



# Dual Vet-Apprenticeship Programme in Nepal: Formative Assessment of the First Cohort

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# Executive Summary

This working paper presents a **formative assessment** of the **Dual VET-Apprenticeship in Nepal**. Hence, the working paper presents an evidence-based analysis of the processes to motivate participation of schools, companies and apprentices<sup>4</sup> as well as the matching process of companies and apprentices. Thereby, the analysis based on interviews with the stakeholders aims to provide early insights into what works well and what might represent roadblocks for the further development of the programme.

The Dual VET-Apprenticeship programme is supported by the Enhanced Skills for Sustainable and Rewarding Employment (**ENSSURE**) project. The ENSSURE programme is financed by the Swiss Development Agency (SDC) and is implemented by the Council for Technical Education and Vocational Training (CTEVT) with the technical assistance support from HELVETAS Swiss Intercooperation Nepal (Helvetas). In the context of Nepal, the Dual VET-Apprenticeship component of ENSSURE is a new approach to technical and vocational education and training (TVET)<sup>5</sup> programme that lasts for two years. After three months of classroom education, apprentices receive one day of classroom education and four to five days of workplace training each week for 20 months. After a final month of classroom education, apprentices take the examination for the Technical School Leaving Certificate (TSLC), which is a formal TVET degree offered by the CTEVT. In contrast to the Dual VET-Apprenticeship, the existing TSLC programme called On-the-job training (OJT) programme only entails three to six months of work-based training, depending on the programme direction.

The initial phase of the ENSSURE programme supports the provision of Dual VET-Apprenticeship training for **two cohorts**. The first cohort of 181 apprentices started in July and September 2018. They will be technicians in mechanical and electrical engineering after successful completion of the programme.<sup>6</sup> The second cohort of about 1000 apprentices starting in July 2019 will further include Dual VET-Apprenticeships in hotel management, IT and automobile engineering.

**Motivation of companies** to offer Dual VET-Apprenticeship places for the first cohort has been relatively easy. This appears to be due to good personal relationships of schools<sup>7</sup> with companies. Furthermore, most participating companies have experience in providing workplace training for existing TSLC programmes. This explains why companies are not particularly worried about the quality and learning attitude of apprentices despite not having seen the applicants in many cases by the time the interview was conducted. Companies are generally happy to participate in the programme. They are particularly happy about the relatively long duration of two years. However, companies have varied expectations regarding apprentice wages. According to our understanding, this reflects a lack of specification in the tripartite Memorandum of Understanding (MoU), which makes forming accurate expectations about programme profitability difficult.

The most relevant **concern of companies** refers to their fear that apprentices quit before the end of the programme. This challenge is aggravated by the goal of ENSSURE to include a high share of disadvantaged apprentices, e.g. women and Dalit (ENSSURE, 2018). Since dis-

<sup>4</sup> We simplify the language by using the term apprentices for Dual VET-Apprentices throughout the working paper.

<sup>5</sup> We use the term “TVET” to refer to education programmes that prepare for labour market entry in an occupation. In other contexts, this is sometimes referred to as “Vocational Education and Training (VET)” or “Career and Technical Education (CTE)”.

<sup>6</sup> Mechanical and electrical engineering refers to the terminology of occupations used by ENSSURE. However, the term engineer is used for persons with four or five years of undergraduate programme in engineering after grade 12.

<sup>7</sup> These schools can be either technical schools or polytechnics. They are sometimes referred to as training institutes.

advantaged apprentices have less resources to forego earnings during the Dual VET-Apprenticeship, they might be particularly tempted by the idea of making money in the short-term by working in a regular job rather than investing in their long-term perspective. Hence, the bulk short message service system of Helvetas represents an important tool to reduce drop-out by identifying arising challenges early and reminding apprentices about the benefits of completing the Dual VET-Apprenticeship.

These results suggest that the first cohort is **going on well**. However, the results also raise questions about scaling up the programme. Relying on personal relationships of schools and existing experience of companies will get more difficult as the scope of actors increases. Hence, including industry associations<sup>8</sup> more concretely in the process might help to streamline the process of motivating companies.

**Motivating applicants** for the Dual VET-Apprenticeship programme has been more difficult than the recruitment of companies. This is particularly true for disadvantaged youth. The main challenge mentioned has been the fact that the Dual VET-Apprenticeship is a new programme and youth may not have heard about it. However, by putting in effort, the schools have been able to find suitable applicants for most classes. The apprentices are generally very happy about the Dual VET-Apprenticeship as a whole. One main issue of apprentices refers to difficulties of financing their living and transportation expenses. This is particularly evident for apprentices who stem from rural areas. Furthermore, some apprentices have doubts regarding the quality of classroom education. They mention that these doubts are due to a lack of access to books and machines in the particular school. This highlights the relevance of ascertaining that schools have sufficient resources to provide high-quality education and training to the apprentices. Furthermore, a lack of permeability in the Nepali education system after the completion of the TSLC represents a concern. Hence, the ongoing process of developing a National Vocational Qualification Framework should be followed closely, since it might enhance the attractiveness of the Dual VET-Apprenticeship by providing new pathways after completion (Caves and Renold, 2019).

**Scaling up from four schools** in the first cohort to about 25 schools in the second cohort might represent a challenge. Furthermore, the issue of coordination among schools needs to be discussed more thoroughly. This challenge arises on multiple levels. First, it remains unclear how multiple schools in the same region coordinate to avoid competition for apprentices and companies. Second, other programmes exist that are similar as the Dual VET-Apprenticeship. This includes for example the apprenticeship programme offered by the Butwal School of Technology but also the existing CTEVT run on-the-job training (OJT) programmes that consist of one year of classroom education followed by four to six months of workplace training. This represents a positive factor in the short-run as companies have an understanding and experience in providing workplace training. However, in the long-run, the relationship between these similar programmes needs to be evaluated to avoid frictions. Hence, a long-term strategy for coordinating the brand of the Dual VET-Apprenticeship needs to be developed.

Taking a step back to look at the broader picture brings the ongoing **federalisation** process of the whole Nepali education system in view. As it is not yet clear what shape the TVET governance would take place under the federalization, it remains unclear what the impact on the Dual VET-Apprenticeship will be. As the provincial and local governments might emerge as new actors in TVET governance, ENSSURE needs to develop close relationship with them. Furthermore, the federalisation represents a challenge for the long-term strategy of the Dual VET-

<sup>8</sup> The more abstract term is employer associations, referring to all forms of associations for employers. These can for example take the form of industry associations, chambers of commerce or occupation associations. Since this more abstract term is less common in Nepal, we use the term industry association instead.

Apprenticeship programme because of the resulting changes in the relevant actors. Concretely, the federalisation process will require cooperation between ENSSURE and the provincial governments. However, since the federalisation process is ongoing, substantial uncertainty regarding the division of responsibilities in the future exists. Hence, it is important that ENSSURE continues their implementation effort during this transition process while keeping track of the developments in the federalisation process.

# 1 Introduction

Technical and vocational education and training (TVET) represents an important policy issue across the world (see, e.g., Figueiredo et al. (2017)). This policy issue is particularly important for developing countries since enhancing human capital represents a cornerstone for increasing growth and improving living conditions (see, e.g., Frigotto, 2009).

This working paper provides a formative assessment of the first cohort of a Dual VET-Apprenticeship programme in Nepal. This new programme combines classroom education with workplace training in companies. Implementing a Dual VET-Apprenticeship programme successfully represents a challenge because it requires coordination among several actors, including involved schools and companies that provide Dual VET-Apprenticeship places. In order to support the challenging process of scaling up the project, this working paper presents the results of interviews among stakeholders conducted in November 2018. These interviews aim to answer a number of research questions:

- 1) Why do schools participate in the Dual VET-Apprenticeship programme?
- 2) How difficult is it to motivate companies to provide Dual VET-Apprenticeship places?  
What are the reasons for this?
- 3) How difficult is it to motivate applicants for the Dual VET-Apprenticeship programme?  
What are the reasons for this?
- 4) How are applicants and companies matched?

Section 2 provides a description of the Dual VET-Apprenticeship programme. Section 3 presents a framework for the analysis. Section 4 describes the data gathering process. Section 5 reports the results and section 6 presents the conclusions.



