



Apprenticeship Training in Asia

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Apprenticeship Training in Asia

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Acronyms

ADB	Asian Development Bank	HRDF	Human Resource Development Fund (Malaysia)
APINDO	Employers' Association of Indonesia	IAI	Industry Apprenticeship Initiative (India)
APY	Apprenticeship Protsahan Yojana (India)	IC	Industry Cluster (India)
AusAID	Australian Agency for International Development	ILO	International Labour Office
BMO	Business Membership Organisation	ITI	Industrial Training Institute (India)
B-SEP	Bangladesh Skills for Employment and Productivity	M&E	Monitoring and Evaluation
BTEC	Bachelor Technical	MAWTS	Mirpur Agricultural Workshop and Training School (Bangladesh)
CAB	Central Apprenticeship Board (Malaysia)	MCP	Master Craftspersons
COEL	Centre of Excellence for Leather Skills (Bangladesh)	MoLIP	Ministry of Labour, Immigration and Population (Myanmar)
CVT	Center for Vocational Training (Myanmar)	MoM	Ministry of Manpower (Indonesia)
CVT	Co-operative Vocational Training (Pakistan)	MoU	Memorandum of Understanding
DCT	Dual Cooperative Training (Laos)	MSDE	Ministry of Skills Development and Entrepreneurship (India)
DGT	Directorate General of Training (India)	NAITA	National Apprenticeship and Industrial Training Authority (Sri Lanka)
DTET	Department of Technical Education and Training (Sri Lanka)	NAPS	National Apprenticeship Promotion Scheme (India)
EU	European Union	NATS	National Apprenticeship Training Scheme (India)
EVENT	Enhanced Vocational Education and Training Project (Nepal)	NDAS	National Dual Apprenticeship System (Malaysia)
GAN	Global Apprenticeship Network	NDTS	National Dual Training Scheme (Malaysia)
GIZ	Gesellschaft für Internationale Zusammenarbeit (German Cooperation)	NOSS	National Occupational Skills Standards
GPATI	German-Pakistan Apprenticeship Training Initiative	NQF	National Qualifications Framework
GTDE	German-Thai Dual Excellence Education Programme	NSQF	National Skills Qualifications Framework
GTO	Group Training Organisation (Australia)	NTESDP	National Technical Education and Skills Development Program (Philippines)
GTZ	Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation, now GIZ)	NVQ	National Vocational Qualifications
HE	Higher education	NVQF	National Vocational Qualifications Framework
HRD	Human resource development	OECD	Organisation for Economic Cooperation and Development

OffJT	Off-the-job training
OJT	On-the-job training
PTEVTA	Punjab Technical Education and Vocational Training Authority (Pakistan)
RPL	Recognition of Prior Learning
SAMC	State Apprenticeship Monitoring Cell (India)
SDC	Swiss Agency for Development and Cooperation
SED-VET	Sustainable Economic Development through VET
SGAVE	Sino-German Automotive Vocational Education Project
SKM	Sijil Kemahiran Malaysia
SME	Small and medium enterprise
STRIVE	Skills Strengthening for Industrial Value Enhancement (India)
SVETTI	Swiss Vocational Education and Training Initiative India
TESDA	Technical Education and Skills Development Authority
TP	Training Provider
TVEC	Technical Vocational Education Commission (Sri Lanka)
VET	Technical and Vocational Education and Training
UK	United Kingdom
UNDP	United Nations Development Programme
UNEVOC	International Centre for Technical and Vocational Education and Training
USAID	United States Agency for International Development
VSDP	Vocational Skills Development Program (Myanmar)
VTA	Vocational Training Authority (Sri Lanka)
VTI	Vocational Training Institute
WPL	Workplace learning





Foreword

The employable skills divide in Myanmar remains a major barrier of inclusive economic development. Since entering the country in 2013, Swisscontact Myanmar, has strived to make a contribution to bridging the skills gap and has contributed to the ongoing debates on skills development. Training programmes and policy inputs have mainly been implemented by the Vocational Skills Development Program (VSDP) of Swisscontact Myanmar, in partnership with government and private sector partners, with the aim to improve the employability of and to create employment opportunities for disadvantaged people in areas which show labor market demand and/or opportunities for self-employment. VSDP is funded by the Swiss Agency for Development and Cooperation (SDC).

Worldwide experience has shown that strong public-private partnerships increases the relevance and quality of skills development. It is in this context that many Asian countries have introduced and expanded apprenticeship training as it combines classroom training with structured learning in the workplace, thereby forging strong involvement of the private sector in the delivery of skills development. With its strong focus on private sector engagement in skills development, VSDP has added dual apprenticeship training in Yangon and Mandalay regions in late 2018. The dual apprenticeship training offers an intensive 18-month on- and off-the-job training for two occupations, namely cook and agricultural machinery mechanics, in partnership with selected hotels and companies. An expansion of the dual apprenticeship is planned for 2019.

The present report has been developed as background documentation to the ongoing dual apprenticeship training in Myanmar. The report looks at existing apprenticeships systems in select Asian countries with varying contexts and highlights what the success factors of creating these systems are. In contrast to other reports on the subject, the report does not prescribe what Asian countries should do to introduce apprenticeships nor does it report on donor-led initiatives. It highlights the features of existing apprenticeship systems in Asia and how these have developed within a given environment.

The report¹ has been drafted to serve as the foundation for understanding key implementation and execution contexts of different apprenticeship systems across Asia from which Myanmar can learn to develop apprenticeship training, taking into account the local context, opportunities and challenges. Perspectives from governments, employers and apprentices regarding their engagement in apprenticeship schemes are reflected throughout the report, as well as existing opportunities and constraints to implement this form of training.

We hope that this report will be useful in guiding private and public stakeholders on further decisions and developments for apprenticeship training in Myanmar.

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¹ The report is based on a study conducted by Jutta Franz in 2018. The study was supported by VSDP staff, and the study report was reviewed by Swisscontact's experts.

Executive Summary



Introduction

Globally, apprenticeship training has been enjoying increasing attention. In face of severe youth unemployment challenges, the debate about strategies to develop vocational education and training (VET) has turned towards strengthening workplace learning - and apprenticeship training in particular - as a strategy to provide youth with a better start into employment. Inspired by good labour market outcomes of established apprenticeship systems, countries without a strong apprenticeship culture are now exploring the possibilities of strengthening their VET systems through increased and better apprenticeship training. Many European and Asian countries have started to introduce and/or modernise apprenticeship training in accordance with dual training principles.²

The purpose of this report is to provide background information to governments and their partners who intend to reform and strengthen apprenticeship training in their countries. It is based on a study originally conducted to support the work of the Vocational Skills Development Programme (VSDP) in Myanmar.³ The report describes apprenticeship practices of different Asian countries, and discusses good practice, lessons learnt and constraints, mainly of formal apprenticeship training. Its focus is not primarily on the donor-funded apprenticeship pilot projects and best practices in their implementation, but rather challenges, options and good practices for the development of national apprenticeship systems.

The report is largely based on a desk study⁴; thus its comprehensiveness and analytical accuracy is limited by the scattered documentation publicly available. It is focused on South, East and Southeast Asia (specifically Bangladesh, India, Sri Lanka, Malaysia, Philippines, South Korea, Thailand and Indonesia), with reference to countries in other parts of the world where appropriate.

Apprenticeship training practice in Asia

In Asia, apprenticeship training has a long tradition, but for long it was never more than a niche practiced in selected large companies. A new interest in apprenticeship training emerged since the 1970s, commonly triggered by pilot projects introduced with support of development partners. During the last decade, Asia – as other regions in the world - has witnessed a new wave of attempts to establish, revive and strengthen formal apprenticeship training in response to the growing youth unemployment crisis. Projects funded by development partners in support of apprenticeship training can be found in many countries, but there are also national initiatives, for example in South Korea.

Apprenticeship training as promoted in Asia today is based on modern apprenticeship paradigms. It is usually delivered as dual training, and qualifications and certificates awarded are aligned with the broader national qualification systems. The study shows, nevertheless, that in detail institutional and operational characteristics differ considerably depending on country-specific contexts:

² The term "dual apprenticeship" refers to the modern way apprenticeship training jointly delivered in a company and a training institution. Section 2 provides a more detailed definition.

³ In 2018, the VSDP, financed by the Swiss Agency for Development and Cooperation (SDC), started to implement a dual training pilot project for cooks and agricultural machinery mechanics, in cooperation with the Government of Myanmar.

⁴ Complemented by a study visit to Sri Lanka.




Institutionalisation and relevance	<ul style="list-style-type: none"> • Countries vary in the degree of institutionalisation of apprenticeship training and the extent to which apprenticeships are integrated within the broader skills development system; • Despite solid institutional anchoring, apprenticeship training has often remained a niche delivery mode; • In some countries, youth are reluctant to start apprenticeships.
Role of employers	<ul style="list-style-type: none"> • The influence and role of employers in apprenticeship training varies and remains one of the main challenges; • Country systems vary in the extent to which employers are involved in standard setting, programme development and quality assurance.
Scope of systems	<ul style="list-style-type: none"> • The range of apprenticeable occupations has increased; • Apprenticeship training remains focused on qualifications at lower vocational level, but there is a trend, specifically in more economically advanced economies, to move apprenticeship programmes up the qualification ladder; • The definition of companies eligible to participate in apprenticeship training varies among countries, and at times, companies are obliged to participate. In others, companies have to meet specified standards to qualify for participation in apprenticeship training; • Apprenticeship training largely remains the first-time training for new labour market entrants; • Educational minimum requirements for apprenticeships are usually set specifically for each programme in accordance with the sophistication of skills and national standards.
Female participation	<ul style="list-style-type: none"> • Female participation rates differ significantly among countries depending on the range of programmes offered; • Usually women work in a few female specific trades.
Programme features	<ul style="list-style-type: none"> • The way apprenticeship programmes are structured and formalised differ, but there appears to be a relatively high degree of flexibility in many countries, allowing apprenticeship programmes to be delivered in a way that fits the content and organisational requirements of different sectors and companies; • Contracts to underscore the mutual commitment to the apprenticeship arrangement are common, but rules differ related to which parties are considered part of the arrangement; • Training durations are flexible but tend to get shorter; • A dual training delivery mode combining on-the-job with off-the-job training has become standard all over Asia; • Soft skills training, alongside theory and basic skills training, is increasingly important in the off-the-job (school-based) training modules; • Most apprenticeship systems are linked to national qualification systems, and accordingly to unified national assessment/certification structures.
Financial arrangements	<ul style="list-style-type: none"> • In most modern apprenticeship systems in Asia, apprentices are given an allowance or apprenticeship wage, but legal regulations vary; • Mainly governments of more economically advanced countries offer generous incentives to participating companies; • Institutional (off-the-job) training is often offered and paid for by governments, but also by companies.

What determines success in apprenticeship training?

Informal apprenticeships are common wherever there is a significant informal sector, especially in South Asia. However, in contrast to Africa, informal apprenticeship training does not feature prominently in apprenticeship discussions in Asia, with few exceptions.⁵ Research related to informal apprenticeship training is rather limited, and development initiatives to improve or modernise the informal apprenticeship systems are only just emerging.

Apprenticeship training has significant and distinct benefits for the youth targeted, employers involved, and for governments. Related evidence is increasing worldwide, especially in OECD countries, but in most of Asia more research is needed.

Gains through apprenticeship training for different stakeholder groups

 <p>Benefits for employers</p>	 <p>Benefits for apprentices</p>	 <p>Benefits for governments</p>
Apprentices repay some or all training costs through productive work	Better employment chances and often better wages	Cost-effective way of providing skills development
Future employees can be shaped according to company requirements	Work experience	Employers take over parts of training cost and responsibility
Saving recruitment costs	Development of soft and employability skills	Promotes relevance of training
Reputation gains, productivity gains	Accessible training system specially for the poor	

⁵ In Afghanistan, Bangladesh and Nepal, for example, informal apprenticeship are gaining importance, cp. section 4.3.

The acceptance and success of apprenticeship training is critically dependent on an enabling policy environment that sets the right rules and conditions, and supports their implementation, within a specific country context and framework. Different factors potentially influence the functioning of apprenticeship training. Building a successful apprenticeship system requires decision-makers to configure system parameters in a way that ensures adequate alignment with country-specific requirements. Some identified key factors for success of apprenticeship systems are summarized below.

At the **macro-level**, this study provides evidence that:

- **Institutionalisation and institutional anchoring matters:** For sustainability and acceptance apprenticeship training projects must grow into national systems with defined responsibilities, a legal framework and a solid anchoring in the national VET system;
 - **Government commitment is essential** to secure stable public funding and the development of an enabling and reliable policy and regulatory environment;
 - **Industry must be a critical driver** of the system to ensure success. This includes individual companies and business membership organizations. Different groups and representative organizations have different roles to play in the apprenticeship system.
- At the level of **system design**, defining the right apprenticeship rules and programme features is essentially a question of reconciling interests and setting incentives, rather than a technical question. Balancing out different interests is important for the acceptance, and thus the success of an apprenticeship system. The study has shown that **employers must have a business case for apprenticeship training**, but also that the **training must be attractive for youth**. It showed that:
- **Flexible design of apprenticeships** is instrumental to ensuring that different segments of employers in different sectors and occupations can maximise benefits from the training: Important parameters, including the *share of on- and off-the-job training, release patterns* (day or block release), *rules regarding apprenticeship allowances, and duration of programmes* should ideally be flexible and negotiated from case to case;
 - **Apprenticeship contracts are important** to secure commitment from all partners and safeguard basic labour standards;
 - **Recruitment procedures matter:** to ensure that employers find the right apprentices (and potential apprentices find the right employer) recruitment decisions should be left with the company. Instead of organizing a central recruitment and placement system, governments should invest in improving market information and matching;
 - **Incentives often do not work** for companies: Financial incentives, including tax holidays and subsidies, if needed, require careful planning and targeting. A conducive policy and regulatory environment appears more effective to increase participation in apprenticeship training;

- **The value of certificates matters** to attract youth into apprenticeships. Only young people that see a value added in the apprenticeship certificate will complete their apprenticeship training. It is important, therefore, that apprenticeships are leading to a nationally recognized qualification that opens pathways into further education and training, and that training outcomes are credit-bearing in other educational programmes;
- **Not all employment is attractive for youth**, and consequently, apprenticeship opportunities offered for such employment are also not an attractive option for youth. Apprenticeship training is best promoted in sectors where jobs are considered highly attractive;
- The best way to **raise female participation** in apprenticeship training is to **widen the scope of apprenticeable trades** towards modern occupations, notably service professions and digital skills areas.
- **Different actors and stakeholders require capacity development**, including training companies, business membership organisations, training institutions, and involved government agencies;
- **Capacity building is a continuous process.**

Establishing an apprenticeship culture in **small and medium enterprises** (SMEs) represents a special challenge. Specific difficulties may prevent SMEs from participating, including lack of resources (staff, work places, funds), lack of administrative capacities to manage apprenticeships, and insufficient organisational skills to integrate work with training. Furthermore, SMEs may be limited in their range of activities and be unable to offer apprentices exposure and training to all of the skills required by specific curricula or occupational standards. However:

Improving and sustainably maintaining the high quality of apprenticeship training is essential for its success and growth potential:

- **Regular and well-implemented mechanisms for quality assurance** involving different stakeholders are important. Both, company-based on-the-job training and off-the-job training in a training institutions need to be quality assured. *Accreditation/licensing of company trainers*, solid mechanisms of *reporting on learning outcomes* (logbooks), *accountable assessments*, or *coaching of trainers* can help raising training quality;
- Special incentives earmarked for SMEs can make a difference, but must be accompanied with other services and capacity development;
- Sharing responsibilities for the provision of apprenticeship training can also help. Training associations (Germany), training alliances (Austria), or group training organisations (Australia), are solutions aimed at easing the burden on SMEs to participate in apprenticeship training through shared training delivery and joint contract management;
- Business associations should play an important role in mobilising SMEs for apprenticeship training and strengthening their participation.

1

Introduction⁶



Globally, apprenticeship training has been enjoying increased

attention. In face of severe youth unemployment challenges, the debate about strategies to develop vocational education and training (VET) systems has turned towards strengthening workplace learning - and apprenticeship training specifically - as a strategy to provide youth with a better start into employment. An ever-increasing body of research provides evidence of the effectiveness of apprenticeship training in facilitating initial entry into jobs for young labour market entrants. Delivered in companies under real workplace conditions, apprenticeship training is considered to be particularly responsive to the skills needed in the labour market (including developing 'soft' skills), especially in comparison to school-based vocational training programmes. In countries where access to long-term VET is constrained by high training and opportunity costs, apprenticeships can provide an important source of affordable skills development for poor youth. Furthermore, apprenticeship training involves less public investment compared to school-based VET solutions, as significant parts of the training - mainly the costly practical modules - are delivered by companies with no or limited support from governments.

Inspired by good labour market outcomes of established apprenticeship systems, countries without a strong apprenticeship culture are now exploring the possibilities of strengthening their VET systems through increased and better apprenticeship training. Many European and Asian countries have started to introduce and/or modernise apprenticeship training in accordance with dual principles.⁷ Country-level initiatives are backed by research and discussions driven by international organisations and networks. For example, the G20 Task Force for Employment strongly

⁶ In its general parts, this report draws substantially on a previous report of the author: Franz, Jutta (2017). Apprenticeship Training in Africa. World Bank Africa Regional Study on Skills. (Unpublished) Background Paper.

⁷ The term "dual apprenticeship" refers to the modern way apprenticeship training is organised: as a joint responsibility between an employer and a training institution, and jointly delivered in two training venues: at the workplace of a company and in a training institution. Definitions and distinct features of apprenticeship training and other workplace learning are discussed in Section 2.

voted to promote and strengthen quality apprenticeship systems in 2012. The Organisation for Economic Co-operation and Development (OECD), together with the International Labour Organisation (ILO) and the European Commission, is driving analytical work and further strategic discussions (OECD 2014; UNEVOC 2015).⁸ In developing countries especially, the ILO plays a prominent role in shaping the apprenticeship agenda. In 2013, the Global Apprenticeship Network (GAN) was formed as a business-driven alliance with the aim of encouraging business initiatives in the field of skills and employment opportunities for youth, notably through apprenticeships. In Asia, Indonesia - represented by the Employers' Association (APINDO) - is member of this network.⁹ Apprenticeship training has also gained importance in the context of development cooperation, with a vast number of apprenticeship (and wider workplace learning) projects supported by international and bilateral cooperation programmes emerging lately throughout the developing world.¹⁰

The purpose of this report is to provide background information to governments and their partners who intend to reform and strengthen apprenticeship training in their countries. It is based on a study originally conducted to support the work of the Vocational Skills Development Programme (VSDP) in Myanmar. In 2018, the VSDP,

financed by the Swiss Agency for Development and Cooperation (SDC), started to implement a dual training pilot project for cooks and agricultural machinery mechanics, in cooperation with the Government of Myanmar. The report describes apprenticeship practices of different Asian countries, and discusses good practice, lessons learnt and constraints. Its focus is not primarily donor-funded apprenticeship pilot projects and best practices in their implementation, but rather challenges, options and good practices for the development of national apprenticeship systems.

The report is based largely on a desk study, complemented by a field visit to Sri Lanka.¹¹ Its comprehensiveness and analytical accuracy is limited by the scope of documentation publicly available. It is focused on South, East and Southeast Asia (specifically Bangladesh, India, Sri Lanka, Malaysia, Philippines, South Korea, Thailand and Indonesia), with reference to countries in other parts of the world where appropriate. Specifically, experience from Australia has also been evaluated, as Australia represents an important reference and benchmark for many countries in the region. In most countries, apprenticeship systems and laws are relatively well documented, but analyses on effectiveness and determinants of success are still limited. Occasional analyses of the costs and benefits of apprenticeship training for companies (e.g. in the

⁸ In 2015, the OECD has also launched a series of studies aiming at delivering policy messages about how to use work-based learning in VET to improve economic and social outcomes. Six reports plus a synthesis report on various topics related to work-based learning are available under www.oecd.org/edu/skills-beyond-school/work-based-learning.htm.

⁹ See also www.gan-global.org.

¹⁰ Euler (2013), for example, points to the rapidly increasing demand for German expertise in apprenticeship training within development cooperation. Other bilateral partners increasingly active in supporting apprenticeship training in Development Cooperation include Switzerland (the Swiss Agency for Development and Cooperation is supporting pilot projects for example in Myanmar, Bangladesh, West Africa and Bulgaria), Canada, United Kingdom, Scotland and others. Multilaterally, the ILO represents a major actor implementing apprenticeship support projects in many developing countries, but also the World Bank is increasing its portfolio in apprenticeship training and workplace learning. New projects targeting informal apprenticeship training are being explored, for example, in Nepal, Bangladesh, Nigeria and Afghanistan. In India, a substantial project to strengthen the formal apprenticeship system has started in 2018.

