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# THE NEPAL LABOUR MARKET: A FOUR SECTOR CASE STUDY

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## Authors

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## ACRONYMS

DFID	Department for International Development
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
ICT	Information and Communication Technology
ILO	International Labour Organization
IP	Intellectual Property
ILO	International Labour Organization
LFS	Labour Force Survey
NEET	Not in Employment, Education or Training
US	United States
USDoS	US Department of State

# 1. INTRODUCTION

This paper analyses the state of Nepal's labour market and examines what can be done to ease the country's constraints to job creation on the basis of a new firm-level survey in four promising sectors for economic transformation and job creation. It also discusses policy suggestions on how to develop sectors. In addition to informing the government of Nepal, the paper also aims to inform the design of a policy component for the Department for International Development (DFID) Nepal Skills for Employment Programme, which is currently in its inception phase, and other relevant programming across DFID's Economic Development portfolio.

Nepal is unique among low-income countries in that labour migration is so extensive that in some sectors there are reports of a labour shortage. Appropriate policy suggestions depend on understanding whether there is excess demand or supply of labour in a particular sector – that is, understanding the tightness of the labour market and how efficiently it is functioning. The objective of this paper is, therefore, to answer the following three questions:

1. How tight is the labour market in Nepal?
2. Do firms find the skills they need with relative ease?
3. What general and specific constraints do firms face?

Up-to-date and in-depth knowledge of the Nepali labour market is limited. The country last carried out a comprehensive survey of its labour force in 2008, leaving a significant knowledge gap on movements in the labour market in the intervening nine-year period, as is evident in the labour market statistics summary provided by the International Labour Organization (ILO) (Table 1). The data provide a brief overview of the labour market in the country, showing some salient employment statistics, but the discrepancies in and the age of the data are also evident.

Table 1. Nepal labour statistics summary

Indicator	Year	Value
Labour force participation rate, women (%)	2014	79.7
Labour force participation rate, men (%)	2014	86.8
Labour force participation rate (%)	2013	81.1
Youth labour force participation rate (%)	2008	75.6
Youth unemployment rate (%)	2008	2.2
Share of youth not in employment, education or training (NEET) (%)	2013	9.2

Source: ILOSTAT (2017)

To provide a more recent snapshot of the labour market, four key sectors were selected: tourism, information and communication technology (ICT), light manufacturing and agro-processing. These sectors

were chosen based on their potential for export market orientation; their capacity to promote structural transformation by moving production away from agriculture and low-value services into higher-value services and industry; and, finally, their potential to create productive jobs:

1. **Tourism:** Export-oriented, strong internal value chain link and potential for labour-intensive employment;
2. **ICT:** High-value service provision, skilled labour-intensive and export-oriented services;
3. **Light manufacturing:** Export-oriented growth driver with high potential for transformation;
4. **Agro-processing:** Value addition to existing agricultural production.

As part of the survey, 43 firm interviews across the four key sectors were held in the urban areas of Kathmandu and Biratnagar. Biratnagar was selected alongside Kathmandu as it hosts multiple firms in the manufacturing and agro-processing sectors, and many firms could be interviewed in the relatively short time available. From a methodological perspective, it is important to note that the results reflected here do not allow the extension of specific firm-level results to the sectors, given the limited survey sample size and the geographical clustering of interviewed firms. The results of the surveys, for each sector, are presented in greater detail in individual sectoral papers<sup>1</sup>.

The structure of this paper is as follows. Section 2.1 examines the 'degree' of tightness in the Nepali labour market through the lens of four sectors, providing a summary overview of firm characteristics, market orientation and employees, assessing whether the supply of labour is sufficient to meet employee labour demands. Section 2.2 then provides a brief analysis of whether the provision of skills is sufficient within the key sectors. Sections 2.3 and 2.4 then discuss the major constraints facing firms and possible knowledge gaps that should be examined further. Section 3 highlights possible policies for use in meeting the challenges highlighted in the previous section. Section 4 concludes.

## 2. THE STATE OF THE LABOUR MARKET IN NEPAL

### KEY POINTS OF THIS SECTION

- The research carried out a survey of 43 firms in four key sectors. This found labour market tightness varied between and within sector. Expansion prospects were perceived to be strongest in the ICT sector. Some agro-processing subsectors are expected to grow, but the general trend is towards greater automation. Growth prospects in both the light manufacturing and the tourism sectors are perceived to be limited.
- Higher employment growth rates are observed in ICT, in line with perceived growth potential, and in tourism; this latter runs counter to the growth potential tourism sector firms perceived, which was more limited.
- Labour market tightness varies markedly by skills level. The market for less skilled employment is not tight but it is much more difficult to find skilled workers. Most firms spend a significant amount of resources providing on-the-job training to ensure they have adequately skilled workers.
- Firms face a variety of constraints, going far beyond lack of skills in their workforce. Unreliable power supply and trading conditions for manufacturing and agro-processing firms tend to be key; for tourism, lack of transport infrastructure, and for ICT, lack of connectivity, intellectual property and security, tend to be more binding constraints.

<sup>1</sup> Links to Sectoral Papers (once available)

## 2.1 LABOUR MARKET TIGHTNESS

Labour market tightness, often understood to be the balance between labour supply and labour demand (Brigden and Thomas, 2003), is interpreted in the context of this paper in relation to how easily firms can find the right type of workers (the supply component) and what demand firms have for labour (the demand component). To understand labour tightness in the four key sectors, the survey posed several questions to participating firms.