## 2 Description of Dual VET-Apprenticeship

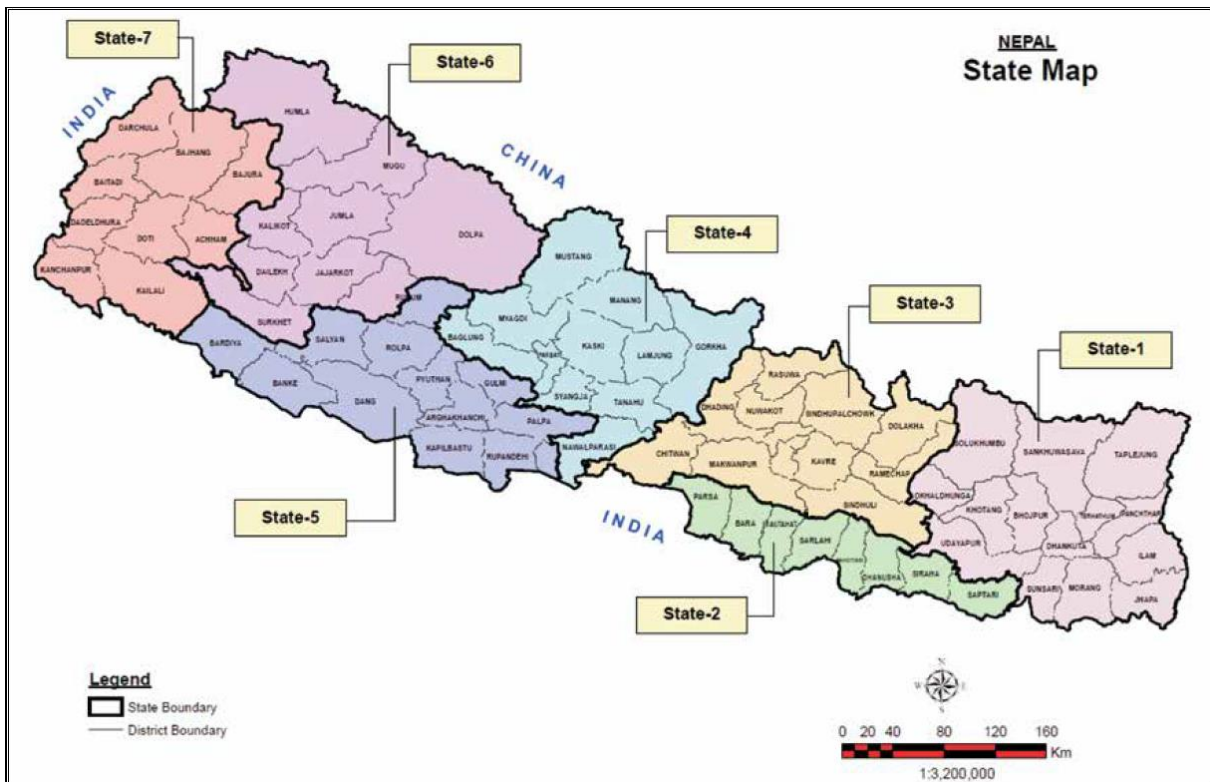
The Enhanced Skills for Sustainable and Rewarding Employment (ENSSURE) project is an example of a TVET project in Nepal. This project is a bilateral project between the Government of Nepal and the Government of Switzerland represented by the Swiss Agency for Development and Cooperation (SDC). It aims to increase the skills of Nepali workers to improve labour market outcomes and support industries and businesses. The project has started in 2016 and has three training components, namely the support of a Dual VET-Apprenticeship programme as well as the introduction of short training courses for new job seekers and further training for employed workers.

This working paper focuses on the first component, the introduction of a **Dual VET-Apprenticeship programme**. These Dual VET-Apprenticeships last for 24 months. The first three months consist of classroom education. The following 20 months combine four to five days of workplace training per week with one day of classroom education per week. Finally, the last month consists of classroom education. The Dual VET-Apprenticeship leads to a Technical School Leaving Certificate (TSLC).

The implementation of the Dual VET-Apprenticeship project is a **cooperation** between the Council for Technical Education and Vocational Training (CTEVT) and HELVETAS Swiss Intercooperation Nepal (Helvetas). The main role of the CTEVT consists of developing the curricula, and conducting entry and exit examinations. Helvetas acts as technical assistance provider.

The Dual VET-Apprenticeship project aims to train 1'200 apprentices in two cohorts between 2016 and 2019. The first cohort of 181 of the planned 200 apprentices have started between July and September 2018. This cohort entails apprentices in two occupations, namely 129 technicians in mechanical engineering and 52 technicians in electrical engineering. These Dual VET-Apprenticeships are delivered by four schools in states 1, 3 and 5 (see Figure 1, which calls states by their old name "province"). Hence, the first cohort focuses on a relatively narrow scope of occupations, but already spans a variety of geographic locations.

Figure 1: Seven States of Nepal



Source: SDC (2018).

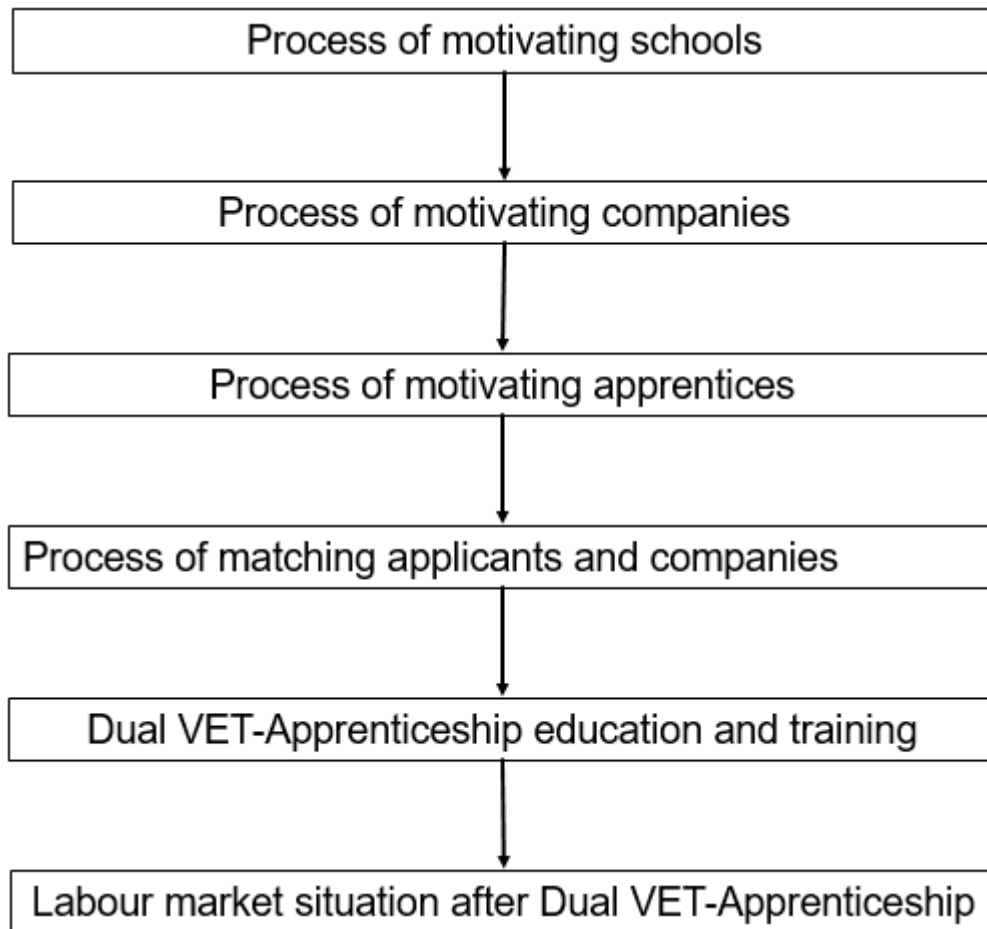
The second cohort of the Dual VET-Apprenticeship project will start in July 2019. It is planned to educate 1000 apprentices in five occupations, namely mechanical engineering, electrical engineering, hotel management, information technology (IT), and automobile. The plan suggests that the hotel management occupation is the most common, followed by the electrical engineering, while the automobile engineering occupation is relatively smaller. In addition to enhancing the scope of occupations, the second batch aims to expand the geographic coverage to state 6. Furthermore, increasing the number of apprentices fivefold while holding the number of apprentices per school constant requires to implement the Dual VET-Apprenticeships in substantially more schools.

### 3 Analysis Framework

This section describes the formative assessment framework in which we propose to follow a process-oriented structure depicted in Figure 2. This simple approach distinguishes six broad processes that follow the chronological steps conducted by ENSSURE. The first process consists of motivating schools that are interested in participating in the programme. The second process entails motivating companies that are willing to provide Dual VET-Apprenticeship places. The third process motivates applicants who are interested in becoming apprentices. Hence, the first three broad processes are distinguished by stakeholder, capturing the processes of motivating schools, companies and applicants to participate in the programme. The fourth process consists of linking stakeholders by assigning applicants to companies. In the fifth process the education and training of apprentices takes place. This broad process captures a multitude of more detailed sub-processes conducted by all of the stakeholders, including ENSSURE and the CTEVT besides of the schools, companies and apprentices. Finally, the sixth process consists of the realization of the labour market situation after the programme period. This also represents a broad process that captures the transition of apprentices into the labour market after the end of the Dual VET-Apprenticeship.

To provide information about the Dual VET-Apprenticeship as early as possible, the data for this working paper was gathered in November 2018, when apprentices were still in the first Dual VET-Apprenticeship phase that consists of classroom education. Hence, this first report focuses on the analysis of motivating schools, companies and apprentices as well as on the process of matching applicants and companies. Furthermore, the working paper provides some information about the process of Dual VET-Apprenticeship education and training. Concretely, a first analysis of satisfaction with classroom education as well as expected satisfaction with various aspects of the Dual VET-Apprenticeship programme is possible. Nevertheless, the analysis of the two last stages mainly has to be deferred to future working papers that will rely on a mixed method design that combines additional semi-structured interviews with structured surveys among stakeholders.

