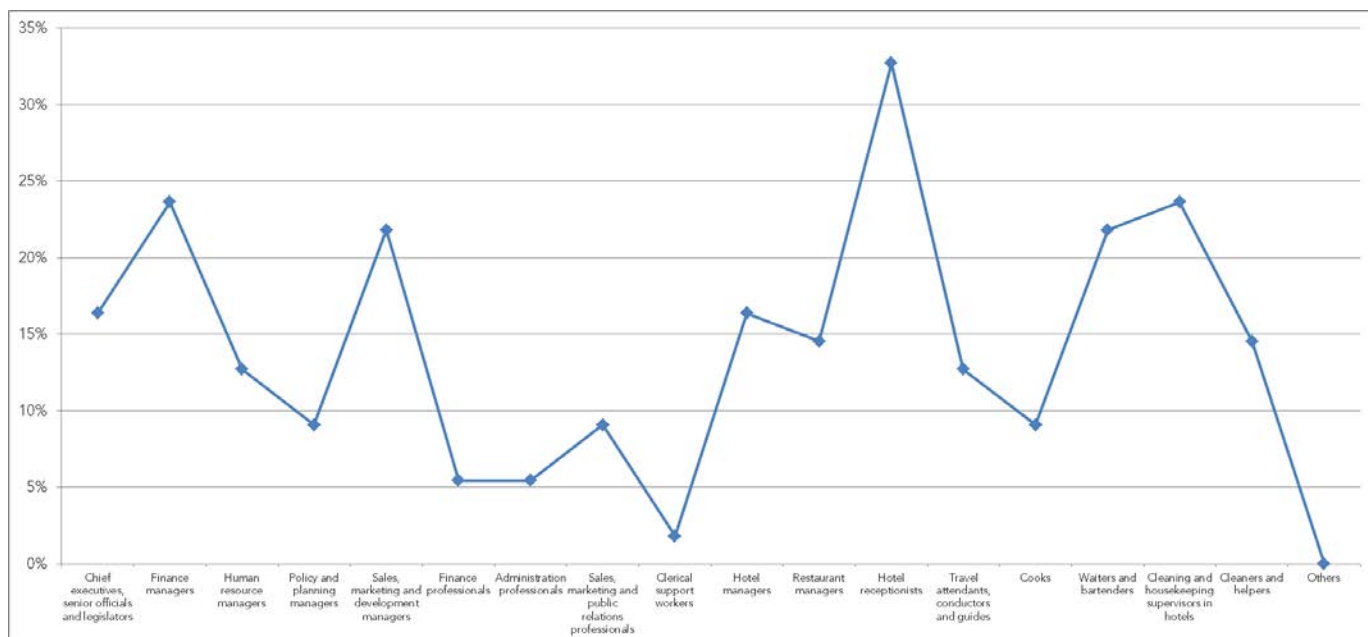


Figure-119: Share of respondents who agree there is a potential for women employment in the job role, N=55

Source: सीप Firm Level Survey (2018)

### PwDs

Out of the total current employment across these 55 firms, only 0.5% of the employees are People with Disabilities (PwDs). Close to 38% of the PwDs which these firms have hired are motor-impaired, while 23% of the PwDs in these firms are speech-impaired. The reason for small numbers is attributed to several reasons such as labour-intensive nature of the work, or lack of pool of such people.

The firms expect to increase the number of PwDs in their workforce by 4x over the next four years, to increase the share of PwDs is expected to be 4.4% of the total employment pool. The biggest jump in absolute terms is expected to be for people who have impaired motor function, speech or hearing.

### DAGs

Out of the total current employment across these 55 firms, 38.2% of the employees are Disadvantaged Groups (DAGs). Close to 47% of the DAGs which these firms have hired are relatively disadvantaged *janjatis*, while another 31% disadvantaged *janjatis*.

The firms also expect that over the next four years, 43% of the new employees will be from the disadvantaged groups, primarily relatively disadvantaged *janjatis*. While most firms mentioned that they do not discriminate on the basis of caste or religion, they cited lack of such candidates with right skills as a reason for not hiring even more people from DAGs.

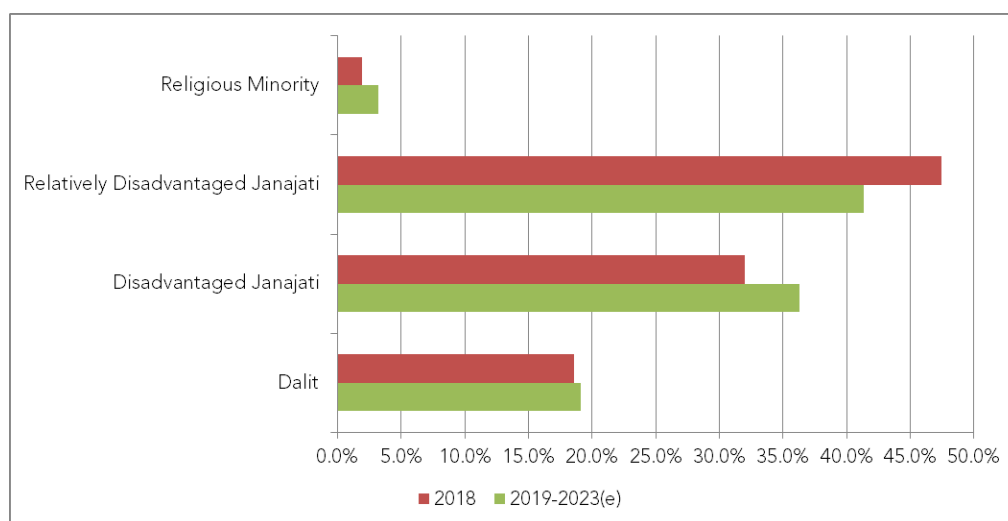


Figure-120: Share of DAGs in the labour force (2018) and (2019-2023e), N=55

Source: सीप Firm Level Survey (2018)

## 5.3 Perception and Attitude towards Skill Development

Across the companies, all of the skill categories were deemed to be of medium or high importance for their employees – at least 65% of the respondents rated all skills to be medium or high on importance.

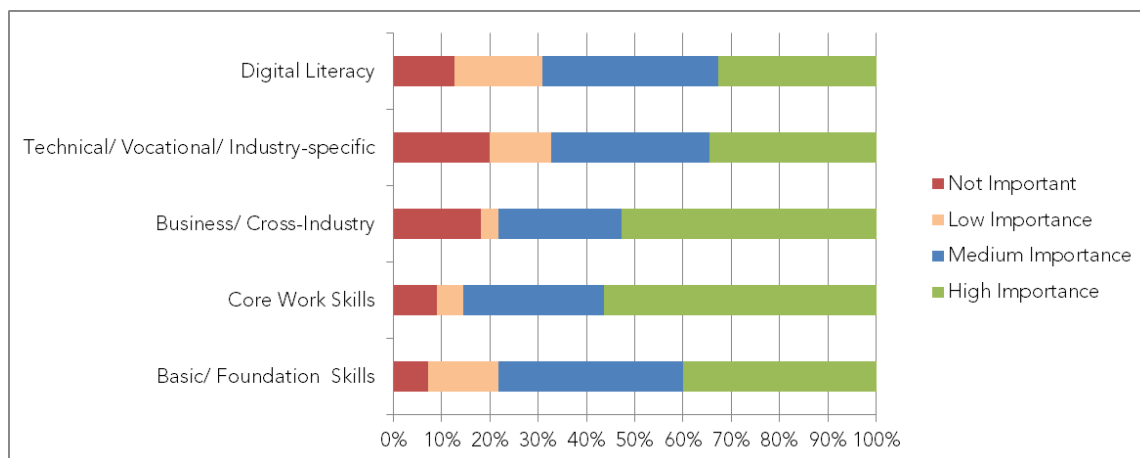


Figure-121: Importance of Skill Categories (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

The firms also believe that their existing employees do not have significant skill gaps – only Basic/Foundation skills (i.e. including the literacy and numeracy skills necessary for getting work that can pay enough to meet daily needs. These skills are also a prerequisite for continuing in education and training, and for acquiring transferable and technical and vocational skills that enhance the prospect of getting good jobs) and Core Work skills (i.e. the ability to learn and adapt; read, write and compute competently; listen and communicate effectively; think creatively; solve problems independently; manage oneself at work; interact with co-workers; work in teams or groups; handle basic technology, lead effectively as well as follow supervision) were cited by over 40% of the respondents as skills where they had gaps. Typical examples of skills gaps that were highlighted by the respondents included lack of communication skills and lack of guest relationship management.

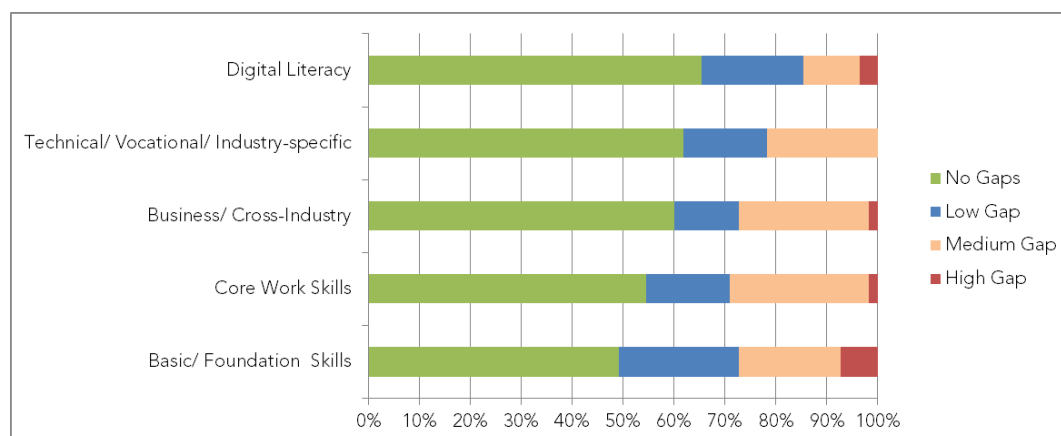


Figure-122: Skill gaps across Skill Categories (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

The companies cited lack of skills among fresh graduates and unavailability of skilled talent for their companies as top two challenges in finding and building skilled workforce.



Figure-123: Challenges to finding & building a skilled workforce (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

Most respondents preferred referrals to hire staff. This might limit their access to skilled talent outside their network.

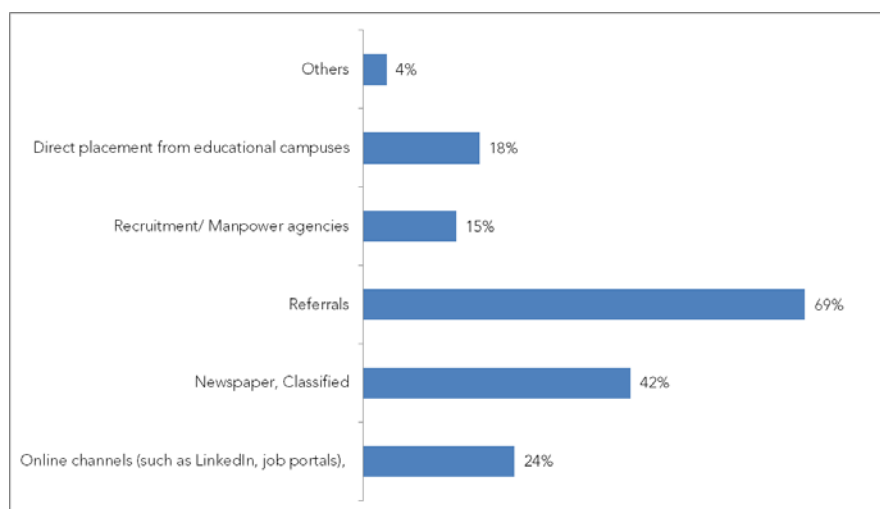


Figure-124: Sources to hire talent (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

On-the-job experience was the most common skill development model used by the firms surveyed. A significant proportion also used in-house training, and mentorship programmes. Most of the skill development models were found to be impactful by the respondents.

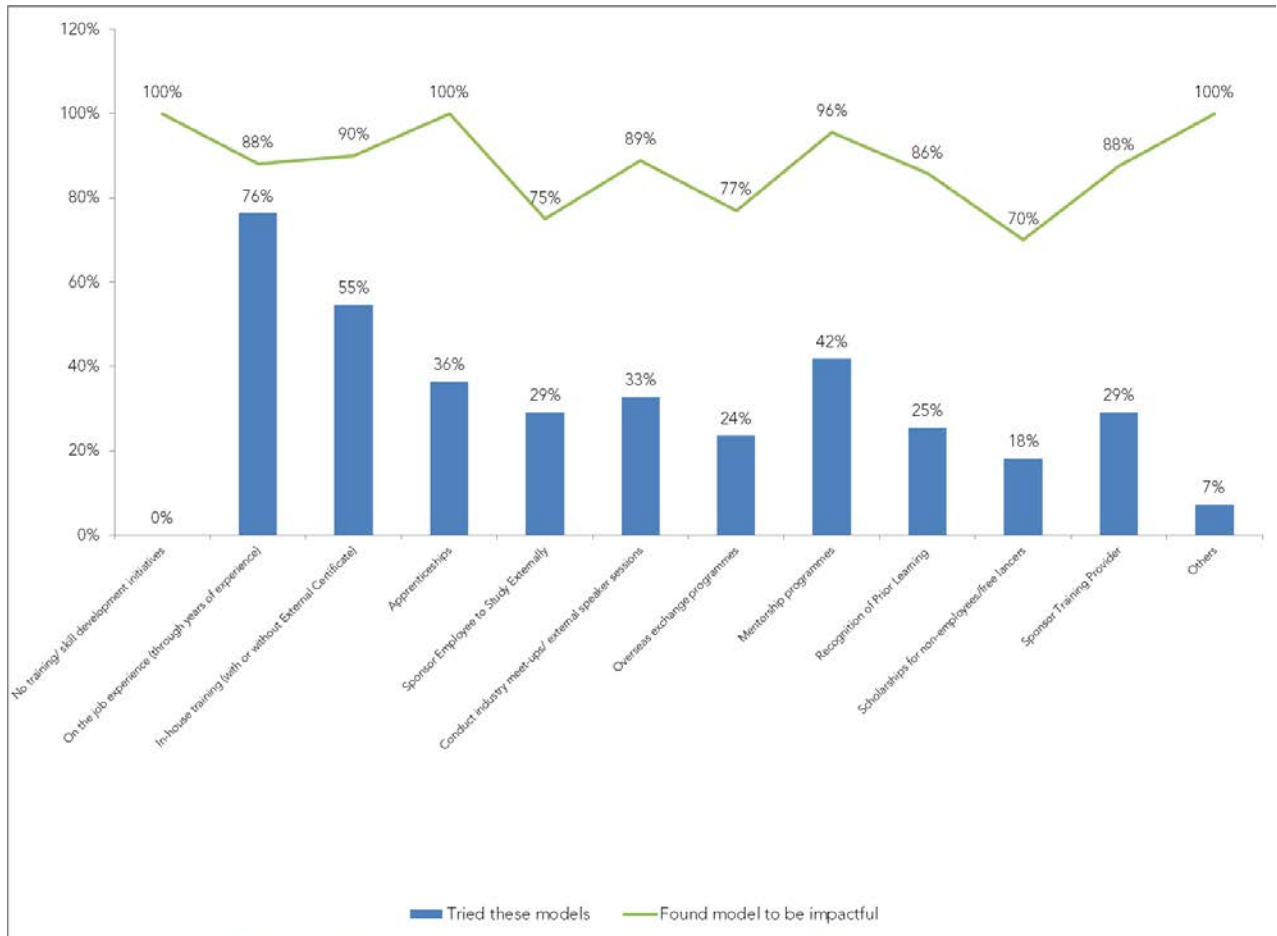


Figure-125: Skill Development models used by the firms surveyed (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

While 27% of the firms mentioned that they are willing to send their existing staff to training which is of less than one week in duration, 16% mentioned that they are unwilling to send their staff for any training. Reasons cited for this was the loss of productivity that the absence of staff will create.