Different growth paths among sectors may explain some of the differences in labour market tightness across different sectors. We therefore asked firms to set the context. Table 2 summarises firm characteristics across the four targeted sectors. Differences in average firm employee size were relatively small. ICT firms had the smallest average size, with 111 employees; manufacturing firms were the largest, with 552. However, this masks the large differences between firms within each sector. For example, tour operators may employ 7 people, whereas hotels may employ more than 350 and airline operators 800. Similarly, for manufacturing, the smallest firms employed around 20 people, whereas the largest employed approximately 4,000. In terms of firm age, those in agro-processing were, on average, the oldest among the four key sectors. ICT firms, mirroring the youth of the sector, were the youngest.

Firm employee growth rates vary significantly by sector: light manufacturing shows limited growth rates (negative if outlier firms are included), whereas tourism and ICT firms showed significantly higher levels of growth in employment. The growth prospects of interviewed firms (Table 3) shed additional light on potential employment demand. Across the four sectors, ICT and tourism firms are those with the highest level of international exposure, where most products and services are either exported or targeted at foreigners. There is some measure of internationalisation in the light manufacturing and agro-processing sectors, though export-oriented firms are in the minority.

Table 2. Characteristics of the firms in the survey

Sector	Average no. of employees (2017)	Annual growth in employment	Average firm age (years)
Tourism	240 (note very large differences in workforce size by firm type)	18.1%	18
ICT	111	21%	9
Light manufacturing	168 (minus outlier); 552 (with outlier)	-1.3% (minus outlier); 2.9% (with outlier)	28
Agro-processing	400 (minus jute mills)	Not available <sup>2</sup>	34

Source: SET survey January 2017

The ICT sector is experiencing the fastest growth and hence may face more labour tightness than the others. Expansion prospects were perceived to be strongest in the ICT sector, although this is difficult to verify. Among agro-processing firms, expansion prospects were perceived to be mixed, as food processing firms planned to establish new plants (including in the new special economic zones), whereas jute mills were planning lay-offs in light of difficult trade conditions. Neither light manufacturing nor tourism firms expected to expand significantly in the near future. Competition across all sectors comes from both domestic and international sources: producers (food and other manufactured products) face competition from imported goods; the ICT sector faces competition from firms across the world; and Nepali tourism

<sup>2</sup> Too few firms could provide figures on employment growth to generalise and report here.

firms face both regional and internal competition (both as a tourism destination and between tourism service providers).

Table 3. Market orientation and growth prospects

<b>Sector</b>	<b>Market orientation (domestic, international, mixed)</b>	<b>Expansion prospects (decline, limited, good, strong)</b>	<b>Expansion prospect (notes)</b>	<b>Main competition (domestic, international)</b>
<b>Tourism</b>	International tourist numbers declining but respondents mentioned increased domestic tourists (likely linked to higher incomes).	Limited	Firms did not feel confident in tourist numbers increasing.	Both – domestic competition high for tour operators. International competition high in the region (Maldives, Thailand, Myanmar, Sri Lanka, etc.).
<b>ICT</b>	External, though signs of initial growth in domestic market.	Strong	Geared towards export market and growing Nepal market.	International and domestic competition, though procurement carried out at international level with firms often either also located or represented in target markets.
<b>Light manufacturing</b>	Mainly domestic, though shoe production geared towards India.	Limited	Mainly geared towards internal markets.	Both domestic and international, largely dependent on sub-sector.
<b>Agro-processing</b>	Largely domestic; only noodles and jute export-oriented.	Good in some; decline in others	Product-specific. Food production for domestic market is good; primary processing is limited or declining.	Many of the firms interviewed are among top producers in Nepal and face mainly international competition from Indian exporters.

Source: SET survey January 2017

The survey estimates average employee salaries for three of the four sectors, excluding agro-processing, where firms stated that employees were generally paid at around (or just above) the national minimum wage. For the remaining sectors, wages were averaged for three categories of employees: junior employees (with fewer than three years of experience), intermediate employees (between three and five years of experience) and senior employees (more than five years of experience). For these categories, there is significant variation between ICT and the remaining sectors at all levels, reflecting the relatively higher value of goods produced in ICT. Wages in ICT and tourism showed significantly higher annual growth rates (approximately 20% for both sectors) than those in light manufacturing, where nominal wage growth was limited, keeping up with inflationary increases. This suggests the ICT and tourism sectors face more labour tightness than other sectors.



Female participation in tourism, ICT and light manufacturing did not exceed 25% of employees; the rate was around 33% for agro-processing. Youth participation (defined as employees aged 15–29) was highest in ICT and lowest in light manufacturing – a reflection of the average firm age within the sectors. Migrant labour is insignificant across all four sectors, not exceeding 5% of employees, although it does tend to be used for higher-skill work, indicating a potential gap within the high-skilled labour segment.

Table 4. Employee salaries and participation by females, youth and foreigners

Sector	Employee salaries (2017) at junior, intermediate and senior level	Employee salary trend	Female participation (%)	Employees under 30 (%)	Foreign employment (%)
<b>Tourism</b>	Junior: Min wage–NPR 15,000/month Intermediate: NPR 15–20,000/month Senior: NPR 20–50,000/month	Reported growth between 10% and 30% per year.	25% (approx.) Note more females were reported in office-based/ reception work and cleaning.	50% (approx.)	2% (approx.)
<b>ICT</b>	Junior: NPR 21,700/month Intermediate: NPR 50,140/month Senior: NPR 135,000/month	Reported growth between 10% and 20% per year.	20% (limited number of females in labour pool and limited capacity to do night-shift work).	78%	1.4%
<b>Light manufacturing</b>	Junior: NPR 13,750/month Intermediate: NPR 25,000/month Senior: NPR 40,500/month	Reported growth on par with inflation.	24% (traditionally male-oriented).	30%	4%
<b>Agro-processing</b>	Reported as on par with minimum wages.	Estimated to be on par with minimum wage trend.	Increasing trend in almost all firms. A third of firms now employ more than 50% women; on average 33% of firms' workers are women.	Declining trend as average worker is ageing.	<5%, but over-represented in technical, high-skilled engineering jobs.

