POLICY REVIEW

Developing and Upgrading Skills in South Asia for the Manufacturing and Industrial Sectors

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Executive Summary

As the industrial sector undergoes rapid transformations driven by technological advancements, it is crucial to address the evolving needs of the workforce. This policy review focuses on apprenticeship and work-based learning (WBL) best practices, drawing insights from India and other South Asian countries. By examining successful models, recommendations can be proposed for policymakers and industry stakeholders to ensure a skilled and adaptable industrial workforce for the future.

The current state of the industrial sector workforce in India and South Asia reflects a dynamic landscape marked by rapid technological advancements and evolving skill requirements. As industries in these regions strive to stay competitive on the global stage, there is a pressing need to align the workforce with the demands of the modern economy. Apprenticeship and WBL are crucial strategies in shaping a future-ready workforce.

The future of the workforce in the industrial and manufacturing sectors relies on proactive and collaborative efforts by governments and employers to address the challenges posed by technological advancements, and other drivers such as climate change. By adopting and adapting successful apprenticeship and WBL models, policymakers and stakeholders can ensure a skilled, nimble, and future-ready industrial workforce.

Apprenticeships, as defined by the ILO, are a form of structured training "consisting of both on-the-job and off-the-job learning" that has emerged as a vital mechanism for fostering skills.[1] Apprenticeships and WBL bridge the gap between theoretical knowledge and practical application, fostering a holistic approach to skill development. The Recommendations in this report align with the International Labour Organization's (ILO) Recommendation on Quality Apprenticeships (R208).

Key recommendations include enhancing the effectiveness of policies, increase accessibility, promotion, and providing incentives both for learners and companies. They outline action points to encourage the uptake of apprenticeships and WBL to render them a more accessible pathway for learners of all ages, not just young apprentices.

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1 https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:4347381

Recommendation for Governments:

- Promote effective policies and an enabling environment for businesses to take on apprentices
- Promote formalisation of informal economy workers
- Improve MSMEs' participation
- Provide incentives for employers and apprentices
- Strengthen apprenticeship programmes through intermediary support where needed
- Address knowledge gaps
- Support lifelong learning opportunities

Recommendations for Employers and EMBOs:

- Invest in trainers
- Help improve the general image and attractiveness of apprenticeships and vocational education
- Promote and run mentorship programmes
- Work with governments at the state and federal levels to enhance inclusivity, equality and accessibility

Recommendations to achieve international, regional, and national collaboration:

- Strengthen industry-academic collaboration
- Create recognition mechanisms for employers
- Promote regional cooperation and knowledge exchange

Introduction

South Asia, a region characterised by its diverse economies and burgeoning industrial sectors, is confronted with the challenge of equipping their workforce with the skills necessary to navigate the complexities of modern industry. Driven by conducive investment environments, strategic geographic locations, and a growing labour force, the region's move from resource-based towards export-focused economies contributed to significant industrial growth over the past few decades.[2] Urbanisation and infrastructural advancements have also led to the expansion of manufacturing sectors, particularly in textiles, electronics, and automotive.[3]

However, challenges persist, such as complex legal frameworks, and barriers to environmental sustainability and technological adaptation. Additionally, the informal economy continues to persist, with two out of every three workers belonging to this sector in 2018.[4] Nonetheless, South Asia stands as a beacon of industrial activity and innovation, yielding substantial potential to capitalise on the ever-changing global economy and its pursuit of sustainable development.

In this context, quality apprenticeships and WBL emerge as an opportunity for fostering skills resilience, offering a structured pathway for individuals to acquire the practical knowledge, technical competencies, and human and social skills needed by evolving industries. This policy paper delves into the critical role that quality apprenticeships and WBL play in building skills resilience within the industrial sector, not only in South Asia but also extending beyond its borders. By examining the current landscape of apprenticeship programmes, identifying key challenges and opportunities, and presenting best practices and policy recommendations, this paper aims to provide stakeholders with actions to harness the potential of apprenticeships and WBL as a driver of economic growth, talent mobility, and sustainable development.