**Figure 2: Process-oriented structure of the formative assessment framework**



Source: Own depiction

## 4 Data Gathering Process

This section describes the data gathering process consisting of semi-structured interviews among schools, apprentices and companies. The semi-structured interviews took place in November 2018.

Table 1 shows that we conducted face-to-face interviews with representatives of all four schools, respondents from eleven of the 59 participating companies and 14 from the overall 181 enrolled apprentices. School respondents included school heads as well as the responsible persons for the Dual VET-Apprenticeship programme. Company respondents included company owners, company CEOs and foremen. We have not selected the interview partners ourselves. Rather, respondents from schools, companies and apprentices for the interviews were selected by the schools. Hence, the sample does not have the characteristics of randomness and so is not representative in a statistical sense. In addition, we talked to an industry association and a prospective Dual VET-Apprenticeship school that will likely participate in the second cohort of Dual VET-Apprenticeships.

**Table 1: Sample of interview partners across school and respondent type**

	Balaju School of Engineering and Technology	Manmohan Memorial Polytechnic	Bheri Technical School	Korea Nepal Institute of Technology	Total
	Kathmandu	Biratnagar	Nepalganj	Butwal	
Schools	1	1	1	1	4
Apprentices	4	3	3	4	14
Companies	4	3	2	2	11

The development of the guidelines for the semi-structured interviews followed the process-oriented structure presented above. The interviews focused on the processes of motivating schools, companies and apprentices for the first cohort. Hence, they provide insights into the motivation to participate, barriers to participation as well as regarding the ways in which the motivation processes took place. Each respondent type, i.e. schools, apprentices and companies, has a separate interview guideline that accounts for which questions are suitable for the respondent type. For example, we asked schools and companies but not apprentices how happy companies are regarding different aspects of the Dual VET-Apprenticeship. Furthermore, questions that are similar for different respondent types as in the example above, were phrased in the same way to allow comparisons across respondent types.

## 5 Results

This section summarizes the results regarding the processes of motivating schools, companies and apprentices to participate in the Dual VET-Apprenticeship programme. Furthermore, this section shows the results regarding how apprentices are matched to companies.

### 5.1 Process of Motivating Schools

#### Motivation to participate

The main motivation of schools to participate in the Dual VET-Apprenticeship programme consists of their interest in its **industry-based approach that allows to acquire skills through learning-by doing**. Schools feel that too few Nepali that are trained in a classroom setting possess the skills demanded by the companies. They argue that combining classroom education and workplace training promises to reduce this skills-mismatch. Future research should delve deeper into the question in what respect classroom education does not meet the expectations of companies. Schools further suggested that the possibility of a syllabus driven programme that includes workplace training might be particularly appropriate for students with inclination towards learning in a workplace setting.

It is important to note that all of the schools participating in the Dual VET-Apprenticeship already offer what respondents call on-the-job training programmes (**OJT programmes**). Somehow similar to the Dual VET-Apprenticeship, these OJT programmes lead to a TSLC. They are slightly shorter, lasting for 18 months. The first twelve months consist of classroom education, followed by six months of workplace training. Hence, experience with workplace training might represent an important determinant of schools' readiness to participate in the Dual VET-Apprenticeship programme. This might represent an obstacle to motivate additional schools in the future. Schools that have no experience with workplace training might be harder to convince providing Dual VET-Apprenticeship places. This finding has implications for schools starting to provide Dual VET-Apprenticeship without having prior experience in providing on-the-job training programmes. These schools should be readied for participation in the Dual VET-Apprenticeship programme by involving them in the process from the very beginning. Furthermore, ENSSURE should publicize the benefits of the Dual VET-Apprenticeship programme to potential new schools.

The difference in sequencing between classroom education and workplace training as practiced in on-the-job training programmes and the Dual VET-Apprenticeship programmes matters for several reasons. Alternating between the locations has three main **benefits**. First, alternating allows to transmit learnings from classroom education to workplace training and vice versa. Second, understanding how classroom education is applied in the workplace training increases the motivation of students for classroom education. Third, since apprentices remain longer in the company, the company has a larger incentive to train the apprentices for difficult tasks that require training rather than assigning them simple tasks that can be completed without or with only little training. As discussed in detail below, doing more difficult tasks which require a broader skill set increases the productivity of apprentices and hence the profitability of companies. This means that companies are more willing to provide workplace training places and that companies can pay higher wages to apprentices.

However, alternating between the locations could also have **drawbacks**. In particular, alternating increases the challenge of participants to travel to both company and school. This drawback is particularly important in remote areas in which no suitable companies exist that could provide high quality Dual VET-Apprenticeships. Hence, even though alternating locations

might be beneficial in terms of skill acquisition, the Dual VET-Apprenticeship and the OJT can be considered complements, where the OJT serves to address challenges of school location.

Another reason why schools participate is that the Dual VET-Apprenticeship allows participants to earn a **salary while learning new skills**. This salary is much lower than the salary apprentices would earn as a normal employee. This reflects that apprentices accept a lower salary for the apprenticeship duration in return for investments into their skills that will increase their salary in the future. However, as discussed in more detail in section 5.3, some apprentices struggle to forego earnings during the Dual VET-Apprenticeship in return for an increase in earnings thereafter. Hence, earning at least a small salary during the Dual VET-Apprenticeship enables some apprentices to invest into additional skills when they would otherwise choose to work rather than getting additional education and training.

### Motivation of private schools

Different types of schools provide TVET in Nepal. Public schools can be divided into three types. The first type consists of public schools that are 45 constituent CTEVT schools. The second and third type consists of 397 general public schools (Technical Education in Community Schools, TECS) also running TVET programmes managed by either the CTEVT or the Department of Education. Beside of public schools, TVET is also provided by two types of private schools, namely 429 private schools affiliated to the CTEVT and so-called 5 partnership schools that run under some trust (MoEST, 2018).

All four schools of the first Dual VET-Apprenticeship cohort are constituent CTEVT schools. General public schools that also run TVET programmes represent a potential source of additional schools for the scaling up of the project. In addition, the second cohort of ENSSURE aims to include private schools that are affiliated with the CTEVT as well. The envisaged role of private schools is particularly prominent for Dual VET-Apprenticeships in the hotel management occupation. However, the process of including private schools is more complex than the provision of Dual VET-Apprenticeship places by public schools. The reason is that while constituent CTEVT schools are already under the CTEVT, potential private schools affiliated with the CTEVT need to enter a contract with the CTEVT for running the Dual VET-Apprenticeship programme. The process of the contract for private schools starts with a service procurement, followed by an expression of interest call. The CTEVT requests a proposal from selected schools based on which the school is recognized for providing Dual VET-Apprenticeship places. This process has started in December 2018 and is expected to be finished in the end of April 2019. It remains unclear how successful this process is for two main reasons. First, private schools might lack the necessary conditions for recognition for the Dual VET-Apprenticeship programme. Second, the resources needed to complete the administrative formalities of entering the contract might prevent private schools from applying in the first place. Since private schools play an important role in the Nepali TVET sector, these questions are important to analyse in the future.

### Coordination among schools

These above discussions further raise theoretical considerations regarding how schools coordinate in terms of motivating companies and apprentices. This is particularly relevant if the involved schools are located closely to each other. One possibility consists of allowing schools to **compete for companies and apprentices**. However, this has the drawback that companies that are approached by different schools regarding the same programme might be confused about the offers and are unable to decide. Similarly, potential applicants might feel unclear about the different offers advertised by various schools. Furthermore, advertisement efforts might be organized more efficiently if they are coordinated across schools. Concretely, if



each school advertises in the surrounding areas independently, advertisement efforts are duplicated, which is most costly for reaching out to remote areas.

An alternative possibility of coordination consists of assigning students to the school that is **located most closely** to the company of the students. This would further provide benefits in terms of minimizing travel costs of apprentices. However, it remains unclear whether schools are interested in doing so. Particularly private schools might desire to present themselves independently. Furthermore, assigning apprentices might be problematic if schools differ, for example in terms of quality and environment. In this case, apprentices might resist being assigned to a particular school.

The question of coordination arises in the context of upscaling the Dual VET-Apprenticeship, but also has a broader implication. The reason is that other programmes exist that are very similar to the Dual VET-Apprenticeship (KOF, 2015). The most important example for this is the **Butwal Technical Institute** (BTI). This private school offers an apprenticeship programme that resembles the Dual VET-Apprenticeship closely since many years. Concretely, it also lasts for 24 months, combines one day of classroom training per week with workplace training on five days per week and leads to a TSLC. In the short-run, this represents a benefit since companies are familiar with the concept of providing workplace training. This increases participation and eases implementation. However, regarding the long-term strategy of developing the Dual VET-Apprenticeship programme, this represents a challenge since it requires coordination among schools. Concretely, simultaneous advertisement for this programme might create confusion and inefficiencies in the process of motivating companies and apprentices as well as in the communication with industry associations. To the extent that two similar programmes are offered in the same areas, coordination of communication is important. Furthermore, the long-term perspective of a nation-wide Dual VET-Apprenticeship system requires a more in-depth coordination. Otherwise, developing the Dual VET-Apprenticeship programme and its inherent branding will become a challenge.