Source: SET survey January 2017

Table 5 summaries further indicators for tightness in the labour market across the four sectors. In all sectors, firms said they could fill vacancies with *unskilled* labour, as there was no shortage of available workers. However, in all sectors, finding skilled labour was medium or difficult. This means there are differences in labour tightness, for all sectors, at two levels:

1. For **low-skilled workers** the **labour market is not tight** as demand is met by a sufficient labour supply at the required skills levels, which tend to have low requirements.
2. For **higher-skilled** (or more experienced, i.e. with three to five years' experience) workers there is a relatively **tight labour market** on the supply side, as skilled employees leave the country and do not circulate in the domestic labour pool.

In ICT, light manufacturing and tourism, it is also difficult to retain workers because of migration or because workers set up their own enterprises. Agro-processing firms reported that they generally did not find it difficult to retain skilled workers. Finally, wages were reported to be rising by between 10% and 30% in tourism and ICT, and wages in light manufacturing and agro-processing were in line with inflation or minimum wage requirements. Greater feminisation of workers was reported in agro-processing and light manufacturing, a possible sign of a shortage of workers (the latter owing to traditionally male workers being unavailable and females filling vacancies instead). Firms signalled that they did not make distinctions in terms of preferred gender, but they felt that female participation was hampered by cultural norms, by an inability to work long hours owing to household commitments or by a lack of safe routes to and from their workplace.

Table 5. Indicators of tightness in the labour market

Sector	Overall impression tightness of labour market	Ease of hiring staff (easy, medium, difficult)	Notes on ease of hiring staff	Difficulty of retaining staff (easy, medium, difficult)	Notes (e.g. main reasons for staff leaving if retaining difficult)	Other possible indicators of tightness
Tourism	Unskilled labour = 1 Skilled labour = 4	Medium	Easy to fill vacancies, but forced to hire unskilled and provided on-the-job training.	Difficult	Migration Setting up own firms	Wages rising (firms blamed inflation and a few mentioned union demands driving salaries up).
ICT	Unskilled labour = 2 Skilled labour = 4	Difficult	ICT graduate supply adequate but experienced employees hard to find.	Difficult	Large majority of staff move abroad to study or work.	Limited female participation in labour pool.
Light Manufacturing	Unskilled labour = 1 Skilled labour = 3	Medium	Unskilled staff easy to hire but difficult to retain.	Difficult	Staff at all levels move abroad to work.	Some signs of greater female participation (as they are less likely to move abroad).
Agro-processing	Unskilled labour = 1 Skilled labour = 2	Unskilled labour = easy Skilled labour = medium to difficult	Firms can hire unskilled labour easily. Hiring skilled technicians is challenging. Firms hire Indian workers for high-end skilled jobs.	Unskilled = medium Skilled = easy Most firms do not have problems retaining skilled workers.	For unskilled workers, firms are unable to offer unskilled (young) labourers comparable benefits to those they can receive if they emigrate. Many seek to emigrate.	Several firms feel the minimum wage has risen fast in recent years. Workforce in a number of industries becoming increasingly female.

Note: 1 = Not tight; 2 = Some indication of tightness; 3 = Relatively tight; 4 = Tight.

Source: SET survey January 2017

## 2.2 LABOUR SKILLS

The next question we address is whether and how firms find the skills they need. Table 6 presents an overview of firm responses to more detailed probing around existing skills levels in their workforce and the skills required. All sectors reported a shortage of experienced and high-skilled/technically skilled workers. However, the general availability of workers for low- or medium-skilled jobs was reported as being fine across all sectors, as vacancies were not going unfilled – though firms generally had to hire and train inexperienced workers themselves. Agro-processing was the only sector where firms mentioned specifically that they were using skilled Indian technicians, but these roles were limited in number.

Table 6. Skills and availability of workers

Sector	Overall impression availability of skilled workers (shortage, adequate, excess supply)	General skills level	Skills identified as key to working in sector	Best way to learn skills	Training provided by firms and cost
Tourism	Shortage of skilled/experienced workers.	Smaller firms mostly hire low-skilled workers. Large hotels prefer (and need) experienced multi-skilled workers but tend to retain them (not keen to hire unskilled; small operators have no choice).	Non-technical skills: excellent communication, friendliness, customer service, personal hygiene. Languages an asset but secondary to above.	Customer service skills best on-the-job, e.g. placements. Hygiene, quality control, etc. best through certified courses, perhaps by foreign trainers.	Mostly on-the-job training (significant time invested) and compulsory courses (e.g. first aid). No mention of health and safety or hygiene training being compulsory.
ICT	Adequate at entry level, shortage of experienced workers.	Most technically skilled in programming languages (software development), communication.	Programming languages; communication skills.	Solid academic background followed by on-the-job training and online certification.	On-the-job, online certification, in-house knowledge-sharing, external courses.
Light manufacturing	Shortage of technically oriented workers.	Majority low-skilled line/factory floor workers.	No particular skills identified.	On-the-job training.	On-the-job and certification for machinery operation and maintenance.
Agro-processing	Shortage of skilled machine technicians but Indian workers readily available for small number of jobs needed.	Most workers factory operators with low levels of skills.	For technical workers mechanical engineering, chemical engineering, food safety and quality assurance.	On-the-job preferred modality for most firms. Food safety and quality assurance training can be vocational.	Firms largely hire engineers to install machinery and provide <i>ad hoc</i> training for six months (e.g. part of turnkey contracts).