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With the recent adoption of the ILO Recommendation on Quality Apprenticeships (R208), there is a renewed opportunity in the global community to explore WBL approaches.[5] Thus, this policy paper sets out to analyse best practices and frameworks, to meet the growing demand for a high-skilled workforce. Additionally, by examining current challenges, exploring case studies of successful apprenticeship programmes, and proposing recommendations for institutional change, it aims to provide actions for policymakers, industry stakeholders, and educational institutions in the region to navigate challenges and explore opportunities related to the changing nature of work.

2 https://library.fes.de/libalt/journals/swetsfulltext/16363789.pdf
3 https://www.tandfonline.com/doi/pdf/10.1080/13547860902785948
4 https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_831141.pdf
5 https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:4347381

Current Landscape

In South Asia, the industrial landscape is a direct reflection of the region's economic resilience and growth potential. As countries emerge as key players in global manufacturing and production, the industrial sector is incredibly important for export earnings, technological advancement, and job creation. With rapid industrialisation, South Asia faces a myriad of challenges and opportunities.

To maintain momentum and ensure sustainable growth by developing skills resilience through quality apprenticeships, skills gaps must be adapted to the future of work for the region to leverage the opportunities towards inclusive and sustained growth. Understanding the current landscape is crucial for devising effective policies to address these issues.

Challenges

- **Skills Gap**
- **Perception and Stigma**
- **Inclusion and Accessibility**
- **Informal Economy Dominance**
- **Resource Constraints**

Opportunities

- **Apprenticeships and Work-Based Learning (WBL)**
- **Rising Demand for Skilled Labor**
- **Government Support**
- **Industry Engagement**
- **Public Private Partnerships**
- **Technological Advancements, Digitalisation, and Innovation**

Challenges

Skills Gap

According to the ILO, the skills gap and mismatch continue to pose a significant challenge in South Asia's industrial sector, as the demand for skilled workers tends to outpace its supply.[6] This gap worsens as technology advances, changing job roles and requirements and overwhelming traditional educational systems with the task of equipping individuals with fluid competencies.[7] The consequential labour market inefficiencies and reduction in productivity highlight the importance of addressing this issue in securing the competitiveness and continuous growth of South Asian industries.[8]

As machines take over routine and repetitive tasks, there is an urgent need for reskilling and upskilling initiatives to ensure that workers remain relevant and employable.[9] This is even more crucial as the pace of technological change tends to be greater than the education and training systems' capacity to adapt, exacerbating the risk of job displacement, among others.[10]

Perception and Stigma

In South Asia, apprenticeships and WBL programmes are often stigmatised and perceived as inferior to traditional academic education. This perception is deeply rooted in cultural values that prioritise formal education as the primary path to success and social mobility. As a result, vocational training and apprenticeships are frequently viewed as options for those who are less academically inclined or from lower socio-economic backgrounds.

This stigma is further exacerbated by a lack of awareness about the benefits of practical, hands-on training and the opportunities it can provide for skilled employment. Despite these challenges, there is a growing recognition of the need to reform educational systems and promote WBL to address skill gaps and enhance employability in the region. Efforts to change perceptions include government initiatives, industry partnerships, and awareness campaigns that highlight the value of apprenticeships in fostering a skilled workforce and driving economic growth.

Both traditional and emerging sectors are becoming more receptive to the model, with the sentiment around apprentice deployment significantly improving over the past few years, with close to 77% of employers in India keen to increase their apprentice pool. Over the last three years, employers' intention towards deploying apprentices has increased by 6% each year. While this demonstrates the growing acceptance of degree apprenticeships and WBL in India, the growth remains subdued.[11]

6 https://www.ilo.org/global/topics/future-of-work/publications/WCMS_591505/lang--en/index.htm

7 https://www.ilo.org/global/meetings-and-events/regional-meetings/asia/aprm-16/WCMS_531409/lang--en/index.htm

8 https://publications.iadb.org/en/future-work-regional-perspectives

9 https://www.weforum.org/publications/the-future-of-jobs-report-2023/

10 https://www.weforum.org/publications/the-future-of-jobs-report-2023/

11 https://indiaeducationdiary.in/teamlease-degree-apprenticeship-and-swiss-based-global-apprenticeship-network-gan-joins-forces-to-address-global-skill-crisis/#google_vignette