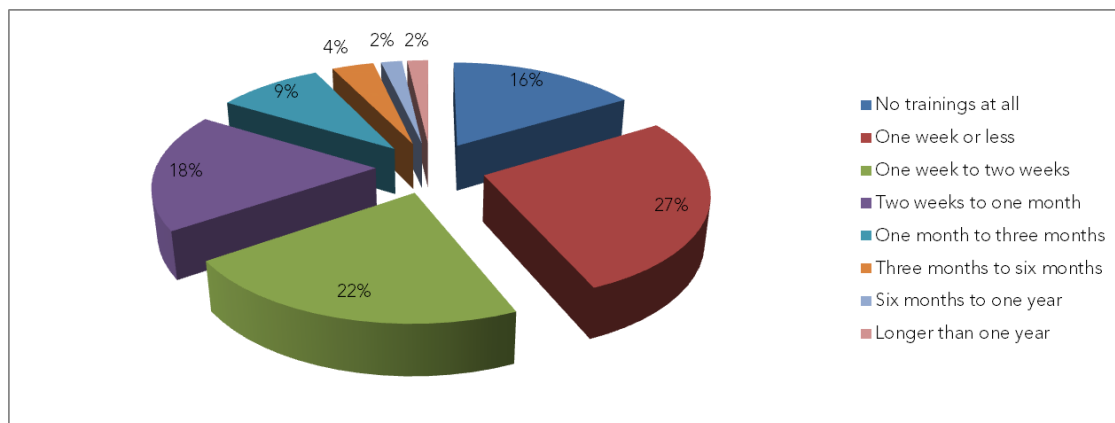


Figure-126: Preference of the duration of the skill development training (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

In terms of spending on skill development, 38% of the firms surveyed did not spend anything while 44% spent between 1 and 2% of their revenues on skill development.

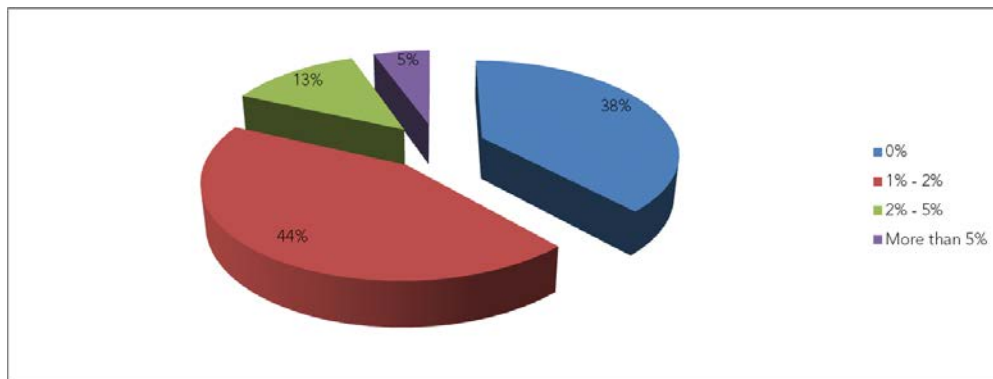


Figure-127: Spending on the skill development training as %age of revenue (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

While most respondents agreed that skilled employees earn better wages, have faster career progression, and are easier to retain.

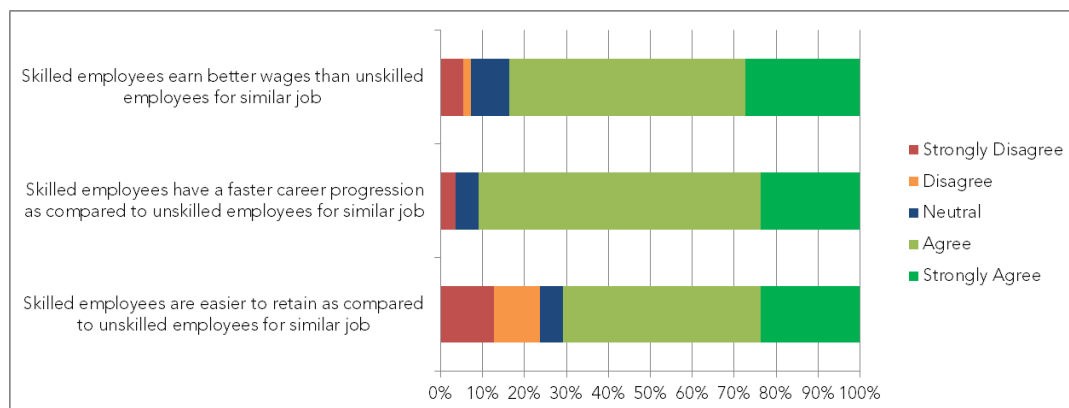


Figure-128: Perception towards skilled employees (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

The firms indicated that they would invest more in developing the skills of your employees if they see a reduced risk of staff leaving after the training and if they see a stronger evidence of the benefit to company's profitability/ performance.

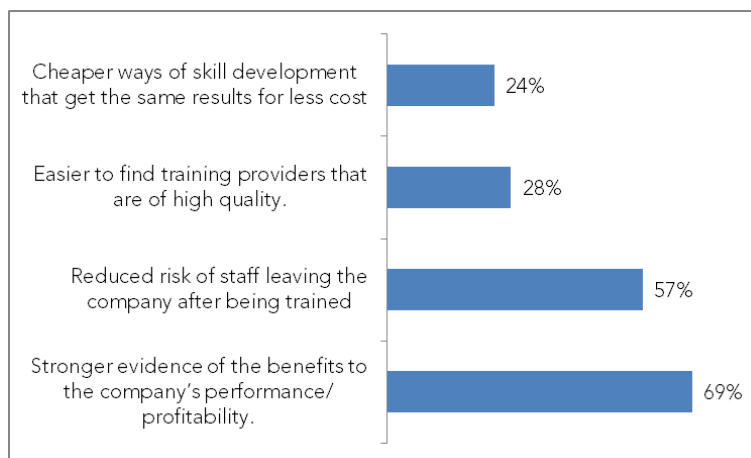


Figure-129: What would make their company invest more in developing the skills of their employees (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

With the new labour law (Nepal Labour Act 2074), the firms did not expect their skill development investment to reduce. However, a significant proportion sees the impact on their recruitment strategies and a need to hire more “stable” skilled labour.



Figure-130: Impact of new labour law (Nepal Labour Act 2074) on workforce strategies (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

#### 5.4 Potential Collaboration with DFID सीप

The survey also tried to understand potential plans of the respondent firms towards skill development.

While most companies plan to continue the existing programmes, a significant proportion also wanted to develop new programmes or to scale up the existing programmes. This is expected given the perceived efficacy of the programmes deployed by the firms.

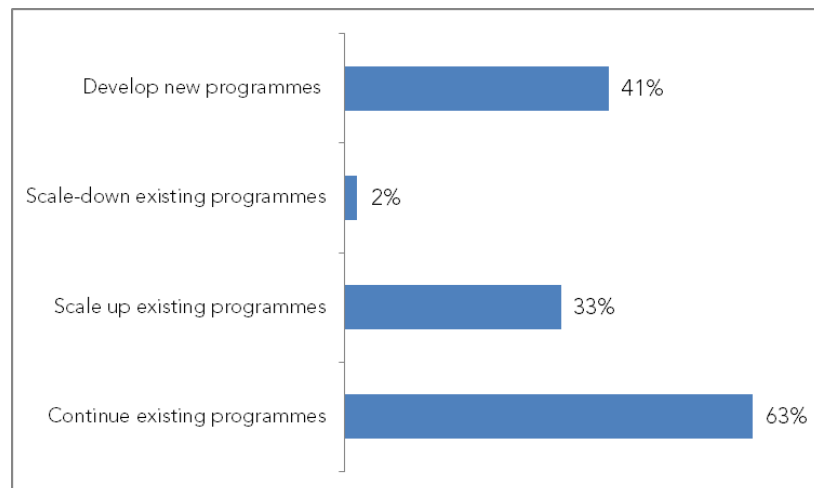


Figure-131: Future plans to develop/invest in skills of staff over the next four years (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

While on-the-job experience remains a favourite of the firms, skill development models such as in-house training and pre-employment work readiness training seem to have significant preference among the respondents.

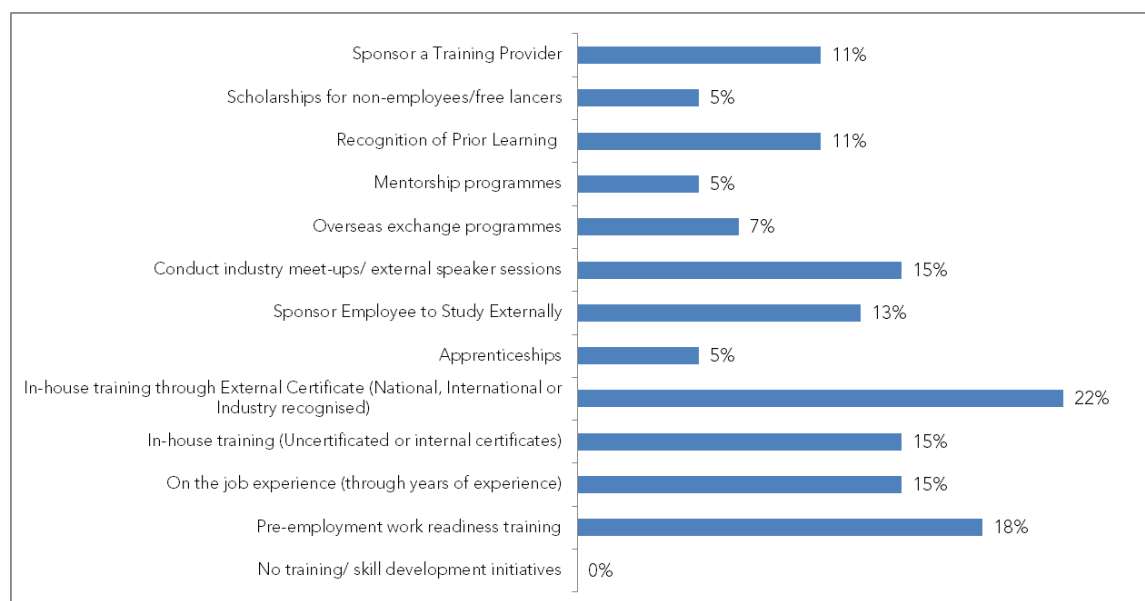


Figure-132: Preferred skill development models over the next four years (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

The firms indicated that they needed support for pre-employment trainings – close to 65% of the respondents mentioned these. Another 40% of the respondents mentioned that they needed support in upskilling the existing workers and in providing managerial skills training for senior and middle management.

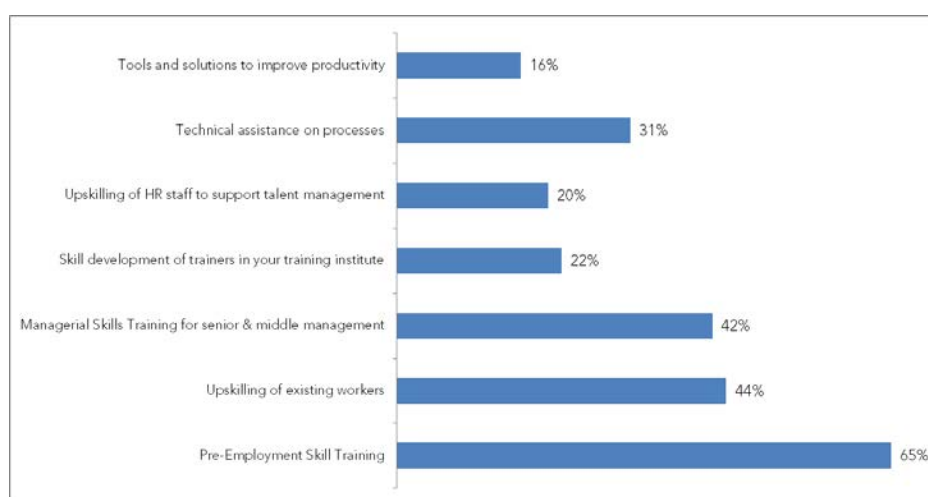


Figure-133: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

The firms also indicated that financial and technical support will be the best modality of any possible skill development partnerships for them.

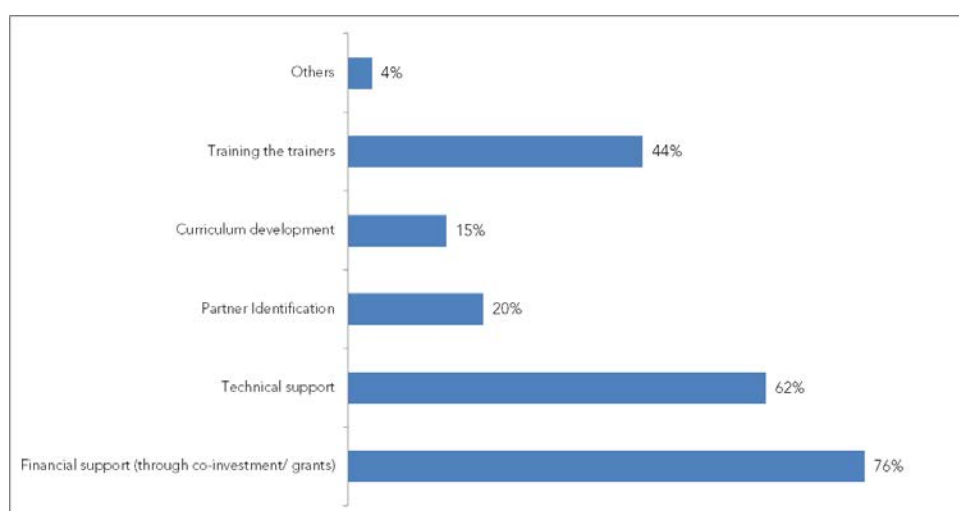


Figure-134: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=55

Source: सीप Firm Level Survey (2018)

## 6. Profile of Info-communication & Telecommunication Sector in Nepal

All secondary literature pertaining to the ICT sector in Nepal agree that although the sector is currently small. It is undoubtedly growing, and with the increased role and significance of ICT industry and services (including telecom services) and value addition in ICT, the contribution of the sector is expected at 7.5% of gross domestic product (GDP) by 2020, as per the 'National ICT Policy 2015'. However, the government currently has no official record of how much ICT sector has been historically contributing to the GDP (Times, 2015).

Some of the key findings from the survey include:

- Out of the firms surveyed, 23% are currently exporting overseas (average of approximately 13% of revenue from exports) while 55% mentioned that they have no intention of exporting overseas.
- Skill-related challenge was identified by 66% of the respondents.
- The firms surveyed reported an average attrition rate of 6.3% per annum, while the average attrition rate of women employees to be 8.6% per annum.
- The firms indicated that they will be increasing their total employment by approximately 28.4% per annum over the next four years.
- 17.5% of these employees are women, only 0.5% of the employees are People with Disabilities (PwDs), and 26.6% of the employees are from Disadvantaged Groups (DAGs)
- Typical examples of skills gaps that were highlighted by the respondents included lack of project management skills, lack of practical knowledge, and lack of marketing/ business development.
- On-the-job experience along with in-house training seems to have significant preference among the respondents.
- The firms indicated that they needed support for pre –employment and continuous-employment trainings – close to 50% of the respondents mentioned this. Another 55% of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

Profile of the Firms	Labour Profile	Social Inclusion	Skill Development
47 firms interviewed	48 Average employees per firm	74.3% Share of Nepalese employees	66% believe skill is a limiting factor for growth
23% of the firms export	75% Mentioned wages have grown in last 2 years	17.5% Share of Women employees	Preferred Models In-house training (30%), OTJ experience (26%), Mentorship (19%)
5.4% Average annual growth in revenue (historic)	6.3% Annual Attrition in workforce	26.6% Share of DAG employees	Job Roles Project management and Technical roles (Software developers, networking professionals, project managers)
8.9% Expected annual growth in revenue future	28.4% Expected annual growth in workforce size	0.5% Share of PwD employees	

Figure-135: Summary of the results for ICT, N=47

Source: सीप Firm Level Survey (2018)

## 6.1 Profile of Companies Interviewed

A total of 47 companies in the sector were interviewed across Nepal. A detailed list of stakeholders interviewed is provided in Annex 2.