Source: SET survey January 2017

While the percentage of foreign workers was extremely low in interviewed firms, firms reported that foreign workers were hired to fill some technical roles, although there were some differences across sectors.

For the tourism sector, the survey found little evidence of foreign workers being used because of a shortage in supply of skilled workers. Two small tour operators had one foreign worker, and one major hotel said 3% of its workforce was foreign. The only skilled role mentioned as being particularly difficult to fill from Nepal, which was sometimes filled by foreigners, was that of chef. One major hotel explained that it hired Indian chefs because Indian cuisine is popular and guests preferred 'authentic' food (indicating that, even if there is a shortage being filled by foreigners, it is not necessarily one that can be solved through skills training). Although ICT firms have hired foreign workers, Indian presence is not especially significant, nor, more generally, is the presence of foreign workers. ICT firms, given relaxations in foreign worker hiring procedures, would be more inclined to hire experts from the EU or the US, but the problem is emigration rather than immigration, which is causing a significant labour gap in the market, especially at the higher-skill level.

Agro-processing firms have hired a small number of foreign workers (usually less than 5% of total employment) with mechanical engineering skills to install and maintain plant machinery. They have done so because they cannot find Nepalis with the expertise and experience to carry out these tasks. While further training of Nepali 'engineers' may allow firms to substitute some of the foreign workers with local hires (and firms confirmed they were eager to hire more Nepalis for these roles), several firms articulated their preference for hiring highly experienced workers, and those from abroad had the advantage of having previously worked for a significant length of time in factories and having gained familiarity with the machinery. These firms specified that they were looking for 'engineers' who had good practical experience with machinery but were not particularly aiming for graduate workers. It would be worth exploring whether vocational and apprenticeship schemes can help fill some of this gap. Similarly, light manufacturing firms (approximately half of surveyed firms) hired Indian staff for technical work, such as machine operations/maintenance, or in upper-level management. The foreign worker percentage remains extremely low (4%) and the skills gap may be reduced by focusing on better engineering courses at tertiary level and technical vocational courses at secondary level (i.e. machine operations and maintenance), though the greater emigration problem would likely persist.

An important outcome of the survey was that most firms tend to rely on a significant amount of on-the-job training to get adequately skilled workers. This is a finding of particular interest as no respondents mentioned hiring employees who had been trained at external skills training centres, leaving their utility in doubt.

## 2.3 CONSTRAINTS TO SECTORAL GROWTH

The final question we examined related to understanding the general constraints to firm growth. Reliable power is commonly highlighted as an issue in reviews of Nepal's investment climate; it was also among the most frequently mentioned constraints in our survey (Table 7), especially for those in manufacturing and agro-processing. For firms that export goods, recent closing of the borders associated with the trade blockade and non-tariff barriers have also taken a heavy toll. Firms further highlighted sector-specific constraints: tourism companies were concerned about the lack of infrastructure specifically around tourism sites and Nepal's brand image as a tourist destination. For ICT firms, limited connectivity and absence of intellectual property (IP) laws and security were important constraints to further expansion.

Firms reported that they had not found effective ways to work with government to relax these constraints. They generally enter dialogue with government to tackle constraints indirectly through their business associations and rarely have the opportunity or make the attempt to discuss issues bilaterally. An exception was some manufacturing firms, which had discussed specific issues related to process resolution and labour disputes directly with government. Most firms across all sectors could not cite examples of recent positive collaboration and complained that the formal mechanisms that were meant to

serve as conduits for firms to raise issues and advise the government on industrial policy were ineffective. For example, one industrialist argued that, while they had been designated a ‘commercially important person’, their various efforts to advise as an industrialist went unheeded. Most firms’ exposure to government is in the context of applying for licences, taxation and receiving inspections, which usually involve complex processes. More generally, while firms reported that their membership of associations was useful to raise some of the issues they faced, some of the main constraints, such as power and infrastructure, were intractable, and they had little faith in the effectiveness of association-based lobbying in overcoming these. The ICT sector at present does not have its own association serving the needs of service-oriented firms.

Table 7. Growth constraints and government and business association collaboration

Sector	Labour constraints to growth	Other growth constraints	Government collaboration	Business associations
Tourism	Lack of skilled/experienced workers. Skilled labour migrating.	Inadequate infrastructure. Weak image of Nepal as tourist destination.	Minimal, usually regulatory and compliance operational issues (e.g. obtaining permits, licences etc.). Multiple confusing processes, multiple ministry involvement (and conflict).	Several sub-sectoral associations. Hotel Association Nepal working particularly well – bigger hotels have more influence but smaller ones saw this as a good thing for lobbying.
ICT	Migrating graduates. Lack of experienced workers.	Limited connectivity. Capital account restrictions. IP laws and security.	Limited to process resolution.	Unrepresented; Computer Association of Nepal represents interests only of hardware-oriented, not, services-oriented firms.
Light manufacturing	Labour law. Limited research and development technically capable labour pool. Migrating workers.	Transport links. Energy costs and supply.	Limited to process resolution and labour disputes.	Federation of Nepalese Chambers of Commerce and Industry (FNCCI); sub-sectoral associations.
Agro-processing	Unskilled labour becoming increasingly expensive. Impact of unionisation and disruption to production is mixed – this is severe in a minority of firms but generally limited.	Electricity supply is first-order hindrance. For exporters, non-tariff barriers and trade disruption are severe. Roads to internal markets raise costs.	Generally limited collaboration with government – most is through associations. Resolving power shortages for manufacturing firms is frequent plea.	All firms were members of the FNCCI or local chapters (e.g. in Morang).