¹¹ See the description of lessons learnt from Sri Lanka included in Annex 1.



Philippines, India and Pakistan), or labour market outcomes of graduates (Sri Lanka) are described in subsequent chapters. However, more systematic and comparative evaluations on results, labour market relevance, and success factors are necessary to underpin further investments, especially in comparing apprenticeship training with alternative modes of training delivery in the formal VET sector.

The study focuses on formal apprenticeship systems commonly delivered as a dual training jointly in training institutions and formal sector companies. While traditional apprenticeship training by mastercraftspersons is widespread, particularly in countries with a significant informal economy sector, in Asia (unlike in Africa), there is little systematic

knowledge on traditional apprenticeship practices, and only occasional interventions are made to strengthen such systems.¹²

The report is structured as follows: Section 2 introduces the definition of apprenticeship training and defines the boundaries of the concept used in this report. Section 3 follows the description of apprenticeship systems and practices in Asia, based on the available documentation. Section 4 summarises the arguments and available knowledge of the advantages and gains of apprenticeship training that have contributed to its attractiveness. The final part, Section 5, aims at summarising the major issues, lessons learnt and policy options when working on apprenticeship training and its strengthening in individual countries.

¹² Notable exceptions include Bangladesh and Afghanistan, examples described in section 3.3. The ILO has produced a considerable body of research, references and guidebooks on informal apprenticeships. See also http://www.ilo.org/skills/projects/WCMS_158771/lang-en/index.htm.

2

What is apprenticeship training? — Definitions



There is no uniform and globally applied definition of

apprenticeship. What is understood by apprenticeship training and what is regulated through apprenticeship legislation vary among countries, organisations and stakeholders. Definitions are often normative, describing specific characteristics of existing apprenticeship systems. Following the most commonly used definition by the ILO from 1962, apprenticeship training is: *“Systematic long-term training for a recognised occupation taking place substantially within an undertaking or under an independent craftsman should be governed by a written contract of apprenticeship and be subject to established standards”*.¹³ This definition, however, excludes the wide field of informal apprenticeship training that often operates without written contracts and established standards, and is particularly important in parts of the developing world, notably in most of Africa, but also throughout South Asia.

In this report, apprenticeship training is generically defined as structured, long-term training at a workplace.

It is predominantly initial vocational training of new labour market entrants¹⁴ aimed at building comprehensive occupational proficiency in a specified trade or occupational area. Although durations vary in practice and tend to get shorter¹⁵, ultimately, apprenticeship training is a long-term training programme based on an agreement between an employer/master and a learner, known as an *apprentice*.

¹³ International Labour Office, 1962. R117 – Vocational Training Recommendation, 1962 (No. 117).

¹⁴ In Canada and the US, for example, apprenticeship training pre-dominantly targets adults. In other countries, such as Australia and England, both youth and adults are routinely taken into apprenticeship training. More examples are outlined further in section 3. See also World Bank/ILO (2013).

¹⁵ For more information see Section 3.

Table 1
Different types of workplace learning¹⁶

	Apprenticeship training		Attachment	Internship
	Formal apprenticeship training	Informal apprenticeship training		
Nature of learning	Structured learning under real work conditions complemented by institution-/school-based learning	Structured learning under real work conditions	Workplace experience	Workplace experience
Major target groups	School leavers	School leavers and drop-outs	VET and higher education (HE) students	Unemployed youth, incl. VET and HE graduates
Objective	Full occupational competence and formal VET qualification	Full occupational competence	Workplace exposure; putting into practice what has been learnt	Work experience to improve employability
Type of programme	Comprehensive initial training scheme	Comprehensive initial training scheme	(Compulsory) part of VET or HE programmes	Work experience programme for unemployed (active labour market policy)
Contractual arrangements	(Registered) Apprenticeship contract in accordance with national legislation safeguarding basic labour rights	(Oral or written) Apprenticeship agreement between a master and an apprentice (or her/his guardian), no formal protection of labour rights	Usually no formal contract, but possibly agreement between employer and education/training institutions, or between employer and attachment student	Often formal internship or temporary employment contract depending on programme
Learning programme	Agreed "dual" curriculum or training plan	No formal curriculum	Practice learning module in school-based education programme, possibly some guidelines and learning outcomes, but not always	Sometimes guided by learning outcomes or internship guidelines
Assessment/certification	Leading to recognised certificates based on formal assessment	Informal procedures, no recognised certification, sometimes access to RPL	Sometimes pre-condition for obtaining education certificate, in which the attachment is embedded	Programme-based certificate

¹⁶ Learning at the workplace takes place every day, in every company, and throughout employment. This type of informal learning, however, cannot be considered a distinctively structured and purposeful workplace learning scheme, and it does not specifically target youth, labour market entrants or other defined groups. Therefore, it is not considered in this report.

In some countries, the terms *learnerships* and *traineeships* are used in addition to apprenticeships, usually to denote apprenticeship-type programmes that are shorter, and sometimes less regulated. For example, during the 1980s, Australia introduced traineeships in non-trade occupations, in addition to 'traditional' apprenticeships. Today, both are covered under "Australian Apprenticeships".¹⁷ The Philippines distinguishes between apprenticeships and shorter learnerships, however, they are both considered enterprise-based trainings (EBT).¹⁸

This report is focused mainly on formal apprenticeship training. However, it is still important to make the distinction between formal and informal – or traditional – apprenticeship training. *Formal apprenticeship training* is normally provided by formal sector companies, usually regulated by law, and based on a written apprenticeship contract, involving a payment to the apprentice, basic labour rights and access to social protection schemes. The training follows a learning plan or curriculum, which stipulates learning outcomes and a defined learning duration and aims to achieve a formal qualification. Formal apprenticeship training is usually implemented through a *dual training*¹⁹ approach. Whilst

the workplace is the key learning location (on-the-job training/OJT), the training is complemented by basic, generic and theoretical training modules delivered in a training institution/school (off-the-job training/OffJT). The purpose of the dual approach is to supplement firm-specific training with general transferrable skills. "*While practical work-experience within the firm is expected to provide higher motivation and higher return for practically-oriented youth, standardised curricula and central examinations are used to counteract overspecialisation and low levels of transferability*" (Biavaschi, et al 2013). Patterns of how the training responsibility is shared among the two principal learning locations, institutional responsibilities, quality assurance and financing schemes, and other characteristics vary considerably between countries, and even between different schemes in the same country.

On the other hand, *informal apprenticeship training* (also known as *traditional apprenticeship training*) describes a defined training relationship between a traditional master and a young person. The young person commits to work for the master as an assistant and will be instructed by the master to learn on-the-job. The training is not based on a prescribed curriculum, and learning contents are determined by the kind of work conducted in the

¹⁷ For more information see <http://www.australianapprenticeships.gov.au>; and <http://www.aapathways.com.au/about-australian-apprenticeships-traineeships/australian-apprenticeships>.

¹⁸ EBT is even clustered in three programmes: (1) Apprenticeship Programmes (apprenticeships); (2) Learnership Programmes (learnerships) and (3) the Dual Training System (apprenticeships). See also <http://www.tesda.gov.ph>

¹⁹ EBT The so-called "dual system" in German-speaking countries represents a special, internationally well recognised apprenticeship training model, which is characterised by a highly regulated, jointly assumed responsibility for apprenticeship training by industry (facilitating, quality assuring, certifying and funding workplace learning) and the government (regulating, providing and funding the basic training in vocational schools). As Van Adams (2010) highlights, the German dual system is built on the principles of duality (sharing the responsibility), the primacy of crafts (training goes beyond the need of the individual employer), and consensus on standards and curricula between industry and government.

For long, the term "dual training" was mainly used to reference the distinct apprenticeship system in German-speaking countries (Germany, Switzerland and Austria). However, with the increased interest in apprenticeship training, the term is now used widely across the globe to describe the special cooperative training delivery mode whereby on-the-job training is complemented by classroom training in a training institution. In the context of German development cooperation, the term "cooperative training" is often used.

training enterprise. This arrangement is widespread in the informal economy, and typically caters for youth with low educational attainment or those who cannot afford the costs that occur in the formal education/VET sector. Normally, informal apprenticeship training does not lead to formal qualifications, but there is an increasing trend to make formal qualifications available to traditionally trained artisans, through Recognition of Prior Learning (RPL) systems, for example, in Bangladesh and Nepal.²⁰

It should be noted that beyond formal apprenticeships, there is also informal and non-regulated apprenticeship training in formal sector firms that fall outside of the category of formal apprenticeship training. It is widespread and represents another distinct involvement of formal sector firms in skills development for young labour-market entrants. The range is wide-stretching, from hardly structured induction training for new recruits, to highly structured in-company training linked to company career schemes. The latter are often found in multinational companies, in the automotive service sector with links to international car manufacturers, or in the hospitality sector (large hotel chains). In large firms, these apprenticeships may also be delivered in a kind of dual mode, with alternating workplace and classroom learning modules. In Myanmar, a survey of employers in 2015 found that 70 percent of interviewed enterprises provided initial training of some kind, however, less than 30 percent of those companies offered apprenticeship contracts to their trainees. In other cases, trainees received normal employment contracts at the lowest wage level. In large companies, such training may follow an in-house training and career plan and even leads to in-house certificates (see SDC/VSDP 2016).

Apprenticeships are a form of workplace learning, but not all workplace learning initiatives are apprenticeships. What is often called *internships* or *attachments* represent other forms of vocational learning in enterprises, which are increasingly important and supported, but different from apprenticeship training (see Table 1). What denotes an internship or attachment differs between countries and programmes, and boundaries are not always clear-cut. In this report, the term *attachment* (or *industrial attachment*) is used to describe a - usually compulsory - module of workplace learning, which is part of an education programme, for example, a VET or higher education programme. Although the learning may be structured to a certain extent, the main purpose of an attachment is work exposure, i.e. putting into practice what has been learnt before and obtaining a first industrial experience. An “internship” is similar to an attachment, but it is usually not part of an education programme. Instead, it is a stand-alone measure that aims to improve the employability of interns by providing them with first work experience.

Unlike apprenticeships, attachments and internships are not considered employment. Usually, internships and attachments are of shorter duration than apprenticeships, do not aim at learning a full occupation, and are not formally certified beyond the scope of the programme they are embedded in. Usually the link between the trainee and the company is weaker in internships and attachments, and the commitment of companies to training tends to be lower. Companies often agree to accept interns or attachment students “to help the youth”, while apprenticeship training tends to

²⁰ Government of Bangladesh (2011) and World Bank (2011) for Nepal.



be more motivated by the need to train skilled workers for the purpose of their own recruitment, or more generally, for securing the availability of skilled workers/craftspersons in the sector or trade.

More lately, VET reforms put increasing emphasis on more and better attachments as part of school-based VET. In Sri Lanka, for example, a minimum 6-month industrial training period has recently been made compulsory for all publicly financed VET programmes (Annex 1). In Bangladesh, the Mirpur Agricultural Workshop and Training School (MAWTS) integrated an extended attachment period in its long-term programmes, i.e. one-year in the final year of the 3-year

trade courses, and 6 months in the second half of the one-year programmes offered in regional technical schools (ADB/AusAid 2016). In the Philippines, students in technical and vocational institutions must undergo a compulsory OJT for a total of 320 hours (www.tesda.gov.ph). In view of limited company training places in some countries, coordinated policies for workplace learning and coordinated implementation may be important in order to avoid overburdening companies that are prepared to cooperate with the public education system, and to ensure that different education sub-sectors are not operating with competing, or even contradictory, incentives.²¹

²¹ This risk was identified and explicitly addressed in the Rwandan Workplace Learning Policy (Government of Rwanda 2015). In the Asian context, Sri Lanka may be a model for Asia, where one strong institution (NAITA) oversees and implements most types of apprenticeship training and attachment programmes thus ensuring a coordinated and integrated approach to industrial training and its quality assurance.

3

Apprenticeship training in Asia²²

3.1 Introduction

3.2 Characteristics of apprenticeship training in Asia

3.3 Informal apprenticeship training



²² To improve readability of the report, sources for country examples quoted in this and the following sections are compiled for each country in the References section of this report. Sources are only added in the main text when necessary for clarity in the references.

3.1 Introduction

Apprenticeship training has a long tradition in Asia. Throughout the continent - as elsewhere in the world - apprenticeship training has always been practiced. Employers and enterprises in need of a skilled workforce had to train their own staff themselves, and did this usually within the company and mainly 'on-the-job'. To this day, traditional apprenticeship arrangements are common in the informal economy, while formal apprenticeships in large establishments also have a long history. Under British colonial rule, apprenticeship legislation was already applied in the nineteenth century. In Myanmar, for example, an Apprenticeship Act was introduced in 1850, and apprenticeship training became the default mode of formal training in engineering industries, shipyards and construction. Large companies used the apprenticeship system until the 1970s, some using in-house training centres, others sending students to outside VET schools. The formal apprenticeship system in Australia (system of indentured training of apprentices) was imported from Great Britain in 1788 with the arrival of permanent European settlements. Some countries came up with updated apprenticeship legislation during the 1960s (e.g. India in 1961, Pakistan/Bangladesh in 1962); however, for a long period of time, apprenticeship training never grew out of a special training niche practiced in selected large companies. In many countries, formal apprenticeship training more or less died out, as interested companies faced with outdated and undue rules and bureaucracy reverted to informal training arrangements, and recruited graduates from the growing formal school-based VET system. In Bangladesh, for example, only 54 formal apprentices were registered in 2008.

A new interest in apprenticeship training emerged in a number of countries from the 1970s. This was commonly triggered by pilot projects introduced with support of development partners, with varying progress in indigenising, incorporating and institutionalising successful pilots. In Sri Lanka, a dual training project, supported by German development cooperation, resulted in the establishment of the National Apprenticeship Board in 1971 - later transformed into the National Apprenticeship and Industrial Training Authority (NAITA), - which has since played a critical role in the country's skills development system. In Thailand, on the other hand, a GTZ-supported pilot of dual training in one cement factory during the 1970s, which was later rolled out to other sectors, has so far not led to the incorporation of dual training in the national skills development system (SDC/VSDP 2016 and GIZ 2015). Both in the Philippines and in Indonesia, the introduction of apprenticeship training with dual elements, and related legal and regulatory frameworks, goes back to (German) cooperation projects in the 1980 and 1990s.

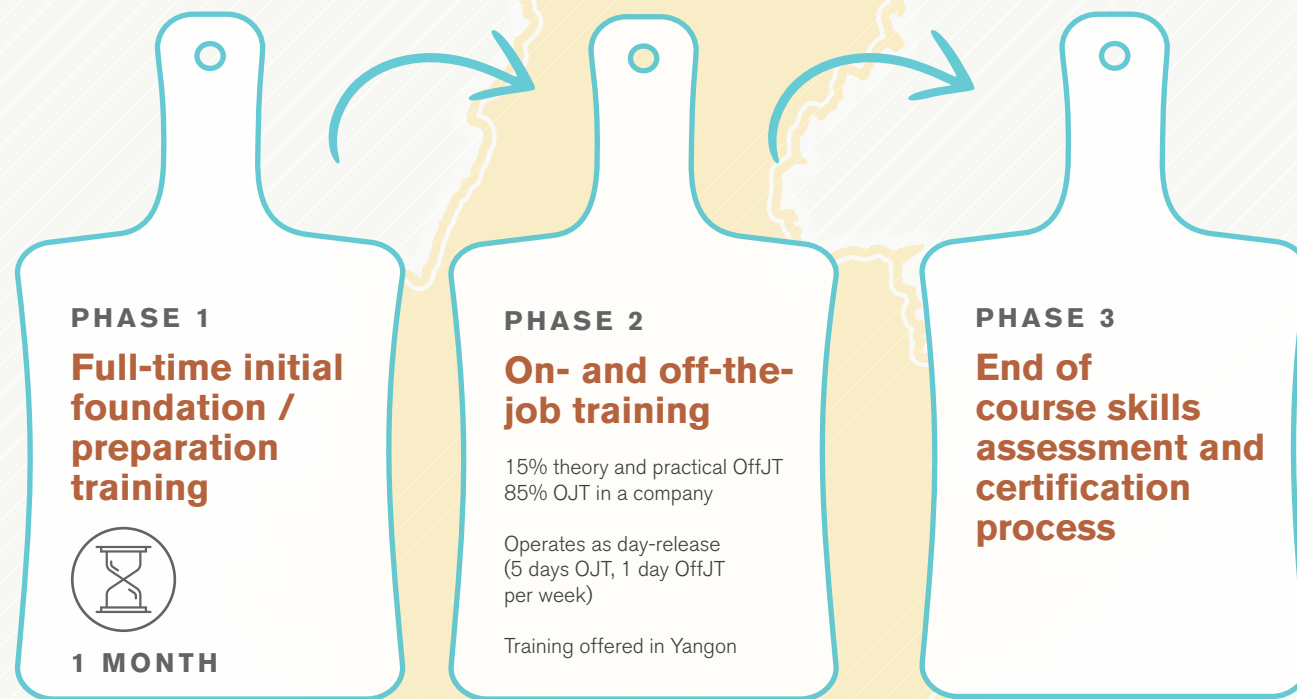




Cook Apprenticeship



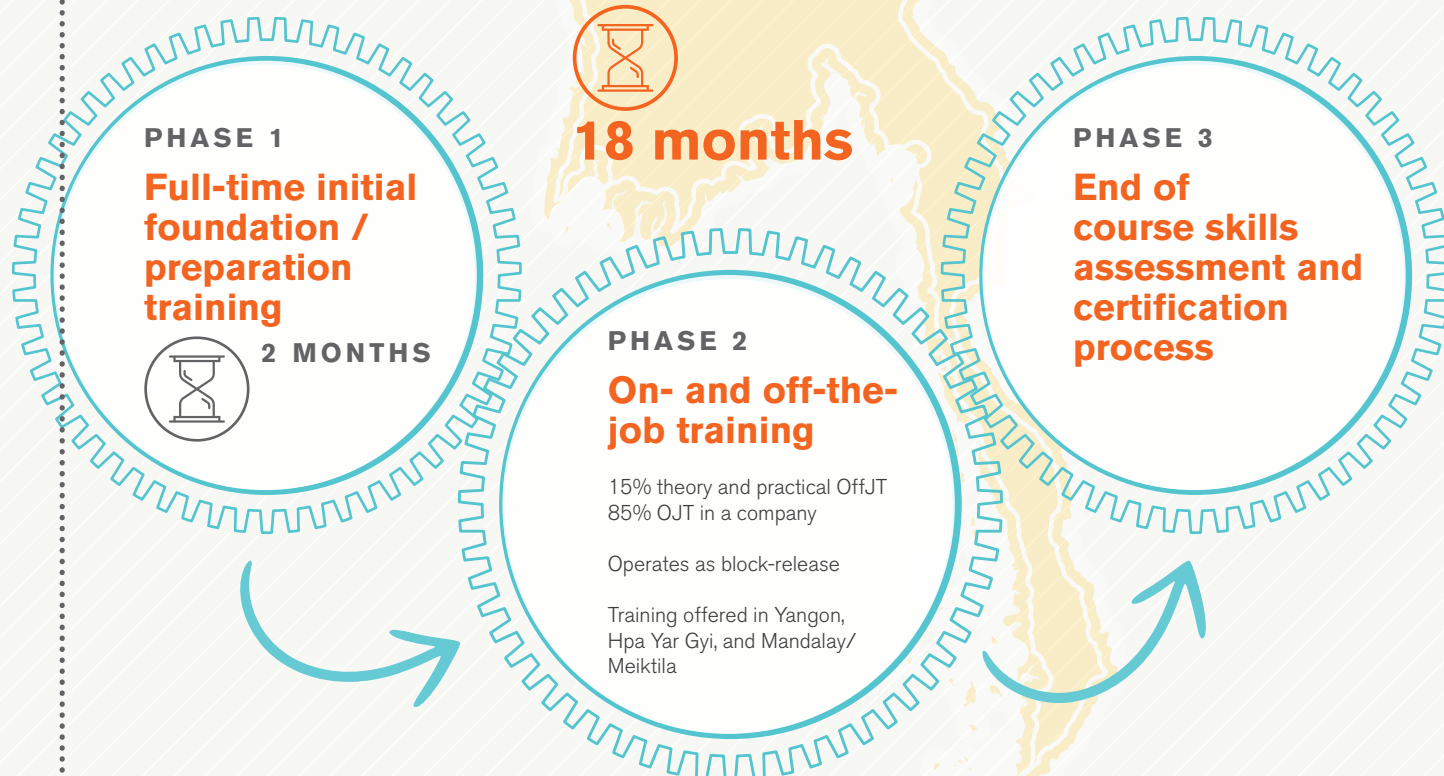
18 months



Agricultural Machinery Mechanic Apprenticeship



18 months



Box 1 Pilot introduction of dual apprenticeship training in Myanmar

The Vocational Skills Development Program (VSDP) has started a pilot project to introduce dual apprenticeship training in Myanmar in 2017. Swisscontact has implemented the project in partnership with the Ministry of Education and private sector stakeholders (i.e. companies involved in agriculture machinery and hotels and restaurants). Other partners include the Ministry of Labour, Immigration and Population (MoLIP), the Ministry of Hotels and Tourism, and the Ministry of Agriculture, Livestock and Irrigation. The project started in the hospitality and engineering sectors with apprenticeship training in two occupations: cooks and agricultural machinery mechanics. Swisscontact has brought in international experts to support the curricula, the development of teaching and learning materials and capacity development; and will also equip the participating centres. Initial training patterns and arrangements may be subject to revision as the pilot moves on.