Inclusion and Accessibility

Another key challenge related to the mismatch between technological advancements and individuals' skills is access. Despite advancements in economic development, South Asia still struggles with disparities in accessibility and inclusivity in education and training.[12] This inequality of opportunity, in particular for women, those in rural communities, and persons with disabilities, act as barriers to accessing quality learning and leads to further widening of the skills gap.[13] Therefore, addressing these disparities through targeted interventions is essential to bridge the skills gap and address socioeconomic disparities.

Informal Economy Dominance

Almost 69% of the industrial workforce in South Asia operates within the informal economy[14]. Formal training is lacking and often without access to social protection, especially for disadvantaged groups, such as women, individuals from low-income households, and ethnic and linguistic minorities. More than 90% of the region's businesses operate within the informal sector, and in Bangladesh and Pakistan, informal workers make up much of the workforce.[15] The informal sector poses challenges in integrating quality apprenticeship programmes that require standardised training and certification processes, and may lack the resources or incentive to invest in systematic training for their workers.

Despite decades of sustained high growth, South Asia's informal sector has increased in some sectors. The prevalence of informal work also means that many potential apprentices are drawn into these jobs out of necessity, foregoing opportunities for formal training that could offer long-term career benefits. Addressing this challenge requires comprehensive policy interventions that promote the formalisation of the economy and support informal businesses to transition towards more structured employment practices.

Resource Constraints

Many countries in the region face resource constraints including limited funding and infrastructure, hindering the establishment and sustainability of apprenticeship programmes. This particularly affects small and medium-sized enterprises (SMEs) that lack the capacity to offer apprenticeship opportunities.

12 https://www.unescap.org/sites/default/files/Education%20Inequality%2029012018.pdf

13 https://www.researchgate.net/publication/295246340_Bridging_the_Skill_Gap_in_India_Challenges_and_Solutions

14 https://www.ilo.org/resource/news/more-68-cent-employed-population-asia-pacific-are-informal-economy
https://www.oecd.org/en/publications/oecd-skills-strategy-southeast-asia_923bfd03-en.html

15 https://blogs.worldbank.org/en/endpovertyinsouthasia/covid-19-has-worsened-woes-south-asias-informal-sector

Opportunities

Apprenticeships and Work-Based Learning (WBL)

The ILO Recommendation on Quality Apprenticeships (R208) and research by organisations, such as Deloitte and TeamLease Degree Apprenticeship, highlight the potential of apprenticeships and WBL programmes in addressing skills gaps and workforce readiness.[16] Apprenticeship and WBL programmes provide hands-on training and experiential learning opportunities, enabling individuals to cultivate industry-ready skills while earning money. These programmes also foster collaboration between employers and educational institutions, ensuring that curricula align with industry requirements and the promotion of lifelong learning.[17]

Successful strategies have been employed by public, non-profit, and private sector actors, such as National Skill Development Corporation (NSDC) and Tata Group, to bridge the skills gap through on-the-job learning.[18] They display how South Asia's industrial sector can leverage apprenticeships and WBL as a strategy to enhance workforce readiness.

Rising Demand for Skilled Labor

As industries in South Asia and beyond continue to grow and diversify, there is an increasing demand for skilled labour across various sectors, such as manufacturing, IT, and services. This presents an opportunity to tailor apprenticeship and WBL programmes to meet specific industry needs and to upskill a workforce with specialised skills. Traditional education systems in the region are challenged with equipping students with the practical expertise needed to meet these market demands, leading to a mismatch between the skills of job seekers and the needs of employers. In addition, skills development tends to decline at later stages of life, as education and training offers tend to decrease in supply or become more difficult to access.[19]

Government Support

Governments in the region are increasingly recognising the importance of skills development and are implementing policies to support apprenticeship programmes. This includes providing incentives for companies to participate and investing in vocational education infrastructure.