Source: SET survey January 2017

## 2.4 LABOUR MARKET KNOWLEDGE GAPS

Several knowledge gaps became evident during the course of the investigation into the Nepalese labour market. The most obvious knowledge gap is the lack of a recent Labour Force Survey (LFS): the latest one was carried out in 2008, which means that the research has not systematically captured any shifts in

the labour market in the intervening nine-year period. Preparations for a new LFS are being made (with DFID and ILO support); this should help improve the knowledge base once ready.

From a technical perspective, there are more granular knowledge gaps in the labour market that the new LFS can help fill, such as those related to sectoral participation by age, socioeconomic (i.e. caste) status, geographic dispersion, wages by skill level, gender division by skill level, educational level attainment, etc. More granular information would help us understand where more disadvantaged groups tend to cluster in terms of employment and what the potential bottlenecks are.

From the firm perspective, surveys such as the next round of the World Bank Enterprise Survey could also include more granular information on whether (and what type of) skills form a constraint to firm operations, labour turnover rates, training costs, etc. This would help give us a more holistic view of the labour market.

From a qualitative perspective, a future political economy analysis of current labour law directives could prove useful if aimed at understanding effective impacts on firm operations (and costs) and ultimately impacts on the labour to capital ratio and the capacity of firms to hire more people. The aim is to understand if current labour laws are, effectively, a constraint to firm growth or are adequate in their current state. Such an investigation would, however, meet severe resistance from established stakeholders (i.e. labour unions, government representatives, etc.), hence effective implementation may not be possible.

## 2.5 LABOUR MARKET SURVEY CONCLUSIONS

The labour market survey revealed a number of interesting overall findings, of which the most important is the existence of a dual labour market in Nepal, one for high-skilled labour and one for low-skilled labour. In relation to the low-skilled labour market, firms have no difficulty hiring relatively unskilled employees to meet their demand – in fact, there was general consensus that applications for positions usually outstripped the number of available employment opportunities. For high-skilled workers the converse is true: firms cannot find enough employees for their high-skilled labour positions.

What is happening is that, as soon as an employee increases their skill level, they can command higher wages, which they can attain only by emigrating. To retain these workers, firms would need to increase wages in order to incentivise them to stay, but firm operations are restricted by their operating environment – that is, the relatively small Nepalese market demand for goods and services, which limits revenues hence firm profits that can be redistributed to firm employees.

This is important, as the survey results emphatically show that firms are willing to up-skill (e.g. train) their labour to undertake more advanced technical tasks, especially as they perceived that these technical skill capabilities were lacking in potential employees, but do not currently have incentives to make up-skilling training programmes available to all staff, as there are fears of monetary loss when the labour inevitably leaves.

This means there is a tangible need to create the profitable opportunities required for high-skilled workers to operate. The survey found a number of operational constraints that needed to be tackled in order to achieve this goal. Foremost among responding firms was the need to improve connective infrastructure (both physical, i.e. roads, and digital, i.e. internet connectivity) in order to improve the flow of goods and services into and out of the country, widening market reach. Around physical connectivity are the business environment constraints (capital accounts, IP laws, etc.) that also need to be addressed to improve firm operational efficiency.

## 3. POLICY SUGGESTIONS

### KEY POINTS OF THIS SECTION

- Based on the survey findings, we present policies that have the capacity to increase prosperity, growth and employment, by distinguishing between those that raise the **demand** for labour and those that increase the **supply** of skills. We further distinguish between **general** enabling policies and sector-**specific** policies.
- **Labour demand, general:** Road infrastructure, power, easing of regulatory rules on payments and streamlined labour laws;
- **Labour demand, specific:** Dedicated tourism infrastructure, improved IT connectivity, IP legislation, manufacturing incentives, streamlined import taxes;
- **Labour supply, general:** Internship systems in secondary and tertiary education, technical and vocational training across industries for specialised roles, tertiary education meeting global standards;
- **Labour supply, specific:** Internships in firms for university students in ICT and hospitality firms, incentives for firms to provide more in-house training in manufacturing and agro-processing, tertiary engineering institutions, improved secondary-level vocational training institutions in manufacturing, training schemes for machine operations in agro-processing.

### 3.1 POLICY SUMMARY

Based on the research findings and firm-level surveys, we present the main policy suggestions to increase prosperity, growth and create jobs in Table 8 below. The table distinguishes between two main categories of policy suggestions (the rows of the matrix): i) policy suggestions that aim to increase demand for (skilled) employment in Nepal whenever the constraint to growth is on the labour demand side; and ii) policy suggestions that increase the supply of skilled labour in-country when constraints are related to the availability of skills. Following the SET methodology in McMillan et al. (2017), the table further distinguishes between policy suggestions that are general and cross-cutting across all sectors and policy suggestions that are sector-specific options.