The apprenticeship training runs for a duration of 18 months in total. Both start with a full-time initial foundation/preparation training period at a training centre. This initial phase is one month for cooks, and two months for agriculture machinery mechanics. After this preparation training, apprentices partake in a period of dual training - comprising 15 percent theory and practical OffJT and 85 percent OJT in a company - for the rest of the apprenticeship. For cooks, the dual training is organised as a day-release, with five days of OJT and one day OffJT per week. The agricultural machinery mechanic training, where participating companies are spread across Myanmar, operates with block release. The apprenticeship for cooks is implemented in Yangon only, while the agricultural machinery mechanic apprenticeship is offered in Yangon/Hpa Yar Gyi, and Mandalay/Meiktila. The apprentices' performance is monitored through assessments conducted at the training institutions, and through observation checklists administered by the participating companies. Companies have a contract with the apprentices and pay their salaries in line with existing labour regulations, but details still have to be finalised. After completing the 18-month apprenticeship, there is an end of course skills assessment and certification process. It is envisaged that the assessments and certification will be done under the auspices of the MoLIP.

Source
Interviews with VSDP personnel, 2018.

Responding to the growing youth unemployment crisis, Asia, like other regions in the world, has witnessed a new wave of attempts to establish, revive and strengthen formal apprenticeship training during the last decade. Initiatives are often explicitly referring to the dual training model in German-speaking countries (see Box 1). Projects in support of apprenticeship training that are funded by development partners can be found in numerous countries (Table 2), but there are also national initiatives, for example, in South Korea. Pakistan has adopted a new Apprenticeship Act in 2017, which is based on the dual training model. Furthermore, the established Australian apprenticeship system is currently undergoing a process of review and adjustment (Apprenticeship Reform Advisory Group 2016).

3.2 Characteristics of Apprenticeship Training in Asia

Apprenticeship training as promoted in Asia today is based on modern apprenticeship paradigms. For example, it is usually delivered as dual training, and qualifications and certificates awarded are aligned with the broader national qualification systems. Nevertheless, in detail institutional and operational characteristics differ considerably depending on country-specific contexts.

3.2.1 Institutionalisation and relevance

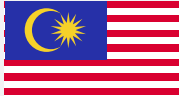
Countries vary in the degree of institutionalisation of apprenticeship training, and the extent to which apprenticeships are integrated within the broader skills development system. In countries where VET is mainly delivered in training institutions, apprenticeship training has often been, and still is, managed separately from the mainstream formal VET system, implemented by distinct organisations or by ministries of labour (where these oversee non-formal training). However, in many countries, the establishment of qualification frameworks and the integration of regulatory institutional set-ups has opened up opportunities to align apprenticeship training with mainstream VET structures; thus moving it closer to the middle of national VET systems.

Table 2
Legal, policy and regulatory context of apprenticeship training in selected countries

Country	Legal base	Policies	Regulatory authority	Based on national occupational / skills standards?
Bangladesh	Apprenticeship Ordinance 1962 (new apprenticeship procedure of 2008, not adopted)	National TVET Policy 2011; Draft National Apprenticeship Strategy 2014	Ministry of Labour & Employment, Bureau of Manpower, Employment and Training	Yes
India	Apprenticeship (Amendment) Act 2014	National Policy for Skills Development & Entrepreneurship 2015; National Apprenticeship Promotion Scheme	Ministry of Skills Development and Entrepreneurship, Directorate General of Training (DGT)	Separate, but in the process of being aligned to the National Skills Qualifications Framework (NSQF)
Indonesia	Domestic Apprenticeship Programme's Implementation of 2009	-	Ministry of Manpower (MoM)	Not necessarily. Depending on programme
Malaysia	-	Master Plan and Work Skills Development 2008-2030	Ministry of Human Resources, Department of Skills Development	Yes
Myanmar	No valid legal framework at the moment ²³	None	N/A	Expected
Pakistan	Apprenticeship Act of 2017	TVET Policy 2018	N/A	Yes
Philippines	Bill of the Apprenticeship Training System Act of 2017	National Technical Education and Skills Development Programme (NTESDP) 2012-2016	Technical Education and Skills Development Authority (TESDA)	Yes
Sri Lanka	-	Tertiary and Vocational Education Act 1990	National Apprenticeship and Industrial Training Authority (NAITA)	Yes
Vietnam	TVET Law 2014	-	N/A	-

²³ The old Apprenticeship Act of 1850 is not implemented any more. The Employment and Skills Development Law of 2013 mentions the possibility of companies to employ apprentices in passing only. The Draft TVET Law does not regulate apprenticeships and does not include any reference to apprenticeship training.

The integration of apprenticeship training with the general VET system has taken different shapes across countries:



○ Malaysia

Formal apprenticeships were introduced in 1957 as the National Apprenticeship Scheme administered by the Central Apprenticeship Board (CAB). In 2005, the National Dual Apprenticeship System (NDAS) was launched, which today is handled by the Department of Skills Development under the Ministry of Human Resources. Training under the Ministry of Human Resources is considered outside the formal VET system (which is under the Ministry of Education), but all skills development is now under the Sijil Kemahiran Malaysia (SKM) qualification and skills certification system, based on National Occupational Skills Standards (NOSS).



○ Philippines

Apprenticeship training is fully integrated as one delivery option in the national skills development system in the Philippines. The National Technical Education and Skills Development Programme (NTESDP), which ran from 2012-2016, recognised enterprise-based training (EBT) as one delivery option alongside others. It envisaged an expansion of EBT, especially aimed at strengthening apprenticeship training. Although governed by its own legislation²⁴, apprenticeships are administered by the Technical Education and Skills Development Authority (TESDA) and follow national competency standards.



○ Sri Lanka

Modern apprenticeship training was introduced in 1971 under the then National Apprenticeship Board. In 1990, the Board was renamed the National Apprenticeship and Industrial Training Authority (NAITA), which has since administered and implemented apprenticeship training. NAITA is one of three key VET provider systems within the Ministry of Skills Development and Vocational Training under the regulatory authority of the Technical and Vocational Education Commission (TVEC). All skills development in Sri Lanka is now based on the national skills standards registered under the National Vocational Qualifications Framework (NVQF). Since NAITA has the overarching responsibility for all structured workplace learning schemes in Sri Lanka (including mandatory attachments in other VET and higher education programmes) as well as for standard setting, trade testing and other core processes, NAITA has assumed a key role in the country's skills system, with apprenticeship training being one important delivery mode for recognised skills development.



○ India

The established apprenticeship system in India falls under the Directorate General of Training (DGT) in the Ministry of Skills Development and Entrepreneurship (MSDE), which oversees all formal VET in the country. Certificates awarded at the end of apprenticeship training are specific National Apprenticeship Certificates. At the moment, all formal and non-formal skills development is being aligned with the National Skills Qualifications Framework (NSQF).²⁵



○ Vietnam, Laos, Cambodia, Myanmar, Pakistan

In other countries, for example in Vietnam, Laos, Cambodia, Myanmar or Pakistan, apprenticeship training is emerging, but has not reached

institutional maturity. Apprenticeship programmes are offered in separate schemes and initiatives that are not yet integrated into the national VET systems. They are often implemented with support from development partners. In Vietnam, GIZ - under its VET reform programme - has introduced three pilot projects aimed at introducing dual training since 2015. In Myanmar, the Swiss Development Cooperation (SDC) funds the introduction of dual apprenticeship training (Box 1). The introduction is initially aimed at testing the potential of dual training, but it is yet to be complemented by other activities to establish requisite legal and institutional frameworks. In Laos, the Government of Germany has funded the introduction of dual training, and selected training institutions are engaged in cooperating with employers in the field of apprenticeship training. However, there is no relevant government regulation so far (ILO 2016). In Pakistan, GIZ-support was instrumental in launching dual training in Karachi under the German Pakistan Apprenticeship Training Initiative (GPATI) in 2013. Since then, the Punjab Technical Education and Vocational Training Authority (PTEVTA) later adopted the approach, which can be considered a step towards the institutionalisation of the approach (Box 2).



○ Indonesia

In contrast to other Asian countries, Indonesia's apprenticeship system, while fully institutionalised, appears to be more loosely connected to the mainstream VET system. The scheme is run under the Ministry of Manpower (MoM) and based on the Government Regulation on "Domestic Apprenticeship Programme's Implementation" of 2009. The regulation provides considerable discretion to employers in the definition of contents and programme design and does not decree training to be under the national qualification system. Instead, it is left to the discretion of employers whether to align their programmes to National Competence Standards (SKKNI), to international standards, or to so-called special standards, which are tailor-made to the specific requirements of the company.

²⁴ Apprenticeship Training System Bill of 2017.

²⁵ It should be noted that in July 2018 the Indian government has issued a new operational framework for apprenticeships that transfers essential responsibilities in the management of the National Apprenticeship Promotion Scheme and the recognition of needs-based industry-driven apprenticeship programmes (under so-called optional trades) to the National Skill Development Corporation (NSDC). See Government of India, Ministry of Skills Development & Entrepreneurship/Skill India, no year. Operational Framework for Apprenticeship in India (Including National Apprenticeship Promotion Scheme).



Cooperative Vocational Training (CVT) in Pakistan

Box 2
Cooperative Vocational Training (CVT) in Pakistan

In 2013, the GIZ-implemented TVET Reform Support Programme launched the German Pakistan Training Initiative (GPATI) in Karachi, later renamed into Cooperative Vocational Training (CVT). The apprenticeship model is based on the German dual system. Courses of between one and two years duration with a 50-50 percent share of OJT and OffJT have been developed in trades such as customer services and sales assistant, retail assistant, logistics and supply chain assistant, automotive technician, electrical technician, electronics technician, mechatronics technician, welder and fabricator, machinist, mechanical manufacturing with CNC, and energy efficiency advisor.

The project, which was extended to Punjab in 2014, invested substantially in awareness creation campaigns, development of CVT curricula, capacity building of teachers, enterprise-supervisors, business membership organisations (chambers and associations) and other stakeholders, as well as implementation support and monitoring. As of 2016, 143 enterprises were involved in the training with the majority being medium-sized enterprises. In total,

886 students, of which 106 were female, had participated in 35 courses in 2016. In 2015, 9 public and private training institutions were involved. Initial monitoring showed promising results: 63 percent of employers highlighted that the CVT approach is more beneficial than traditional training and that the quality of training and graduates is higher. 60 percent of employers noted that the learning progress of students in the CVT courses is good to very good. The examination pass rate was 98 percent in 2016. 55 percent of all graduates had found a job, of which 47 percent were working in the occupational fields in which training was provided. Others had gone into further education or found a job in other areas of employment.

Source
 GIZ, 2015. Cooperative Vocational Training. An innovative approach towards skills development. Handbook. Version 1.1; TVET Reform Support Programme, Pakistan. Final Report, 1st April 2011 to 31st December 2016.

Despite solid institutional anchoring in many countries, apprenticeship training has remained a niche delivery mode in most countries. In the Philippines, only 72,500 of 2.27 million VET participants in 2016 (3.2 percent) were enrolled in EBT programmes, and only 3.1 percent of graduates were from EBT programmes. A major bottleneck of system growth is the preparedness of companies to participate. This appears to have different causes including information failures, unfavorable bureaucracy, high costs of involvement, or different entry barriers - especially for small and medium enterprises (SMEs). Orbeta and Esguerra (2016) also mention unclear incentive structures for companies, which in turn, prevent participation. Malaysia's Master Plan and Work Skills Development (2008-2030) aims to enroll 6,300 companies for the National Dual Training Scheme (NDTS), but until 2009 only 996 companies participated. A 2012 study (Deros et al 2012) on the barriers for industry participation in apprenticeship found that 85 percent of the surveyed companies were not aware of the scheme. Although participation in the national apprenticeship scheme is mandatory for formal

sector companies, India failed to significantly increase its enrolment. SMEs are especially reluctant to participate in the schemes, complaining about inappropriate curricula, low quality of initial training in Industrial Training Institutes (ITIs) (which are the feeder institutions into apprenticeships), as well high costs and difficult bureaucratic procedures. Under the Apprenticeship Protsahan Yojana (APY) scheme, the Indian government offered subsidies to companies, but the scheme remained ineffective. In the new National Apprenticeship Promotion Scheme (NAPS) currently rolled out, subsidies offered to companies are considerably increased. Sri Lanka, on the other hand, represents a notable exception from this pattern. Despite an increase of school-based VET over the years, notably through an increase of programmes under the Vocational Training Authority (VTA), apprenticeship training under NAITA continues to play a key role in Sri Lanka's skills development space. In 2015, NAITA issued the highest number of National Vocational Qualification (NVQ) certificates out of all the major implementing institutions in the national VET system, and together with the



Department of Technical Education and Training (DTET) and the VTA, is one of the top three providers in terms of annual recruitment and number of completers.²⁶

In some countries, youth are reluctant to start apprenticeships. Reports from apprenticeship officers in both India and Sri Lanka point to students' decreasing interest in apprenticeship training as another major barrier to the systems' further growth. All over the world, cultural prejudice against blue-collar work, as well as increasing general education levels amongst students, push youth into higher education, often resulting in underused VET capacities. In Sri Lanka, noticeably apprenticeship training appears to be losing attractiveness. NAITA reports a high number of unfilled vacancies for apprenticeship places as well as the highest dropout rate among all the major skills

development streams. For the year 2015, TVEC reported dropout rates for DTET students of 21.9 percent, 6.7 percent for VTA students, and 24.8 percent for NAITA apprentices. It also reported that construction trades face the biggest problems when attempting to attract new apprentices. It is assumed that besides the general lack of attractiveness of construction sector jobs, long training durations and good opportunities to find better paid work, even without completed training, are among the main reasons for the lack of interest in apprenticeships. In India, SMEs especially are reported to encounter difficulties attracting apprentices, presumably caused by the bad reputation of SMEs in terms of payment and working conditions. Those students who actively wish to go into apprenticeships usually prefer a contract with larger, prestigious companies, which offer attractive career opportunities for apprenticeship completers after graduation.

²⁶ In 2015, the DTET recruited around 20,000 new students, the VTA 28,800 and NAITA 41,200. The latter also includes attachment students from other educational streams, but close to 23,000 were actual NAITA students studying under one of its apprenticeship modes. See also Annex 1.

3.2.2 Role of employers

Employers are the key training providers in apprenticeship training. The way employers are involved in managing and controlling the apprenticeship system (incl. governance, standard setting and programme development, quality assurance and assessment and certification) can strongly influence their ownership of the system, impacting on the preparedness of companies to participate in apprenticeship training and on the quality of training that they provide.

The influence and role of employers in apprenticeship training varies within the region.

Broadly speaking, apprenticeship training systems can be distinguished between employer-driven and school- (or government-) driven systems. In the former, the critical parameters of the system are strongly influenced by employers who mainly recruit apprentices for the purpose of securing future skilled labour for their companies. In the latter, the system parameters are driven by the state, and employers often perceive their participation in apprenticeship schemes as a service to government. Usually, students are primarily connected to a training institution, and the training institution - or the relevant government agency – identifies apprenticeship opportunities and places students in companies. Both systems can be found in Asia. However, given the predominance of school-based VET for many decades, school- and government-driven systems appear to dominate and employer-involvement to the extent found in German-speaking Europe is hard to find.

In India and Sri Lanka, for example, apprenticeships are government-driven. In India, the government strongly controls the curricula and other standards that govern apprenticeships. Companies are forced by law to participate and have very limited influence on the rules and regulations. Similarly, in Sri Lanka, the government exerts strict control over apprenticeship training. NAITA facilitates the system, recruits and places students and sets the occupational and training standards. However, employers, in fact, have considerable influence at the governance and operational levels. The NAITA Board is composed of industry representatives, and individual companies have (and make use of) some freedom of discretion to configure the apprenticeship practice according to their needs. They can recruit apprentices if they wish to and influence the way in which the cooperative training is delivered in practice.

In Indonesia and South Korea the system approaches are different. In both cases, companies develop their own programmes (to be approved by government before commencing training) and are largely in charge of organising all elements of the apprenticeship training, reflecting the idea that apprenticeship is genuinely entrenched in industry. Australia employs a similar approach, allowing companies to align apprenticeship programmes to specific requirements. Contracts for Australian Apprenticeships are based on individual training plans that are developed by employers together with a Registered Training Organisation.

Country systems vary in the extent to which employers are involved in standard setting, programme development and quality assurance.

A lack of influence on training contents and standards often prevents employers from developing ownership of the apprenticeship system. For example, a major criticism voiced by employers in India refers to the lack of labour-market relevance of apprenticeship curricula, which are designated by the central government. In most countries today, however, apprenticeship curricula are linked to national occupational standards which, following the paradigms of standard-based training, usually implies a much stronger employer influence on the definition of training contents than practiced in the past.

Employers (and their representative bodies) in Asia usually do not assume decisive responsibilities in quality assurance as they do in European apprenticeship systems, but their potential role appears to be gaining more attention. In Malaysia, for example, training firms are required to form Bipartite Enterprise Apprenticeship Committees at company-level to oversee the firm's apprenticeship practices. Increasingly, business membership organisations (BMO) are getting involved. The Employers Association of Indonesia (APINDO) has become a visible actor in the Indonesian apprenticeship landscape, conducting research and organising the Indonesian Apprenticeship Network. Externally supported apprenticeship development projects usually operate through BMOs and thus strengthen their potential role, such as the German VETnet initiative, which is active in Thailand and India. German-funded initiatives are often implemented in cooperation with the German Chambers of Commerce and Industry.

3.2.3 Scope of apprenticeship systems

Apprenticeships have their origin in artisan-level, initial training in technical (blue-color) trades. However, today's apprenticeship systems usually have a much wider scope in terms of sector-coverage, qualification levels, and target groups. This trend is also visible in the Asia region.

The range of apprenticeable occupations has increased. All over Asia, apprenticeship training is offered in a wide range of occupational areas, usually covering the entire range of skills provided in the VET system, including agriculture. In the Philippines, also selected medical professions are covered under TEDSA with specific recommendations to deliver training in a dual mode. With the establishment of so-called traineeships, Australia started to promote apprenticeship training in non-traditional trades (called "non-trade occupations") during the 1980s, which lead to a significant boost of apprenticeships in the years thereafter. Between 1995 and 2009, the combined number of apprenticeship and traineeship commencements more than quadrupled, with non-trade occupations accounting for 85 percent of this increase (NCVER 2011). In its recently introduced Work-Learning Dual System, South Korea is linking apprenticeship promotion to economic development needs by defining sector priorities in line with identified skills needs.

While apprenticeship training remains focused on qualifications at the lower vocational level, there is an observable trend, specifically in economically more advanced economies, to move apprenticeship programmes up the qualification ladder.²⁷ The dual training project implemented by the Malaysia German Chamber of Commerce and Industry operates at the advanced diploma level. In Sri Lanka, the core of the apprenticeship training takes place at *craft or trade* (secondary) level. However, Technical Institutes under NAITA offer diploma-level (tertiary) programmes, which are organised in a dual arrangement, but with a greater share of institution-based training. India operates several apprenticeship schemes under different ministries, including technician apprenticeship programmes, but *trade apprenticeships* leading to skilled-worker status remain the most important programmes in terms of the number of youths catered for. In Singapore, companies offer apprenticeship opportunities for degree holders. South Korea has formulated minimum qualification standards for apprenticeships to ensure that firms are not exploiting the scheme to train low-skilled workers.