Similarly, as discussed above, the **OJT programme** resembles the Dual VET-Apprenticeship programme to some extent. In the short-run, the existence of the OJT programmes eases the motivation of schools that are already convinced about the value of workplace training. However, the long-term strategy of developing the Dual VET-Apprenticeship programme should also clarify the distinction between the OJT and Dual VET-Apprenticeship programme.

Furthermore, as a long-term strategy of integrating the Dual VET-Apprenticeship into the formal education and training system all new national occupational skill standards and curricula must be in-line with the NVQ standards that are in the process development.

### Federalisation Process

In the current education system, the federal organisation CTEVT oversees TVET. One issue that complicates the development of a long-term strategy for the Dual VET-Apprenticeship consists of the ongoing federalisation process (Renold et al., 2018). This complex reform affects the ENSSURE project for a number of reasons. The Unbundling Report (2017) clarifies that occupational competencies will continue to be defined at the national level. However, programmes will be run at local level. Furthermore, the responsibility of school management might shift from the central to the provincial or local level. It is however not yet clear how the school governance or the TVET programme governance would take shape in the federalized Nepal indicating some tensions in sharing the roles and responsibilities. Whatever shift might emerge in the governance system, this might change the relevant government bodies overseeing the schools involved in the ENSSURE project and hence change the relevant stakeholders. This might for example matter for who governs public and private schools. Finally, the federalisation process will change funding streams.



Due to the substantial uncertainty surrounding the federalisation process, it is not yet clear how the ENSSURE project must be reorganized. As soon as the legislation process has come to a final step, ENSSURE needs to prepare itself for any possible change in TVET governance system so that the Dual VET-Apprenticeship programme could continue in a smooth manner. In particular, as the provincial and local governments might emerge as new actors in TVET governance, ENSSURE needs to strengthen their close relationship with them.

## 5.2 Process of Motivating Companies

This section analyses the process of motivating companies interested in providing Dual VET-Apprenticeship places. The interviews with schools represent the most obvious data source to answer this question. In addition, this section uses information stemming from interviews with companies. These provide further insights into why companies join the Dual VET-Apprenticeship programme and where they expect challenges to arise.

### 5.2.1 Difficulty of Motivating Companies

All four schools had relatively **little difficulty to motivate companies** providing places for the Dual VET-Apprenticeship. The interviews suggest that there are three reasons why motivating companies has been relatively easy. The first reason is that companies expect to profit from their participation. The following sections analyse in detail why this might be the case.

The second reason is that the school people have **good relationships** with companies. However, these relationships are often at personal level rather than at institutional level. One school representative described how it was necessary to wait for hours to be received by company managers in the beginning of the new task. The relationships built over the years meant that meeting company managers regarding the provision of Dual VET-Apprenticeship places has been relatively easy. However, this process took several years, illustrating that building these relationships could be a time-consuming endeavour. Furthermore, schools might face problem in case the person, both in school and in company, who contributes to build the relation leaves the school.

The third reason why schools did not face difficulties in the motivation process is that most of the companies providing Dual VET-Apprenticeship places have **experience in training students** in the 18-months TVET programme that leads to the TSLC. This programme generally consists of 12 months of classroom education followed by six months of workplace training. Furthermore, some companies even have experience with providing apprenticeship places for a very similar programme run by the Butwal Technological Institute (BTI). Hence, the participating companies have experience that allows them to understand their benefits from providing Dual VET-Apprenticeship places. An additional benefit is that these companies have already covered some of the fixed costs that arise when implementing workplace training.

An important consideration in this regard consists of the question whether **scaling up** the programme will include schools that have yet to build well-developed relationships with companies. In this case, motivation of companies might become more difficult and the schools need more support for this process. Similarly, it becomes more difficult to motivate companies if the pool of companies is expanded to companies that have no experience with education programmes that include workplace training. Hence, involving industry associations in the motivation process represents an important aspect of upscaling. They can play an important role in creating contacts between schools and potential companies. Furthermore, they can act as a mediator than possess the trust of companies and talk their language. Thereby, they can help to convince companies to provide Dual VET-Apprenticeship places and might also convince new schools to participate in the Dual VET-Apprenticeship programme. Furthermore,

ENSSURE can also play an important role in publicizing the benefits of the Dual VET-Apprenticeship programme to companies.

The discussion above shows that personal contacts between school and company represent the main **way to motivate** companies. In addition, the interviews with schools suggest that local or provincial governments might provide assistance in motivating companies. Some schools have also started to include local industry associations in the process of contacting companies. One school even used them to contact interested companies and invite them to a presentation of the new Dual VET-Apprenticeship programme. During this meeting, companies could express their interest in providing places for the Dual VET-Apprenticeship. Hence, the way to motivate companies shows elements of including industry associations in the motivation process. These elements should be strengthened further to allow scaling up the Dual VET-Apprenticeship programme.

In State 1 the Chamber of Industry Morang (CIM) organized a “Hiring an Apprentice” campaign with around 50 interested companies.





## 5.2.2 Framework of Dual VET-Apprenticeship Profitability

To understand the decision of companies to provide places for the Dual VET-Apprenticeship, the analysis starts by presenting a simple framework for the profitability of Dual VET-Apprenticeships from the perspective of companies. This stylized framework allows to illustrate the main levers that affect the profitability of Dual VET-Apprenticeships and hence the decision of companies to provide places for the Dual VET-Apprenticeship programme.

### **Productive value and training costs over time**

The horizontal dimension of Figure 3 represents time, while the vertical dimension captures companies' returns to training in terms of the development of the productive value and training costs. Starting on the left shows the time before the start of the Dual VET-Apprenticeship. Assuming perfect labour markets, individuals' productive value in this time is equal to wages they could earn before participating in the Dual VET-Apprenticeship. During the Dual VET-Apprenticeship itself, the productive value of the participant increases as they become more and more skilled. After the Dual VET-Apprenticeship, the participant receives the post-training wage. This post-apprenticeship wage can be equal to the individual's productive value under the assumption of perfect labour markets, but can also be lower if labour market imperfections exist (see, e.g., Wolter and Ryan, 2011).

During the Dual VET-Apprenticeship, wages of apprentices are not market-based but are largely defined by the Dual VET-Apprenticeship guidelines. Figure 3 assumes that these wages increase over the duration of the Dual VET-Apprenticeship. Hence, the grey line showing training costs, of which participant wages are an important part, increases over time. Other important components of training costs include the time devoted by trainers to train apprentices

rather than doing their usual work and the costs of materials used to train apprentices rather than in the production process. Since these costs might decrease over the apprenticeship period, the slope of training costs remains an empirical question that should be addressed in future research. Companies do not have to pay a training fee.

Since the productive contribution of apprentices is low at the beginning of the Dual VET-Apprenticeship, the wages of apprentices are often higher than their productive value. Hence, the space marked in red is an investment period during which training costs exceed the apprentice's productive value. During the investment period, companies face net costs due to providing the places for the Dual VET-Apprenticeship. At some point, when apprentices become more productive and are entrusted with tasks that create a higher value-added for the company, their productive contributions should exceed the companies' costs for training and the participant wage. In this period, the apprentices create a net benefit to the company.

If overall the investments in the first period are lower than the profits in the second period, the programme already creates a net benefit to the company by the end of the programme. If, however, the investments in the first period are higher than the profits in the second, the programme ends with a net investment on the part of the company – an investment that has to be recouped after the programme has ended if the model is to work without modification.

### Potential levers to stimulate net-cost changes

The illustration provided in Figure 3 also helps us consider potential levers affecting the net benefits of the Dual VET-Apprenticeship. The most obvious lever is training costs; reducing the wages of apprentices would increase net benefits. Furthermore, other measures that reduce training costs—such as a reduction in the administrative burden on companies—also help balance the costs and benefits of the Dual VET-Apprenticeship.

Conversely, there are many opportunities to increase net benefits by increasing the productive value of apprentices. Examples include reducing the time spent on classroom education and concentrating classroom education in the beginning of the Dual VET-Apprenticeship when participants are less productive. Another example is to concentrate content that provides the foundation for necessary workplace skills—for example safety procedures—at the beginning of the Dual VET-Apprenticeship. A less obvious determinant of participants' productive value is the social status of the Dual VET-Apprenticeship. Higher social status of the Dual VET-Apprenticeship means better participants will self-select into the programme, and better participants have higher productive value from the beginning without any training investment from the company. Furthermore, the learning curve of such participants is steeper. Therefore, assuming that the increase in benefits is not fully reflected in higher salaries demanded by the apprentices, net benefits increase.

Another important lever is the duration of the Dual VET-Apprenticeship. Increasing the duration of Dual VET-Apprenticeships increases the length of the return period, thereby increasing net benefits.