Table 8. Summary of policy suggestions

	General enablers	Targeted, sector-specific
<b>Demand: jobs and skills</b>	<p>Improve transport infrastructure connecting areas of production to end domestic markets (e.g. in the hills region) and – for agro-processing – to areas of agricultural production. For tourism, improve road routes to tourism sites and around destinations.</p> <p>Improve the supply of power nationwide and in areas where manufacturing and agro-processing are concentrated, e.g. border towns. A stable and reliable supply of energy is also critical for ICT firms, given the high dependency on capital and requirements to operate on non-stop cycles.</p> <p>Simplification of capital account payment systems by reducing costs and bureaucratic burden in international payments and development of a payment gateway and real-time settlement system. These are highly relevant for ICT firms and can also provide practical benefits for export-oriented manufacturing firms.</p> <p>Streamline labour laws to enable understanding of whether simplifications of labour disputes, i.e. simplification of labour termination procedures, can result in changes to employment levels (especially in manufacturing).</p> <p>Provision of advocacy training to business associations and government representatives. Provision of neutral spaces for state–business relation discussions.</p>	<p>Nepal Tourism Board to increase country-level promotion and formulate/implement strategy by working closely with private sector and Department of Tourism (Tourism).</p> <p>Build and improve airport infrastructure (Tourism).</p> <p>Increased connections to global ICT backbone and provision of national data centre for improving redundancy systems, bandwidth and security (ICT).</p> <p>Modernisation of IP laws (ICT).</p> <p>Assess status of tax rebates on ‘Special Industries’ in terms of ease of access and actual disbursements (Manufacturing).</p> <p>Revisit import taxes on intermediate goods (Agro-processing).</p>
<b>Supply: labour and skills</b>	<p>The need for practical experience means support to systemic on-the-job training systems is required at the secondary and tertiary education levels that can link firms to students, closing the perceived practical skills gap.</p> <p>Provision of technical and vocational training skills matchmaking signalling systems across all industries for specialised roles (i.e. machinists, chefs, etc.) to reduce the training mismatch between what firms need and what technical skills training provides.</p> <p>Tertiary education requires bolstering (and changes in curricula) to meet global standards, reducing the level of emigration and increasing the highly skilled labour pool.</p>	<p>Incorporate long-term placements and internships for hospitality university students. Provide training to locals near rural tourist destinations (Tourism).</p> <p>Systematic internship system between tertiary-level institutions and ICT firms (ICT).</p> <p>Create incentives for firms to provide more in-house training to workers (e.g. subsidise training costs) (Manufacturing, Agro-processing).</p> <p>Support for a research, development and design-focused tertiary-level institution. Tertiary engineering institution supported by improvements in secondary-level vocational training institutions (Manufacturing).</p> <p>Support industry-wide schemes for training on machine operations. Support bursaries and schemes for Nepali technical workers to benefit from training in Indian firms (Agro-processing).</p>



## 3.2 POLICY PRIORITISATION

Here, we discuss and prioritise the demand- and supply-side policies in more detail. We prioritise policies that are most likely to raise growth and employment. The options presented are not meant to provide a detailed course of action, and are specifically tailored towards the remit of the paper, not delving into other issues, such as raising firm-level productivity or improving export volumes. The policies presented need to be addressed in order to raise demand, and concurrently supply, for skilled labour in the country. They are ranked based on the ecosystem of the four-sector survey; hence, prioritisation is dependent largely on an aggregated view of firm responses.

1. **Transport and energy infrastructure:** Cited as the top constraint across all sectors, increased investment in transport and energy infrastructure was seen as one of the main policy priorities. Multiple actors are already engaged in improving energy and transport networks in Nepal. However, it is important to highlight this constraint here as spillover effects also affect demand- and supply-side constraints within the labour market – which is why this constraint should be a top priority.

From a manufacturing and agro-processing sector perspective, **better transport connections between primary resource-producing areas and manufacturing firms** will help reduce production timescales and costs. There is a major resource mobilisation challenge when production of input resources occurs in highly challenging geographic regions (i.e. Pashmina wool in mountain areas), which are difficult to connect to production zones. Agro-processing firms that source their inputs in the Terai or across the border with India also noted that poor roads raised the costs of their goods and hampered sales.

In terms of tourism, **improving infrastructure on routes to popular tourist sites, as well as in destinations, is essential.** Without access to some of the beautiful natural assets of the country, it is difficult for Nepali tourism firms to attract high numbers of tourists (including low-end, high-end and religious tourists). Following the Foreign Investment and One-Window Policy 2015, which defines priority sectors for foreign investment including tourism (USDoS, 2015), Department of Industry figures showed a 389% increase in foreign investment in the tourism sector in early 2015 from the previous year. Although this is a good sign, most of this was in hotels (eTN, 2015), and this survey finds the economic impacts of building more luxury hotels and attractions are likely to be hindered if basic infrastructure and transport-related challenges prevail. The building of luxury resorts and hotels does not help much if there are no safe, convenient ways for tourists (particularly high-end) to reach them.

The availability of **energy** remains a major constraint for firm growth, attributable both to (perceived) high costs and to unreliability. Survey results show a clear dichotomy between firms in Kathmandu and those in peripheral (border) regions, which often suffer greater unreliability than those in the capital. Firms in Kathmandu are still affected by (currently less frequent) interruptions to electricity supply, also a critical constraint for ICT firms that require servers to be running on continuous cycles. In Biratnagar, which hosts a cluster of agro-processing and manufacturing firms, intermittent power and low voltage remain a key constraint to maintaining and increasing production. Lack of grid power forces companies onto expensive alternative power sources, which inhibits their competitiveness. **Connectivity and supply** remain a constraint that the government of Nepal is acutely aware of, but resolution remains a key policy action that has yet to be fulfilled.