Furthermore, dual studies, a concept that applies the dual training model to higher education programmes, is also becoming popular in Asia. Degree-level dual studies are offered in Malaysian Polytechnics, where workplace learning is systematically integrated into the learning process, is credit bearing and provided during two out of eight semesters (Ismail and Hassan, 2016). In Palestine, where dual studies were recently piloted at Al Quds University with support from German cooperation, the Ministry of Education and Higher Education has

now encouraged all tertiary education institutions to transform educational programmes into dual studies, whereby practical parts of the studies will be delivered at the workplace in participating companies.

The definition of companies eligible to participate in apprenticeship training varies among countries, and at times, companies are obliged to participate. In most countries, the law implicitly limits participation to formal sector companies. An exception is Indonesia, where unregistered firms are explicitly allowed to participate. In South Korea, only companies with more than 50 employees can register as an apprenticeship training company, while in India, all companies with a minimum of 40 employees are obliged to take apprentices, equating to between 2.5 and 10 percent of its workforce. In Pakistan, the new Apprenticeship Act of 2017 includes an obligation for companies to participate in apprenticeship training. The Act stipulates that employers must train a minimum of five percent of the total number of persons employed through apprenticeships. Furthermore, in the Philippines, the 2017 Apprenticeship Training System Act Bill makes it possible for the President to introduce compulsory apprenticeship training if demanded by national security or economic development needs.

As in German-speaking countries, **companies sometimes have to meet specified standards to qualify for participation in apprenticeship training.** Before taking in apprentices, companies in Sri Lanka, for example, have to seek accreditation as training providers, i.e. they undergo a standard screening by NAITA to establish their appropriateness to train apprentices, and have to sign a memorandum of understanding with NAITA.

²⁷ Terms to describe different VET qualification levels vary between countries and also debate contexts. In this report, terms are used, wherever possible, as they are used in the countries that are described.

Traditionally, apprenticeship training is first-time training for new labour market entrants, and has remained so in most countries. Notable exceptions include the UK, Australia, and Canada, where apprenticeships also target the existing workforce that are in need of skills upgrading and further qualification. In 2009, 21.3 percent of all Australian trade apprenticeships were undertaken by people aged 25 and above (and 55 percent of all apprenticeships were non-trade apprenticeships). Of all apprenticeships that commenced in Australia in 2009, 32.6 percent were by existing workers (NCVER 2011). Also in Asian countries, the target groups for formal apprenticeship training are getting wider. For example, Malaysia's Masterplan Occupational Skills Development and Training (2008-2020) envisages establishing dual training programmes for experienced workers. The target group in South Korea is defined as job seekers between 15 and 29 years.

The minimum educational background of apprenticeship candidates is usually not regulated, but instead set specifically for each programme in accordance with the sophistication of skills and national standards.

However, larger companies in particular, and those using more sophisticated technology, often set their own internal minimum standards. The 2015 ILO/APINDO study on apprenticeship practice in 13 large firms in Indonesia showed that none of the surveyed companies would accept apprentices without a senior secondary school certificate. Furthermore, many applied rigorous recruitment and selection procedures to ensure the right match between company expectations and apprentices' capabilities.

At the other end of the educational achievement spectrum, there are few examples where the specific educational chances for disadvantaged youth are addressed. In 2010, Sri Lanka developed a policy for the inclusion of vulnerable people in VET. In this policy, apprenticeships play a special role because they are accessible, and with their practical orientation, suitable for people with little inclination to theoretical learning. The emerging attempts to improve informal apprenticeship training in Bangladesh and Afghanistan (see Section 3.3) should also be seen in this context. In Australia, different Australian Government, state and territory incentives are offered for apprenticeships undertaken by indigenous people, retrenched workers, people with disabilities, and specially targeted groups.

3.2.4 Female participation

Female participation in apprenticeships depends on the range of programmes offered and is usually lower than men's.

Information about female participation in apprenticeships has not always been readily available. Data for India shows that in 2016, the female participation rate in apprenticeship training was seven percent, which is even lower than the already low participation rate in formal VET - at around ten percent (World Bank 2017). Indonesia and Australia are considerably more successful in terms of integrating female youth, where female participation rates of above 40 percent are reported - although these rates are still lower than in other educational tracks (World Bank/ILO 2013). In the Philippines, around half of all students enrolled in enterprise-based training programmes are

female, according to TESDA statistics. As elsewhere in the world, cultural norms tend to restrict female participation in the labour market to stereotypically female jobs. As a consequence, the level of female participation in apprenticeships depends on the range of trades for which apprenticeship programmes are offered. Whereas traditionally, apprenticeships were very much a male domain focusing on male-dominated technical and industrial trades, expanding the range of trades/occupations to include those without pre-defined gender preferences (e.g. IT occupations), and those that are specifically attractive for women (e.g. beauticians and hospitality) has, in some countries, effectively increased the share of women among apprentices (World Bank/ILO 2013).

3.2.5 Programme features

The way in which apprenticeship programmes are structured and formalised differ from country to country, although basic patterns (e.g. dual delivery mode) appear common to all systems. Available information points to a **relatively high degree of flexibility in many countries, allowing apprenticeship programmes to be delivered in a way that fits the content and organisational requirements of different sectors and companies**. Table 3 summarises some basic information on programme features in different countries.

Contracts to underscore the mutual commitment to the apprenticeship arrangement are common in all countries, but rules differ related to which parties are considered part of the arrangements. In Indonesia and India, for example, apprenticeship contracts between enterprises and apprentices (or their guardians in case of a minor apprentice) are to be registered by government offices.

In Sri Lanka, a principal memorandum of understanding (MoU) between the employer and NAITA is required before the company can take on apprentices. This MoU can only be signed after the employer has been assessed and proven to meet minimum standards. All these arrangements underpin the understanding that while apprenticeship is primarily an arrangement between an employer and a trainee, the government assumes a supervisory role, putting the apprentice in a specially protected situation. Meanwhile, in the Philippines, the upcoming legal framework acknowledges the special need for protection of apprentices, and foresees that a special in-company committee for apprenticeship training, called the *Bipartite Enterprise Apprenticeship Committee*, must approve the contract.

Table 3
Major apprenticeship programme characteristics in selected countries

Country	Contractual arrangements	Programme duration	OJT/OffJT rotation	Quality assurance	Assessment/certification	System rigidity
Bangladesh (B-SEP), still in pilot stage	Contract between apprentice and enterprises in some sectors	On average 6 months	Min. 2/3 of training time must be OJT; Delivery patterns variable, day-release is frequent; Theory classes also possible in-company or as distance courses	In some sectors (hospitality, ceramics, pharmaceuticals), ISCs played important role in design, administration and monitoring	RPL assessment	Low, as in building up phase
India (trade apprenticeships)	Contract mandatory to be registered in central apprenticeship register	Depending on trade up to 4 years; recently, also shorter durations are envisaged	School-based training, followed by OJT; OJT and OffJT relatively unconnected; More recently, a dual training mode is promoted	State and regional apprenticeship departments in charge, but supervision is hardly implemented	Summative assessment, National Apprenticeship Certificate by MSDE	High, but getting slowly more flexible
Indonesia (MoM)	Contracts mandatory and registered with Disnaker Office	From few weeks to four years; Law stipulated max of 1 year	OJT/OffJT: 75/25; Both can also be delivered in-company	-	Based on any national, international, foreign or company skills standards upon discretion of company.	Low
Malaysia (NDTS)	-	Depending on trade	OJT/OffJT:70-80/20-30; Day- or block release	-	Certificate K-workers, equivalent to SKM Levels 3 to 5, approved by DSD and related employer organisation	-
Myanmar (VSDP)	-	18 months	Initial school-based training (1-2 months) followed by either day- or Block release at a rate of OJT/OffJT: 85/15	By project	Formative assessment during training and summary assessment, planned under the new MoLIP system	DP-supported pilot project
Myanmar (CVT)	Contract between employer and student, and between employer and training provider (TP)	3 years	Day-release (80/20)	By CVT	-	Strict format, but system is adaptable
Pakistan (GPAT)	Tripartite contract between firm, TP and apprentice; MoU between lead agency, TP and participating firms	1 – 2 years	OJT/OffJT: 50/50; Block release sequenced depending on programme requirements; Training usually starts with school instruction	Organised by lead agency; Project includes substantial capacity development activities	Formative and summative assessments based on standards; National certificates plus reference letter from company	Programme rules apply
Philippines (DTS)	Contract between apprentice and company, approved by Bipartite Committee; (up to 20% of number of regular staff); MoU between companies and TP; Apprentice is considered trainee both of company and vocational training institution (VTI)	6 months minimum	OJT/OffJT: 60/40; Dual curricula, day- or block-release; Actual delivery arrangement rather flexible, also possible that both OJT and OffJT is delivered in company	Bipartite Enterprise Apprenticeship Committee, and Industrial coordinator of VTI; Report book by trainees, inspected by companies	Competency certificate by TESDA and training certificate by company	-
South Korea	Learning worker contract. Trainees considered employees enjoying same protection and benefits as normal workers	6 months to 4 years	Tailor-made, but at least 50% must be at workplace, and 20% in school. Theory classes can be provided in-company or by 3rd party provider	-	Internally and externally, certification under National Competence Standard System (HRD Korea)	Appears flexible to meet company demands
Sri Lanka (NAITA)	Contracts mandatory; MoU between NAITA and company	Depending on trade, 1-4 years	Depending on scheme and programme, including day- and block release	By NAITA inspectors	Formative and final summary assessment	System performs a good adaptability

Furthermore, it is common that special contractual arrangements are required between the company and the training provider that delivers the OffJT. For example, in the Philippines, Pakistan and Myanmar (CVT), the employer is required to sign a formal agreement with the training provider that delivers the school-based instruction.

Training durations are flexible, but tend to get shorter. The duration of apprenticeship programmes is commonly flexible depending on the specific requirements of the trade. Training durations are only set uniformly in some project-driven apprenticeship programmes, such as in Myanmar. While apprenticeships remain, by and large, a long-term training arrangement with durations up to four years, there appears to be a trend to shorten programmes. This can be observed in Sri Lanka and India, for example, and appears to be driven by the desire to increase the overall intake of apprentices (to address youth unemployment), and to increase the attractiveness of apprenticeships among youth and enterprises. Another reason²⁸ may be that the training quality in apprenticeships tends to increase in the process of aligning programmes with national skills standards, leading to reduced training time requirements.

As apprenticeship legislation usually provides for hiring trainees at low wages and restrictions, apprenticeships can be an attractive employment option for gaining new recruits. Therefore, to avoid exploitation, some countries where companies develop their own apprenticeship programmes (e.g. South Korea and Philippines) stipulate

minimum durations so that apprenticeships are not offered for too narrow skills sets. Flexible apprenticeship durations in Indonesia, for example, have resulted in very short programmes in specific sectors, such as hospitality (APINDO/ILO 2015b). In Australia, shorter apprenticeship programmes have become increasingly important following the introduction of the so-called traineeships in 1985. Traineeships are offered in non-traditional (non-trade) occupations and are usually of one-year duration. From 1995 to 2009, the share of these shorter traineeships rose from 35.6 percent to 73.6 percent (NCVER 2011).

All countries in Asia for which information was available require formal apprenticeship training to be delivered in a dual mode, i.e. as a combination of enterprise-based OJT and school-based OffJT. Where companies have the capacity, some countries, including Indonesia, Bangladesh, South Korea, Philippines and India, also provide the possibility that OffJT is delivered in company-owned training centres. This would allow companies to better control the training quality, and to tailor the training to their company-specific needs. This would make apprenticeships an attractive option particularly for large companies with specialised and high-level skills requirements. In most systems, OJT represents the larger share of training, but there are exceptions. In the cooperative training model at the Polytechnic College Hai Phong in Vietnam, which is supported by German cooperation, only 9 months out of the three-year programme is spent as OJT (Bui Khanh Duyen 2016).

²⁸ ... suggested in discussions with apprenticeship officers in Sri Lanka during the study tour conducted for the preparation of this report.

Box 3
Pre-vocational courses in Australia

Pre-vocational courses for young Australians aimed at preparing students for entry to an occupation, and specially an apprenticeship, have a long tradition dating back to the early 20th century. Courses may be characterised as a kind of orientation phase for learners without a clear aim and/or lack of work readiness. They are up to six months, often full-time, and are commonly offered at certificate II level. Prevocational courses provide initial technical skills development and focus on foundational skills and knowledge, including addressing learning difficulties of students. Real or simulated work experience is included. "Their attraction is twofold. First, they allow potential apprentices to have a taste of an occupation or trade. Second, they act as a filtering or selection mechanism to assist employers" (NCVER 2011).

Prevocational courses are mainly provided in occupational fields that lead to trade apprenticeships, e.g. engineering, metalwork, construction, electrotechnology, hairdressing, and others. In these trades, 27.6 percent of all apprentices have completed a prevocational course before entering the apprenticeship. In an assessment of the scheme conducted in 2007, stakeholders, including employers, highlighted the impact of the courses on the apprentices' understanding of the destination industry and their ability to learn, and the usefulness of the scheme for the selection of candidates by industry.

The Apprenticeship Reform Advisory Groups in 2016 recommended expanding the scheme to include non-trade apprenticeable trades in order to develop a more systematic approach and standards for the scheme, and to make the courses more relevant to industry. In Queensland, the government has set up an Industry Pre-Apprenticeship Programme that provides funding for industry to partner with the government in the implementation of courses in priority trade occupations.

Source
NCVER 2011, Apprenticeships Reform Advisory Group 2016.

Both, day- and block-release is common depending on the occupational or company-specific organisational requirements. An exception to this is India, where OJT is delivered at one stretch as a final period after the completion of a formal long-term institutional training ("train and place model"). The OJT part in this case is also shorter than the school-based training (often one-year apprenticeship training following two years of full-time training in an Industrial Training Institute), but the model is slowly becoming more flexible.

Today, OffJT mostly includes soft skills training alongside theory and basic skills training. Soft skills modules are included, for example, in the Myanmar pilot dual training concept supported by SDC (see also Box 1). The World Bank-supported Enhanced Vocational Education and Training Project (EVENT) II in Nepal offers behavioral/soft skills modules to parts of its

supported apprentices in order to assess the impact of such additional training.²⁹ General education subjects may also be included. Australia, with its pre-vocational courses, offers a special - mainly school-based - solution to prepare youth for apprenticeships by improving foundational skills and work readiness before a young person starts an apprenticeship (see Box 3).

Most of today's apprenticeship systems are linked to national qualification systems, and accordingly, to unified national assessment/certification structures. Sometimes, apprenticeship training is separately certified in addition to the national certification. In the Philippines, an apprenticeship graduate obtains a TESDA competency certificate as well as a training certificate issued by the training company. In Pakistan, training companies are required to issue a reference letter, which is provided alongside the national certificate.

²⁹ World Bank, 2017. Nepal: Enhanced Vocational Education and Training Project (EVENT) II. Project Appraisal Document (PAD).

3.2.6 Financial arrangements

Patterns of funding, funding flows, and costs in apprenticeship training are commonly different from those in institutional training.³⁰ Different funding arrangements in apprenticeship systems would usually reflect different requirements and conditions to incentivise participation of the parties involved.



³⁰ A detailed discussion of costs and benefits of apprenticeship training is included in Section 4.

Box 4

Tax incentives offered to employers for apprenticeship training in the Philippines and South Korea

Tax incentives for apprenticeship training are not new in the Philippines. The Dual Training Systems Act of 1994 defined comprehensive incentives, including tax deductibility of eligible training expenses, within limits and exemption from donor's tax. Even Vocational Training Institutes offering OffJT were entitled to tax incentives under the DTS law: "Essential equipment, apparatus and materials imported by accredited dual training educational institutions shall be exempt from taxes, such as value-added tax (VAT), ad valorem tax and other duties."

The new draft Apprenticeship Training System Act of 2017 continues in the same spirit, offering incentives to companies that comply with the provisions of the Apprenticeship Act: "An additional deduction from the taxable income equivalent to one-half of the value of training expenses incurred for developing the productivity and efficiency of apprentices programme shall be granted to the person or enterprise organising an apprenticeship programme; provided, that such programme is duly recognised by TESDA; provided further that such deduction shall not exceed ten percent of direct labour wage; and provided finally that the person or enterprise who wishes to avail of this incentive shall pay the apprentices Training Allowance equivalent to the applicable minimum wage" (Sec. 23). However, the incentive regime has been criticised for "incompatibilities of underlying incentives and possible sources of financing and the problem of monitoring the in-firm wage-training contracts" (Orbeta and Esguerra 2016).

Unlike the Philippines, South Korea does not operate with tax incentives, but instead offers generous direct subsidies to companies under its recently launched "Learning Worker" Dual System.

Potential subsidies in South Korea include (in US\$):



\$4,000–\$16,000
per company
Company trainers



\$6,000
per company
Programme development
(programme consultation and development)



\$3,000
per company
Training of company trainers and administrative staff



\$3,000
per year
Allowances for administrative staff



According to reimbursement formula
Training expenses for OJT and for OffJT



\$400
approx. per month
Trainee allowance for accommodation



\$270
max. per month
Accommodation for company trainers and administrative staff

Source

Dual Training System Act, February 1994 (Philippines); Bill of the Apprenticeship Training System Act of 2017, from 14. March 2017 (Philippines); Ha Sang Jin (no year). Let Competency Make Opportunity for All – Work-based Learning System / Dual System. (South Korea)

In all modern apprenticeship systems in Asia, apprentices are commonly given an allowance or apprenticeship wage. In some countries, such as

Malaysia, these allowances are legally stipulated as fixed amounts, in others they are fixed as a certain percentage of a reference wage.

Table 4
Financial arrangements for apprenticeship training in selected Asian countries³¹

Country	Stipends/ Apprenticeship wages	Who pays OffJT?	Incentives	Other remarks
Bangladesh	Not less than 25% of typical wage in the trade	-	Tax holidays for apprenticeship-related expenditure; duty exemption for imported training equipment	-
India	Trade apprentices: 70 – 90 percent of minimum wage of notified semi-skilled worker depending on year of apprenticeship. Other apprentices (Graduate and technician): Fixed rates, stipulated by law	Paid for in case of ITI, in case of private basic training provider fee is payable by company	Incentives offered under different promotion schemes. The current National Apprenticeship Promotion Scheme (NAPS) offers subsidies to cover stipends and costs related to basic training provider	Act foresees financial penalty for employers not complying with mandatory apprenticeship quota. Not strictly implemented.
Indonesia	Not stipulated, but large companies usually pay a stipend. Transport allowances must be paid to apprentices	Company	Public funding for apprenticeship contracts available through national and provincial/district budgets, but apparently, bureaucratic procedures often prevent firms from accessing these funds.	-
Malaysia	Minimum allowance rate stipulated by Ministry of Human Resources, increasing with each semester	-	Incentives for employers paid from the training levy system (100% cost-imburement up to 20% of levy balance)	Apprenticeships are supported under the Human Resources Development Fund (HRDF)
Pakistan (Apprenticeship Act)	-	Government	-	Apprenticeship Fund foreseen in new Apprenticeship Act of 2017, but not yet established. Financial penalty for employers not complying with mandatory apprenticeship quota foreseen in Act
Philippines	Stipulated at 75% of minimum wage	-	Tax incentives to firms and training institutions (see Box)	-
South Korea	Employment wage	Company	Subsidies to cover costs (see Box)	-
Sri Lanka	Not stipulated, but most companies appear to pay some stipend	Government	-	-
Vietnam	-	-	According to new TVET Law (Article 51) expenses for vocational training activities of enterprises shall be deducted for tax purposes.	-

³¹ Blank cells indicate that on the basis of available sources information was not, or not unambiguously, available.



In the Philippines dual training system, the minimum apprentice allowance is 75 percent of the minimum wage. India also uses the minimum wage (which is different in each state) as reference for its trade-level apprenticeship system. In Bangladesh, the apprenticeship stipend should not be less than 25 percent of a typical employee's salary in the trade in which the apprenticeship is offered. Australia, as with German-speaking countries, allows for sector-specific apprenticeship wages.³² Other systems (e.g.

Sri Lanka and Indonesia) do not stipulate a mandatory allowance for apprentices, but it is generally assumed that most companies do pay something. Large and modern companies especially (which are most likely to participate in apprenticeship training) value the productive work of apprentices during their training, and subsequently, offer stipends to apprentices that are high enough to attract the most capable apprenticeship candidates.