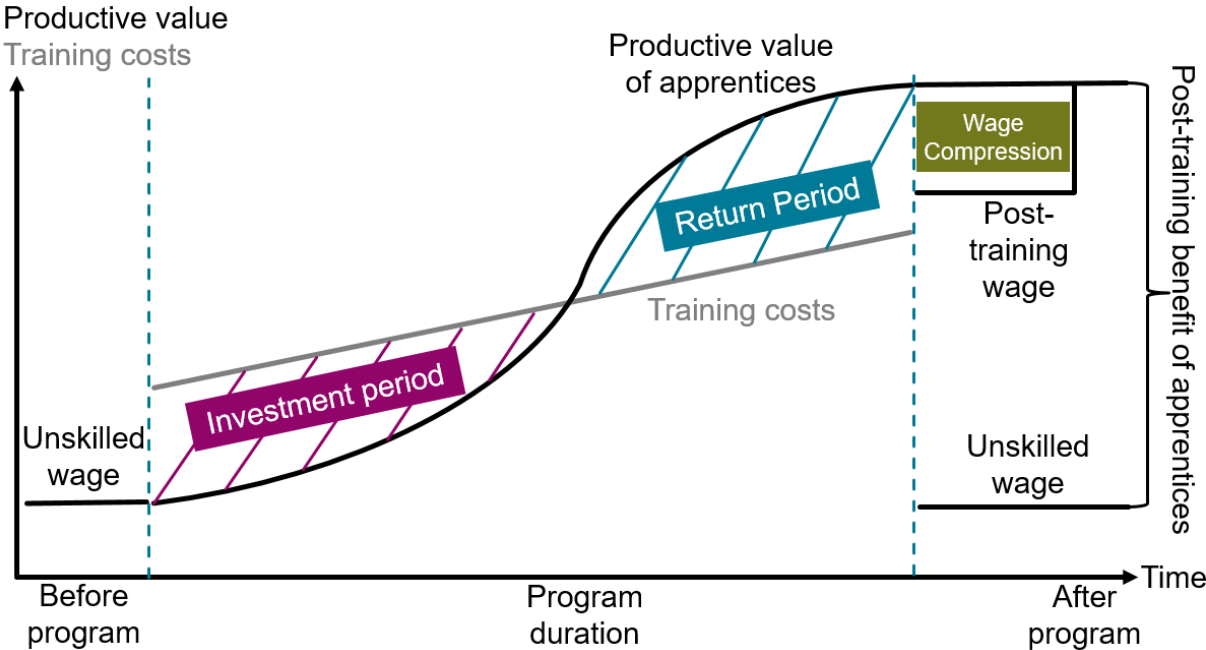
This discussion has assumed that costs and benefits need to balance out during the programme itself for the Dual VET-Apprenticeship to attract companies. However, if we allow for imperfect labour markets, there is a further option for companies to balance out their training costs. If apprentices remain with the company after the end of the programme, companies can accrue additional benefits by paying wages below workers' productive value for some time. This is represented by the green

The illustration in Figure 3 also clarifies the differences in the perspectives of apprentices and companies. Concretely, apprentices' productive value in the investment period is lower than



their wages, which are the most important component of training costs. Therefore, apprentices make a profit in the investment period. Conversely, in the return period, participants' productive value exceeds their wages and participants take a loss. Apprentices are willing to make this investment because they know that the increase in human capital improves their productive value in the time after the Dual VET-Apprenticeship. Put more simply, participants accept lower wages in the return period in order to 'pay' for their training. Hence, the future value of the gap trained and untrained wages is the payoff for apprentices, due to which they are willing to accept a wage below their productive value during the Dual VET-Apprenticeship.

**Figure 3: A Simple Framework for the Profitability of Dual VET-Apprenticeships**



Notes: Own depiction based on Schweri et al. (2003) and Lerman (2014).

### 5.2.3 Barriers to Motivating Companies

Figure 4 summarises the results regarding the barriers companies face to participate in the Dual VET-Apprenticeship programme. The perspective of schools is shown in blue. It reflects the importance of different reasons why motivating companies has been a challenge on a Likert scale from one to five (where one represents that a reason is completely irrelevant, five that a reason is very important barrier in the motivation process). The perspective of companies is shown in pink. It captures regarding how satisfied companies are with the corresponding aspects of the Dual VET-Apprenticeship. One represents that companies were completely satisfied while five indicates that they were completely unsatisfied. In order to ease the interpretation of Figure 4, these responses on a five-point Likert scale are inversed. Hence, both responses of schools and companies capture the relevance of barriers to participation.

The first analysed barrier is that companies have **sufficient skilled employees**. Neither schools nor companies consider this a relevant barrier. This shows that companies face substantial skill shortage. Respondents highlight that they have to import many skilled employees from India and that the wage demanded by them is relatively high. These findings reflect the

motivation of companies to provide apprentice places in order to reduce their shortage of skilled employees.

Training skilled employees requires a time investment. While schools consider a **lack of time** to make this investment a relatively important barrier to motivating companies, the participating companies have little doubt about their ability to provide workplace training to apprentices. This difference might reflect that only companies who have sufficient time chose to provide places for the Dual VET-Apprenticeship. Alternatively, companies might underestimate the time requirements. Though the interviews favour the former explanation, analysing changes in this assessment after the start of workplace training remains important.

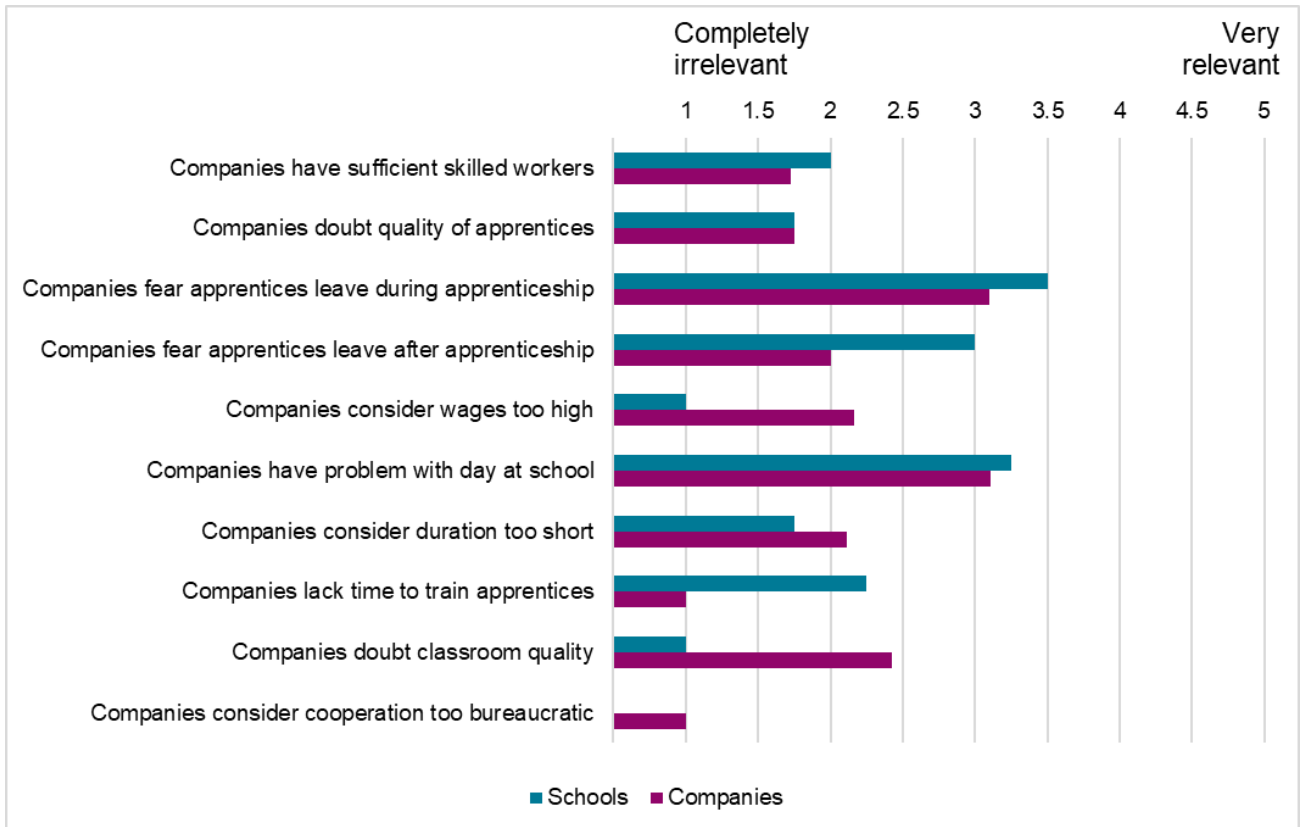
### **Retention rate during programme**

The most important barrier to participation from the perspective of both schools and companies is the **fear that apprentices might leave during the Dual VET-Apprenticeship**. For two companies, this fear is aggravated by the fact that the apprentices come from a poor background. This might make it more difficult for them to accept a lower wage for the duration of the Dual VET-Apprenticeship. This challenge increases the chance that they leave before the completion of the programme.