16 https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:4347381
https://www.ioe-emp.org/index.php?eID=dumpFile&t=f&f=135748&token=20a31c33ce0386d2531f61108fb21dcabf600abf
https://www2.deloitte.com/content/dam/insights/us/articles/4747_Manufacturing-personas/4747_Manufacturing-personas-Interactive.pdf
https://degreeapprenticeship.teamlease.com/report/apprenticeship-outlook-report-oct-mar-23-24

17 https://www.etf.europa.eu/sites/default/files/m/576199725ED683BBC1257BE8005DCF99_Work-based%20learning_Literature%20review.pdf

18 https://tejas.iimb.ac.in/articles/Bridging%20the%20Skill%20Gaps%20in%20India%27sLabourMarkets-Tejas-March2015.pdf

19 https://www.oecd.org/en/publications/oecd-skills-strategy-southeast-asia_923bfd03-en.html

Industry Engagement

Collaboration between industries, educational institutions, and government agencies is essential for the success of apprenticeship programmes. Many companies are realising the benefits of investing in training their future workforce through apprenticeships, leading to greater industry engagement.

Public Private Partnerships

Another key strategic pathway to address challenges in the South Asian industrial sector is public-private partnerships. IOE and GAN Global advocate for enhancing effective policies and fostering partnerships to promote awareness and change societal perceptions of vocational education as a key opportunity to address the skills gap and prepare economies for the future of work.[20] These collaborations enable resources and expertise from both sectors to develop and implement effective training programmes tailored to industry needs and the educational sector's capabilities. By enabling synergies and sharing best practices, public-private partnerships can upscale sustainable growth, promote inclusion, and improve productivity.

Technological Advancements, Digitalisation, and Innovation

Technology can play a pivotal role in modernising apprenticeship programmes, offering innovative ways to deliver training and track progress. As South Asia embraces emerging technologies, there is an opportunity to leverage digitalisation to address skills challenges and propel economic growth. Resources like online learning, virtual reality simulations, and gamified training modules can help complement traditional education methods and reach a wider and more diverse audience.

In conclusion, by addressing these challenges and leveraging the opportunities available, policymakers can design and implement effective strategies for building skills resilience in the industrial sector through quality apprenticeships in South Asia and beyond. Investments in skills development, through cooperation and innovation, can enable the region to employ the full potential of its industrial sector to create a resilient workforce for more equitable and sustainable economies.

20 https://www.ioe-emp.org/index.php?eID=dumpFile&t=f&f=147697&token=0901884a917be4cb448498972ec0a41a3bd3a55a

Recommendations

To foster sustainable economic growth and competitiveness in South Asia, it is imperative to prioritise the development and upgrading of skills in the manufacturing and industrial sectors. The recommendations in this policy paper leverage opportunities through apprenticeship and WBL programmes to bolster skills and industry development. By implementing these recommendations, policymakers and industry players can facilitate a workforce capable of driving innovation, productivity, and economic growth across South Asia's manufacturing and industrial landscape. Specifically, the recommendations highlight the importance of collaboration amongst relevant stakeholders as the critical enablers in driving change.

The Recommendations below align with the ILO R208, the first-ever global framework agreed upon by employers, governments, and workers.

"By implementing these recommendations, policymakers and industry players can facilitate a workforce capable of driving innovation, productivity, and economic growth across South Asia's manufacturing and industrial landscape.

Recommendations for Governments

Promote effective policies and an enabling environment for business to take on apprentices

Effective policies ensure the impact, quality, and sustainability of WBL programmes which, in turn, facilitate skills development and ultimately, economic growth. To enhance the effectiveness of policies on WBL and apprenticeships, it is imperative to create clear quality standards for programmes across diverse sectors, coupled with robust monitoring and evaluation mechanisms to assess efficacy and impact continuously and consistently on skills development. Crucially, the integration of data-driven insights into regulatory processes, as well as intentional collaboration between sectors and stakeholders, facilitates the refinement of policies and interventions to secure alignment with evolving industry needs and market demands.