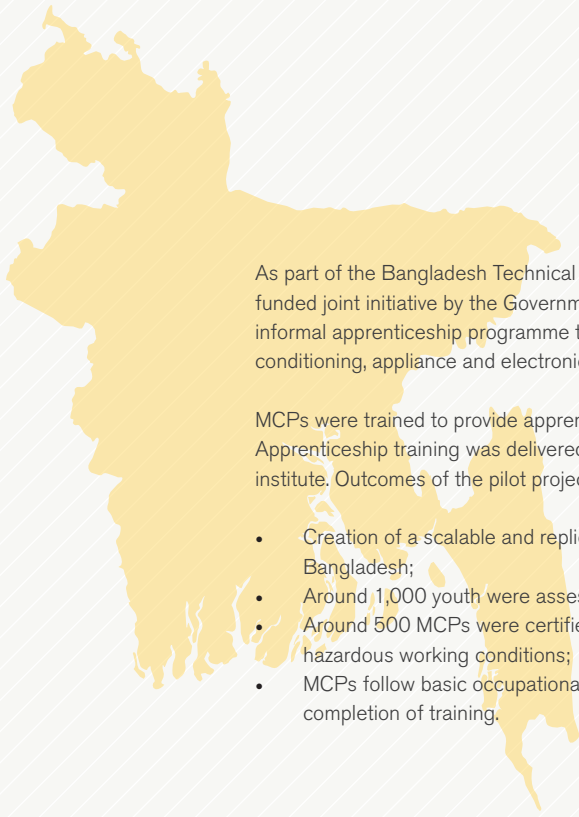
³² By law, Australian Apprentices must receive wages and conditions defined under an appropriate award, under an approved enterprise agreement, or the national minimum wage and National Employment Standards. See www.australianapprenticeships.gov.au.

Malaysia, South Korea, Singapore, India and Australia) where apprenticeship training is strongly supported as a means of high quality employment-oriented training. While Bangladesh and the Philippines have tax incentives and duty exemption schemes in place, other countries offer direct subsidies to help companies cover all or parts of the training cost. The South Korean government provides substantial financial support to companies under the “Learning Worker” dual system, including subsidies for the development of apprenticeship programmes (including curriculum, teaching and learning material and training of trainers), for allowances of participating staff, training expenses for both OJT and OffJT, and other costs (see Box 4). In Australia, incentives are offered to both employers and apprentices by the Australian Government, as well as by states and territories. Incentive packages therefore vary between states and territories. They may also be tailored to specific target-groups, such as people with disabilities, or by the type of apprenticeship training, such as workers’ upgrading. Similarly, Singapore also maintains a differentiated incentive system that reacts to various labour market requirements and priorities. In Malaysia, incentives for the training of apprentices are part of the training levy system. Companies can obtain a 100 percent reimbursement for the costs associated with practical training at the workplace, but only up to a maximum of 20 percent of the total levy balance at the time of application.

However, incentives do not always work as planned. In India, incentives offered to firms under the previous APY Scheme were hardly used by companies. In Indonesia, public funding for apprenticeship contracts through the national and provincial/district budgets is available, but provincial/district funding is almost not forthcoming. In a survey, (large) employers mostly indicated that they do not use sources of public funding as amounts are limited and bureaucratic procedures are high (APINDO/ILO 2015b).

Information on who bears the cost for OffJT remains sketchy, but it appears that often, institutional training is offered and paid for by the government. Examples of companies that pay a fee to training providers for OffJT delivered to their apprentices include the COEL/Bangladesh and CVT/Myanmar, both using training institutions, usually non-governmental organisations. In other countries, as shown before, companies may offer OffJT in their own company-based training centres, and in these cases, companies will also pay for the related costs; unless the arrangement is subsidised or incentivised by the government. In Australia, some OffJT providers charge fees, which are either borne by companies or individuals.³³

³³ See Kuczera (2017b).



Box 5

ILO support to informal apprenticeships in Bangladesh

As part of the Bangladesh Technical and Vocational Education and Training Reform Project of 2008 - an EU-funded joint initiative by the Government of Bangladesh and the International Labour Office (ILO) - a pilot informal apprenticeship programme targeted 500 mastercraftspersons (MCP) in the sectors of construction, air conditioning, appliance and electronics repair, and garment-making.

MCPs were trained to provide apprenticeship training to two apprentices each over a period of 6 months. Apprenticeship training was delivered five days a week at the workplace, and one day in a nearby technical training institute. Outcomes of the pilot project included:

- Creation of a scalable and replicable model for structured and formalised informal apprenticeships in Bangladesh;
- Around 1,000 youth were assessed and awarded nationally recognised certificates;
- Around 500 MCPs were certified and received mentoring skills to improve the training of youth and minimise hazardous working conditions;
- MCPs follow basic occupational standards and safety rules, and have employed graduate apprentices after completion of training.

Source
ILO 2014

3.3 Informal apprenticeship training

In contrast to Africa, informal (or traditional) apprenticeship training in Asia does not feature prominently in the discussion on apprenticeship training. There is no question that informal apprenticeships are common wherever there is a significant informal sector. Research and systematic strategies to strengthen the systems, however, are limited. Arguably, informal apprenticeships have been overshadowed by dynamically developing formal skills development structures. Furthermore, they are associated with exploitative working conditions and child labour in some countries.³⁴

The little evidence that was found shows that informal apprenticeship training - where it exists - is a very important vocational training sub-system, catering for

the majority of youth undergoing skills training, and is accessible - especially for youth from poor households and with low educational attainment. Data from the 2004/05 Employment and Unemployment Survey in India shows that the large majority of youth that received vocational training did this through informal or traditional apprenticeships, rather than through formal VET (Biavashi et al, 2013). GIZ, which conducted comprehensive research into informal apprenticeships in Afghanistan, found that each bazaar business employs at least two apprentices, resulting in an estimated 600,000 to 1 million youth being absorbed in the *Ostad-Shagerdi* system. In total, informal apprenticeship training reaches between 26 and 43 percent of youth between 15 and 19 years old, making Afghanistan's small business sector the largest provider of VET (Reier,

³⁴ See for the Ustad-Shagird system in Pakistan, for example, Riaz et al (2015).

no year). For Pakistan, different sources indicate that informal apprenticeship training is widely practiced, and found in all traditional sectors supplying the bulk of the skilled workforce for the industry (Riaz et al, 2015). For Myanmar, on the other hand, it is reported that well-functioning structures of traditional apprenticeship training have died out and are now limited to niches (Batliner, 2017).

While not as prominent as formal apprenticeship training, informal apprenticeships are also gaining attention in development initiatives. In Bangladesh, which is one of the few countries where comprehensive research on the system was conducted (ILO 2009), traditional apprenticeship training has not only been supported since 2008 by the ILO and other development partners (see Box 5)³⁵, but it is also subject to the country's 2011 National Skills Development Policy. The policy aims to

regulate traditional apprenticeships to a certain extent and integrate them into recognised certification systems. The Government of Afghanistan has acknowledged the informal apprenticeship system as a key and cost-effective skills development sub-sector. Supported by German cooperation, it is expanding a programme to provide traditional apprentices, which have completed 9th grade of schooling, with additional classroom training for three mornings per week at a VET school. The three-year programme is recognised as part of the secondary school system, providing graduates with the opportunity to continue their education.³⁶ In Jordan, Egypt and Tunisia, the ILO supported the upgrading and modernisation of informal apprenticeship training (Fischer 2014). Interventions included capacity development of mastercraftspersons, additional classroom training for apprentices, and access to certification.



³⁵ Improvement of informal sector apprenticeship training was also included in the Canadian-financed B-SEP project.

³⁶ See Reier (no year) and GIZ (2017).

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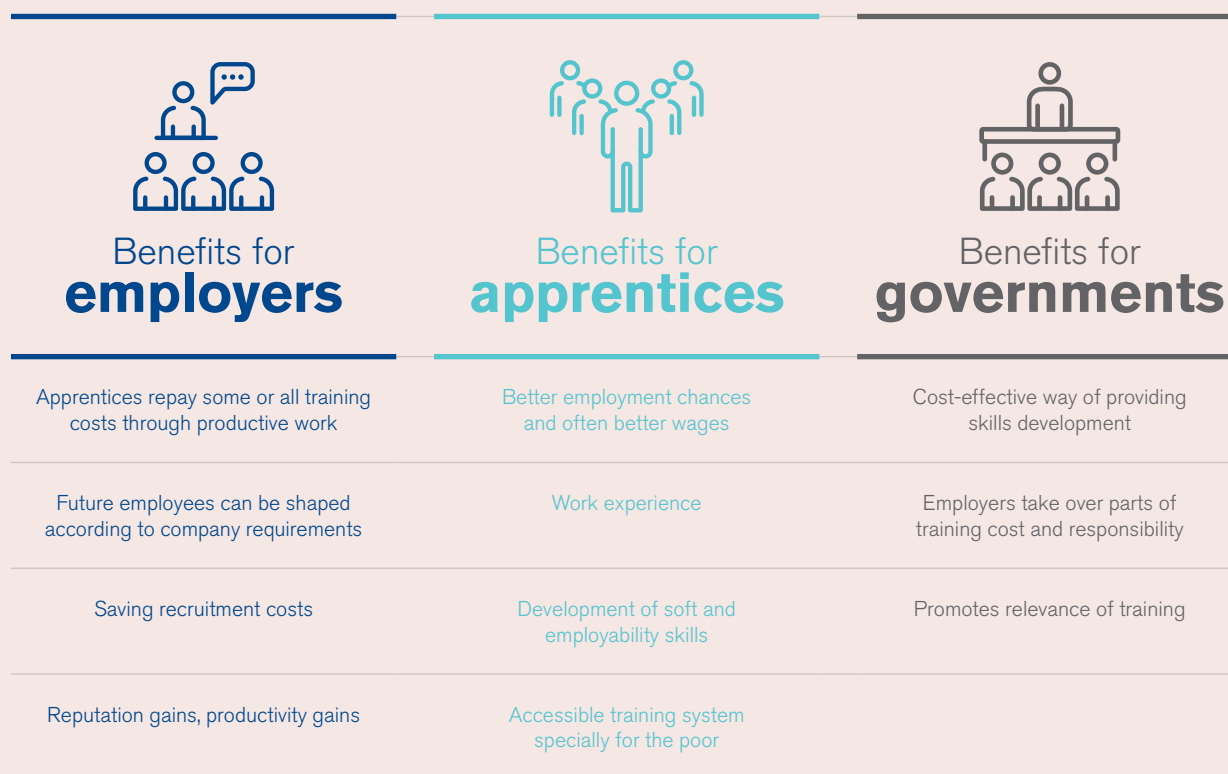
- 4.1 Benefits for apprentices
- 4.2 Benefits for employers
- 4.3 Benefits for governments

Benefits of apprenticeship training



Apprenticeship training has significant and distinct benefits for the youth targeted, employers involved, and governments - as summarised in Figure 2. The arguments are obvious and intuitively convincing, however, they are often difficult to verify empirically.³⁷

Figure 2
Gains through apprenticeship training for different stakeholder groups



³⁷ Often apprenticeship training is leading to distinct qualifications, for which no alternative VET route is available or common (as in most German-speaking countries). As such, its effectiveness compared to alternative delivery modes, for example school-based VET, cannot be strictly assessed. Where apprenticeship training represents an alternative training option towards the same qualification, a considerable selection bias may occur if apprenticeship places are rare, and only the best candidates would be able to secure an apprenticeship place in a company. This situation appears to be the case in UK, where applicants for apprenticeships exceed the supply of places by 15:1 (see also Wolf 2011). On the discussion on methodological challenges see also Kuczera (2017b), and Biavaschi, et al. (2013).

The following section summarises some of the most important arguments, assumptions and evidence in regard to the relevance and effectiveness of apprenticeship training for apprentices, employers and governments.

4.1 Benefits for apprentices

With its strong practical orientation and close link to the real world of work, apprenticeship training is assumed to be especially effective in supporting the transition from education to work, and fighting youth unemployment. Evidence from Europe indicates that countries with an established apprenticeship culture and high participation rates of youth in apprenticeship training, such as Germany, Austria, Switzerland or Denmark, consistently experience relatively smooth transitions from school to work, low youth unemployment rates, and generally lower gaps between youth and general unemployment rates. Analyses of the outcomes of formal apprenticeships in the US, the UK and France also clearly demonstrate that former apprentices fare better than their peers who graduate from school-based training. Apparently, real work experience during training has a positive impact on employment opportunities.³⁸

For Asia, some empirical evidence on labour market outcomes is available, but limited and more anecdotal. During the study visit to Sri Lanka, NAITA reported that internal assessments suggest a very high employment rate of apprenticeship graduates, often with the enterprises where the apprentices were trained. An evaluation of outcomes of tracer studies of VET graduates from 2002, comparing NAITA graduates (apprentices) with those from school-based formal VET streams, shows considerably better employment (both wage and self-employment) rates for NAITA graduates, and a lower unemployment incidence.³⁹ While these results are dated reflecting an economic environment different from today's, employers visited during the study tour 2018 still indicated a preference for recruiting apprenticeship graduates over graduates from other training streams, mainly because they are perceived to have better practical and soft skills and fit specific company requirements and cultures. This was mentioned particularly by employers involved in "fresher training", where youth are taken as apprentices directly from school without prior institutional training.⁴⁰ Similarly, positive results have been shown for the Philippines in the TESDA Impact Assessment Report from 2011, which registered significantly higher employment rates for graduates of enterprise-based programmes (83.1 percent employment) compared to school-based programmes (e.g. 56.4 percent employment rate for graduates of community-based programmes).

Results on earnings for apprenticeship graduates are mixed and vary depending on the target labour market for people leaving the apprenticeship system. A growing body of research in Europe has found evidence that:

³⁸ See also Biavaschi, et al. (2013), Kuczera (2017b), van Adams (2007) and Sweet (2017).

³⁹ See ADB/Australian Aid 2014.

⁴⁰ See also Annex 1 on the findings of the Sri Lanka study tour.

- (i) graduates from the apprenticeship system sometimes earn more than their peers from the other education streams;
- (ii) wage expectations depend on economic sectors; and
- (iii) apprenticeship training can be specially beneficial at lower qualification levels.⁴¹

To the best of our knowledge, related evidence for Asia is very limited. In the Philippines, Yamauchi et al (2017) conducted an impact assessment of the Dual Training System in 2016. The assessment analysed the effect of dual training on employment and earnings based on a sample of 847 students - of whom 367 were dual training students and 475 students in regular VET programmes – and found a substantial impact on monthly earnings. The impact attributable to the participation in dual apprenticeship training was more than 75 percent relative to the average monthly income of graduates from regular programmes. Interestingly, the income increased with the length of on-the-job training, implying that the industrial training component of dual training is the most important factor contributing to higher earnings. Furthermore, the internal rate of return for DTS students was higher compared to regular programmes.

A positive outcome of apprenticeship training, as compared to school-based skills development, is its impact on the development of soft skills and employability skills. As learning is practical and in real-life contexts, apprenticeships and other workplace learning schemes are effective at increasing motivation, confidence, and soft skills among young labour market entrants. In Australia, evaluations of workplace learning schemes in senior secondary education highlighted improvements in student motivation, confidence, satisfaction, and time-management as a result of workplace experience (Van Adams 2007). In the developing world, evidence on the impact of apprenticeships on the development of soft skills is hardly available, but in increasing demand.⁴²

Apprenticeship training is often perceived to offer an attractive training option for poor youth in developing countries. In most cases, apprenticeship training involves allowances, or wages, paid by the enterprises to the apprentice in return for her/his productive work. Unlike school-based VET, where families must bear tuition fees and the cost of living for trainees, apprenticeship training provides for “learning and earning”, and therefore represents a training scheme that is generally more accessible to poorer families. However, while evidence from Africa shows mixed results about the extent to which apprenticeships really reach the poor⁴³, systematic analyses on accessibility to, and actual participation in, apprenticeship training by social status in Asian countries is not available.

⁴¹ See also the studies of McIntosh (2007), Wolf (2011) and PERA Training (2014) on the UK, as well as van Adams (2007) and Kuczera (2017b).

⁴² The World Bank in a study on socioemotional skills development in the Philippines (Acosta et al 2017) has called for further analyses of the impact of apprenticeship programmes for the development of socio-emotional skills.

⁴³ Darvas and Palmer (2014) noted for Ghana that the widespread informal apprenticeship system, while mainly used by poor populations, may still exclude the very poor. Filmer and Fox (2013) report a significantly higher likelihood of the more well-off part of the population undergoing informal apprenticeships.



4.2 Benefits for employers

Apprenticeship training can provide a good return on investment for employers depending on organisational patterns and financial structures, and on the duration of training.

Specifically in the OECD, an increasing number of studies have informed the discussions on costs and benefits of apprenticeship training for companies.⁴⁴ There is a general agreement that apprenticeships can be worthwhile for employers, if and when the framework conditions are conducive, and the system is well-designed. While enterprises invest considerably in apprenticeship training - covering the costs for apprentice allowances, training material, supervisor time, fees for OffJT, etc. (all constituting so-called *gross costs*) - apprentices are usually involved in productive work while at the workplace. The value of this productive work may recoup the costs, or parts of it (leading to remaining *net costs* for companies).⁴⁵ In fact, studies conducted in European countries have demonstrated positive returns on apprenticeship training for the companies involved. Assessments regularly conducted on the costs and benefits of dual training in Germany show that, usually, around 30 percent of all companies employing apprentices generate a net profit over the training period, as the value of the apprentice's productive work exceeds the training costs (Jansen et al., 2015). In Switzerland, such a net profit occurs in two-thirds of companies employing apprentices (Pfeifer et al., 2009).

Actual net apprenticeship costs for companies depend on different determinants. Apprenticeship reforms should be based on a careful analysis of the cost impact of intended reforms so as to avoid financial disincentives for companies.

Major determinants of the cost-benefit ratio of apprenticeship training for companies include:

- *The apprenticeship allowance* (including non-wage benefits and other related costs): Allowances/wages and other benefits and related costs are usually the main cost-driver in apprenticeship training. In Switzerland, the average labour cost for each apprentice in a three-year programme is around 50 percent of the overall cost; in Germany it is 62 percent.
- *Composition of other costs*: Costs for supervision and apprenticeship schools may substantially add to the burden for companies. Supervision costs can be high depending on whether a company (part-) releases staff for apprenticeship training purposes, and on the qualification profile (thus wage) of the supervisors. Furthermore, while in much of Europe apprenticeship (or vocational) schools are fully funded by the government, companies in the UK, and partly in Australia and India, have to contribute school fees for their apprentices. In large companies, public OffJT is often complemented by additional company-based training, which is funded by the companies themselves.⁴⁶

⁴⁴ See for example, a recent overview paper by Kuczera (2017b).

⁴⁵ Methodologies for calculating the value of the trainee's work vary in detail, but usually reflect the wage differential between the trainee and a worker who would do the work, if there would be no trainee. Cp. BIS (2012), Jansen et al. (2015), Pfeifer et al. (2009), Hasluck et al. (2009).

⁴⁶ The cost assessments conducted for the German dual training system show considerably higher net costs of training per apprentice in the case of large companies and those which run company-owned training centres. See Jansen et al. (2015).

- *The time apprentices spend in the workplace:* The more time apprentices spend in productive work (i.e. the less time they spend in school or other training centres), the higher the return for the company through productive work and, subsequently, the lower the net costs. However, studies in Europe have also shown that the type of work (skilled or unskilled work) performed by apprentices also matter (Kuczera 2017b).
- *Wage differentials between the apprentices and normal workers:* While at the workplace, an apprentice is involved in productive work and replaces an employee who would do the work in case there would be no apprentice. The higher the wage gap between an apprentice and a normal worker (i.e. the worker who is replaced by the apprentice), the higher the apprentice's return through productive work, and the lower the net cost.⁴⁷ Reflecting low general wages, the wage differential in developing countries is often significantly lower than in the industrialised world. In India, for example, the minimum apprenticeship wage is set by government at 70 to 90 percent of the minimum wage of a semi-skilled worker, depending on the year of apprenticeship training.⁴⁸
- *Overall training duration:* As various studies in Europe have shown⁴⁹, the productivity of apprentices increases over time, and the chances to recover significant parts of the training costs increase the longer apprentices stay in training. During the initial training period, apprentices are inducted, spend less time on the shop floor, and generally operate at low productivity. During this time, their wages are usually significantly higher than the value of their productive work. This, however, changes over time. At one point, productivity starts to exceed wages, from when an apprentice starts generating a net income to the company.
- *The level of government support to companies employing apprentices:* While governments often fund the school-based part of the apprenticeship training, different additional schemes for public support to apprenticeship training exist; usually limited to formal apprenticeship training (World Bank/ILO 2013). Australia, some regions of Canada, England, France and South Korea, are examples of countries where employers receive financial incentives for apprenticeship training. Other countries (e.g. Belgium and the Netherlands in Europe, or the Philippines or Bangladesh in Asia) offer tax incentives or exemption from duties or social security obligations. In France, Denmark, South Africa, Thailand and Malaysia, incentives are financed from an apprenticeship tax/levy.