In order to appreciate the relevance of this concern, it is useful to analyse the time it takes until an apprentice becomes productive after starting workplace training in month four of the Dual VET-Apprenticeship. In Figure 3, apprentices are assumed to be productive from the very beginning. Asking the interviewed companies suggests that the average amounts to 7.5 months. This value differs substantially across companies, ranging from one to 24 months. This variability might reflect the fact that the interviews took place before the workplace training period had started. The average of 7.5 months refer to the time when apprentices become productive rather than becoming fully productive, where fully productive refers to the productivity of a skilled worker. Figure 3 assumes that this productivity is reached exactly at the end of the Dual VET-Apprenticeship. However, in the interviewed companies, time until full productivity lasts about 15 months, which is before the end of the Dual VET-Apprenticeship. This analysis highlights that apprentices leaving during the Dual VET-Apprenticeship represents an important concern of companies, since investment period discussed above lasts for a substantial portion of the Dual VET-Apprenticeship duration.

Hence, measures to reduce drop-out of apprentices represent an important way of ensuring that companies remain satisfied with their participation in the programme. In this context, the bulk short message service system of ENSSURE represents an important tool to stay in contact with apprentices. This system allows to identify arising problems, thereby creating opportunities to react timely to them and solve the issues. The contact also provides a possibility to remind apprentices about the benefits of completing the Dual VET-Apprenticeship, thereby increasing their resolve to complete the Dual VET-Apprenticeship rather than dropping-out to make more money in the short-run.

**Figure 4: Barriers of Companies to Participate**



Notes: The number of observations for schools is four and about eight for companies.

### Classroom education

The second most important barrier is the **day of classroom education** apprentices receives each week. Both schools and companies consider this a substantial barrier to participation. This barrier is more important for companies that work only five days per week rather than six days per week.

Regarding this barrier, two types of challenges arise. The first challenge refers to the amount of time apprentices spend in classroom education. Going back to the framework for the profitability of the Dual VET-Apprenticeship clarifies that spending more time in the classroom means less time spent productively in the company. Hence, it is understandable that companies are interested in minimizing the amount of time spent in the classroom. This is reflected in wishes of companies to limit the amount of classroom education to one or two days per month. However, contrasting the interest of companies, the benefit of apprentices after the period of the Dual VET-Apprenticeship increases with classroom education. In this time, apprentices expand the acquisition of skills beyond company specific skills to general and occupation-specific skills. These are important determinants of their productivity and hence wage once they leave the company. Therefore, reducing classroom education might increase the benefits companies but also reduce the benefits apprentices. Since many companies do not consider this a barrier to participation suggests that companies recognize the relevance of sending apprentices to classroom education even though it might not be optimal for them.

The second challenge arising in the context of classroom education timing arises in cases where apprentices are required to work on a project for some days. This might for example arise because the project takes place at another location than the company. One school mentioned that they allow apprentices to miss classes in these circumstances under the condition

that they make up for the lost time. While this can represent a good solution to this challenge of companies, it poses a new challenge for schools, since it requires them to be more flexible in terms of teachers and classroom use.

### **Quality of classroom education**

Related to classroom education, we also asked companies regarding the **cooperation** of companies with schools. The results show that the bureaucracy of the cooperation, for example in terms of providing data to schools, is not an issue at all for companies. Furthermore, we asked schools and companies regarding their view on the **quality of classroom education**. Schools have no doubt about the quality of classroom education. However, even though classroom education focuses on occupation-specific content such as “electrical installation” (CTEVT, 2016a) and “mechanical fittings and maintenance” (CTEVT, 2016b), companies have questions about the quality of classroom education. This represents the third most relevant barrier from the perspective of companies. The explanation by companies suggest that this evaluation primarily refers to the content of classroom education, suggesting that a lacking match between the skills taught and the skills demanded by the companies. In particular, companies highlighted the relevance of teaching workplace safety. However, future research should analyse in more detail in what respect classroom education does not meet the expectations of companies. This shows that companies interpret quality of classroom education both in terms of the content and the quality in which the content is delivered. It should be noted though that these responses refer to the experiences of companies with Nepali TVET in the past. Hence, it is important to assess whether these evaluations remain valid regarding the classroom education in the Dual VET-Apprenticeship as the curricula have been revised by the CTEVT.

### **Retention rate after programme**

From the perspective of schools, companies are also afraid that apprentices **leave after completing** the programme. However, the responses of companies suggest that they themselves consider this a less important issue. This finding is closely related to the fact that the duration of the Dual VET-Apprenticeship is not a barrier for companies to participate. These appraisals suggest that the two-year duration of the Dual VET-Apprenticeship programme suffices to recoup the investment of companies in the start of the programme. This suggestive evidence is consistent with the above-mentioned time of 7.5 months it takes until apprentices become productive.

### **Wages**

In this context of expected profitability, **wages of apprentices** represent a key determinant. Companies and even more so schools consider this a relatively minor barrier to participation. However, the expectations of companies regarding wages vary substantially. Some companies plan to pay wages of about 5'000-8'000 Nepali Rupees (NPR) per month. This amounts to 44US\$ to 70US\$ or about half the wage apprentices receive after the end of the Dual VET-Apprenticeship. Another company expects to pay no wage during the unproductive period of the Dual VET-Apprenticeship, increasing it to about 10'000 NPR per month thereafter (88US\$).

Furthermore, some companies could not assess their satisfaction with the wages of the apprentices because the **wages have not been agreed yet**. In order to understand these differences in expectations, it is important to note that the tripartite Memorandum of Understanding (MoU) between the school, company and apprentice does not specify wages in the new Dual VET-Apprenticeship programme. One motivation to do so is that it is easier to convince companies to provide places for the Dual VET-Apprenticeship without committing to wages from the very beginning. However, this implies that companies have entered the Dual VET-Apprenticeship programme without a clear understanding of the expected profitability. This uncertainty poses substantial risks about creating tension and dissatisfaction among participating companies.



Furthermore, it might present an obstacle to motivating companies in the first place, since they might be unwilling to commit to the provision of places for the Dual VET-Apprenticeship in the absence of knowledge about wages and hence profitability.

### Quality of apprentices

Apprenticeship profitability further depends on the **quality of apprentices**. Schools consider this a minor barrier to recruiting companies. This finding suggests that schools are satisfied with the quality of apprentices based on the results of the written examinations and interviews. Similarly, companies also consider the quality of apprentices a minor barrier to participation. This is rather surprising given that some companies have never met their apprentices while other companies have only met them during a short interview (see section 5.4 for more information on the process of matching applicants and companies). This result therefore reflects the experience of companies to provide workplace training to students from the involved schools in the past. This cooperation has created trust among companies regarding the quality of apprentices. However, expanding the scope of the Dual VET-Apprenticeship will require motivating companies that lack these experiences. Hence, doubting the quality of apprentices might become a more relevant barrier as the Dual VET-Apprenticeship programme scales up. Participating companies might play a part in conveying potential companies regarding the quality of apprentices. Similarly, including industry associations more intensely in the process of company motivation might help to mitigate problems of lacking trust in the quality of apprentices.

The results above already provide suggestive evidence regarding the satisfaction of companies and apprentices. However, since these results represent information gathered before the start of workplace training, they are more informative regarding the expectations than regarding the actual experiences. Hence, future research should analyse the satisfaction of companies with the Dual VET-Apprenticeship after the start of workplace training.

## 5.3 Process of Motivating Apprentices

After motivating companies who are willing to provide places for the Dual VET-Apprenticeship, schools set out to motivate applicants for the available slots. All schools consider motivating apprentices substantially more difficult than motivating companies. In order to understand the reasons for these difficulties, this section discusses motivation of apprentices to participate, the barriers faced by schools in motivating apprentices and the ways in which schools overcame these problems.

### 5.3.1 Reasons of Apprentices to Participate

Figure 5 displays the results regarding the **reasons** of apprentices to participate, measured on a five-point Likert scale. The first three reasons capture whether getting a job is the main motive. The three variations refer to getting a job in general, getting a job in the Dual VET-Apprenticeship company and getting a secured job for the duration of the Dual VET-Apprenticeship. All three categories and particularly the latter two variations represent relatively irrelevant motives. However, this average masks some heterogeneity across apprentices as some consider receiving a wage during the educational process represents an important motive for their choice.