2. **Systemic on-the-job training:** Across all the sectors, the perceived practical skills gap could be reduced by creating a systemic on-the-job training system linking students from tertiary (technical and vocational) and secondary (vocational) education institutes with firms looking for students with the required basic skills that participating firms could further skill up on job-specific skills. Lack of information in the labour market – on job availability by employers and signalling skills by employees – combined with limited vocational training for youth has led to perceptions of a skills gap in the market (ILO, 2014), which needs to be bridged. Such a system could promote training aimed at (at least) providing employees with some degree of self-sufficiency and understanding of basic firm practices as

well as practical applications of theoretical learning. This could be a useful practical method of first helping potential employees bridge the skills gap and then putting them in direct contact with the professional world to increase employment-finding opportunities. A systemic approach could **provide (match) funding for new employees** (dependent on needs) to reduce the burden on, and increase uptake by, firms. This would also allow interns from more disadvantaged socioeconomic backgrounds to actively engage with the internship system by reducing their economic opportunity costs. The system should not dis-incentivise firms from continuing to provide their own training to employees with the expectation of shifting such duties onto education systems, which should aim to provide more holistic skills to students.

3. **Technical and vocational training:** All sectors reported gaps in relation to particularly skilled workers. In some cases, foreign workers were used; in others, firms provided training, which was burdensome and costly. Therefore, providing specific technical and vocational training to cover 'base' technical skills (that can be horizontally applied between firms) could be valuable. In addition, specific training is required, such as on quality control for food-handlers in tourism or advanced machinery operations in agro-processing and manufacturing. These targeted training options should be designed/delivered with input from firms, which should signal what skills are needed to ensure the *specific* skills gaps are being addressed in each sector.

Part of the strategy could be to institutionalise representative surveys of firms in different sub-sectors to understand the forthcoming needs for skills. Sub-sector business associations (i.e. the Garment Association of Nepal) could carry out the surveys, to decentralise operational burdens, feeding back results to technical colleges at the regional level. This would allow for the **creation of a simple match-making process** for skills and labour and help address specific skills gaps, while reducing redundant training systems and providing an additional spill-over effect, as information on skill requirements, by sector, is updated on an annual basis.

4. **Capital account restrictions:** An important concern for the ICT and manufacturing sectors, looking to conduct business abroad, current capital account regulations restrict the financial operations of sectors geared towards the export market by limiting inward and outward payments. Though the paper does not suggest full and immediate liberalisation of capital accounts, further relaxation of the capacity of Nepalese firms to engage in international (online) payment systems by increasing inward and outward payment caps (currently set at \$2,000) and simplifying procedures could help firms expand access to international markets.
5. **Advocacy:** Nepalese businesses suffer from *ad hoc*, infrequent or limited interactions with the government. State–business relations, though not negative, are not productive. There are multiple avenues that could be pursued. On the business side, training and financial support could be provided to umbrella business associations to improve their interaction with the government. On the government side, similar training could be provided, as well as research, evidence or data to show the benefits (or costs) of reforms or policies that would be part of the state–business discussions. External actors could play a supporting role in providing a 'neutral space' for state–business discussions.
6. **Tertiary education:** Although the national school system requires a holistic overhaul to ensure a high-quality curriculum and to reduce the resource gap between private academies and public schools, in the medium term the quality of tertiary education systems (particularly at the postgraduate level) requires in-depth analysis to see what could be improved to retain students in Nepal.

There is certainly a strong economic-cultural drive (i.e. family prestige, perceived increases in life income, etc.) for young people to study abroad, which is not specific to Nepal. Improvements in the quality of post-graduate education may help reduce employee migration levels once perceptions of improvements in the education system filter through into the public realm. Linking internship systems (and firm sponsorships for employees) into post-graduate studies in Nepal, as well as linking local institutions to foreign institutions to promote semester and teacher exchanges, may help incentivise the uptake of domestic post-graduate education.

### 3.3 IMPLEMENTATION: OPPORTUNITIES AND CHALLENGES

This paper argues that labour market issues in Nepal are part of wider development concerns and should not be pursued in isolation. Thus, it recommends a number of policy options that would act as general enablers as well as policy options targeted at specific sectors that may contribute to improvements in labour demand and in the supply of skilled labour.

Since the Constitution of Nepal provides every citizen the right to employment and the right to choose this, all political parties are committed to creating jobs through their election manifestos. The 13th Development Plan and National Employment Policy 2015 have stated goals of providing productive and rewarding employment opportunities for all citizen, and policy-makers are under pressure to effectively intervene in the labour market to create jobs. Such pressure provides important opportunities to implement the policy measures we have identified.

However, a history of political and bureaucratic instabilities, an institutional culture that adapts with difficulty to changes and lack of an explicit incentive structure to carry forward such interventions are major challenges in this regard. Table 9 presents specific policy-related opportunities and challenges.