⁴⁷ The significantly lower cost of apprenticeship training in Switzerland compared to Germany, in an otherwise very similarly organised dual system, is to a large extent influenced by different wage structures. While in Germany apprenticeship wages are higher than in Switzerland – presumably a result of stronger collective bargaining structures – wages for skilled labour are higher in Switzerland, contributing to a considerably higher return for dual training through the productive work of the apprentices. See Dionisius et al. 2008.

⁴⁸ Apprenticeship (Amendment) Rules, 2015. Ministry of Skills Development and Entrepreneurship Notification of 16th June 2015. The Gazette of India, No. 399, Extraordinary, Part II – Section 3 – sub-section (i). 18th June 2015.

⁴⁹ For example, Hasluck, et al (2009) for the UK.

For companies that employ apprentices after graduation, significant further long-term benefits occur, notably the better availability of skilled labour, saved recruitment costs⁵⁰, a better match between the skills profiles of workers and company-specific skills requirements, increased staff loyalty, reduced risk of selecting wrong employees, enhanced wage stability, reputational gains for the company, among others. These benefits are difficult to measure, but are generally perceived to be of high importance and a key motivating factor for companies.

It is important to distinguish between the potential of companies to recoup training costs during training, and the long-term benefits realised after the apprentice has become a staff member. Not all companies have the same policies or chances with respect to recruiting former apprentices, and those who do not recruit for whatever reason cannot realise all the potential benefits from apprenticeships. In India, for example, companies are, by law, forced to employ apprentices, irrespective of their recruitment needs. Small businesses especially experience difficulties in retaining apprentices after graduation, as working conditions may not be competitive.⁵¹ Kuczera (2017b) concludes that for OECD countries, large employers are typically more likely to realise long-term benefits because they are more likely to recruit apprentices after training. Accordingly, larger companies also tend to pay higher allowances to apprentices, a finding that could also be confirmed in Asian countries, for example, in Indonesia (APINDO/ILO 2015b).

Studies to assess the costs and benefits of apprenticeship training for companies outside of Europe are less frequent, but emerging. Those available tend to come to similar principal conclusions about the cost/benefit relationship for employers. Rothboeck (2014), for example, demonstrates in her case study of India that investments in apprenticeship training are often recovered during the apprenticeship period, or immediately within the first year of employment in cases where former apprentices are retained. The study also showed cultural differences between enterprises, which determine the decision to invest in apprenticeship training. While some companies expect apprentices to be ready to work and be productive as soon as possible during the training period (to recover costs), other firms consider the training a long-term investment, with the aim of retaining former apprentices and securing sufficient skilled workforce. Another analysis of India from 2017, which followed

Table 5
Financial arrangement

Country	Cost/Month/ Trainee in pesos
Total average cost	12,801
Total average short-term benefit (during training)	5,487
Average total net cost	7,314
Total average long-term benefit (after recruitment)	18,524.5
Total net benefit of companies that recruit trainees	11,210

⁵⁰ These are calculated for Germany in 2012/13 to amount to €8,715 on average, see Jansen et al. (2015).

⁵¹ For evidence from India see also World Bank/UNDP (2016).

a methodological approach comparable to the 2014 study, showed that cost-recovery opportunities for firms changed substantially after the Indian government raised the minimum allowances payable by companies to apprentices. The increased allowance caused a lowering of the wage gap between apprentices and workers, which resulted in companies having less chances to recoup training costs through the work of the apprentices (World Bank/UNDP 2016). A comprehensive study on the costs and benefits of dual training for companies in the Philippines was conducted in 2016, based on data taken from 201 firms in three regions, and which followed the same methodology used by the German Federal Institute for Vocational Training.⁵² The results showed that, on average, short-term benefits (i.e. benefits occurring during the training) covered substantial parts of the costs (Table 5). When companies recruited graduates after the completion of the dual training (applicable in 33 percent of firms), further benefits occurred that could fully offset costs. It is noticeable that avoiding the costs of hiring new recruits added to the substantial benefits of recruiting a former apprentice. Net benefits varied between regions, sector, and company characteristics; for example, large firms incurred lower net benefits. Higher benefits were especially calculated in the hospitality and manufacturing sectors. The study could also verify that benefits would increase with longer training durations.

There are some indications, however, that gains from apprenticeship training tend to be less significant in countries without an established apprenticeship training culture. The cost/benefit

assessment of the GPATI pilot dual training programme, implemented with support of GIZ in Pakistan, points to considerable differences in the cost/benefit ratio among companies in the same pilot programme, depending on company-specific training cultures and human resource policies. For example, companies that are not used to integrating trainees into the regular production process cannot sufficiently gain from the productive work of their apprentices. The saving of recruitment and induction costs - which account for a considerable share of the gains in those European companies that recruit former apprentices - are often not relevant in contexts with more informal recruitment practices; and where wages tend to be low for new recruits and only increase once employees have grown into fully productive workers (Franz 2013). A cost/benefit analysis of apprenticeship training in China⁵³ points to the fact that companies can significantly gain from apprenticeship training, if it is offered to youth that have already gained basic skills and competences. In such cases, the productivity of apprentices is already high enough in the first year to realise net benefits to companies. The India study from 2017 suggested, furthermore, an influence of training quality on the cost/benefit relationship for companies. While many countries in Asia are currently increasing their efforts to strengthen apprenticeship training, more detailed research on the cost implications of implementation modalities - such as sequencing of OJT and OffJT blocks, influence and competencies of mentors in industry, among others - would be desirable to underpin the further design and reform of the systems.

⁵² See Mapa et al, (2016).

⁵³ See Chen, et al, (2013). The study employs a standard tool for cost-benefit analysis (QRC tool) in a 3-year dual apprenticeship pilot project in Guangzhou enrolling 28 students. QRC represents a cost-benefit self-evaluation tool for companies. The study shows that across the sample, the total benefit-to-cost ratio is 1:10 over the total training time. Interestingly, the ratio is highest in the first year, which is different from standard experience in other countries. This is explained by the fact that the students involved in the pilot scheme have a high professional education attainment when they embark on the apprenticeship training. All apprentices were college graduates or enterprise staff already certified as senior skilled workers.



4.3 Benefits for governments

Apprenticeship training provides cost-effective skills development for governments. In particular, informal apprenticeship training represents a very important skills-training resource, which is sustainably self-financing and does not involve any costs for governments.⁵⁴ The situation is different for formal apprenticeship training. The cost implications for governments in formal apprenticeship training depend on the specific financing and incentive mechanisms, and the mechanisms of financing OffJT. Costs to be

borne by the public sector depend on the amount of time students spent in training institutions and the share of practical vs. theory training. Furthermore, in many countries, including Australia, Philippines, South Korea, and Bangladesh, governments offer incentives (through tax deductibility or direct subsidies) to companies that employ apprentices. In any case, public cost for apprenticeship training is considered significantly lower than the cost of school-based training programmes.⁵⁵

⁵⁴ Financial self-sufficiency of informal apprenticeship training, however, often comes at a significant cost. Exploitative structures as well as generally low quality call for systematic government interventions.

⁵⁵ Swiss Coordination Centre for Research 2011, quoted in Kuczera (2017b). Examples from Africa show that the potentially lower costs of apprenticeship training for government may also influence choices in the design of VET reforms. In Ethiopia, for example, the decision to move to a standard curriculum in formal VET that prescribes 70 percent workplace learning against 30 percent school-based instruction was strongly influenced by cost-saving assumptions due to reduced time of students spent in government-sponsored VET colleges (Government of Ethiopia 2006). Similar considerations also influenced the preference for increased workplace learning in Sudan (Government of Sudan 2013).

5

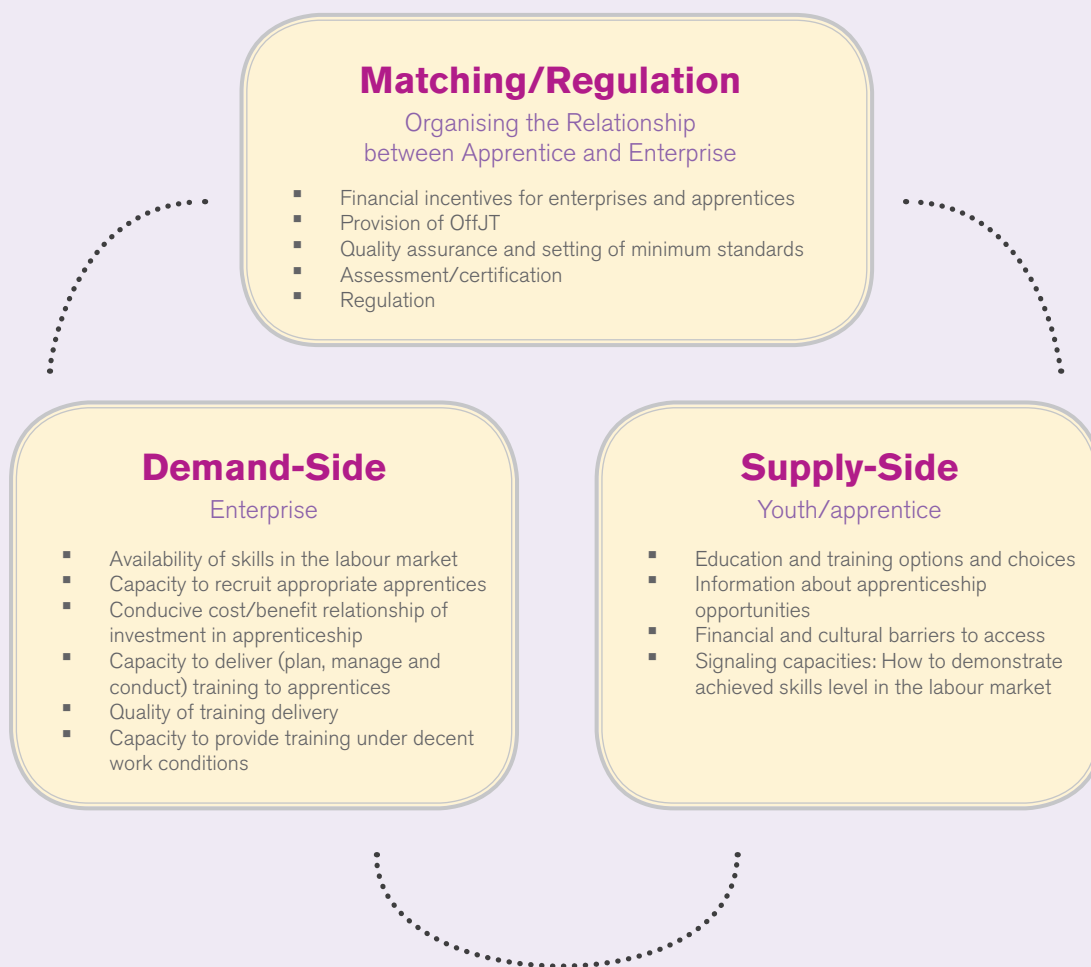
- 5.1 Macro-level determinants
- 5.2 System design
- 5.3 Striving for and assuring quality
- 5.4 Supporting apprenticeship training in SMEs

Lessons learnt - Determinants of success



The acceptance and success of apprenticeship training is critically dependent on an enabling policy environment that sets the right rules and conditions, and supports their implementation, within a specific country context and framework. Different demand, supply, and matching/regulatory factors (as summarised in Figure 3) potentially influence the functioning of apprenticeship training. Building a successful apprenticeship system requires decision-makers to configure system parameters in a way that ensures adequate alignment with country-specific requirements.

Figure 3
Factors influencing successful apprenticeship training



At the **demand side** (the enterprise), the interest and preparedness of employers to offer apprenticeship training depends on several factors. If a sufficiently large and appropriately skilled workforce is readily available in the labour market, incentives to embark on apprenticeship training may be lower than in situations where employers face difficulties to recruit new, skilled labour; and thus find apprenticeship training a suitable strategy to develop new recruits. This may also explain why large and modern firms with specialised skill-needs tend to be particularly well-prepared to take on apprentices.

Finding the right apprentices is a challenge for employers, which may influence their participation. Recent surveys in Germany, for example, have revealed that the main reason for the overall decline in the number of apprentices is the low availability of suitable candidates that are interested and trainable. Some companies simply do not find applicants any more, especially in the small enterprise and craft sectors.⁵⁶ Similar issues have also been reported in Asian countries and Australia.⁵⁷ Sri Lanka's well-established apprenticeship system has recently faced difficulties attracting appropriate youth, especially in the less popular construction trades. In India, SMEs especially have encountered difficulties finding apprentices.

The cost of apprenticeship training is arguably among the most important determinants of an employers' preparedness to offer such opportunities. As previously outlined, the cost/benefit relationship of apprenticeship training for individual companies also

depends on the firm's success in recruiting former apprentices after training. Allowing firms to recover the costs of apprenticeships during the training period is an important way to increase firms' willingness to participate; particularly in the case of SMEs that may not be able to retain former apprentices after graduation. In these cases, the parameters of the apprenticeship systems, in particular apprenticeship wages, training duration, and the organisation and timing of workplace learning, needs to be set in a way that allow firms to minimise, or even fully recover, the net costs of training.

Companies may not be able to train apprentices due to a lack of capacity to plan, manage, and implement the training. Firms may find it cumbersome and bureaucratically challenging to register apprentices, or to conform to reporting standards and other rules. In more advanced apprenticeship systems, firms may even have to prove their aptness for training before employing apprentices. Furthermore, the quality of the workplace and training delivery matters. Sub-standard training resulting in low skills development (and in the formal apprenticeship system, failure in assessments), exploitative work relations, and hazardous working environments, will lead to undertraining as trainees are less likely to start an apprenticeship under these conditions.

At the **supply side** (the apprentice), the desire and decision of an individual to opt for apprenticeship training depends largely on the availability of information about apprenticeship opportunities and the labour market prospects of different trades and occupations,

⁵⁶ See Jansen et al. (2015). The trend can be explained by lower age group batches entering the labour market and at the same time increasing participation of youth in higher education.

⁵⁷ See also World Bank/ILO (2013).

as well as knowledge about alternative education and training options. Various barriers, such as costs, cultural norms or formal educational entry requirements, may prevent potential trainees from having access to apprenticeships. Whereas costs and cultural norms (notably against female participation) may be common access barriers to informal apprenticeships, educational entry requirements usually determine access to formal apprenticeship places, preventing significant numbers of youth who leave general education at lower grades from enrolment. This is especially an issue in countries with a large share of youth that drop out of school at an early age (e.g. India, Pakistan, or Myanmar). On the other hand, for those who make it into formal apprenticeships, training is usually not fee-bearing, and in many cases (but not always), even implies the payment of an apprenticeship wage.

After completion of the training, the capacity to signal and demonstrate (outside of the apprenticeship company) what was learned is critical for the former apprentice to find employment at an acceptable wage, or successfully venture into self-employment. This is the role of certificates that are usually awarded at the end of a successful formal apprenticeship. However, to what extent these provide transparent and reliable information about the skill-level of graduates, and whether they are trusted by potential employers, vary among countries depending on performance and management of the national VET system. If certificates are not honoured in the job market, incentives for youth to complete apprenticeships are low.

Institutions for **matching** supply and demand in apprenticeship training, and regulating the relationship between the different actors, are usually controlled by government. They include financial mechanisms; market information and placement services; occupational and training standards, quality assurance, assessment and certification; apprenticeship legislation and labour standards, among others. To support matching, governments may offer financial incentives. Furthermore, basic school-based training to complement and improve the results of workplace learning within a dual apprenticeship training model may be provided or paid for.

The following section looks more specifically at some of these factors. The aim is to summarise the major challenges and opportunities to apprenticeship training and its further development in Asian countries, and to identify potential policy options for governments and development organisations to strengthen and improve, where appropriate, the apprenticeship environment. The section looks firstly at macro-level determinants, followed by important system design issues that can influence success or failure of apprenticeship systems or programmes. It finally touches upon issues related to quality enhancement and considerations to enable SMEs to participate in apprenticeship training.

5.1 Macro-level Determinants

Institutionalisation and institutional anchoring matters. Apprenticeship training beyond the limits of specially sheltered pilot projects needs clear, distinct and conducive institutions, including a legal framework and strong organisations to facilitate the implementation of laws and regulations. In many Asian countries, apprenticeship systems introduced in colonial times had turned almost dormant⁵⁸ until modern legislation was put in place. Apprenticeship legislation does not only protect students from exploitation, but also protects the interests of employers, codifies incentives, and creates legal certainty, thus providing an enabling environment for employers to participate. For example, in Malaysia, linking apprenticeship training and its incurred costs to the levy system represents a protection of interests for apprenticeship employing companies vis-à-vis non-training companies. Discussions with employers in Sri Lanka have shown that employing trainees as apprentices was much more beneficial than hiring new recruits as trainees under the labour law, because the apprenticeship law would provide the employer with more flexibility in wage setting and contractual arrangements. As described before, Sri Lanka is among the countries with a very high share of apprentices among overall VET students.

Several Asian countries (e.g. Malaysia, Philippines, India) have anchored the national apprenticeship system in the mainstream VET system (i.e. apprenticeships are regulated by the same agencies that also regulate other VET streams) and, most importantly, apprenticeships now lead to certification, which is recognised under the national qualifications /certification system. While the former ensures that apprenticeship training is

dealt with as an equal VET delivery option, the latter ensures equivalences between apprenticeships and other educational qualifications, and thus portability of qualifications within the national educational system and life-long learning.

Commitment of government is important. The example of Sri Lanka suggests that government commitment to apprenticeship training expressed in financial allocations can make a difference. Even though Sri Lanka's public spending on education is below the regional average, the national apprenticeship authority (NAITA) appears to be appropriately financed by the Sri Lankan government. Consequently, it is able to maintain a corps of around 1,300 full-time, and many more part-time, staff members, and cover its operational expenses without major financial constraints. This contributes to timely delivered services to employers and students alike, and contributes to the systems' reliability and reputation.⁵⁹ Furthermore, the recent dynamism of the Indian apprenticeship system appears to be owed to a new commitment by the central government expressed through increased resource allocation for apprenticeship management subsidies; the creation of new decentralised institutions (e.g. State Apprenticeship Monitoring Cells/SAMC); new support instruments (e.g. the Industry Apprenticeship Initiative Grant Fund, see Box 6); and the encouragement of development partners to support apprenticeship training.⁶⁰ Australia represents an impressive example of how a high level of funding and political commitment – also expressed in constant monitoring and research, and policy reforms whenever needed – has ensured that apprenticeship training remains a stable and dynamic element of the national skills development system.

⁵⁸ Or in effect limited to large companies implementing their own in-house training scheme using the apprenticeship legislation.

⁵⁹ See also Annex 1.

⁶⁰ Development partners and funding agencies supporting apprenticeship training in India include the World Bank, German cooperation and German Ministry of Education and Research, UNDP, ILO, the Swiss VET Initiative India, among others.



Industry must be a critical driver of the system to ensure success. To get established as a key training delivery mode, apprenticeship training must expand beyond the group of large and modern firms, which offer pre-employment training to new recruits irrespective of formal VET provisions and requirements. Examples from Europe, especially the German-speaking countries, suggest that a strong industry buy-in is a critical factor to maintain a high level of commitment from employers. In these countries, industry bodies have a strong hold over training content and occupational standards; occupy statutory positions in the regulation and quality control of OJT; and certification. However, even if the formal influence of employers is low, countries need to find and develop approaches that give employers an avenue to effectively influence training programmes, curricula, and

financial arrangements, as well as system planning in the broader sense. Fully involving industry in the formulation of training content is a critical pre-condition. In India, the most frequently voiced concern of employers relates to irrelevant programmes and curricula designated by the respective government agency. However, the broad trend to outcome-based VET reforms has also induced a new emphasis on industry involvement in standard setting and curriculum development, which, again, has more recently nurtured industry-friendliness in skills development. A strong representation of the employment sector in regulatory bodies and authorities (e.g. of NAITA in Sri Lanka or TESDA in the Philippines), can facilitate industry/employers influence on policy decisions and legal development, and will send important signals to employers.

Supporting employers and industry bodies to get involved in apprenticeship training, however, may also require substantial prior and ongoing investment in capacity development. It is also important to consider that different kinds of bodies and associations are relevant at different entry points and levels of action in apprenticeship systems. A local sector organisation may be the appropriate body to facilitate the involvement and quality improvement of individual firms in apprenticeship training or organise group training schemes, but it will be national-level employers' associations or chambers that sit on national VET or apprenticeship bodies to drive policy-making.