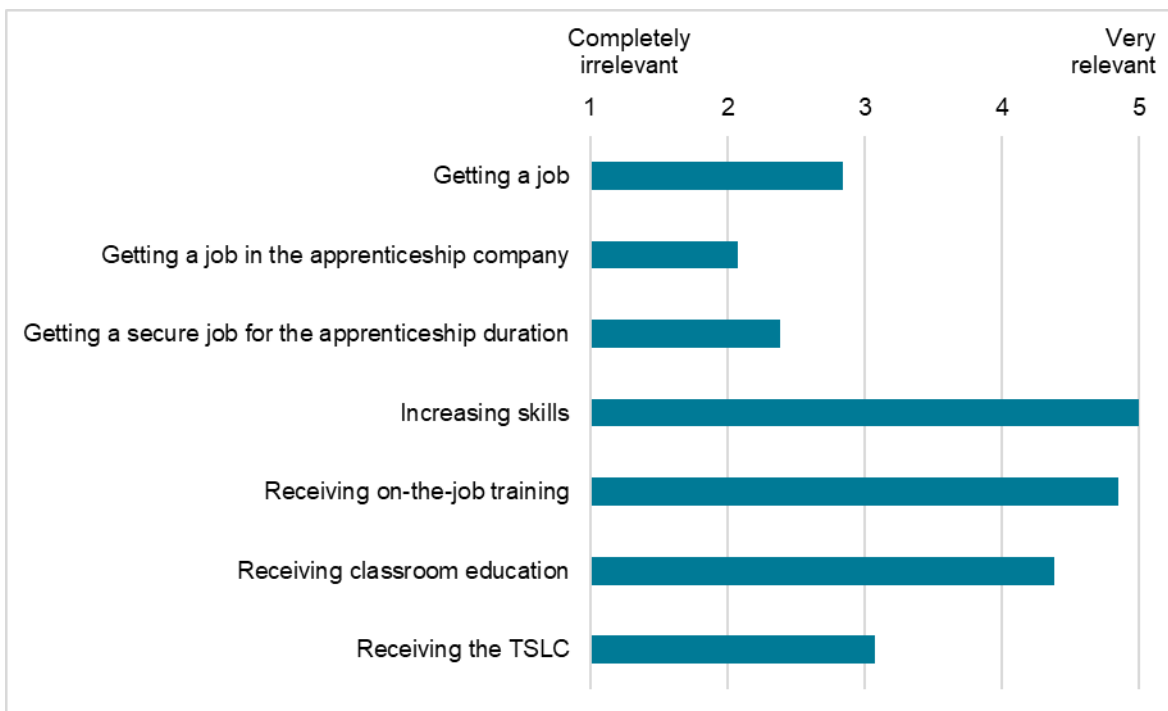
Contrasting this low relevance of getting a job is the very high value for increasing skills, which is clearly the main reason of apprentices. Differentiating between increasing skills through on-the-job training and classroom education suggests that apprentices consider both learning

places relevant. However, on-the-job training represents an even more relevant motive than classroom education.

Rather surprisingly, receiving a TSLC is only medium relevant on average. However, apprentices differ substantially in this respect. While some apprentices consider it completely irrelevant, others consider it very relevant. This matters in the context of the above discussion about drop-out in the context of profitability of the Dual VET-Apprenticeships for companies. Receiving the TSLC represents an important reason to finish the Dual VET-Apprenticeship. Hence, apprentices who consider receiving the TSLC irrelevant are more likely to drop-out from the Dual VET-Apprenticeships. Therefore, convincing them about the value of a TSLC, for example by showing apprentices the wages of those with and with-out a TSLC might help to reduce drop-out. Since it remains unclear why receiving the TSLC is not particularly relevant, future research should delve deeper into this question.

Other reasons mentioned by the interviewed apprentices include that they want to work in the father's workshop or the village they come from. These responses show that becoming an employee in a company is not always the driving force for the Dual VET-Apprenticeship choice, but that obtaining the skills to become self-employed also motivates some apprentices.

**Figure 5: Reasons of Apprentices to Participate**



Notes: The number of observations is 14.

### 5.3.2 Barriers to Motivating Apprentices

Figure 6 shows the evaluations of schools regarding various barriers to motivating apprentices. The responses are coded on a five-point Likert scale ranging from completely irrelevant to very relevant.

#### Alternative programmes

The first three categories assess the relevance of alternatives. The results show that competition with **other formal education** programmes represents the most important barrier. One

relevant alternative are purely school-based education programmes, particularly the diploma. Another relevant alternative are other programmes that are resembling the Dual VET-Apprenticeship somewhat, such as the OJT-programmes. Both of these alternatives are similarly relevant as competitors. One consequence of relevant alternatives that recruit during the same time window is that schools experience drop-out between application and entrance examination. Some students apply for all possibilities and hence do not follow up on their Dual VET-Apprenticeship application if they receive another opportunity. This represents an example of the yet limited social recognition of the Dual VET-Apprenticeship.

### **Work as alternative**

Potential applicants wanting to **start working full-time** is less relevant than these formal education programmes, but still represent an important alternative for potential apprentices. This might be particularly the case for poorer students who find it difficult to finance a formal education programme. In order to address the question of relevant alternatives more thoroughly, future surveys among non-selected applicants allow a more detailed analysis of the education and work activities conducted by applicants that did not make it into the programme.

### **Lack of information**

Related to the barrier of relevant alternatives, schools stress that a major barrier to motivating apprentices consists of the fact that this is a **new programme**. Hence, potential applicants do not know the modalities of the programme nor do they have information about the expected benefits of completing a Dual VET-Apprenticeship. The **offered occupations** did not consider a relevant barrier for the interviewed schools. However, this might reflect the focus of the relatively specialized schools rather than a comparative analysis across occupations.

### **Low wages**

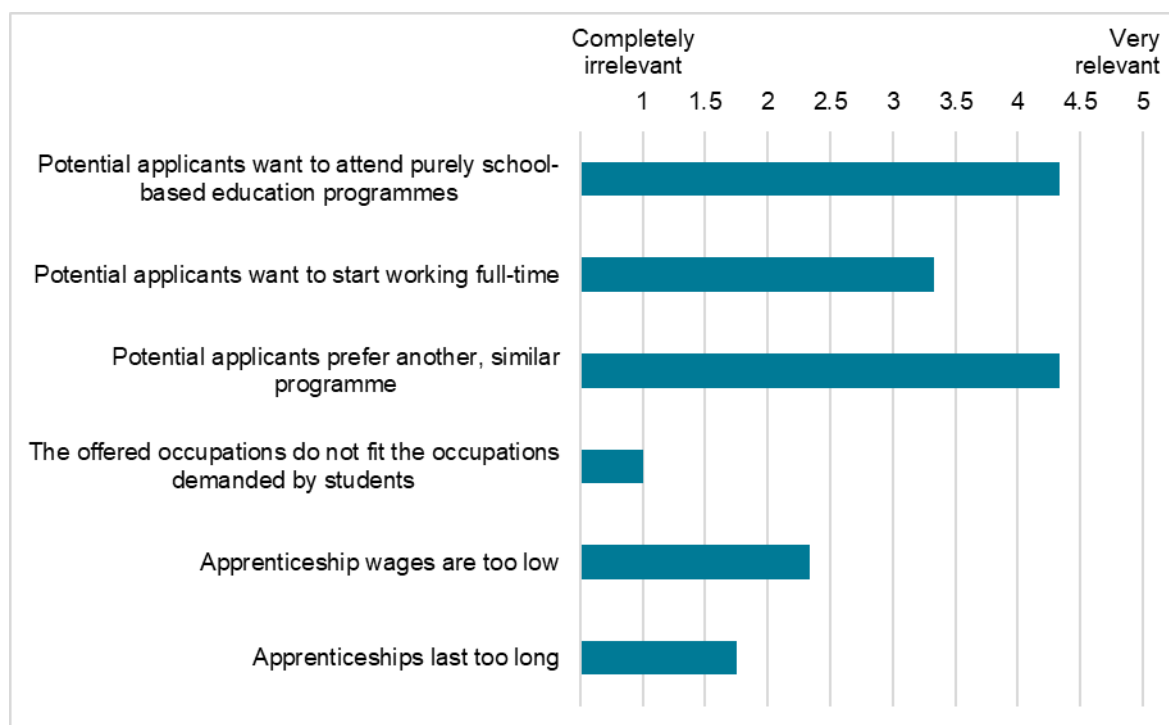
Schools further consider the **wages of apprentices** a minor barrier to the participation of apprentices. However, this contrasts with the interviews of apprentices, which suggest that dissatisfaction with low wages represents the most important problem. Delving more deeply shows that this dissatisfaction has two components. The first component refers to the fact that the apprentices confused the low stipend they receive during the initial classroom education with the wage they will receive once the workplace training commences. This confusion reflects a lack of information about apprentice wages. This mirrors the lack of information about Dual VET-Apprenticeship wages on the company side.

The second component of the dissatisfaction with the Dual VET-Apprenticeship wage stems from the large **distance** between former living place and the location of the school and company. Since some apprentices used to live too far away to commute, they need to finance living in another place. This issue is particularly pressing for students from poor backgrounds. This issue of distance will become even more relevant as the programme scales up. The reason is that remote areas might have a TVET school that provides classroom education, but often lack the industry base that would provide the Dual VET-Apprenticeship places.

### **Duration of the programme**

The **duration** of the Dual VET-Apprenticeship also represents a minor barrier from the perspective of schools. This opinion is mirrored in the evaluation of apprentices, who recognize the value of increasing their skills through classroom education and workplace training.

**Figure 6: Barriers to Motivate Apprentices**



Notes: The number of observations is 4.

### 5.3.3 Ways to Motivate Apprentices

The most important way to motivate apprentices consisted of advertising the programme in local **newspapers**. Furthermore, some schools also advertised in local **radio** and even **television** stations. In addition, **social media** such as Facebook represented an additional way to motivate apprentices. Two schools further used their existing **network** for the motivation of apprentices. This network consists of social workers and information centres in other districts. Cooperation with local schools was not a relevant motivation way for any of the schools.