The distribution of the companies by size is indicated in the figure below.

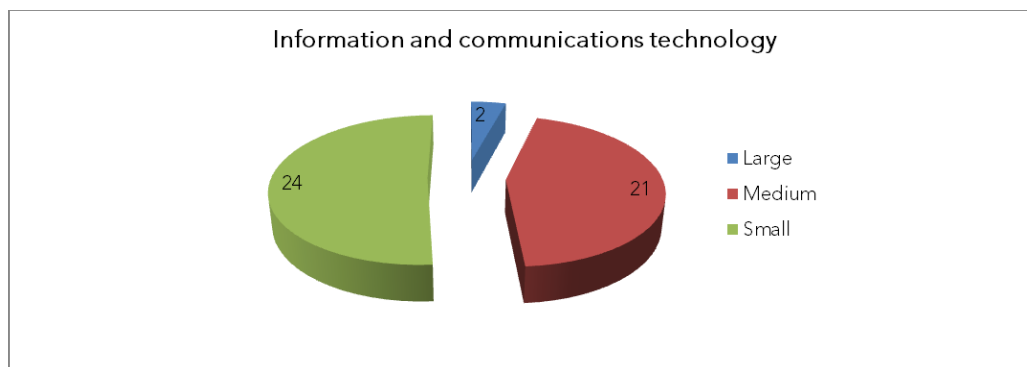


Figure-136: Distribution of firms surveyed by size, N=47

Source: सीप Firm Level Survey (2018)

Geographically, they are well-distributed across various Provinces of Nepal. However, a majority of them have presence in Province 3. The figure below indicates the number of surveyed firms with offices in the major cities (multiple options). Others included cities such as Pokhara and Butwal, among others.



Figure-137: Distribution of firms surveyed by geographical presence, N=47

Source: सीप Firm Level Survey (2018)

Out of the firms surveyed, 23% are currently exporting overseas (average of approximately 13% of revenue from exports) while 55% mentioned that they have no intention of exporting overseas. Out of the firms which export, the export destinations included India, Australia, and the USA, among others. For the companies which do not export currently, but intend to export over the next 2-4 years, the popular destinations are South Asian countries (India, Bangladesh), China, and the USA.

Among the companies which have no intention of exports, some of the reasons mentioned include sufficiency of domestic market, and too early in their development cycle.

Out of the 47 firms surveyed, 4 described themselves as a Multi-national company (MNC) and only two mentioned they have equity investment from outside Nepal. Only 7 firms mentioned that they import raw material from overseas. This shows there is limited international exposure for the Nepalese ICT sector.

In terms of growth of revenue over the last two years (2016-2018), 56% of the firms surveyed mentioned that they have experienced a growth of over 5% per annum. However, the firms were bullish about their future prospects with 2/3<sup>rd</sup> of the firms surveyed mentioned they expected a growth of more than 10% per annum over the next four years (2019-2023).

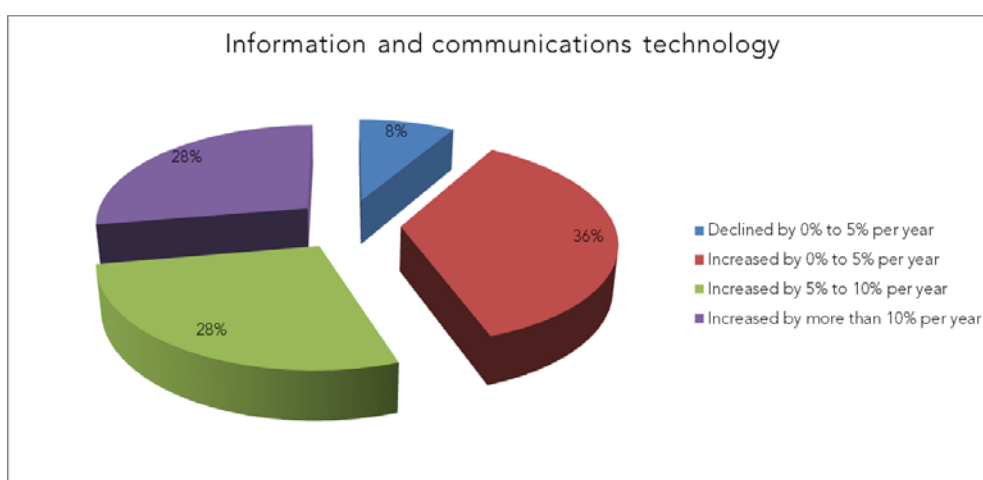


Figure-138: Distribution of firms surveyed by revenue growth in last two years, N=47

Source: सीप Firm Level Survey (2018)

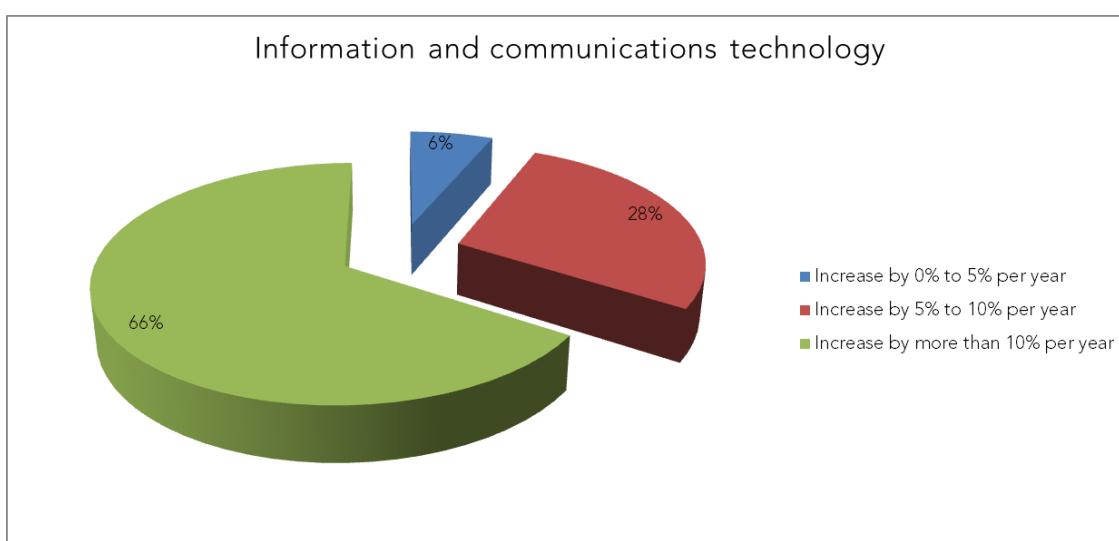


Figure-139: Distribution of firms surveyed by expected revenue growth in next four years, N=47

Source: सीप Firm Level Survey (2018)

Over the same period (2016-2018), 63% of the firms surveyed mentioned that they have experienced a workforce growth of less than 5% per annum – 8% have seen a decline in the workforce numbers during this period. However, 60% of the firms mentioned that they expect their workforce increasing by over 10% during the next four years.

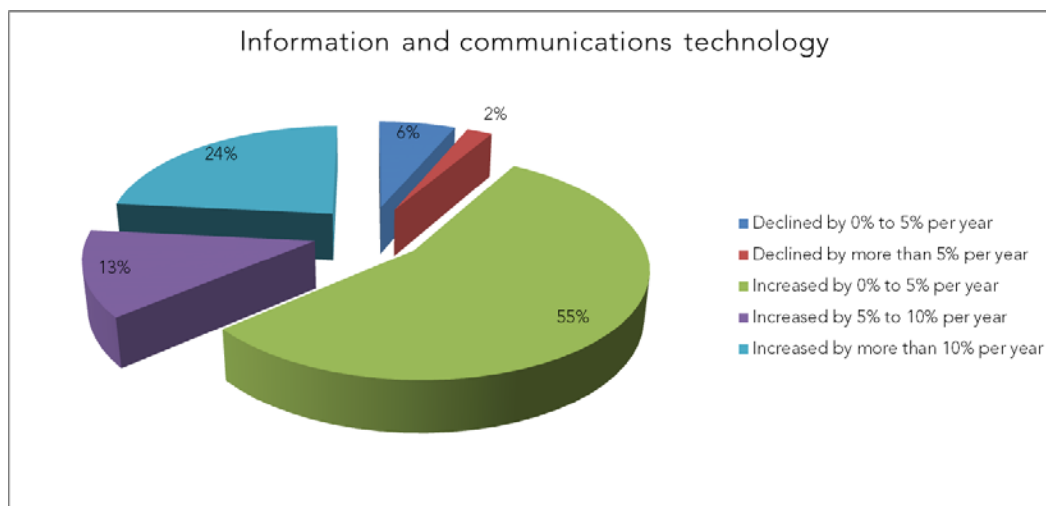


Figure-140: Distribution of firms surveyed by workforce growth in last two years, N=47

Source: सीप Firm Level Survey (2018)

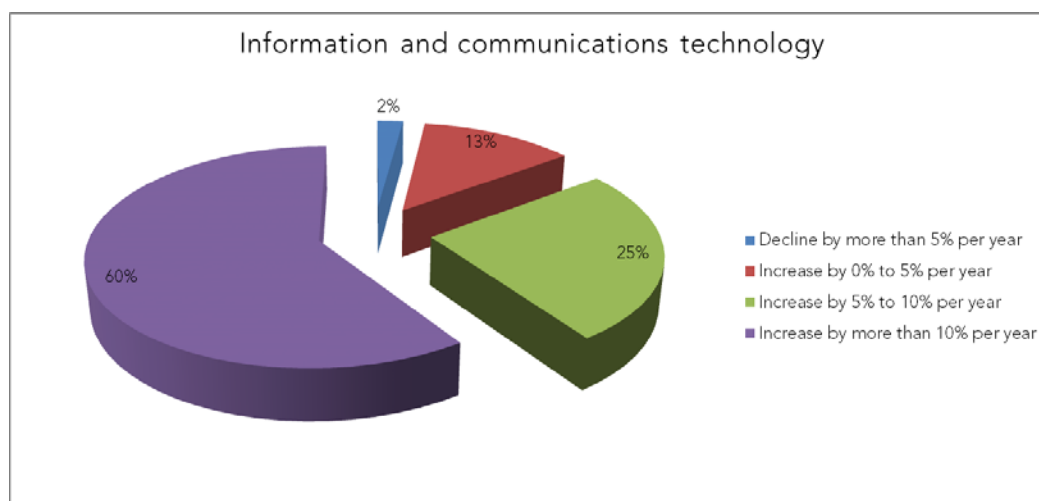


Figure-141: Distribution of firms surveyed by expected workforce growth in next four years, N=47

Source: सीप Firm Level Survey (2018)

The firms surveyed indicated that their top challenges to achieve their growth targets include lack of government policies or regulations which help businesses grow, high cost or lack of availability of labour at required skill level, and high tax rates & corruption. Skill-related challenge was identified by more than 60% of the respondents.

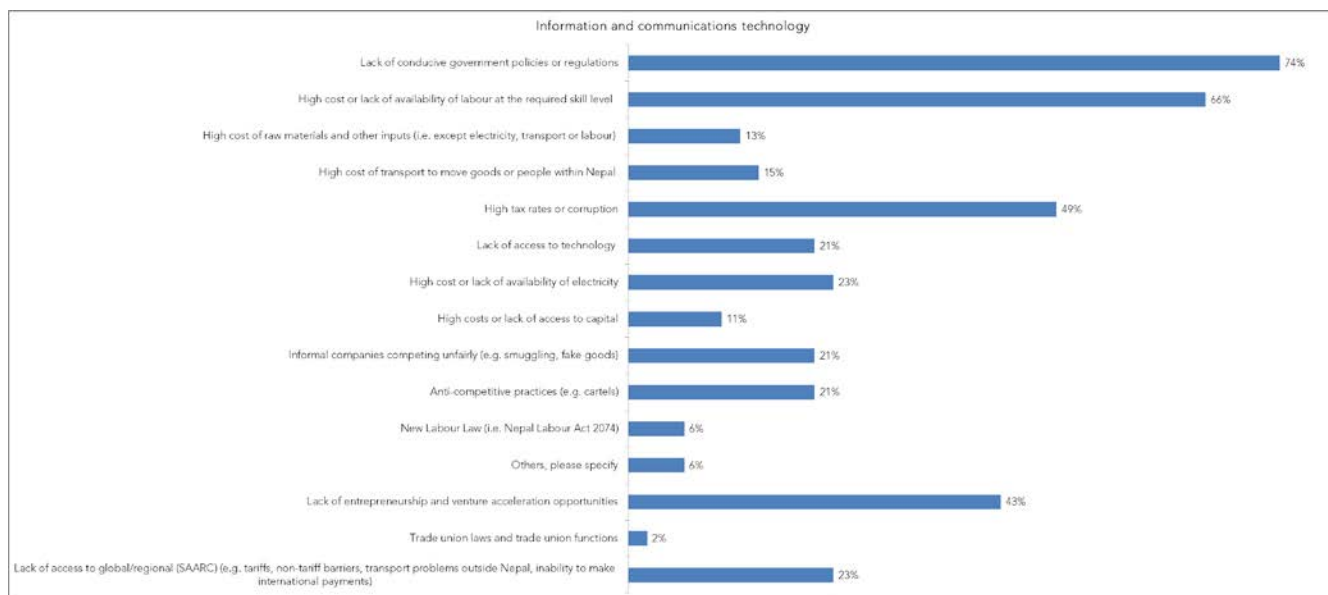


Figure-142: Distribution of responses on top challenges that hamper their company from achieving their growth targets, N=47

Source: सीप Firm Level Survey (2018)

## 6.2 Labour Profile of the Companies Interviewed

These 47 firms employed 2,261 employees – an average of 48 employees per firm. This number was approximately 2,079 employees in 2016 – i.e. an average growth of 4.3% over the last two years.

The breakdown by job categories of the total employees and by demographic segments is indicated in the figure below.

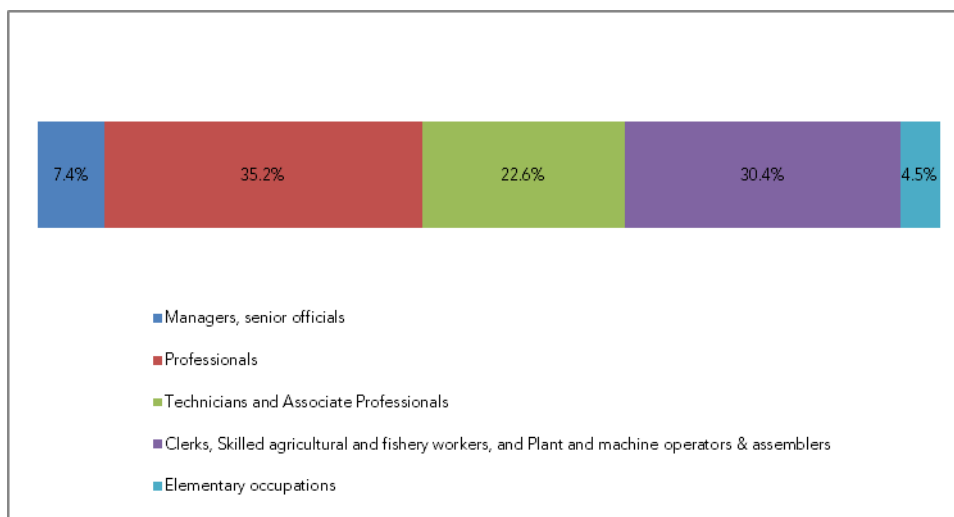


Figure-143: Distribution of employees by job categories, N=47

Source: सीप Firm Level Survey (2018)

In terms of demographic proportions, **74.3%** are Nepalese. The foreign employees were reported to be from India and the Netherlands.