5.2 System Design

The design of apprenticeship systems and programmes is essentially a question of interests rather than a technical question. Outbalancing different interests is important for the acceptance, thus success, of an apprenticeship system. Table 6 summarises

the potential interests of the key stakeholders - the employer, the apprentice and government/society - in important design elements of apprenticeship programmes. Interests may vary between countries and circumstances, and even within stakeholder groups within the same country.

In one country, leading employers may have an interest in attracting the most capable school leavers for apprenticeships with the view to creating a pool of the most talented future employees. Such firms will recruit apprentices on their own and offer to pay high apprenticeship allowances. Meanwhile, small companies in the same country may encounter difficulties in recruiting apprenticeship graduates after training, especially if the country faces a shortage of skilled labour. Small companies therefore have a strong interest in ensuring that their investment into an apprenticeship pays off *during the training*. In such cases, low apprenticeship allowances - keeping apprenticeship costs down - are a way to make participation in apprenticeship training financially sustainable. Optimising the reconciliation of different interest through monitoring and research, national dialogue, and negotiation, is an essential task for governments to ensure the acceptance of apprenticeship training among stakeholders.

Table 6
Different interests in designing apprenticeship programmes

Design element	Interest of employers	Interest of apprentices	Interest of government/society
Recruitment of apprentices	<ul style="list-style-type: none"> Recruitment by employers improves match of candidate with company requirements May require external support for finding apprentices 	<ul style="list-style-type: none"> May require support to find employer 	<ul style="list-style-type: none"> Centralised recruitment and placement to facilitate smooth implementation Ensure participation of marginalised and vulnerable youth
Entry requirements	<ul style="list-style-type: none"> Important to safeguard quality standards of human resources Opening apprenticeship for low achievers may broaden the group of motivated candidates 	<ul style="list-style-type: none"> May be instrumental to effectively exclude vulnerable groups with low educational achievement Bridging courses can support vulnerable youth to become "learn ready" 	<ul style="list-style-type: none"> Relatively high requirements maintain quality standards Steering national HR policies
Apprentice allowances/wages	<ul style="list-style-type: none"> Must be low enough to ensure training pays off Flexibility (no legal requirement) ensures fit for special circumstances 	<ul style="list-style-type: none"> Must be financially more attractive than other VET programmes Ensure cost of living 	<ul style="list-style-type: none"> Avoid exploitative arrangements for trainees
Training programme content	<ul style="list-style-type: none"> Flexibility to fit company requirements 	<ul style="list-style-type: none"> Portability of skills and competencies 	<ul style="list-style-type: none"> Quality control over programmes Steering and implementation of national qualification system
Training duration	<ul style="list-style-type: none"> Long enough to ensure appropriate skills development Long enough to recoup investment 	<ul style="list-style-type: none"> Long enough to ensure sufficient skills development Short enough to avoid unnecessary foregone earning 	<ul style="list-style-type: none"> Increase intake through shorter courses Ensure quality training and value of qualifications
Dual training sequence	<ul style="list-style-type: none"> Flexible with company or sector requirements (e.g. seasonal work requirements, location specific-requirements) Optional in-house OffJT to ensure company-specific requirements and quality 	<ul style="list-style-type: none"> No specific requirements School must be reachable. Otherwise, block release is preferable 	<ul style="list-style-type: none"> Management challenges in public VET institutions
Qualification/certification	<ul style="list-style-type: none"> Flexibility to fit company-requirements 	<ul style="list-style-type: none"> Company certificate / qualification is sufficient if training is in large company (market leader) National qualification important, if training not in large companies 	<ul style="list-style-type: none"> Ensure that all trainees obtain national and recognised certification



5.2.1 Employers must have a business case for apprenticeship training

Apprenticeship training must pay off for companies. The preparedness of companies to invest in apprenticeship training is dependent on the actual and perceived cost/benefit relationship. This relationship, as outlined before, is determined by various design parameters: the amount of the apprenticeship allowance; training of sufficiently long duration allowing the increasingly productive apprentice to pay back the initial training costs; and the organisation of OJT and the sequencing of OJT and OffJT, allowing the company to systematically involve the apprentice in the production process.

Depending on whether the company considers apprenticeship training as part of its long-term human resource strategy, or participates in apprenticeship for other reasons⁶¹ without the expectation of employing apprentices after training, the “pay-off” of apprenticeship training to companies varies considerably. In the case of the former (i.e. for companies that train with a long-term perspective of recruitment), cost factors (allowance, duration of OffJT) may be less important than those factors that influence the quality of the training, and the degree of adequate ‘fit’ of the competencies to be acquired through apprenticeship training with company-specific requirements. In the latter case (i.e. companies less interested in a long-term relationship with apprentices), cost factors, notably apprentice allowances and the chances to recoup training costs through longer training durations, will be critical design parameters.

⁶¹ Reasons may include social commitment, or simply because participation is mandatory for certain employers, such as in India.

The flexible design of apprenticeships is instrumental for ensuring that benefits can be maximised in different sectors, occupations and segments of employers. Sri Lanka, for example, does not prescribe apprenticeship allowances by law, but companies are free to decide on whether allowances are paid to apprentices and how much to pay. An interesting arrangement is implemented in Bangladesh, where apprenticeship allowances (stipends) are linked to the wage levels in the trades under consideration. Indonesia employs a high level of flexibility with respect to apprenticeship programme design and qualifications, whereby companies can decide independently whether to develop a specific tailor-made training programme, adopt a foreign qualification, or opt for a national qualification. Similarly India, while maintaining strict rules regarding allowances, duration, and training organisation, is slowly becoming more flexible in relation to the content of apprenticeship programmes.⁶² Overall, practice in Asia shows that rigid *one-size-fits-all* standards for apprenticeship programmes may prevent the full exploitation of the potential for apprenticeship training. The design of the system needs to be based on a thorough analysis of labour market and production characteristics, and negotiated with all stakeholders, notably employers (but also unions and professional organisations). Furthermore, the publication and dissemination of results from cost/benefit assessments of apprenticeship training are essential to address information failures.

Recruitment procedures matter. In Indonesia, companies in focus group discussions highlighted the importance of employing thorough recruitment procedures in order to ensure that the right youth are recruited into apprenticeships. This requires that companies should be allowed to recruit by themselves, which is not always the case. Sri Lanka has a mixed approach whereby apprenticeship candidates are initially recruited by NAITA, but companies then have the option of selecting trainees from among them.

Incentives often do not work. Financial incentives to make apprenticeship training more attractive for employers have been introduced in many countries (e.g. India, Australia). However, studies on the practice in OECD countries found only modest effects.⁶³ There is a general trend that tax or duty incentive schemes are replaced by direct subsidy programmes. Financial support through levy-grant schemes⁶⁴, such as those operational in Denmark, appear to work better. Different evaluations of apprenticeship subsidies in Australia show mixed results depending on the subsidy level and on the human resource development strategy of the company.⁶⁵ In India, subsidies offered to firms under the *Apprenticeship Protsahan Yojana* (APY) Scheme (which has now been replaced by the NAPS) were not accepted or used by industry, apparently because of bureaucratic and inappropriately-designed application and access rules.

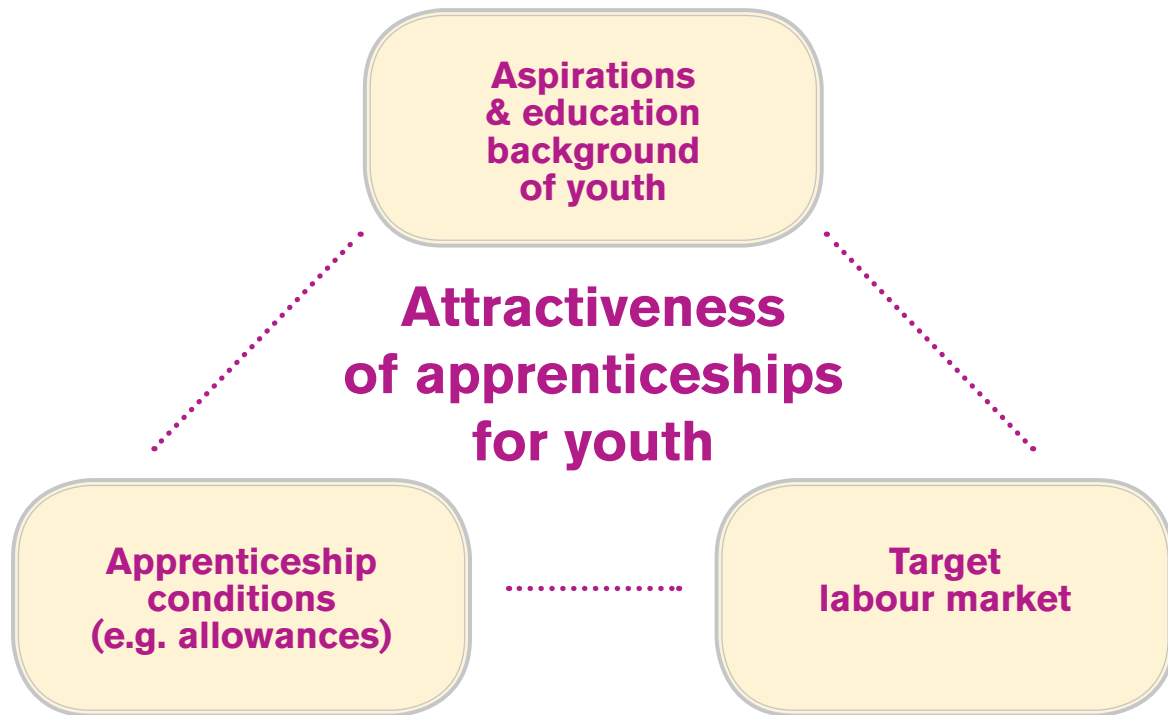
⁶² India now allows for the recognition of employer-designed programmes separately registered as so-called 'optional trades'.

⁶³ See also Kuczera (2017b).

⁶⁴ In a levy-grant scheme, employers pay a mandatory contribution (levy) to a training fund, but can claim some or all of their contribution back against eligible training expenditure.

⁶⁵ "An evaluation of the Australian scheme shows that the subsidy had only a small impact on the decision of employers to train. This was mainly because the subsidy covered only a small part of the company cost of offering an apprenticeship. Another Australian study evaluated the impact of the withdrawal of an apprenticeship subsidy to employers, showing that it had no effect on employers using apprenticeships as a recruitment tool. However, the withdrawal of the subsidy led to a decline in apprenticeship provision in sectors where employers could not count on the long-term benefits of apprenticeships. These employers were not able to break even by the end of the programme without the subsidy." Kuczera (2017b).

Figure 4
Attractiveness of apprenticeships for youth



5.2.2 Apprenticeships must be attractive to youth

Apprenticeship training must also be worthwhile for youth. The examples of India and Sri Lanka - both countries experiencing shortages of apprentice candidates in certain segments of the system - show that the supply of apprentices can be an issue. High apprentice drop-out rates reduce the benefits for employers and may lead to a decreasing willingness from industry to participate. While financially more rewarding than school-based VET (learning and earning), apprenticeship training also involves costs for youth, mainly foregone earnings, which becomes an issue in cases of long training durations. If this cost is not balanced by returns to the individual apprentice through a real prospect of higher earnings, better career opportunities, and/or improved social status in the future, apprenticeships become unattractive.

The value of certificates matters. There are indications that certificates are not highly valued in every labour market. In such instances, there is little incentive for apprentices to complete long-term training, particularly if employment opportunities become readily available to them prior to completion of training. For example, under the old apprenticeship system in Myanmar, apprentices dropped out in large numbers in order to take up paid employment outside the training company. *“Apprentices increasingly looked for other opportunities after gaining some industrial workshop experience and with the evidence of skills acquisition provided by logbook records. For example, the documented work experience was recognised by overseas’ shipping lines as evidence of skills (“certificates”) and often resulted in employment as junior engineers on board of ships”* (SDC/VSDP 2016). Similar practices are reported in Sri Lanka, where apprentices can use their logbooks as an equivalent for certificates, or even find jobs in some sectors



without any certification at all. In the Philippines, TESDA Impact Assessments in 2008 and 2011 showed that certificates were not associated with a significant increase in earnings compared to TVET leavers without certificates. However, the Philippines' new Apprenticeship Training System Bill of 2017 makes provision for awarding equivalent credits in the formal education system to allow apprentices to access and enjoy recognition of their knowledge and skills within the higher education system. It remains to be seen whether this will increase the perceived value of apprenticeship certificates.

Not all employment is attractive for youth. As described above, evidence from countries around the globe (including Asia) indicates a significant impact of apprenticeship training on employment and earnings, irrespective of certificates. Nevertheless, youth—particularly those with relatively better educational achievement—tend to avoid apprenticeships in less

attractive segments of the labour market (e.g. in the small business sector in India; in the construction sector in Sri Lanka, Switzerland; or in artisan trades in Germany) that are low-paying or characterised by difficult working conditions and limited career prospects. While large and well-paying companies do not experience difficulties attracting youth into apprenticeships—because the training arrangement is connected to the promise of attractive employment after training—other companies do. For less attractive employment sectors, a solution may be to increase the attractiveness of apprenticeship (higher allowances, recognition of learning outcomes in higher education, etc.), or to lower educational entry requirements to tap into the group of youth with fewer options. In any case, countries that want to significantly increase participation in apprenticeship training need to carefully balance prevalent tensions between the aspirations of school leavers, the target labour market of the apprenticeship, and the incentives provided to apprentices.

5.3 Striving for and assuring quality

Improving and sustainably maintaining the high-quality of apprenticeship training is essential for its success and growth potential. In India, the virtual absence of supervision/mentoring and quality assurance of training in the workplace has seriously affected the reputation of apprenticeship training, which is largely perceived (specifically outside large companies) as an exploitative work arrangement.

Regular and well-implemented mechanisms for quality assurance involving different stakeholders are important. Reflecting the understanding that apprenticeship training is essentially an employer-based training arrangement, training systems in German-speaking countries have assigned critical (and statutory) roles in quality assurance to industry bodies, including chambers and sector organisations. These institutions consider the promotion and quality assurance of apprenticeships as part of their core business, and invest substantial staff and other resources into apprenticeship management.⁶⁶ In most other countries, however, public institutions carry out quality assurance and supervision, and their effectiveness depends on their legitimacy and capacities. In Sri Lanka, for example, substantial public efforts are directed towards quality assurance. These include accrediting companies as training providers, structuring of training into learning modules, recording and verifying learning outcomes in the workplace, and regular visits of NAITA inspectors to industrial training places. This strong emphasis on quality assurance has maintained the system's high competitiveness vis-à-vis other TVET delivery modes in the country, and contributes to the

good reputation of apprenticeship training among employers. Individual projects supported by foreign organisations often cooperate with local business organisations such as chambers, but such involvement has to be institutionalised in order to be sustainable after projects come to an end.

Capacity building is a continuous process. In its modern form of dual training, apprenticeships require the cooperation and coordination of different actors, including companies, business organisations, training institutions and governments. The government and the private sector have to work in a coordinated manner, which often contradicts prevalent cultures. All the individual actors may require capacity development to function at a consistently high-level of quality, and new structures of steering and cooperation need to be put in place, or may need to be strengthened.⁶⁷ While development projects supporting the introduction of pilot projects or systems of apprenticeship training usually come with capacity development packages (often implemented by foreign experts), sustainable development requires building and maintaining local and permanent structures for capacity development and quality assurance. The different pillars of apprenticeship training requiring capacity building include:

- *Training companies:* Potential capacity needs in companies participating in apprenticeship training include staff training at different levels, the establishment of training units or training committees, and potentially further investment to prepare work/training places for apprentices

⁶⁶ In Germany, chambers function as competent authorities for apprenticeship training. They fulfill statutory functions by assessing and verifying the competence to train of companies, verifying and registering apprenticeship contracts, and conducting assessment. Chambers usually have own departments dealing with vocational and further training.

⁶⁷ For a detailed discussion of capacity building needs specially when introducing apprenticeship training see also Batliner (2017).



according to standards.⁶⁸ Training needs vary between workplace supervisors of apprentices (training and supervision skills, potentially updated technical skills in SMEs) and management staff (work organisation, legal/regulatory requirements, cost and benefits of apprenticeship training, etc.). It is essential that workplace supervisors are prepared for their new role as mentors. As Kuczera (2017b) emphasises, what is often referred to as “apprenticeship culture” in some countries is, in fact, a set of management capacities within enterprises that ensure apprenticeship training is effective and beneficial. Capacity building will thus be instrumental in nurturing the emergence of the needed “apprenticeship culture”. Capacity development remains an ongoing task and

requires sustainable mechanisms and funding. Also certification matters. Certifying qualified apprenticeship supervisors/mentors is not only an important management tool within the apprenticeship system, but also an effective incentive for supervisors to participate in capacity building. Where companies are not prepared or able to create capacities on their own, BMOs may be instrumental to facilitate capacity development for their members. Public funding and support can ease the burden on industry, and at the same time, encourage firms to invest in capacity development. South Korea, for example, is providing substantial support to firms to establish needed capacities for apprenticeship training.

⁶⁸ To ensure minimum quality, countries often require a positive capacity assessment. Sri Lanka is an example.

- Business membership organisations:* BMOs should play a key role in mobilising employers for apprenticeship training, conducting needs assessment and research (see the example of APINDO in Indonesia), and taking over roles in quality assurance, assessment and capacity building for firms. Furthermore, at national level, employers' organisations or chambers are expected to participate in national planning and policy-making. Apart from staff capacity building, business organisations may require new organisational structures and expert staff to engage in apprenticeship management. Again, sustainable solutions for funding of such structures need to be designed; start-up funding provided by government or development partners may be instrumental. In India, the government now offers business associations conditional grant funding for the establishment of apprenticeship cells within the associations (see Box 6).
 - Training institutions:* As dual training approaches are gaining popularity, substantial efforts to raise training quality in cooperating training institutions are critical. In many countries, companies complain about the low quality of these institutions (e.g. Indonesia), or justify their reluctance to get involved in apprenticeships with the perceived low-quality of students' skills when they leave training institutions (e.g. India). Capacity-building needs in training institutions may be manifold, ranging from the need to update the trade-related skills of teachers, to the management skills of institutional leaders for coping with the new organisational requirements
- of the apprenticeship training model. Furthermore, institutions previously not involved in dual training may also require substantial awareness creation about the concept, and the curricular implications of dual training, in order to understand that the school is no longer the only or principal learning venue. This is especially important if training institutions are expected to perform curricular and quality assurance work. Building capacities for dual training in training institutions is often initially supported by technical experts from overseas.
- Government agencies:* Government agencies in charge of apprenticeship management may require a change in mindset - supported by substantial awareness creation about modern forms of apprenticeship training and its benefits - if they are to successfully drive the introduction or expansion of apprenticeships. Technical skills are required to prepare legislation and regulations, and to develop and approve curricula. Their role in facilitating apprenticeship training may also include supervision of workplace learning and mentoring of companies to conduct good apprenticeship training.

5.4 Supporting apprenticeship training in SMEs



Establishing an apprenticeship culture in SMEs represents a special challenge.

While large companies are likely to participate in apprenticeship training, and often run apprenticeships even if no national apprenticeship system is available, the expansion of apprenticeship training at a national scale will typically require the integration of SMEs into the system. However, specific difficulties may prevent SMEs from participating, including a lack of resources (staff, work places, funds), lack of administrative capacities to manage apprenticeships, and insufficient organisational skills to integrate work with training. Unlike large firms,

SMEs will not have the means and skills to develop new apprenticeship programmes in case existing designated trades are not appropriate or not existing.⁶⁹ Furthermore, SMEs may be limited in their range of activities and be unable to offer apprentices exposure and training towards all the skills required by specific curricula or occupational standards. These challenges can be observed around the globe.⁷⁰ Even in countries with a strong apprenticeship culture, such as Germany and Switzerland, large companies are more likely to participate in apprenticeship training than SMEs.

⁶⁹ South Korea in its new dual system requires companies to always develop own programmes. The country has also set the minimum size for companies to participate at 50 employees.

⁷⁰ The topic of SME participation and special incentives for SMEs especially in the OECD is discussed by Kuczera (2017b).

Special incentives for SMEs can make a difference, but must be accompanied with other services and capacity development.