The interviews with apprentices further showed that the **personal network of apprentices** has played a key role. Some apprentices learned about the new programme from their family, friends, and co-workers. One apprentice even reported hearing about the programme while working in India. The upside of the relevance of personal networks is that advertisement programmes might have multiplier effects that reach beyond the immediate readers and receivers. The downside is that potential applicants with a less developed personal network are more difficult to reach. This represents a challenge since the personal network might be weaker for potential applicants in remote areas and with a low socioeconomic status. Hence, the schools should cooperate with old students from remote areas as well as with the Palikas and other agencies active in remote areas to disseminate the information about the Dual VET-Apprenticeship programme.

The above discussion has shown that living far from the school and company location represents a barrier to participation. Aggravating this challenge is that one school mentioned that they had difficulties of accessing and motivating apprentices from remote areas. A school addressed this issue by going door-to-door in remote areas and by distributing information about the Dual VET-Apprenticeship programme in local markets. It also mentioned that using social media can help to contact potential apprentices in remote areas and with a low socioeconomic status.

### 5.3.4 Satisfaction of Apprentices

Section 5.3.2 discusses that low **wages** of apprentices represented a source of dissatisfaction among some apprentices during the initial classroom education period. This is particularly the case for poorer apprentices and apprentices who live far from the school.

Some apprentices expressed some dissatisfaction with the classroom education for several reasons. First, they considered the **access to books** lacking. Second, they mentioned the desire to spend more time training with **machines**. While providing access to books can be achieved at relatively low cost, improving access to machines represents a costly endeavour that might be difficult to achieve given financial restrictions.

In this context, it is important to realize that occupations differ substantially in terms of the required materials. The occupations of the first cohort, mechanical and electrical engineering, are very capital intensive. Among the additional occupations planned for the second cohort, the high capital intensity is also true for automobile engineering. However, hotel management and IT are somewhat less demanding in terms of training equipment, suggesting that the lacking access to machines is easier to remedy.

One advantage of a Dual VET-Apprenticeship over a school-based education programme consists of the provision of machines to apprentices by companies. While schools have to buy the expensive equipment solely for the purpose of training, companies make the investment to produce. Hence, available equipment in the workplace is often superior to the equipment available in school. However, the initial three months that apprentices spend in school should prepare them to work safely and start being productive quickly. Therefore, the concerns regarding lacking access to books and machines highlight the relevance of ensuring that schools have sufficient resources to educate and train the accepted apprentices sufficiently. This responsibility should not be taken lightly by ENSSURE despite the tension between ensuring resources and expanding the programme quickly. Securing quality of classroom education is particularly important for a programme that requires companies to provide Dual VET-Apprenticeship places, since negative experiences of companies might result in companies providing no Dual VET-Apprenticeship places in the future.

In the context of long-term development, ENSSURE might further consider the option to stimulate coordination among schools in terms of capital investments. When schools are located sufficiently closely, there might be the possibility to share investment costs, thereby increasing access of apprentices to machines without incurring additional costs.

However, despite mentioning problems of financing the Dual VET-Apprenticeship and the access to books and machines, apprentices are **very satisfied** with their participation in the Dual VET-Apprenticeship programme as they recognize that accepting the low wage represents an investment into their future skills, which is the main motivation for their participation.

An additional issue raised by a school refers to the **pathways** available after the Dual VET-Apprenticeship. The apprentices need to have passed the 10<sup>th</sup> grade or have appeared at the Secondary Education Exam (SEE) to enter the Dual VET-Apprenticeship. They receive a Technical School Leaving Certificate (TSLC) upon completion of the programme (ENSSURE, 2018). In the current formal education and training system, the TSLC does not provide direct access to further formal programmes, though admission to a national diploma programme might become more likely. Hence, perception of the Dual VET-Apprenticeship might be improved by providing additional pathways after the Dual VET-Apprenticeship. As discussed above, this would also affect the profitability of the Dual VET-Apprenticeship for companies. The reason is that an increase of permeability leads to more able applicants, thereby increasing productivity of apprentices and hence profitability from the perspective of companies.

However, this concern needs to be regarded in the context of the ongoing process of creating a National Vocational Qualification Framework (NVQF) as described in Caves and Renold (2019). The NVQF might result in additional pathways in the formal education and training system following the TSLC. Concretely, Caves and Renold (2019) suggest to expand recognition of prior learning (RPL) to every level, and eventually establish formal TVET programmes all the way through the highest levels. Hence, while the lack of pathways in the current education and training systems represents a valid issue, the completion of the process to create an NVQF might resolve the concern altogether.

## 5.4 Process of Matching Apprentices and Companies

This section discusses the process of matching apprentices and companies. This process can be divided into two steps, namely the selection of apprentices among applicants and the matching of apprentices with particular companies.

### 5.4.1 Selection of Applicants

The first step in this process consists of selecting apprentices. Following the implementation guideline of ENSSURE (ENSSURE, 2018), the selection process started with applicants taking a written exam. These exams were designed and delivered by the schools themselves in the first cohort. For the second cohort, the entrance examination will follow a more standardized procedure designed and overseen by the examination control office of the CTEVT.

The second step in the process consisted of interviewing the applicants to assess their interest and commitment as well as their skill and knowledge. The interviewers differed across school. In two schools, the interview was conducted by a school member and a representative of the companies. In one school, no industry member was present, but this will be different for the second cohort. Finally, in one school, the companies themselves had a brief interview with the apprentices. Companies conducting interviews with apprentices has the benefit that it ensures that companies are satisfied with the apprentice and vice versa. The main drawback consists of the organisational challenges arising from the need to decide which companies interview which applicants.

### 5.4.2 Matching Selected Applicants and Companies

After selecting applicants, these candidates need to be matched to particular companies. The schools decide which apprentice is matched to which company. This process appears to take place rather ad hoc. An important criterion for the match consists of the distance between the living place and the company location. In some cases, good students were matched to what the school perceives as good companies. Furthermore, schools reshuffled some apprentices in cases where they were unhappy about the company.

This latter point illustrates that the matching process conducted by schools can lead to dissatisfaction among apprentices and companies. This is also confirmed in a request of a school to rotate apprentices around companies, thereby addressing dissatisfaction about inequality in terms of company quality. Unfortunately, this solution is difficult to implement because companies require apprentices to stay for an extended period to make participation profitable. This highlights the relevance of selecting participating companies carefully, for example regarding training quality. Hence, even though reshuffling apprentices can improve training quality if the change improves the match between apprentice and company, this instrument should be used sparingly.

A consequence of matching done by the school is that the companies enter a contract without knowing the apprentice. As discussed in section 5.2.3, this requires substantial trust about the quality of apprentices from the side of the companies.

Another drawback of matching apprentices and companies by the school consists of the time consumed by the school in this process. While this is less relevant in a small pilot project, scaling up the programme will also increase the burden for schools to conduct the matching process. Hence, ENSSURE, the CTEVT and the employer associations should discuss and agree on how the matching process should be conducted.



## 6 Summary and Conclusions

This working paper presents the first results of a formative assessment of the Dual VET-Apprenticeship that is supported by ENSSURE. The findings are based on semi-structured interviews among schools, apprentices and companies conducted in November 2018.

The results suggest that motivating companies for providing Dual VET-Apprenticeship places has been relatively easy. This appears to result from the well-established network of the four participating schools with the surrounding companies. Motivating apprentices has been comparably more challenging. Since this might primarily be due to the fact that the programme is new and unknown to potential applicants, motivating apprentices might become easier as the programme becomes an established TVET programme. The matching process of apprentices and companies is currently in the hand of the schools.

The satisfaction of both apprentices and companies has been high in the beginning of the Dual VET-Apprenticeship. Since apprentices were still in the first months of full-time classroom education at the time of the interviews, future research should follow closely how satisfaction develops over the course of the Dual VET-Apprenticeship. This is particularly relevant as the Memorandum of Understanding between school, apprentice and company does not specify the wages of apprentices. Hence, stakeholders might have different expectations regarding this key characteristic, which might create tension and dissatisfaction among them if their expectations are not met.

Furthermore, the results regarding the motivation of companies and apprentices point to a number of challenges that will arise in the context of scaling up the Dual VET-Apprenticeship programme. Concretely, the pioneer schools might have well-established relationships with the surrounding companies. If this is the case, schools without such ties might find it difficult to motivate companies to provide Dual VET-Apprenticeship places. This would demand developing alternative strategies for attracting companies and schools might need support in this regard. Exchange platform between new and experienced schools might be another resource to convince companies. Scaling up the programme also raises questions about how schools that are located close to each other coordinate in terms of motivating companies and apprentices. Similarly, a long-term perspective of the Dual VET-Apprenticeship needs to clarify the distinction from other programs that include workplace training. This refers both to the OJT programme as well as other apprenticeship programmes such as the one of the Butwal School of Technology. This clarification is particularly important in the communication with companies, which might otherwise get confused by the multitude of options. Successful and efficient continuation of the Dual VET-Apprenticeship programme is a critical challenge ENSSURE must be aware of. One particular challenge might come from the present uncertainty on how TVET governance will take shape in the future and how this affects the Dual VET-Apprenticeship programme.



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