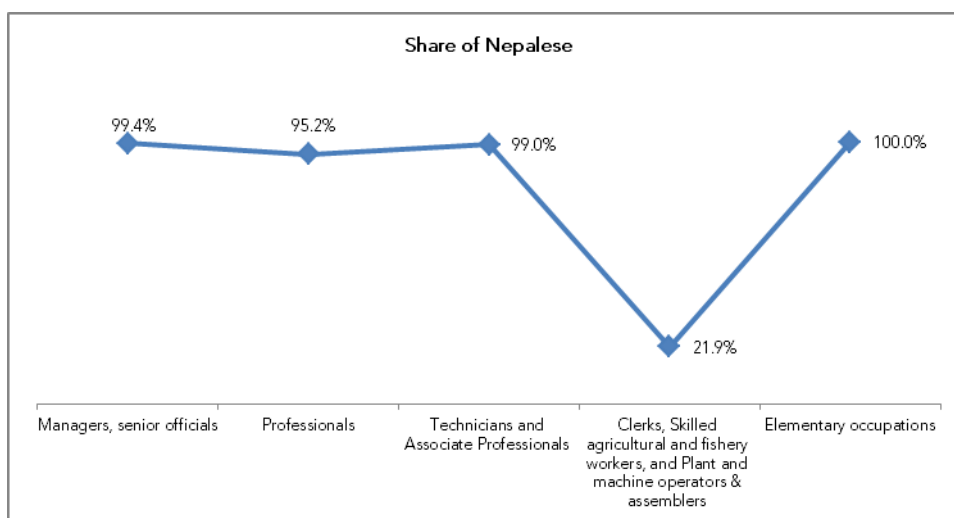


Figure-144: Share of Nepalese employees across job categories, N=47

Source: सीप Firm Level Survey (2018)

In terms of wage increases, only 21% of the firms surveyed mentioned that their wages have not increased over the last two years. 45% of the companies mentioned that the wages have increased by over 5% over the same period.

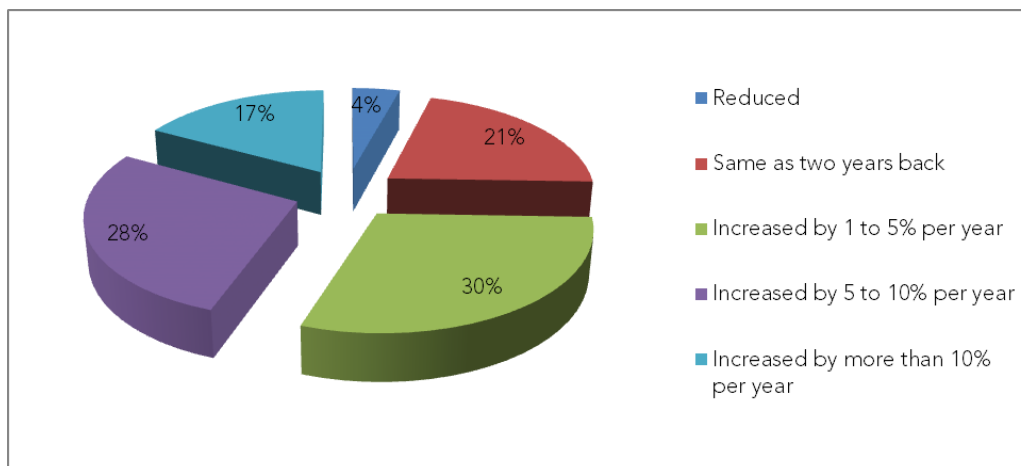


Figure-145: Wage Changes over the last two years, N=47

Source: सीप Firm Level Survey (2018)

The firms surveyed reported an average attrition rate of 6.3% per annum. The top reasons mentioned for overall attrition were finding an opportunity with higher income or finding better employment overseas.

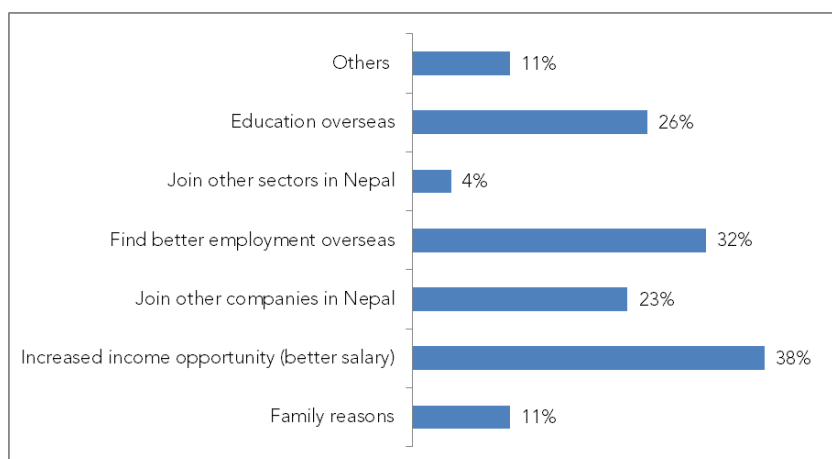


Figure-146: Reasons for Attrition of Employees, N=47

Source: सीप Firm Level Survey (2018)

According to the survey findings, the firms indicated that they will be increasing their total employment by approximately 28.4% per annum over the next four years. 46% of this increase will be to replace employees who leave the firms, while the remaining 54% will be to cater to higher expected demand for their products & services or to fill existing vacancies. Using this data, it is estimated that across Nepal, a total of 21,000 to 26,000 new jobs will be created in the ICT sector (please refer to Annex 1). The breakdown of the increase is indicated in the figure below.

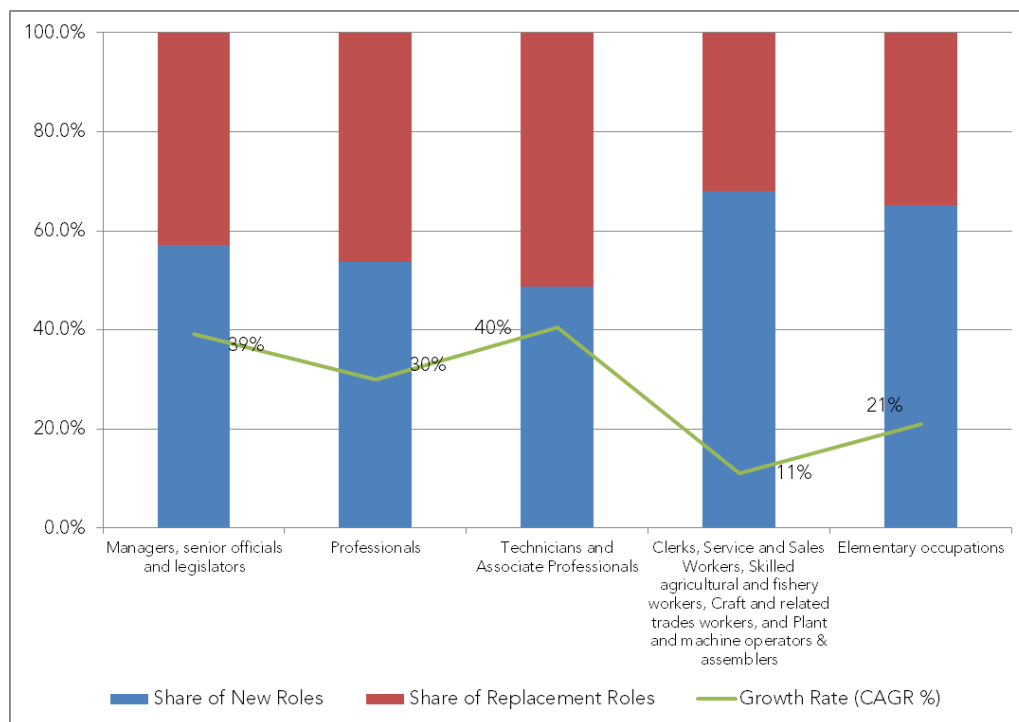


Figure-147: Expected increase in the share of number of employees over the next four years – Growth rates are per annum, N=47

Source: सीप Firm Level Survey (2018)

The respondents indicated the preferred educational qualification for the various job roles. For lower-level employees, the firms are looking for people with experience and with university degree.

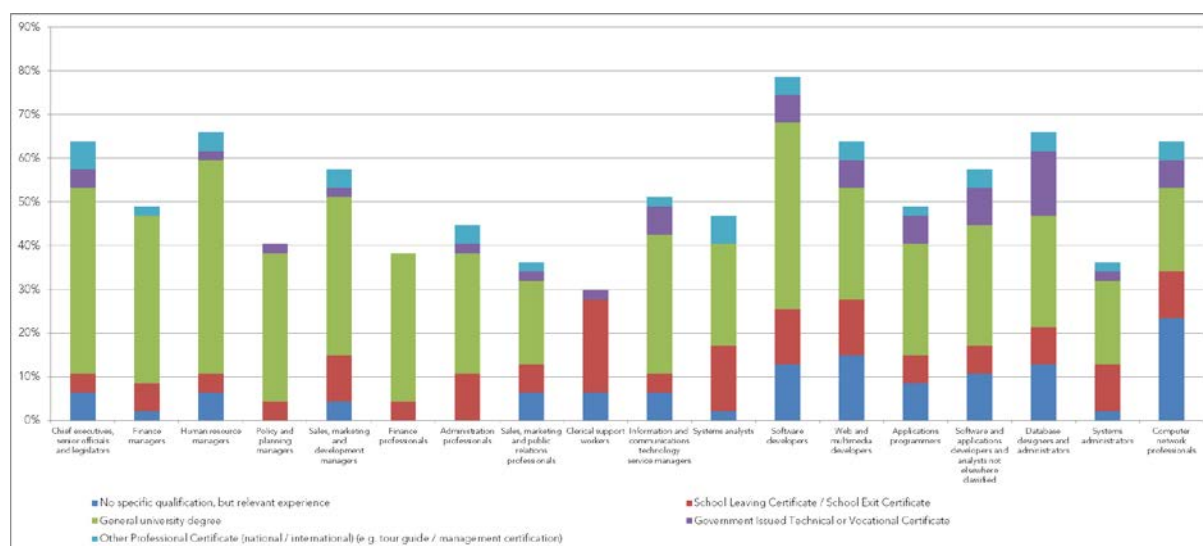


Figure-148: Expected educational qualifications for various job roles, N=47

Source: सीप Firm Level Survey (2018)

For lower level job roles, the respondents indicated difficulty in hiring. For example, for software developers, approximately 68% of the respondents mentioned that they had difficulty in hiring for this

role, while for web & media developers 40% of the respondents indicated difficulty in finding candidates for this role. The figure below indicates the share of respondents who mentioned that they had difficulty in hiring for these roles – segmented into whether the difficulty is due to the lack of availability of people (i.e. not enough people available) or due to skill mismatch (i.e. not enough people with right skills are available).

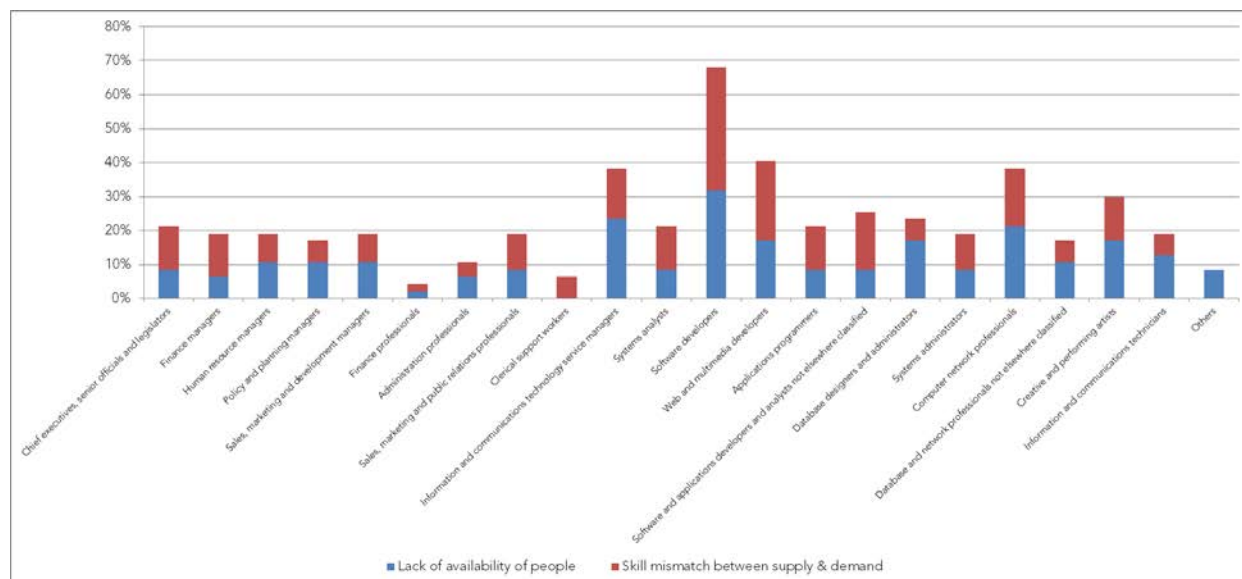


Figure-149: Difficulty in hiring for various job roles, N=47

Source: सीप Firm Level Survey (2018)

### 6.2.1 Labour Profile – Women, DAGs, and PwDs

#### Women

For these 47 firms, only **17.5%** of these employees are women.

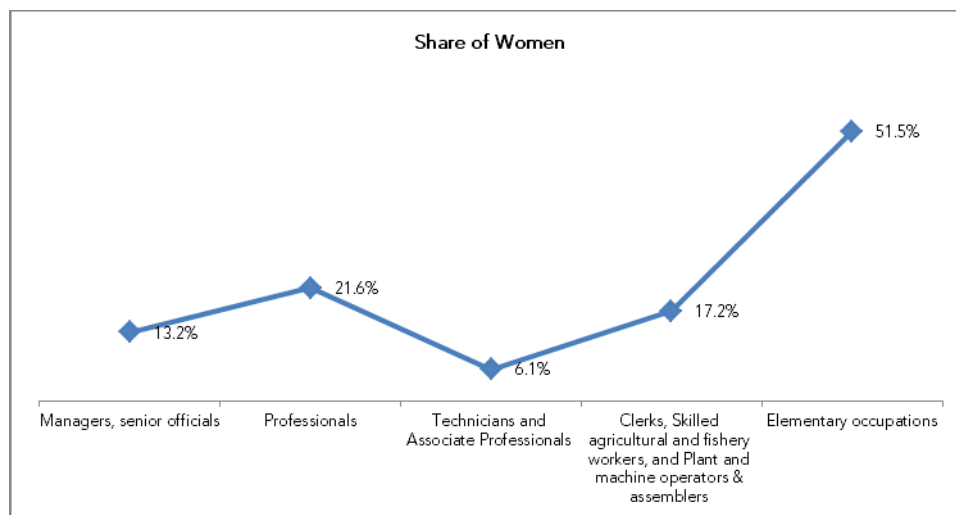


Figure-150: Share of women employees across job categories, N=47

The firms surveyed reported an average attrition rate of women employees to be 8.6% per annum. For women, the top reason for attrition was cited as family reasons.

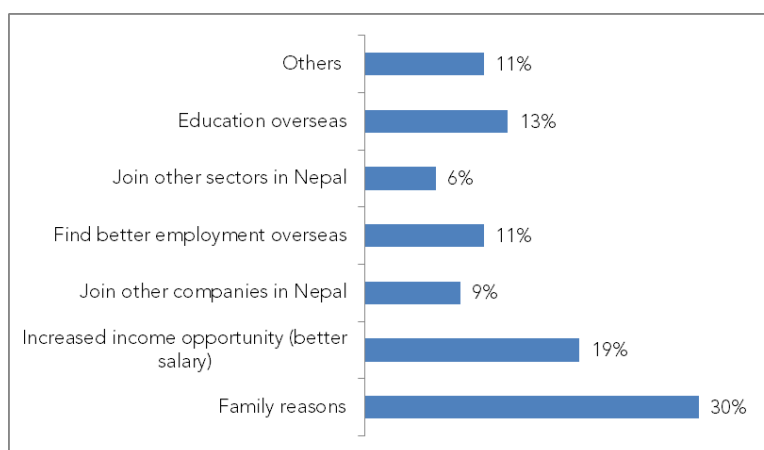


Figure-151: Reasons for Attrition of Women Employees, N=47

Source: सीप Firm Level Survey (2018)

The firms also indicated that certain job roles have a potential to increase women employment in that job role. The table below indicates the share of respondents who agree that women employment can be increased in the respective job roles – e.g. 34% of the respondents agree that more women can be Sales, marketing and public relations managers, while for technical roles the proportion was under 15%.