India, for example, has been trying for some time to incentivise the participation of SMEs in apprenticeship training, with the aim of massively increasing the number of apprenticeships in the country. An initial scheme to subsidise apprenticeship wages was ineffective, however: SMEs complained about uncondusive bureaucratic procedures, the perceived irrelevance of designated trades, and also a lack of interested youth to take up apprenticeships. A substantial revision of the policy has now led to the design of a much broader and more comprehensive approach to the challenge. The National Apprenticeship Promotion Scheme (NAPS) increased and expanded subsidies for apprentice allowances to include coverage of tuition fees at technical schools offering OffJT. The Indian government also started to strengthen its own support and facilitation structure by forming state-level organisational units (the SAMC, State Apprenticeship Monitoring Cell), as well as planning for a massive public relations campaign. With financial support from a World Bank credit, a new grant funding scheme for industry apprenticeship initiatives (IAI) has been set up to encourage small and medium business associations to get involved in facilitating apprenticeship training for their member enterprises. The grant funding can also be used for establishing apprenticeship units in the associations, as well as for (consultancy support for) curriculum development, capacity building of companies and other actors, and

other costs that may help SMEs to overcome typical challenges, such as making insurance available to apprentices. The schemes have just started, and the results are not yet available (see also Box 6).

Sharing responsibilities in the provision of apprenticeship training can help.

The approach in the Indian IAI Scheme, i.e. to encourage a larger organisation to take over responsibilities for apprenticeship provision, is a solution that has been adopted in other countries as well. “Training consortiums” or “training associations” in Germany, “training alliances” in Austria, “autonomous training centres”⁷¹ in Switzerland and/or “groups training organisations (GTO)” in Australia, are all institutions to ease the burden on SMEs to participate in apprenticeship training. The approaches involve, among other elements, sharing the training delivery (through rotation between companies or inter-company training centres) and joint contract management. The Australian GTOs function as employers of apprentices, “leasing” them out to participating companies. This relieves employers from the bureaucratic burden of hiring an apprentice and removes the risk potentially involved in employing an apprentice over a long period. GTOs are mostly non-profit and often industry-based institutions specialising in certain sectors. Around 180 GTOs in Australia, which are also entitled to government subsidies, employ about 12 percent of apprentices and trainees (World Bank/ILO 2013).

⁷¹ The autonomous training centres in Switzerland provide practical training to apprentices on behalf and paid for by companies in order to prepare apprentices for the OJT in companies. Training in these centres is in addition to the regular OffJT. See also Kuczera (2017b).



India's Industry Apprenticeship Initiative (IAI)

Box 6
Funding industry apprenticeship initiatives in India

The Industry Apprenticeship Initiative (IAI) Grant Scheme is a new scheme launched in 2019, with funding from the World Bank-assisted Skills Strengthening for Industrial Value Enhancement (STRIVE) project. It introduces for the first time in India systematic support to business associations (called 'industry clusters') for getting involved in promoting and organising apprenticeship training among its member companies.

The IAI scheme aims to:

- (i) support the emergence and further development of dual apprenticeship programmes in line with labour market needs;
- (ii) encourage and enable SMEs to become providers of formal apprenticeship training;
- (iii) strengthen the involvement of business associations/industry clusters in apprenticeship training; and
- (iv) create capacities among apprenticeship stakeholders (basic training providers; firm management and supervisors of apprentices; business associations) to design and implement apprenticeship training programmes.

On the basis of competition, the IAI scheme provides grant funding to selected industry clusters (ICs) to implement a pre-defined IAI. An IAI is a project that promotes demand-driven, quality apprenticeship programmes in a dual training mode provided by members of an IC. An IAI is always under the leadership of an IC and can last up to three years (supporting the introduction of apprenticeship programmes from at least 1 year up to two years). An IAI may support the introduction of any registered

apprenticeable or dual trade, or alternatively new, needs-based apprenticeship programmes, developed by the cluster and registered under the Optional Trade system; a new arrangement in India that allows companies to run apprenticeship programmes which are not registered as apprenticeable trades. In the latter case, costs to undertake needs assessments and curriculum development would be covered under the grant. In order to be eligible for grant funding, an IAI must always include a quality assurance plan, procedures for reporting on learning progress of apprentices (i.e. logbooks), and a training and capacity building plan for supervisors and managers in participating companies that will engage apprentices.

Grants can cover costs related to apprenticeship programme development and preparation (consultancies, production of teaching and learning material); costs for capacity development of company staff and possibly staff in participating training institutions; costs for public relation, sensitisation workshops, communication and outreach; apprenticeship training costs including tools, workplace equipment, protective clothing, minor refurbishment of training infrastructure in basic training institutions; insurance for apprentices; and costs related to assessment and certification, among others. It also covers costs to manage and facilitate the IAI, and apprenticeship training in the cluster more broadly. It is expected that each cluster that qualifies for grant funding will set up a dedicated apprenticeship department, called the Apprenticeship Implementation Cell. Personnel and operational costs of the cell can be covered through the grant during the grant period.

Source

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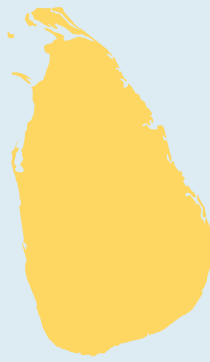
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Annex

Appenticeship training in Asia: Case study Sri Lanka



Basic features

Apprenticeship training is well established in Sri Lanka. The current system dates to the establishment of the National Apprenticeship and Industrial Training Authority (NAITA) in 1971, and is now regulated by the Tertiary and Vocational Education Act of 1990. Before 1971, skills development was underdeveloped. Apprenticeship training occurred in large companies, however, it was not regulated. Youth unemployment and civil unrest during the 1960s resulted in an increased attention of government on youth skills training. Supported by German development cooperation, the development of the skills training system focused on apprenticeship training, and led to the establishment of the National Apprenticeship Board (NAB), which was transformed into NAITA in 1990.

Today, NAITA organises and oversees various types of apprenticeship training and internship programmes. It has assumed a critical role in the country's wider skills domain, which includes the development of national skills standards under the National Vocational Qualifications Framework (NVQF), trade testing, technical teachers training, career guidance, entrepreneurship development, recognition of prior learning (RPL), among others. NAITA operates through a network of 25 district offices and divisional officers. With a permanent staff of around 1,300, complemented by some 700 to 800 part-time staff members, it also runs a total of 70 training centres around the country, as well four advanced training institutes that focus on engineering diploma programmes at tertiary education level (NVQF Levels 5 and 6).

NAITA offers different kinds of programmes under its roof, which all represent some kind of apprenticeship delivery model. Broadly, these can be distinguished between enterprise-based and centre-based programmes. Programmes all combine industrial training with centre-based basic or complementary training, but differ in terms of duration of centre-based training and specific organisational patterns of cooperation between industrial training and centre-based instruction.

The **enterprise-based model** is offered at the craft-level (NVQF levels 3 and 4) with programmes ranging between 18 months and 4 years. Entry requirements differ by trade, but in most cases an O-Level (11 years of schooling) educational certificate is required. Training is mainly conducted in enterprises, and after an initial induction period of six months, centre-based additional basic training is provided in NAITA's training centres following a training plan that is negotiated for each trade between employers, NAITA, and teachers in the training centre. It is common that centre-based basic training is provided for one day every week, but release patterns may vary. Apart from programmes leading to national craft certificates, the enterprise-based mode of training is also delivered in so-called situational and village-level trades, representing local - often traditional - trades or sector-specific competency needs, for which national standards are not, or not yet, approved.

In **centre-based programmes**, training is organised as sandwich programmes, with alternating 6-month periods in a training centre, followed by 6 months of industrial training. The so-called dual apprenticeship model is organised as a two-year programme, with one-year initial centre-based training followed by one-year industrial training.



Diploma and advanced diploma programmes at NVQ Levels 5 and 6 are offered in four national training institutions of NAITA, which includes the prestigious German Ceylon Technical Training Institute (GCTTI).⁷² Programmes offered in the national institutes require an A-Level (12 years of schooling) educational attainment, and run for four years following the NVQ framework, but they also offer additional modules to increase the depth and relevance of training. While programmes follow different delivery patterns in detail, all include a substantial industrial training period. While the GCTTI includes industrial training in its fourth year, after students have already received substantial practical training in the centre, programmes provided in the Institute of Engineering Technology (IET), Katunayake, for example, are delivered as sandwich programmes with 50 percent of the training conducted in the institute, and 50 percent in industry.⁷³

Furthermore, NAITA facilitates and supervises industrial training for programmes under other VET streams, notably the Vocational Training Authority (VTA) and the Department of Technical Education and Training (DTET). It is also managing the compulsory so-called 'in-plant' training of tertiary education students in Sri Lanka.

All industrial training under the auspices of NAITA, whether related to "NAITA students" or students from other educational streams, is regulated and quality assured by NAITA. Before taking in trainees, enterprises have to be accredited as training providers, i.e. undergo a standard screening to establish their appropriateness and sign a memorandum of understanding with NAITA. Industrial training follows a stipulated training plan (now following skills standards established under the NVQ framework), and students have to maintain a logbook with daily entries and

⁷² Now also called the Sri Lanka German Training Institute (SLGTI).

⁷³ Following the patten: 6 months institute, 12 months industry, 6 months institute, 12 months industry, 6 months institute followed by 6 months industry.

Table A1
Performance data of major skills
development streams in Sri Lanka, 2015

	Number of recruits	Number of completers	NVQ certificates issued
DTET	19,864	15,516	4,171
VTA	28,745	24,141	10,484
NYC	-	-	5,592
NAITA	41,192	24,054	11,787
<i>(only enrolled in NAITA programmes)</i>	<i>22,878⁷⁵</i>	<i>14,323</i>	<i>-</i>

weekly summaries of learning progress. A decentralised network of NAITA inspectors supervises industrial training practice, liaises with participating employers, and addresses conflicts. All NAITA supervised industrial training is based on a training contract as per NAITA standard contract form. Assessment follows TVEC standards comprising formative assessments during training and a summative external assessment by accredited assessors at the end of the training. NAITA apprentices receive a certificate from NAITA indicating the NVQF level of the qualification.

Apprenticeship training in Sri Lanka is jointly financed by the government, employers, and students.

The government bears all costs related to NAITA, i.e. for the facilitation, management and quality assurance of training. It also fully finances the centre-based part of the training. Enterprises pay the costs for industrial training, which may, or may not, include allowances and other benefits to apprentices. Apprentices do not have to contribute to the training in terms of fees, but must cover their cost of living. Enterprises are not required to pay apprentices an apprentice allowance, but apparently many do, giving

apprentices an advantage over other parallel training schemes. A study on economic and social benefits of Sri Lanka's VET sector from 2009 found that average opportunity costs for students are insignificant, and much lower than in any other public or private VET delivery stream.⁷⁴ A systematic assessment of costs and benefits of apprenticeship training for enterprises has not been undertaken, but the considerable preparedness of companies to participate in apprenticeship training suggests that the scheme is sufficiently beneficial for companies to recover some or all the costs incurred through apprentices' allowances (if any), supervisor's time, training material, and other costs related to the training.

Despite an increase of school-based VET in Sri Lanka over the years, notably through an increase of programmes under the Vocational Training Authority (VTA), apprenticeship training under NAITA continues to play a key role in Sri Lanka's skills development space. In 2015, NAITA issued the highest number of NVQ certificates of all major implementing institutions in the national skills system, and together with DTET and VTA, is one of the top three providers in terms of annual recruitment and number of completers (see Table A1).

⁷⁴ See ADB/Australian Aid, (2014). Innovative Strategies in Technical and Vocational Education and Training for Accelerated Human Resource Development in South Asia.

⁷⁵ According to NAITA records, the 2017 intake of centre-based and enterprise-based apprentices has again risen to 30,708.

Some observations and lessons learnt from the Sri Lankan Apprenticeship System

Institutional anchoring and strength fosters growth and sustainability. The donor-supported introduction of dual apprenticeship training in the early 1970s, when skills development witnessed new political attention, was accompanied by the establishment of the National Apprenticeship Board (NAB) in 1971, which later transformed into NAITA. From the onset, NAB/NAITA was an integrated part of the national skills development system, and a key player in driving the system further. Today, apart from functioning as one of the three major providers of public skills development of the Ministry of Skills Development and Vocational Training (MSDVT), and operating under the regulatory framework set by TVEC, the organisation also plays a critical role in supporting the overarching Sri Lankan skills system. It is charged with standards setting and trade testing, among other responsibilities, and notably facilitates industrial training for students from other provider systems. This institutional anchoring of apprenticeship in the middle of the country's VET system appears to have led to two critical characteristics of the apprenticeship training system, which in turn has secured its strength: (1) the apprenticeship system had to, and was continuously adapted to, overall system dynamics and further development, such as the establishment of the NVQF and the subsequent modularisation of training; (2) industrial training enjoys a high reputation in Sri Lanka.

A strong industry influence matters. Despite apprenticeship training being formally a government-

driven system, NAITA is exposed to strong industry influence and maintains close contacts to individual employers. NAITA is governed by a Board of Directors, with all its 15 members from industry. NAITA's training standards and curricula are developed by the National Industrial Training Advisory Committee (NITAC). A wide network of NAITA inspectors and facilitators, at district and local levels, maintain day-to-day communications with training enterprises. Apprenticeship programmes, especially those under the enterprise-based scheme, are flexibly implemented depending on specific industry requirements. It appears that this cooperation culture has had a positive impact on the preparedness of employers to participate in apprenticeship training.

The government shows a high commitment to apprenticeship training. Despite the fact that Sri Lanka's public spending on education is below the regional average⁷⁶, NAITA appears to be appropriately financed by the Sri Lankan government, allowing it to maintain a corps of around 1,300 full-time, and many more part-time staff members, and cover its operational expenses without major financial constraints.⁷⁷ This ensures timely delivered services to employers and students alike, and contributes to the systems' reliability and reputation.

Flexibility contributes to labour market responsiveness. Unlike other countries' systems, the apprenticeship system in Sri Lanka has, over the years, maintained a culture of flexibility, thus allowing it to incorporate new labour market challenges when need arises. While

⁷⁶ A 2017 ADB/ILO report on skills development in Sri Lanka reports that in 2013 public expenditure on education in Sri Lanka represents only 1.6 percent of GDP and 9 percent of total government expenditure. These ratios are considerably higher in other Asian countries, for example Bangladesh (2.0%/13.8%), India (3.8%/14.1%), Indonesia (3.4%/17.6%), Malaysia (6.3%/21.5%) or Nepal (4.1%/21.4%).

⁷⁷ This observation is based on few selected interviews and observations in NAITA district offices. The team did not analyse financial issues in detail.

essential principles (such as the obligation for training contracts and use of structured industrial training plans), are kept untouched, and if stipulated skills standards are fulfilled, the system appears to show remarkable flexibility at the operational-level. Admissions for apprenticeships are conducted on a rolling basis and not tied to strict annual schedules. Apprentices are usually placed in companies by NAITA officers, but companies also have the possibility to recruit apprentices on their own and register these with NAITA. Under the situational programme scheme, new apprenticeship courses can swiftly be implemented without awaiting formal designation as apprenticeable trades, which may take many years in other countries. Centre-based training is planned and implemented as long as it fits the concrete economic and training environment; also using distance learning approaches if appropriate. NAITA district training centres are also flexible in the way in which they acquire instructional resources, often using competent local artisans as instructors. If one employer cannot deliver all of the required modules, rotation between employers is applied. Furthermore, the national NAITA institutions do not have to stick to one centrally devised curriculum, and instead have the option to design courses according to identified needs. This flexibility to conform to changing requirements has contributed to the system's resilience over the years, and has allowed NAITA to stay abreast of labour market developments.

Substantial efforts are directed towards quality assurance. Industrial training under NAITA is subject to comprehensive quality assurance mechanisms, which include accreditation of companies as training providers, the structuring of training in learning modules, recording and verification of learning outcomes at the workplace, and regular visits of NAITA inspectors at

the industrial training places. This strong emphasis on quality assurance has maintained the system's high competitiveness with other VET delivery modes in the country. It has also allowed NAITA to incorporate new skills standards without major problems, notably after the rolling-out of NVQs, and contributed to the high reputation of apprenticeship training among employers.

Different workplace learning schemes are integrated in Sri Lanka, providing for a coordinated approach to industrial training. As a result of increasing appreciation of on-the-job learning around the globe, many countries are now faced with the problem of access demand for scarce industrial training places. In some cases, different workplace learning schemes are competing for industrial placement space by offering different incentives to employers. Especially in countries with limited industrial training capacities, employers are burdened by different organisational models for workplace learning, and will usually prefer learners from one scheme over the other. In Sri Lanka, NAITA has the sole responsibility of facilitating industrial learning under formal VET and higher education. As described before, NAITA is not only in charge for its "own" apprentices, but also for the mandatory industrial training modules of other educational streams, including on-the-job training for DTET and VTA students, and in-plant training for higher education students. This allows employers to participate under known circumstances (irrespective of the what kind of scheme a trainee is involved in); provide for a coordinated approach to manage the national industrial training resources; and, not least, contribute to decent quality standards of industrial training, even beyond the formal apprenticeship system.

Apprenticeship training is attractive for employers.

The field trip to Sri Lanka suggested a high preparedness of employers in Sri Lanka to participate in apprenticeship training and other industrial training schemes. It appeared that offering apprenticeship training has become part of a corporate culture, at least in those special segments of the private sector where skills are essential, such as manufacturing, technical services, and hospitality. When asked for their motivation to employ apprentices, visited employers mentioned the interest and need to help create a new corps of skilled young people from which they can recruit their new employees. Some mentioned the high credibility of the

scheme. Another important reason appears to be the fact that NAITA regulations for industrial trainees do not stipulate a minimum allowance to be paid to apprentices, but instead leave it to the discretion of an individual company whether or not to provide allowances and other benefits to trainees. While most trainees do get an allowance from their training company (often around 50 or 60 US\$ according to NAITA), employers can set the allowance at a rate significantly below their usual wage rate, thus ensuring that industrial training costs are kept limited. If companies would employ informal (non NAITA-registered) trainees, these would operate under normal labour laws, where the minimum wage applies.



As such, it is financially rewarding for companies to build new recruits through the NAITA administered industrial training system, ensuring young labour market entrants obtain quality-assured and certifiable training.

Apprenticeship training shows high returns for graduates and the society. While no recent nation-wide tracer study of apprenticeship graduates is available, centre-based internal assessments were reported to suggest a very high employment rate of apprenticeship graduates, often with the companies where the apprentices were trained. An evaluation of outcomes of tracer studies taken from VET graduates in 2002, comparing NAITA graduates with those from DTET and VTA, indicate considerably better employment (both wage and self-employment) rates for NAITA graduates than for both other schemes, and a lower unemployment incidence.⁷⁸ While these results are dated and reflect a different economic environment compared to today, employers visited during the study tour clearly indicated a preference of apprenticeship graduates over graduates from other streams in recruitment. This was mainly due to them having better practical skills, good soft skills, and being an appropriate fit to specific company requirements and cultures. This was particularly mentioned by employers that participated in the enterprise-based apprenticeship scheme, where employers take in youth as fresh school leavers (so-called “freshers”).

Furthermore, an economic analysis of different VET streams conducted in 2009 suggested overall positive returns, but especially high returns for NAITA apprenticeship training. The calculated benefit/cost ratio (defined as income following completion of training

divided by the cost per trainee) ranged between 2.5 for DTET institutions and 13.9 for NAITA, averaging 5.7 over all types of institutions.⁷⁹

Apprenticeship training is losing attractiveness among students. As elsewhere in the world, VET does not represent a preferred career option for school leavers. Cultural prejudices against manual work, as well as increasing general education levels, push youth into higher education. This usually results in skills shortages in the labour market and often increasingly underused VET capacities. In Sri Lanka, noticeably, apprenticeship training appears to be losing attractiveness. NAITA reports a high number of unfilled vacancies for apprenticeship places, and has the highest drop-out rate among all the major skills development streams. TVEC reports for 2015 drop-out rates for DTET students of 21.9 percent, 6.7 percent for VTA students and 24.8 percent for NAITA apprentices. Reportedly, problems to attract new apprentices occur specifically in construction trades. It is assumed that besides the general lack of attractiveness of construction sector jobs, long training durations and good opportunities to find better paid work, even without completed training, are the main reasons. As skilled labour is in short supply in the construction sector, TVEC (supported by ADB) has now started an initiative to launch short courses of three-month duration, followed by three-month on-the-job training. The fact that apprenticeship training in Sri Lanka has lost its attractiveness among youth, despite the relatively favorable employment outcomes, raises some principal questions about the appropriateness and role of apprenticeship training in modern skills development spaces, particularly in regards to issues such as duration, qualification levels and target groups.

⁷⁸ See ADB/Australian Aid (2014).

⁷⁹ The analysis was conducted EML consultants in 2009 and is quoted in ADB/Australian Aid 2014.



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