Table 9. Summary of opportunities and challenges around policy suggestions

Policy	Opportunities	Challenges
<b>Transport and energy infrastructure</b>	<p>Transport and energy infrastructure development a priority sector of the government, which has unveiled a five-year transport development strategic plan (2016–2021) and priority investment plan and a 20-year electricity development plan (2010–2030).</p> <p>Electricity generation is deregulated and open to the private sector.</p> <p>The government has adopted a public–private partnership model in infrastructure development.</p> <p>The government has signed the Power Trading Agreement with India.</p>	<p>Under the new federal structure local roads fall under the competency of local bodies and road classification and alignment may turn into a political issue.</p> <p>It has become increasingly difficult to acquire land for hydro-power development and road construction as demand for compensation tends to be extremely high.</p> <p>Some political parties/groups are against foreign investment in the energy sector.</p>
<b>Systemic on-the job-training</b>	<p>There is awareness of the need for on-the-job training by the private sector.</p> <p>An Employment Fund has been established, with the support of development partners, to incentivise on-the-job training providers.</p>	<p>Enterprises are reluctant to invest in on-the-job training given the high turnover rate of such trainees.</p>
<b>Technical and vocational training</b>	<p>There exist numerous technical and vocational training institutes nationwide, and an institutional mechanism, the Council for Technical and Vocational Training, for regulation and monitoring.</p> <p>An Employment Fund has been established, with the support of</p>	<p>The turnover rate for the trained workforce is high: workers either establish their own business or migrate abroad for jobs.</p>

Policy	Opportunities	Challenges
	development partners, to incentivise on-the-job training providers.	
<b>Easing capital account restrictions</b>	A discussion on this has been occurring for a few years and concerned officials in the Ministry of Commerce, the Ministry of Industry and the Central Bank seem convinced.	Fear of revenue losses. May take two to three years to develop infrastructure for a payment gateway.
<b>Advocacy</b>	Built-in advocacy activities in the government programme. Presence of private sector and other stakeholders in various government bodies and committees. Well-organised private sector with FNCCI with district chapters, Confederation of Nepalese Industries, Federation of Nepalese Cottage and Small Industries. Active development partners in advocacy activities.	Lack of coordination among private sector, between development partners and private sector and between the government, private sector and development partners.
<b>Tertiary education</b>	General awareness on the labour market and quality education. Government has established a task force to suggest measures to improve university education.	Politicisation of universities. Majority of university teachers are unmotivated and of low quality.

## 4. CONCLUSIONS

The paper has examined the constraints to job creation in four sectors with high transformative potential: tourism, ICT, light manufacturing and agro-processing. A key concern is the extent to which the constraints are on the supply side (labour skills) or the demand side (getting firms to operate well and hire more labour). The paper finds that there is a dual labour market in the country across all sectors. Firms find there is enough unskilled labour; workers, once trained, can fulfil tasks in the lower- to mid-skilled range of operations. However, once employees have enough experience, they tend to emigrate, leaving a high-skilled labour gap in the market. This paper thus concludes that one of the major constraints relates to the inter-linkages between a lack of productive opportunities in Nepal and the high rate of emigration.

Demand-side constraints, such as limited transport and energy infrastructure, a difficult business regulatory environment (i.e. restrictions to international capital account transactions), etc. hinder the capacity of Nepali firms to grow and therefore to create more jobs. Survey respondents named infrastructure (energy and transport) as the top constraint; however, immediately after came supply-side constraints such as lack of available skills, such as of specialised ICT programmers, machine operators in manufacturing, chefs for tourism activities, etc., which add further constraints to firm growth.

The demand- and supply-side constraints result in current emigration patterns, whereby higher-skilled employees are being pulled abroad by better market conditions (i.e. higher wages, more prestigious positions) or by opportunities to further their education (typically at post-graduate level). Although lower-skilled labour emigration also occurs, with perceived opportunities to earn more money abroad the major pull factor, the larger number of lower-skilled workers in the economy means low-skilled emigration is not

a major constraint to growth: those who leave can be replaced quickly by in-country workers. However, this does still leave a skills gap, as more experienced workers are constantly being replaced with new workers who need on-the-job training. The main push factor, across all skills levels, is the socio-cultural prestige that comes with moving abroad to either work or study, even for roles that are not directly linked to a person's skillset. For example, some tourism firms reported skilled/experienced workers leaving Nepal for construction jobs in the Middle East.

Therefore, to support job creation, interventions need to target economic fundamentals such as improvements to the private sector enabling environment (internal transport links and energy infrastructure, regulatory systems, etc.), which will simplify access to export markets through regulatory and infrastructure interventions. Once such issues have been resolved, the incentives to stay in a growing Nepalese market may reduce emigration. Further research is needed into the perceived 'prestige' of moving abroad; studies should be done on the decision-making of those migrating abroad (particularly high-skilled workers) to uncover whether a growing Nepali economy would actually encourage workers to stay in their home country or whether there are other non-economic factors that would still pull them abroad.

To help bridge the skills gap, interventions should create a two-way linking between firms and potential employees, allowing firms to provide on-the-job training to interested students in secondary and tertiary institutions while signalling what kinds of skills the firms actually need. Currently provided training systems have not helped reduce the skills gap, leaving the country (and any other potential stakeholders) with two paths: available training programmes need to improve and increase their relevance; while on-the-job training needs to be supported. Interventions would help make technical and vocational training more relevant to private sector needs by matching required skills with provided training, and would incentivise firm training by improving interactions between the current education system and the private sector through promoting internships and supporting on-the-job training activities.

Once the major demand-side constraints are resolved, this should ease pressure to emigrate and help retain skills in-country, further contributing to growth. What remains is the fact that coordination challenges – that is, producing a holistic vision of where the country wants to be by 2030 and the requirements and institutions it needs to meet and support – must be addressed if Nepal wants to get off its current low-skill, low-productivity path.

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