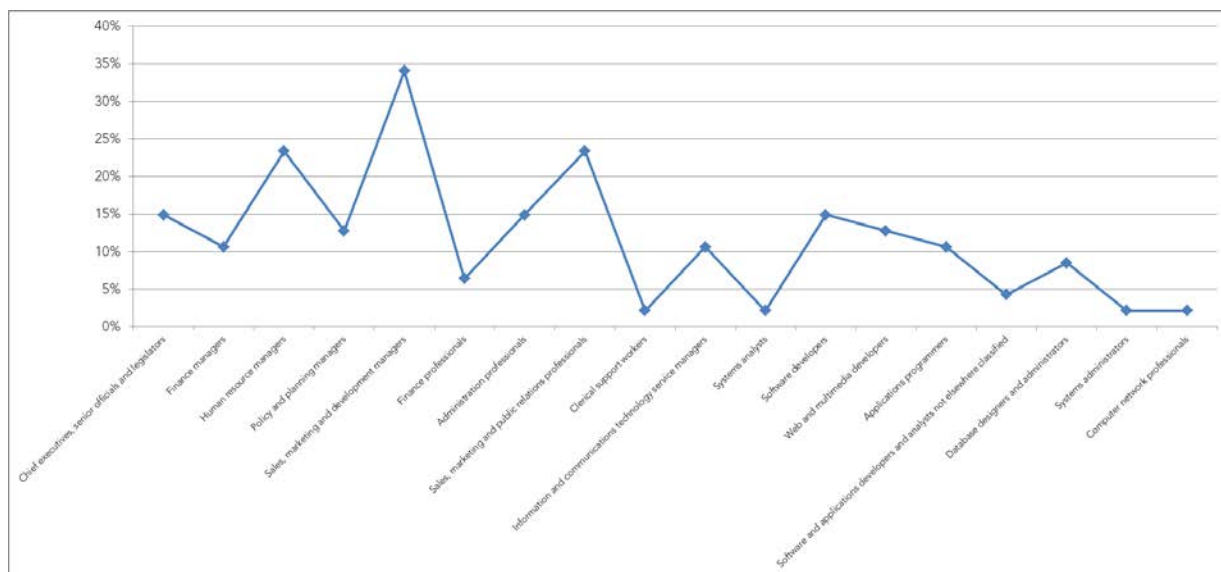


Figure-152: Share of respondents who agree there is a potential for women employment in the job role, N=47

Source: सौच Firm Level Survey (2018)

### PwDs

Out of the total current employment across these 47 firms, only 0.5% of the employees are People with Disabilities (PwDs). Close to 81% of the PwDs which these firms have hired are speech-impaired. The reason for small numbers is attributed to several reasons such as demand of the job to be physically and mentally active and lack of reference to skilled PwDs.

The firms expect to increase the number of PwDs in their workforce by 160% over the next four years, but even then the share of PwDs is expected to be 0.7% of the total employment pool. The biggest jump in absolute terms is expected to be for people who have impaired hearing.

### DAGs

Out of the total current employment across these 47 firms, only 26.6% of the employees are Disadvantaged Groups (DAGs). Close to 52% of the DAGs which these firms have hired are relatively disadvantaged *janjatis*, while another 34% disadvantaged *janjatis*.

The firms also expect that over the next four years, the number of employees belonging to DAGs will contribute 2% to the share of new employees. While most firms mentioned that they do not discriminate on the basis of caste or religion, they cited lack of such candidates with right skills as a reason for not hiring even more people from DAGs.

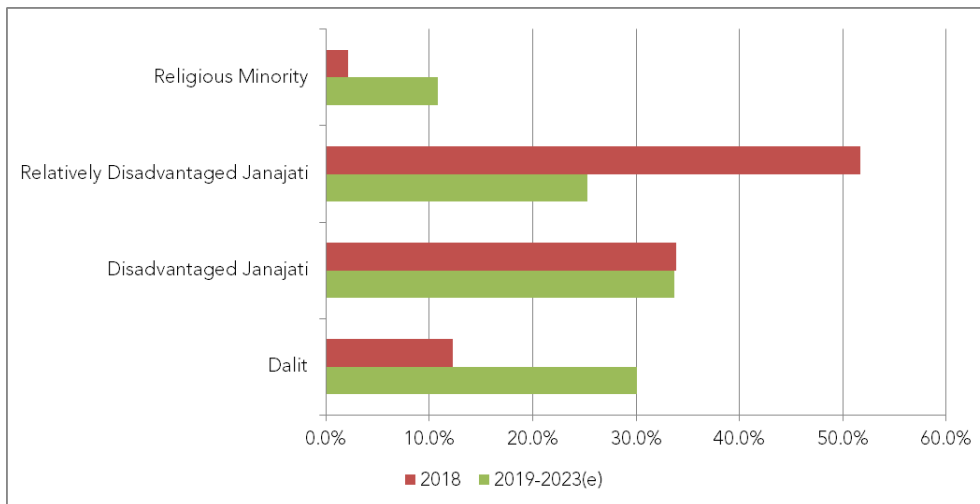


Figure-153: Share of DAGs in the labour force (2018) and (2019-2023e), N=47

Source: सीप Firm Level Survey (2018)

### 6.3 Perception and Attitude towards Skill Development

Across the companies, all of the skill categories were deemed to be of medium or high importance for their employees – at least 75% of the respondents rated all skills to be medium or high on importance.

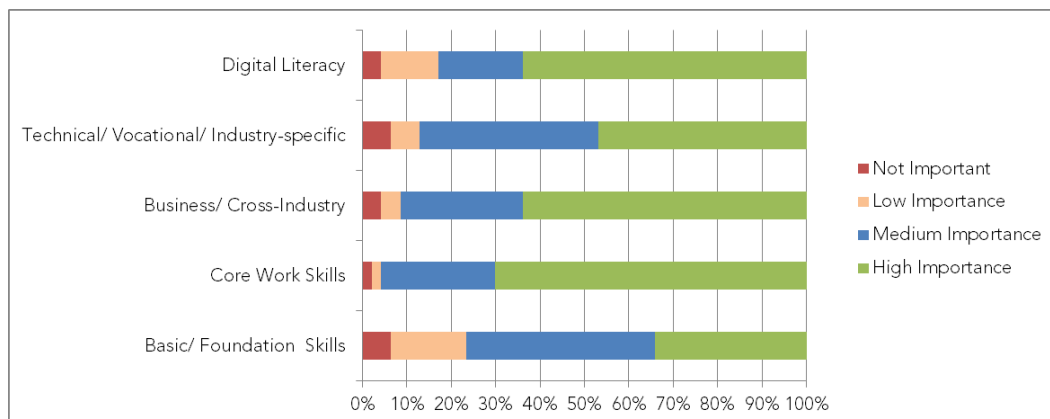


Figure-154: Importance of Skill Categories (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

The firms also believe that their existing employees do not have significant skill gaps – only Core Work skills (i.e. the ability to learn and adapt; read, write and compute competently; listen and communicate effectively; think creatively; solve problems independently; manage oneself at work; interact with co-workers; work in teams or groups; handle basic technology, lead effectively as well as follow supervision.) and Business/ Cross-Industry skills (such as Project Management, Accounting & Finance, Small Business Management, Marketing, Sales, Public Relations, Human Resource Management, & Leadership) were cited by over 60% of the respondents as skills where they had gaps. Typical examples of skills gaps that were highlighted by the respondents included lack of project management skills, lack of practical knowledge, and lack of marketing/ business development.

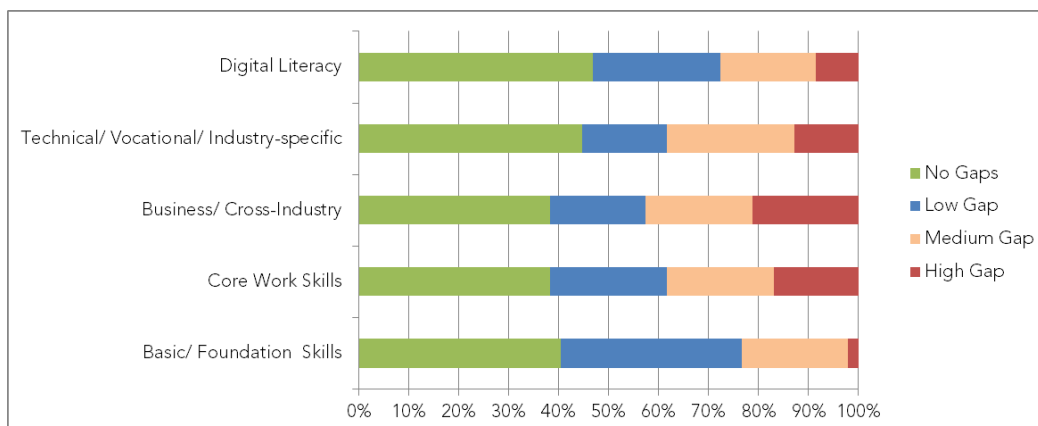


Figure-155: Skill gaps across Skill Categories (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

The companies cited lack of skills among graduates hired and unavailability of skilled talent for their companies as top two challenges in finding and building skilled workforce.



Figure-156: Challenges to finding & building a skilled workforce (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

Most respondents preferred referrals to hire staff. However, the sources of hiring are more diversified as compared to other sectors.

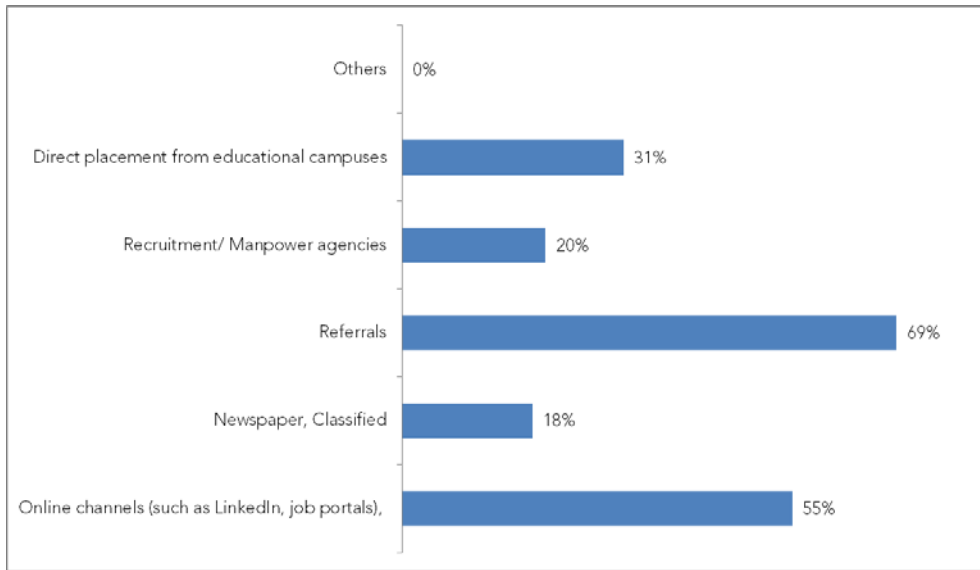


Figure-157: Sources to hire talent (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

On-the-job experience was the most common skill development model used by the firms surveyed. A significant proportion also used in-house training and mentorship programmes. Most of the skill development models were found to be impactful by the respondents.

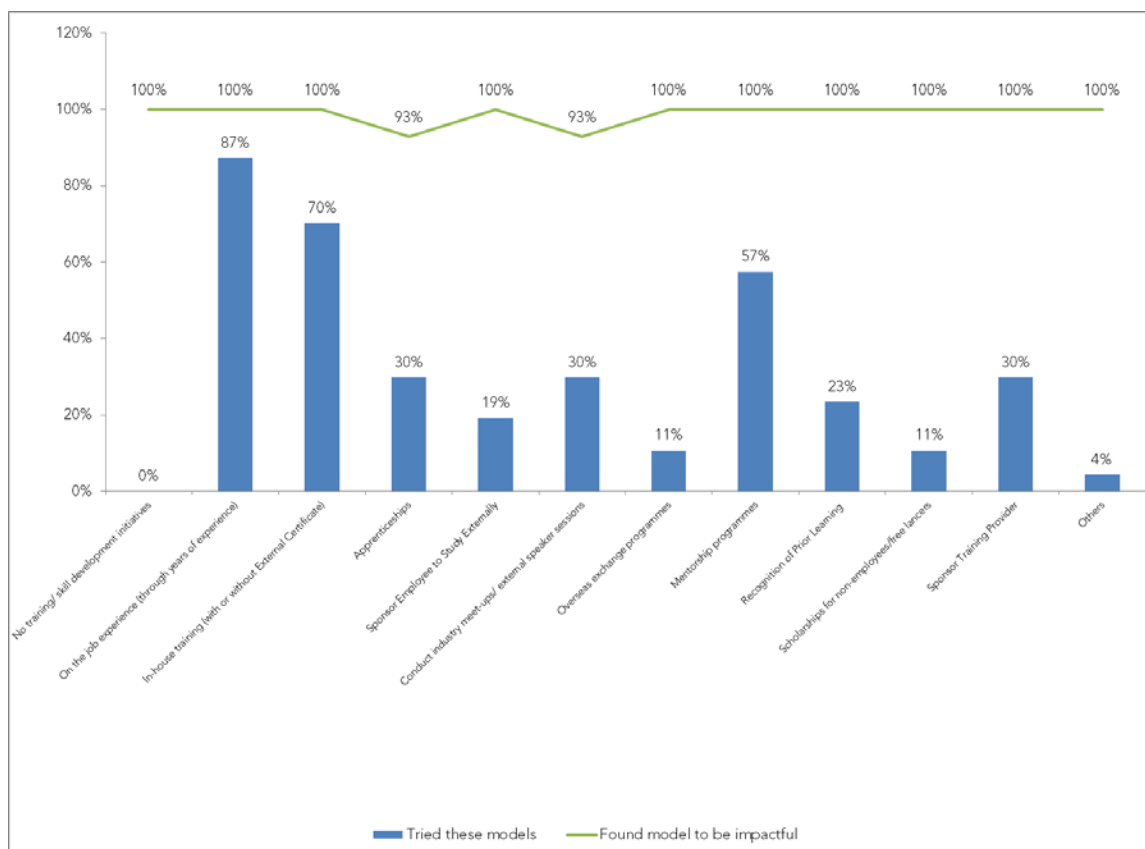


Figure-158: Skill Development models used by the firms surveyed (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

36% of the firms mentioned that they are willing to send their existing staff to training which is of less than one week in duration and a significant 24% mentioned that they are willing to send their staff for trainings between two weeks and a month long.

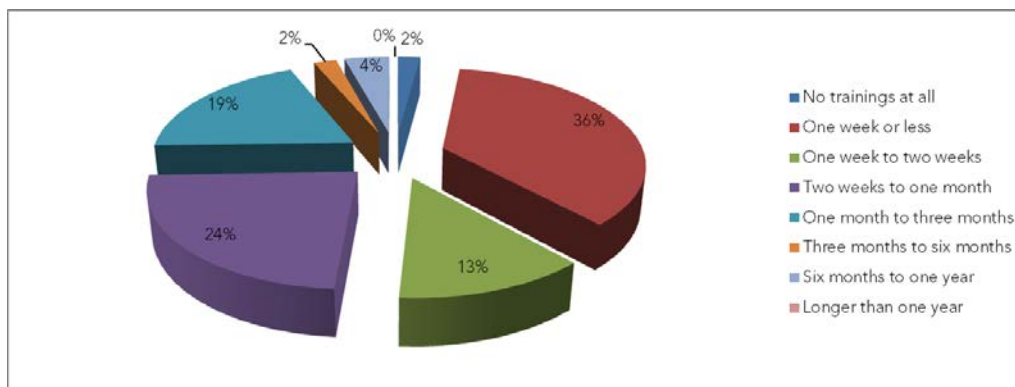


Figure-159: Preference of the duration of the skill development training (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

In terms of spending on skill development, only 10% of the firms surveyed did not spend anything while 34% spent between 1 and 2% of their revenues on skill development.

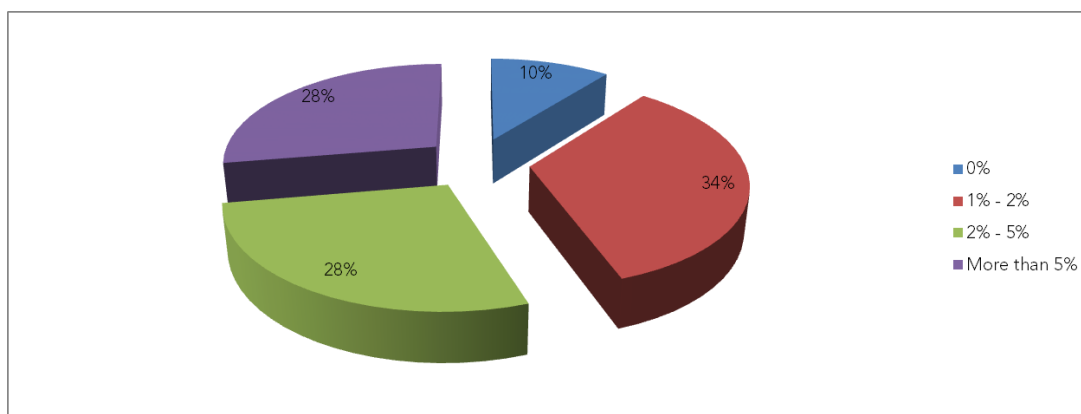


Figure-160: Spending on the skill development training as %age of revenue (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

While most respondents agreed that skilled employees earn better wages and have faster career progression, approximately 50% did not agree that skilled employees are easier to retain.

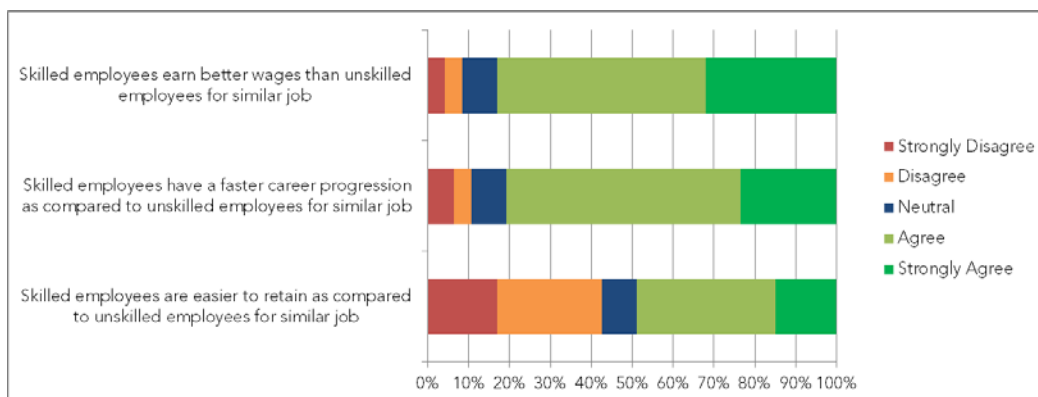


Figure-161: Perception towards skilled employees (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

The firms indicated that they would invest more in developing the skills of your employees if they see a reduced risk of staff leaving after the training and if they see a stronger evidence of the benefit to company's profitability/ performance.

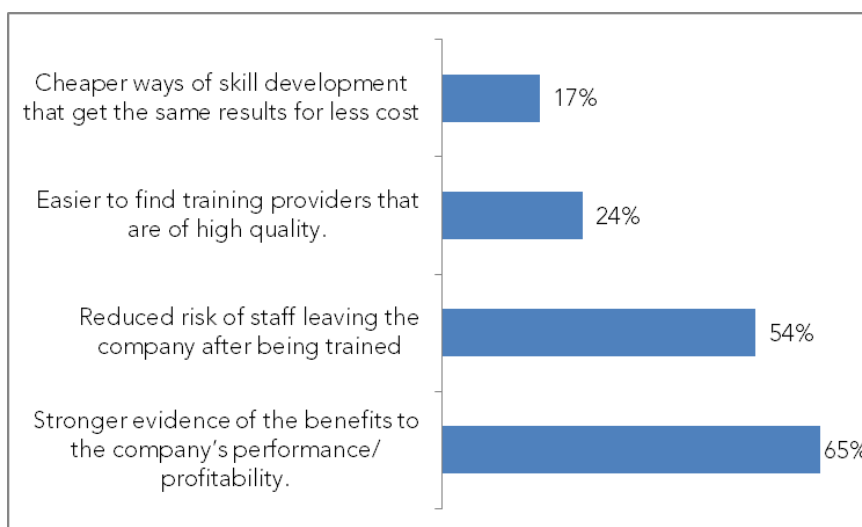


Figure-162: What would make their company invest more in developing the skills of their employees (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

With the new labour law (Nepal Labour Act 2074), the firms did not expect their skill development investment to reduce. However, a significant proportion sees the impact on their recruitment strategies and cost of doing business.



Figure-163: Impact of new labour law (Nepal Labour Act 2074) on workforce strategies (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

#### 6.4 Potential Collaboration with DFID सीप

The survey also tried to understand potential plans of the respondent firms towards skill development.

While most companies plan to continue the existing programmes, a significant proportion also wanted to develop new programmes or to scale up the existing programmes. This is expected given the perceived efficacy of the programmes deployed by the firms.

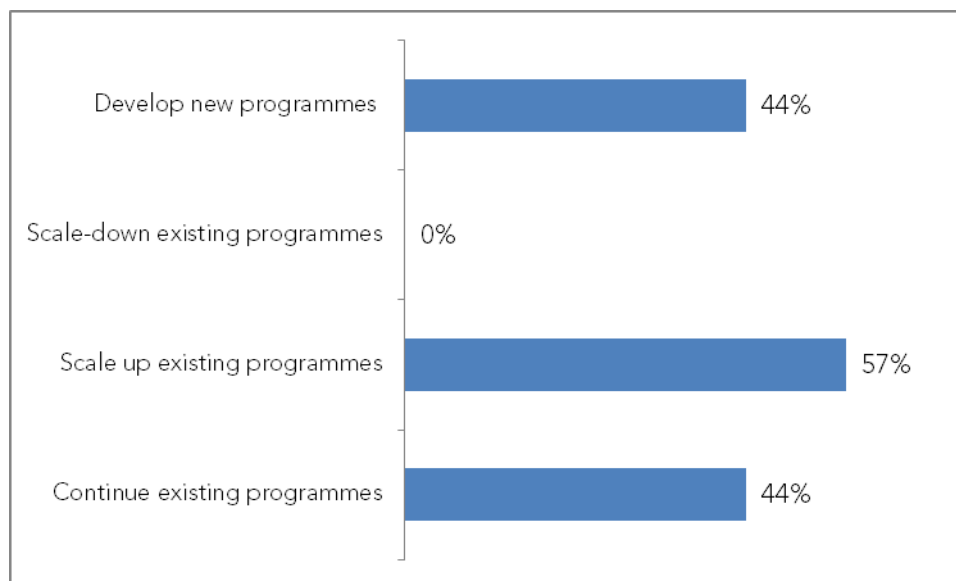


Figure-164: Future plans to develop/invest in skills of staff over the next four years (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

While on-the-job experience remains a favourite of the firms, skill development models such as in-house training seem to have significant preference among the respondents.

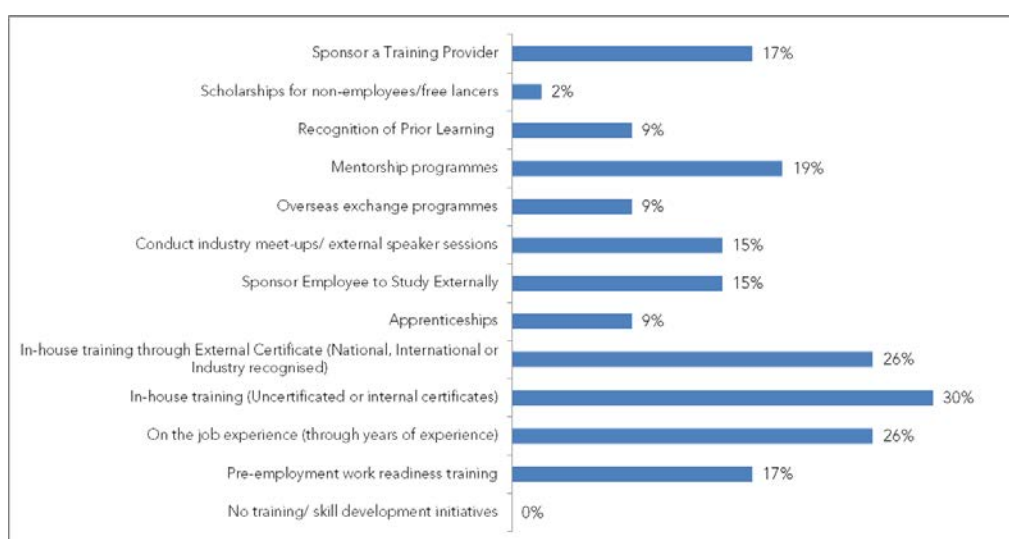


Figure-165: Preferred skill development models over the next four years (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

The firms indicated that they needed support for pre –employment and continuous-employment trainings – close to 50% of the respondents mentioned this. Another 55% of the respondents mentioned that they needed support in providing managerial skills training and in technical assistance.

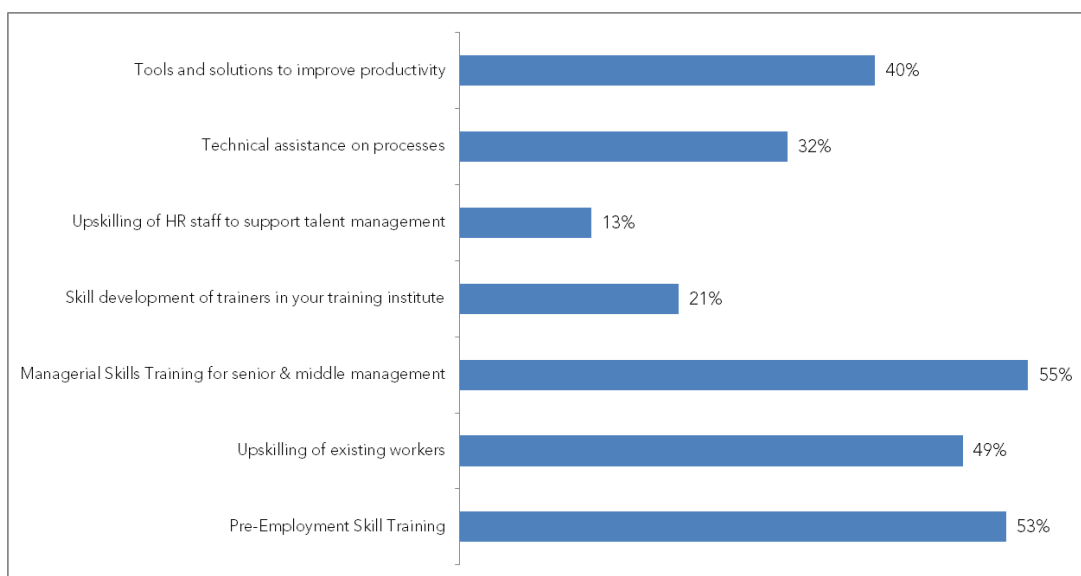


Figure-166: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

The firms also indicated that financial and technical support will be the best modality of any possible skill development partnerships for them.

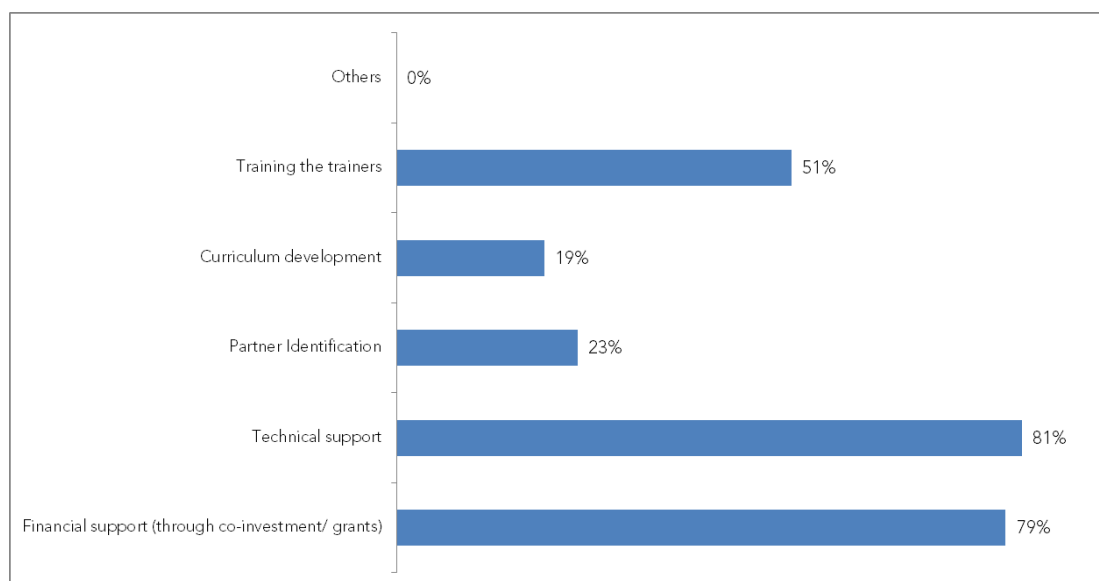


Figure-167: Support needed to improve the productivity and/or skills of their employees (%age of respondents), N=47

Source: सीप Firm Level Survey (2018)

## 7. Conclusions and Next Steps

This report is based on firm-level survey based on discussions with 238 firms across the five sectors in Nepal. The report indicates that the challenges for each sector could be unique. In terms of skill development, the following are the key conclusions of the report:

### Overall Labour Profile

- On average, the firms have seen a growth of 3.5% per year in terms of total employees over the last two years. However, the firms are expecting to increase the total employment by approximately 15% per annum. Across the five sectors, the future growth expectation is higher than the growth in the past
- 29.4% of the total employees across the firms surveyed were women – Commercial Agriculture and Light Manufacturing had higher share as compared to the other three sectors.
- Across the firms surveyed, 0.5% of the employees were PwD and another 30.5% were people from DAGs. Both of these are expected to increase over the next four years.

### Overall Skill Development Models

- Currently, 80% of the firms use on-the-job training for skill development. Other preferred models include in-house training (52%), mentorship programmes (39%), and sponsor training providers (28%)
- In terms of future skill development plans, the preferred models include on-the job experience (22%), in-house training (22%), and pre-employment work readiness training (20%)
- 56% of the respondents mentioned they need support for pre-employment skill training, while 53% need support for upskilling of existing employees. 39% of the respondents mentioned that they needed support for managerial skills training for senior and middle management.
- 88% of the respondents mentioned that they would prefer to know more about DFID-सीप programme

The table below summarises the conclusions by sectors.

Parameters	Commercial Agriculture	Light Manufacturing	Hydropower	Tourism	ICT
Number of firms surveyed	41	54	41	55	47
Annual Revenue Growth (historic, %)	4.6%	5.5%	5.6%	4.0%	5.4%
Expected Annual Revenue Growth (future, %)	7.3%	8.1%	7.1%	6.4%	8.9%
Annual Attrition Rate, %	10.1%	20.0%	7.9%	6.2%	6.3%
Expected Workforce Growth Rate (%)	20.1%	18.7%	10.2%	9.5%	28.4%
Share of Women Employees, %	47.4%	50.7%	21.7%	28.3%	17.5%
Share of DAG Employees, %	47.2%	60.1%	14.1%	38.2%	26.6%
Share of PwD Employees, %	1.7%	0.5%	0.5%	0.5%	0.5%

Parameters	Commercial Agriculture	Light Manufacturing	Hydropower	Tourism	ICT
<b>Preferred Skill Development Models</b>	OTJ experience (27%), Sponsor Training Provider (22%), In-house training (17%)	OTJ experience (39%), In-house training (34%), Sponsor Training Provider (24%)	In-house training (22%), Pre-employment training (22%), Overseas Exchange Programme (15%)	In-house training (22%), Pre-employment readiness training (18%), OTJ experience (15%)	In-house training (30%), OTJ experience (26%), Mentorship (19%)
<b>Job Roles to focus</b>	Entry Level and Technical roles (Skilled Workers, Technicians, Veterinarians, machine operators/ repair, labourers)	Entry Level and Supervisory roles (Supervisors, Plant & Machine Operators, Labourers)	Project Management and Technical roles (Engineers, Project Managers, Specialised construction skills, labourers)	Managerial Level (Travel attendant/ conductors/ guides, HR/ Finance/ Marketing Managers)	Project management and Technical roles (Software developers, networking professionals, project managers)

Table-168: Summary of Findings by Sectors

Source: सीप Firm Level Survey, N=238

In terms of market failures, the analysis confirmed certain market failures highlighted in the Skills Macroeconomic Report. These include:

- 29.4% of the firms surveyed mentioned that they did not spend on skill development. One of the top reasons highlighted for this was risk of workers joining competition after training.
- The average attrition rate was 10.0% across the firms surveyed.
- Average spending on skill development was 1.9% of the revenue of the firms.
- 85% of the firms mentioned that the training programmes should be less than 1 month long (13% preferred no training, while 37% preferred one week or less of training).
- 66% of the stakeholders mentioned lack of a pro-business policy environment as one of the top restraints for growth. 57% mentioned that high cost or lack of availability of labour at the required skill level was a constraint.

As the next step to this report, the team is validating the findings through ideation labs. Using the findings from this report and the macroeconomic survey, ideation labs (one for each sector) will be conducted to identify the solutions. The end goal is to develop an Industry Workforce Development Roadmap (IWDR) for each of the five sectors under focus during the Inception Phase of the programme to identify market failures that can be addressed through the challenge fund and further worked through the roadmaps that can continue beyond the life of the programme.

## 8. Annex 1: Estimated Demand by Job Roles

Our estimation based on the data from the firm-level survey of 238 firms and publicly available data indicates that approximately 500,000 people will be recruited over the next four years across these five sectors across Nepal.

The table below indicates the breakdown by each of the five sectors.

S.No.	Sector	Jobs in Demand
1.	Commercial Agriculture	4,271
2.	Manufacturing	291,560
3.	Energy	10,726
4.	Tourism	169,065
5.	ICT	21,019
<b>Total</b>		<b>496,641</b>

Table-169: Estimated Demand for employees (2019-2022)

Source: Analysis based on **शीप** Firm Level Survey (2018)

However, it should be noted that this is a conservative estimate based only on companies present in Nepal. The assessment does not consider new business formation over the next four years. The figures from the Economic Survey 2015/16 (Ministry of Finance, Nepal) indicate that the rate of business formation was 7.8% per annum between 2012/13 and 2015/16. Using this estimate for growth of new businesses, the estimated demand for employees in these sectors could be as high as 622,000.

The figures below indicates the breakdown by job roles for Commercial Agriculture for the conservative scenario.

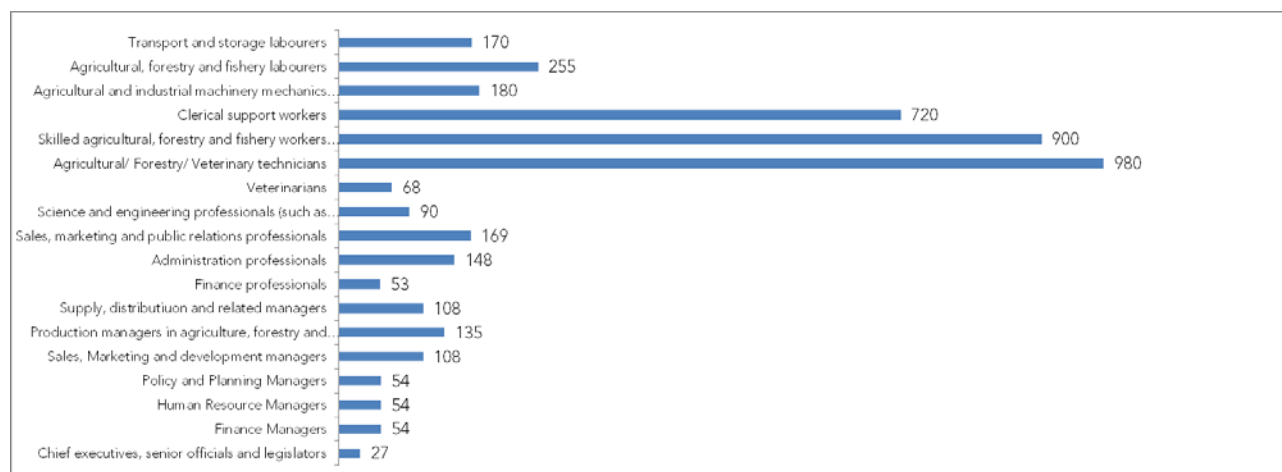


Figure-170: Estimated demand for Commercial Agriculture by job roles

Source: Analysis based on **शीप** Firm Level Survey (2018)

The figures below indicates the breakdown by job roles for Light Manufacturing.

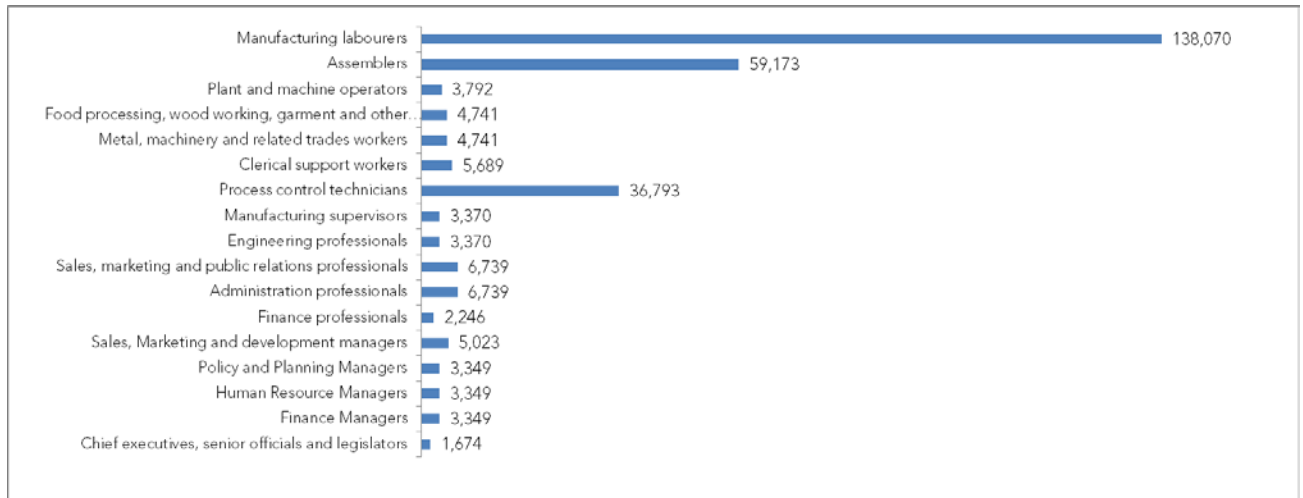


Figure-171: Estimated demand for Light Manufacturing by job roles

Source: Analysis based on सीप Firm Level Survey (2018)

The figures below indicates the breakdown by job roles for Hydropower/ Energy.

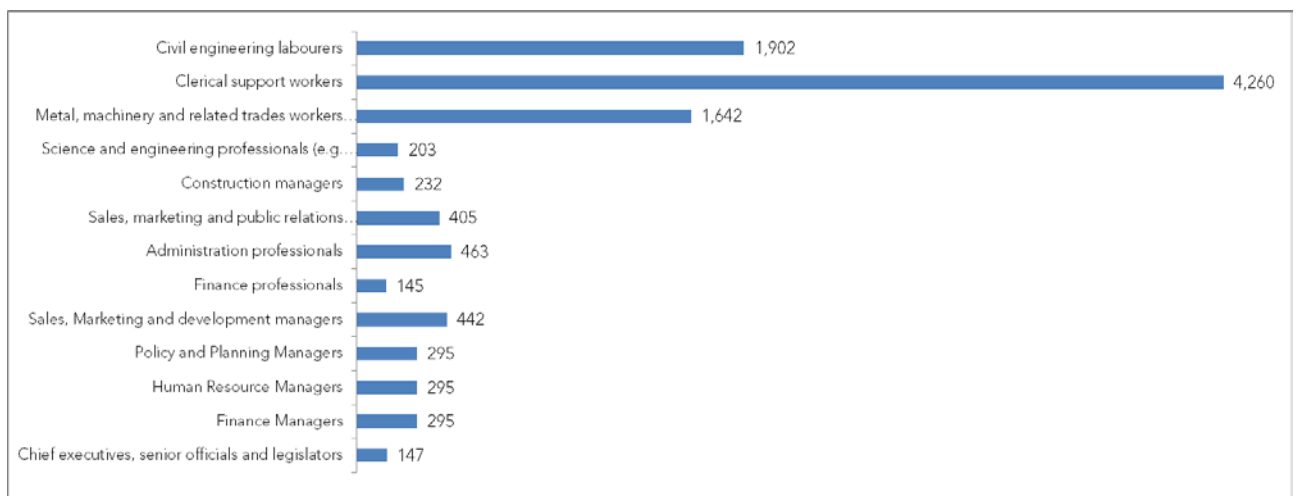


Figure-172: Estimated demand for Hydropower/Energy by job roles

Source: Analysis based on सीप Firm Level Survey (2018)

The figures below indicates the breakdown by job roles for Tourism.

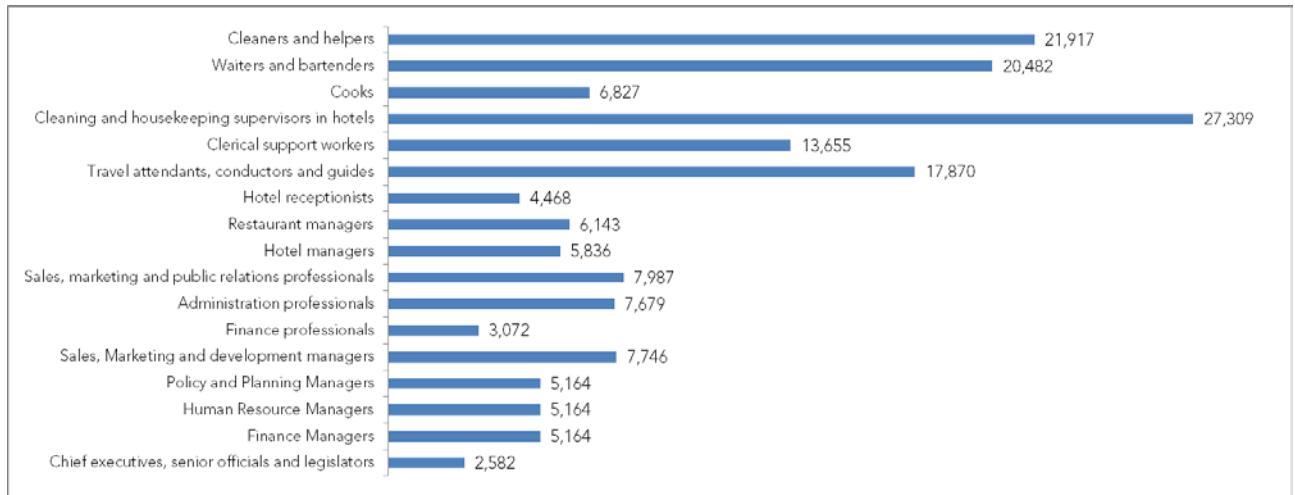


Figure-173: Estimated demand for Tourism by job roles

Source: Analysis based on सीप Firm Level Survey (2018)

The figures below indicates the breakdown by job roles for ICT.

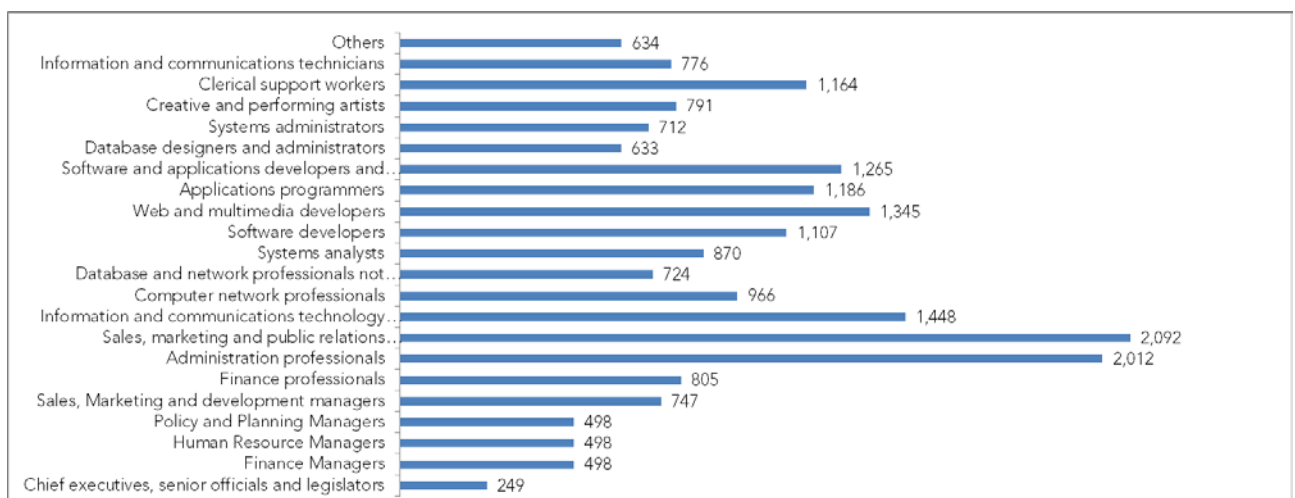


Figure-174: Estimated demand for ICT by job roles

Source: Analysis based on सीप Firm Level Survey (2018)

## 8.1 Approach for Estimation

We used the following steps to estimate the demand by job roles over the next four years across Nepal:

- Step 1: From the सशुीप firm-level survey, the following data was available:
  - Current Jobs per firm
  - Breakdown of Jobs by five Job Categories (Managers, senior officials, Professionals, Technicians and Associate Professionals, Clerks/ Service and Sales Workers/ Skilled agricultural and fishery workers/ Craft and related trades workers/ Plant and machine operators & assemblers, and Elementary occupations)
  - Growth rates for each of the Job Categories for each of the sector
- Step 2: Using this data, the future demand of jobs over the next four years by job categories per firm in each sector was estimated. This was done by using the formula, as shown below. Both of the figures on the right hand side of the formula were available from the firm-level survey.

$$\text{Jobs per company per category}_{2018-2022} = \text{Jobs per company per category}_{2018} \times (1 + \text{annual growth rate}_{\text{category}})^4$$

The table below indicates the results.

Sector	Managers, senior officials	Professionals	Technicians and Associate Professionals	Clerks, Service and Sales Workers, Skilled agricultural and fishery workers, Craft and related trades workers, and Plant and machine operators & assemblers	Elementary occupations
Commercial Agriculture	2.52	2.46	4.58	8.41	1.99
Manufacturing	4.11	5.51	9.03	4.65	48.39
Energy	13.78	13.52	15.34	39.81	17.78
Tourism	3.41	4.05	2.95	9.00	2.89
ICT	9.73	31.43	30.89	7.58	2.48

Table-175: Estimated Demand for employees per firm (2019-2022)

Source: Analysis based on सशुीप Firm Level Survey (2018)

- Step 3: We segregated the job roles into each of these job categories using internationally recognized job occupations commonly associated with specific sectors. These are based on definitions in ISCO-08 Major Groups ISCO-08 Codes.

The table below indicates the segregation.

Job Category \ Sector	Managers, senior officials	Professionals	Technicians and Associate Professionals	Clerks, Service and Sales Workers, Skilled agricultural and fishery workers, Craft and related trades workers, and Plant and machine operators & assemblers	Elementary occupations
<b>Commercial Agriculture</b>	<ul style="list-style-type: none"> <li>Chief executives, senior officials and legislators</li> <li>Finance managers</li> <li>Human resource managers</li> <li>Policy and planning managers</li> <li>Sales, marketing and development managers</li> <li>Production managers in agriculture, forestry and fisheries</li> <li>Supply, distribution and related managers</li> </ul>	<ul style="list-style-type: none"> <li>Finance professionals</li> <li>Administration professionals</li> <li>Sales, marketing and public relations professionals</li> <li>Science and engineering professionals (such as Biologist, Zoologist, Advisers)</li> <li>Veterinarians</li> </ul>	<ul style="list-style-type: none"> <li>Agricultural/ Forestry/ Veterinary technicians</li> </ul>	<ul style="list-style-type: none"> <li>Clerical support workers</li> <li>Skilled agricultural, forestry and fishery workers (e.g. Crop growers, animal producers, poultry producers, aquaculture producers)</li> <li>Agricultural and industrial machinery mechanics and repairers</li> </ul>	<ul style="list-style-type: none"> <li>Agricultural, forestry and fishery labourers</li> <li>Transport and storage labourers</li> </ul>
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>Chief executives, senior officials and legislators</li> <li>Finance managers</li> <li>Human resource managers</li> <li>Policy and planning managers</li> <li>Sales, marketing and development managers</li> </ul>	<ul style="list-style-type: none"> <li>Finance professionals</li> <li>Administration professionals</li> <li>Sales, marketing and public relations professionals</li> <li>Engineering professionals</li> <li>Manufacturing supervisors</li> </ul>	<ul style="list-style-type: none"> <li>Process control technicians</li> </ul>	<ul style="list-style-type: none"> <li>Clerical support workers</li> <li>Metal, machinery and related trades workers</li> <li>Food processing, wood working, garment and other craft and related trades workers</li> <li>Plant and machine operators</li> </ul>	<ul style="list-style-type: none"> <li>Assemblers</li> <li>Manufacturing labourers</li> </ul>
<b>Energy</b>	<ul style="list-style-type: none"> <li>Chief executives, senior officials and legislators</li> <li>Finance managers</li> <li>Human resource managers</li> <li>Policy and planning managers</li> <li>Sales, marketing and development managers</li> </ul>	<ul style="list-style-type: none"> <li>Finance professionals</li> <li>Administration professionals</li> <li>Sales, marketing and public relations professionals</li> <li>Construction managers</li> <li>Science and engineering professionals (e.g. Geologists, Civil Engineers, Mechanical Engineers, Environmental Engineers, surveyors, designers)</li> </ul>	<ul style="list-style-type: none"> <li>Metal, machinery and related trades workers (e.g. Welders, Tunneling)</li> </ul>	<ul style="list-style-type: none"> <li>Clerical support workers</li> </ul>	<ul style="list-style-type: none"> <li>Civil engineering labourers</li> </ul>
<b>ICT</b>	<ul style="list-style-type: none"> <li>Chief executives, senior officials and legislators</li> <li>Finance managers</li> <li>Human resource managers</li> <li>Policy and planning managers</li> <li>Sales, marketing and development managers</li> </ul>	<ul style="list-style-type: none"> <li>Finance professionals</li> <li>Administration professionals</li> <li>Sales, marketing and public relations professionals</li> <li>Information and communications technology service managers</li> <li>Computer network professionals</li> <li>Database and network professionals not elsewhere classified</li> </ul>	<ul style="list-style-type: none"> <li>Systems analysts</li> <li>Software developers</li> <li>Web and multimedia developers</li> <li>Applications programmers</li> <li>Software and applications developers and analysts not elsewhere classified</li> <li>Database designers and administrators</li> <li>Systems administrators</li> <li>Creative and performing artists</li> </ul>	<ul style="list-style-type: none"> <li>Clerical support workers</li> <li>Information and communications technicians</li> </ul>	<ul style="list-style-type: none"> <li>Others</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Chief executives, senior officials and legislators</li> <li>Finance managers</li> <li>Human resource managers</li> <li>Policy and planning managers</li> <li>Sales, marketing and development managers</li> </ul>	<ul style="list-style-type: none"> <li>Finance professionals</li> <li>Administration professionals</li> <li>Sales, marketing and public relations professionals</li> <li>Hotel managers</li> <li>Restaurant managers</li> </ul>	<ul style="list-style-type: none"> <li>Hotel receptionists</li> <li>Travel attendants, conductors and guides</li> </ul>	<ul style="list-style-type: none"> <li>Clerical support workers</li> <li>Cleaning and housekeeping supervisors in hotels</li> <li>Cooks</li> <li>Waiters and bartenders</li> </ul>	<ul style="list-style-type: none"> <li>Cleaners and helpers</li> </ul>

Table-176: Job Roles Segregated by Job Categories

Source: सीप Experts

- Step 4: An estimation of breakdown of job roles (in percentage terms) across job categories was done using average of 3 typical firms for each sector in Nepal. For example, this analysis of three tourism sector firms provided us an estimation of the share of Cooks, Waiters & bartenders across the relevant Job Category in Tourism sector.

- Step 5: Using the breakdown in Step 4 and the data from Step 2, the estimated demand by job roles for each firm in the five sectors was calculated.
- Step 6: Using the data from Step 5 and the number of firms in each sector as gathered from various sources in the macroeconomic report, the total estimated demand for Nepal was calculated. The table below indicates the number of firms for each sector as available in various sources. As explained earlier, this is the conservative numbers, using the most recent data available from public sources. This does not account for the growth in new enterprises over the next four years.

S.No.	Sector	Number of Firms
1.	Commercial Agriculture	214
2.	Manufacturing	4,067 (as of 2011/12)
3.	Energy	107 (New Projects under construction)
4.	Tourism	7,583
5.	ICT	256 (Registered Businesses)

Table-177: Number of Firms by Sectors

Source: सीप Macroeconomic Report (2018)

Remarks:

- We had to use indirect estimation using the firm-level survey, as the data was not directly gathered from the survey. This was to manage the length of the survey questionnaire.
- The method depicted above is reliable with an estimated margin of error of +/- 10% for the overall numbers. However, the numbers indicated per job role are expected to have higher margin of error per job role.

## 9. Annex 2: List of Companies Interviewed

Commercial Agriculture
Aasha Puri Organic Pvt.Ltd.
Aero Roots
Alpine Coffee
Annapurna Agro Farma
Arava Nepal Modern Agriculture Company
Balbinayak Gauri Tatha Kukhura Farm
Bindabasini Vegetable Farm
Bio-Comp Nepal
Bishesh Sadabahar Krishi Farm
Chamero Nursery
Chitwan Vet Pharma
Crop Pro-Tech Nepal
Dhital Poultry
Ekata Kukhura Palan (Farm)
Global Agro Trading
Goenka Foods
Gorkha Seeds Pvt. Ltd.
Jay Kishan Nursery
Khadga Yogini Traders
Krishna Food Products Pvt Ltd.
Kumar Flora Farm
Live Stock Organic Farmhouse
Maha Agriculture Pvt. Ltd.
Mush Nepal Pvt Ltd
Neha Krishi Farm
Om Krishi Farm
Pathivara Vet Distributors
Pragatisil Krisak Samuha Pvt.Ltd
R&D Innovative Solution Pvt.Ltd
Ramkot Flora And Agrofirma
Rb Rice Mill
Sagarmatha Agroveter Center
Salom Agriculture
Shivam Crop Science Pvt.Ltd
Shree Swet Bhairabnath Rice Mill
Sidhikali Rice Mills
Sirjana Cut Flower Nursery(Firma)
Surya Mushroom Farm
Taja Tarkari
Tiger Lilly Petting Farm And Hands-On Museum
Valley Group

Light Manufacturing	
Acute Nepal Pvt Ltd	Rudrayani Oil Mill Pvt.Ltd
Allied Food Pvt.Ltd	Run Shoes
Aryan Wires	S.B.R Textile
Ashirbad Pashmina Udhyog	Sapana Metal Pvt.Ltd
Base Footwear Pvt.Ltd.	Shikhar Shoes
Binayak Krishi Auzaar Udhyog	Shree Baba Krishi Auzaar Udhyog
Caravan Ready-Made Co.Pvt. Ltd.	Shree Cements Industries Pvt.Ltd
Cosheli Chhala Jutta Udhyog	Sunrise Footwear Pvt.Ltd.
Design Station Pvt. Ltd.	Supreme Water Industry
Ekadeshma Nepal	Vijay Metal Industries Pvt. Ltd.
Excel Garment Processing Pvt.Ltd.	Yes Plastic Products
Federation Of Nepal Cottage And Small Industries	
Ganadeep Pashmina Udyog	
Gorkha Ayurved Company P.Ltd.	
Human Fit Craft	
Inno Tech Sakwo Pvt.Ltd	
Janaki Steel Industries	
Juli Tailors	
Kalika Basnadar Tel Utpadan	
Kayo Creative	
Kiran Shoes Manufacturers	
Kishan Distillery Pvt.Ltd	
Laligurash Footwear Pvt.Ltd.	
Lumbini Fashion Industry	
Lumbini Sugar Industries Pvt.Ltd	
M.B Wood Carving And Handicraft	
Megha Shoe Industry Pvt.Ltd	
Mountain Sports Pvt.Ltd	
Muskan Hand Made In Nepal	
Nepal Hastakala Mahasangh	
Nepal Lube Oil Limited (Gulf Lubricant)	
New Horizon Carpet Industry	
New Katuwal Grill Udhyog Pvt.Ltd	
Om Cement Pvt. Ltd.	
Panchakanya Hardwares Pvt.Ltd	
Plo Pvt .Ltd	
Purna Metal Concern Industries	
Purnaa Enterprises	
Raket Handicraft	
Ratna Silver Craft	
Ratnashri Packaging Udhyog Pvt Ltd	
Royal Fabrication And Trading Pvt.Ltd	
Royal Sticker House	

Hydropower
Bhriugu Construction
Bright Energy Pvt.Ltd
Brihat Construction Group
CE Construction Pvt.Ltd
CEDB Hydropower Development
Chandra Bala Engineering And Construction Pvt.Ltd
Chandra Surya Engineering Associates
Chitwan Nirman Sewa Sangh
Cosmic Electrical Engineering Associates
Cristal Power Development Pvt.Ltd
Design Steps Pvt.Ltd
Gauri Parbati Nirman Sewa Pvt.Ltd
Hydro Consult Engineering Ltd.
Independent Power Producers' Association Of Nepal
Ingenious Developers Pvt.Ltd
Kalika Construction Pvt.Ltd
Lotus Energy Products International Pvt.Ltd
Manikej Urja
Mathema& Partners
Morphogenesis Consultant Pvt. Ltd.
Nepal Adarsha Nirman Company Limited
Nepal Urja Bikash Company
Peoples Energy Limited
Pico Power Nepal Pvt. Ltd
Premier Energy Pvt.Ltd
Rapti Ganesh Construction And Suppliers
Safe Home Developers Pvt.Ltd
Sharma & Company Pvt Ltd.
Sheikh Enterprises
Shikhar Renewable Energy Pvt. Ltd
Siddhartha Solar And Bio Gas Solution Pvt.Ltd
Sikless Hydropower
Solar Homes Pvt.Ltd
Solar Mate Nepal
Solu Hydropower
Sunshine Energy Pvt. Ltd
Sunway Solar And Electronics Pvt.Ltd
Surya Jyoti Urja
Surya Power Company Pvt.Ltd
Three Dots Architects Pvt. Ltd.
Ujyalo Urja Pvt.Ltd

Tourism	
1905 Suites & Restaurant	Omni Express Travel And Tours Pvt Ltd
Ace Travels.Com	Opensky Tour & Travel
Adrenaline Rush Nepal	Organic World Travel And Tours
Adrift Adventure	ORION Travel Pvt. Ltd
Adventure Alpine Gorkha Treks And Expedition Pvt. Ltd.	Radha Krishna Holidays Pvt.Ltd
Adventure Aves Nepal	Ratna Hotel
Airway Travel And Tourt Pvt. Ltd	Red Sun Resort
All Time Tour And Travel Pvt.Ltd.	Regency Nepal Travels & Tour Pvt Ltd
Alpine Asia Treks And Expedition Pvt Ltd	Residency Hotel Academy & Hospitality Service
Ashoka Travels And Tours Pvt. Ltd	Seven Peaks Tours And Travels
Buddha Air	SHANGRILA TOUR
Cascade Travel And Tours	Shanker Hotel
Chandani Travels And Tour Pvt.Ltd.	Shree KSA Travels Pvt.Ltd
Cygnett Inn Krishna Hotel Pvt.Ltd	Sneha Hotel Pvt.Ltd
Earthbounds Expebdition Pvt .Ltd	Soltee Westend Premier
Everest Height Holidays Travels And Tours	Venture Travel & Tours
Four Direction Travels And Tours Pvt. Ltd.	
Halesi Travel And Tours	
Hotel Annapurna	
Hotel Central Palms Pvt. Ltd.	
Hotel City Palace	
Hotel De Namaste Nepal Pvt.Ltd	
Hotel Harrison Palace	
Hotel Ichha Pvt. Ltd	
Hotel Pujan	
Hotel Royal Century Pvt. Ltd	
Hotel The Galaxy Darbar	
Hotel Yak And Yeti	
Hotel Yeti Pvt.Ltd	
Inner Nepal Tours N Travels	
Jay Mata Di Travels Pvt.Ltd	
Jaya Ganga Travel And Tours	
Jenisha Tours And Travels(P.)Ltd	
Jeny Travels And Tours Pvt Ltd	
Kailash Group Nepal	
Lion Travels And Tours	
Namaste Suncity Travels And Tours Pvt. Ltd .	
Nana Hotels	
NEPA: International Holidays Tours And Travel	

ICT	
Ask Hub Nepal Pvt.Ltd	Spica Technology Pvt. Ltd
Biz Serve It Pvt. Ltd.	Sriyog Consulting Pvt.Ltd
Bright Office System	Subisu Cable Net Pvt
Brownfield Technologis Pvt.Ltd	Techware Pvt.Ltd
Creative Seo Nepal Pvt Ltd.	Top Nepal Pvt.Ltd
Crystal Light It Pvt Ltd	
Devsign Technologies	
Digital Infotech Developers Nepal	
Dynamic Technosoft Pvt.Ltd.	
E-Sewa Fonepay Pvt Ltd	
Everest Computer Center Pvt.Ltd.	
Global Automation Center	
IGC Technology	
Indesign Media Pvt Ltd.	
Infocom Private Limited	
Innology Solution Ltd	
IO Melody Pvt. Ltd.	
Kazi Studio	
Laba Nepal Pvt. Ltd	
Leapfrog Technology Nepal Pvt. Ltd.	
Loyal Computer Suppliers	
Midas Technologies	
Milan Technology Pvt.Ltd	
Nepdroid Innovation Pvt. Ltd	
Olive Media Pvt.Ltd	
Paaila Technologies	
Purnima It Group	
Quackfoot Pvt. Ltd.	
Quantam Infosys Pvt Ltd.	
Semantic Creation	
Sharda It Service Pvt. Ltd.	
Silver Lining/Om Data Center	
Six Sigma Pvt. Ltd	
Social Pulse Pvt. Ltd	

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