Promote formalisation of informal economy workers

The integration of workers from the informal economy into formal apprenticeship programmes should be prioritised, through targeted outreach, capacity-building for informal sector businesses, and incentives for transitioning to formal employment.[21] Upgrading an informal system requires working with existing systems and partners, such as professional, industry, and community associations. Some strategies have included skills standards that apply to all informal apprenticeships in specific trades and end-of-apprenticeship tests and qualifications recognised by the formal training system.[22]

21 https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@asia/@ro-bangkok/@ilo-manila/documents/presentation/wcms_634910.pdf

22 https://www.ilo.org/publications/strengthening-skills-recognition-systems-recommendations-key-stakeholders
https://www.ilo.org/publications/how-strengthen-informal-apprenticeship-systems-better-future-work-lessons-1

A risk in apprenticeships belonging to the informal sector is that they are often governed by informal rules. Recognition of Prior Learning (RPL) programmes, meaning formal certification systems to qualify skills and competencies, stand as an alternative to formal TVET qualification for workers who acquired their skills in the informal economy.[23]

Improve MSMEs' participation

MSMEs play a pivotal role in growing economies with large informal sectors. Thus, their participation in using apprenticeships and WBL as a tool for the future of work is crucial. To do so, training and policy spaces must be tailored to their needs and capabilities, making sure information is relevant and accessible to this group of enterprises. For example, short and affordable training, for employers, trainers, and apprentices, could be made available at a reduced or free of cost, especially focusing on digital skills and the green transition.[24]

MSMEs are also better supported through initiatives such as Cluster Development Programmes. This strategy, used by Italy and China for instance, focuses on geographically concentrated clusters that have grown organically over decades. In India, there are 5500 clusters in its production manufacturers. Most are in mid-sized towns that have not benefited from government infrastructure improvement programmes. This sector needs upgraded support, including access to credit, skills development, technology upgrades, and market development at the level of each cluster.[25]

Provide Incentives for Employers and Apprentices

The introduction of financial incentives, such as tax credits, subsidies, or grants, to encourage employers in promoting quality apprenticeship standards could help drive private participation in apprenticeships.[26] This model can be found in Australia, where the government offers financial support for employers through the Priority Wage Subsidy whereby businesses can be eligible to receive 5 or 10% of their apprentices' wages paid for in certain priority occupations. [27] It is important to note, however, that additional support for SMEs can be required to offset training costs and facilitate their engagement in apprenticeship and WBL programmes.

Strengthen Apprenticeship Programmes through Intermediary Support where needed

Moreover, Group Training Organisations (GTOs) support apprenticeship development by directly employing apprentices and trainees, and then placing them with relevant employers for on-the-job training. This model is particularly useful for employers who cannot commit to a whole apprenticeship or traineeship programme, as GTOs function as intermediaries, coordinating apprenticeship placements, providing shared resources, and ensuring quality training standards. Australia, particularly, has found these programmes to be particularly beneficial for SMEs without the financial capacity to develop an apprenticeship programme, but with interest in accessing the apprentice talent pool.[28]

The Australian Chamber of Commerce and Industry (ACCI) advocates for additional support and funding for GTOs, particularly

23 https://www.dcdualvet.org/wp-content/uploads/2021_VETToolbox_Guiding-note-on-informal-apprenticeship-organise-without-formalising.pdf
https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/publication/wcms_343183.pdf

24 https://www.ilo.org/ilo-declaration-fundamental-principles-and-rights-work

25 https://eastasiaforum.org/2024/05/11/industrialising-india/

26 https://www.ilo.org/topics/apprenticeships/publications-and-tools/digital-toolkit-quality-apprenticeships/system-and-policy-level-key-building-blocks-quality-apprenticeships-system/funding-arrangements/incentives-promote-quality-apprenticeships

27 https://www.apprenticeships.gov.au/support-and-resources/financial-support-employers
https://www.dewr.gov.au/skills-support-individuals/resources/australian-apprenticeships-incentives-program-guidelines

28 https://aen.org.au/

those that provide services to Indigenous peoples and to improve completion rates.[29]

In India, the government has prescribed the following conditions, under which Third Party Agencies may offer apprenticeships:

- Registered as a company or society/ industry association or similar, with five years or more experience.
- Working in a related field e.g., training, education, or in an industry association.
- Have a registered office, infrastructure, and an 'expert team.'
- Present letters of support from at least 20 companies saying they would use their services for apprentices.[30]

Address knowledge gaps

While on-the-job learning is fundamental to preparing workers for the job market, theoretical knowledge is integral to their success and continuous improvement. Several countries, such as Bangladesh, Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali, Niger, and Togo, have incorporated theoretical elements to their dual apprenticeship schemes, whereby apprentices spend a portion of their training in training centres or vocational schools while trainers access skills upgrading courses.[31] This training is offered by formal, private, or non-profit informal training providers, and is typically funded by levies paid by large companies or by international donors.[32] As a caveat, levies can help if the process and outcomes remain transparent to companies which have invested in it.

Support Lifelong Learning Opportunities

Apprenticeship programmes should be developed with clear career pathways and opportunities for continuous skilling and development in mind. Competency frameworks and progression routes are important tools that enable apprentices to advance within their chosen fields. The following initiatives and strategies could support lifelong learning and drive employability:

- **Lifelong Learning Fund**

  A lifelong learning fund dedicated to supporting apprentices in accessing continuous upskilling and reskilling opportunities could provide financial assistance for further education, certification programmes, and participation in workshops and conferences. Additionally, it would support continued education for seasoned professionals looking to advance their skills, thus contributing to narrowing the skills gap generated by technological advancements and market demand changes.

- **Micro-Credentials and Badging**

  Implementing micro-credentialing and digital badging systems to recognise and validate skills and competencies acquired through on-the-job training could provide portable credentials that showcase employees' achievements and enhance their employability and learning experiences.[33] This system also supports a standardised recognition framework that allows employers to certify a candidate's skillset before hiring and enables job seekers to leverage their hands-on experiences in a manner akin to traditional educational credentials.

29 https://docs.publicnow.com/viewDoc?filename=76421%5CEXT%5C53E5754407A8539483748FE4E9FE66F78E3B7956_D494243360038895D0BD6F04A092984461A07AC0.PDF

30 ILO, 2019b, page 22.

31 https://www.ilo.org/ilo-declaration-fundamental-principles-and-rights-work

32 https://www.ilo.org/ilo-declaration-fundamental-principles-and-rights-work

33 https://ec.europa.eu/social/main.jsp?langId=en&catId=1147&furtherNews=yes&newsId=10639#:~:text=Micro%2Dcredentials%20certify%20the%20learning,their%20personal%20and%20professional%20development; https://education.ec.europa.eu/education-levels/higher-education/micro-credentials

Recommendations for Employers and EMBOs

Invest in Trainers

Investment in train-the-trainer programmes is fundamental to enhancing the capacity of educators and trainers, equipping them with pedagogical methods that promote hands-on learning, problem-solving, and critical thinking skills among learners. This type of system is complementary to the idea of a pre-apprenticeship training model where workers are instructed on their duties, roles, and responsibilities before their engagement in the workplace. Additionally, rotation systems have also been found to help apprentices develop a broad and strong skill set.[34]

Help Improve the General Image and Attractiveness of Apprenticeships and Vocational Education

Efforts should be made to reframe perceptions of vocational education and apprenticeships to reduce stigma. The promotion of public awareness of the benefits of apprenticeships, such as attaining industry-relevant skills and securing employment, can encourage individuals to pursue vocational options. Targeted multimedia campaigns, through television, radio, social, and print media platforms, can help raise public awareness of the benefits of vocational education and apprenticeships.

By leveraging success stories of apprenticeships and highlighting the tangible benefits of these opportunities, emphasising career prospects, earning potential, and skills gained, the narrative around WBL could shift to attract individuals and businesses. Additionally, collaboration with schools and TVET institutions to organise career talks, workshops, and industry expos, especially in schools and educational institutions, could inform students and parents about the diverse career opportunities available to them.[35]

Promote and Run Mentorship Programmes

Establishing formal mentorship programmes where experienced professionals guide apprentices throughout their training and career development to facilitate continuous learning and professional growth, as well as cross-generational exchanges. In addition to this, establishing alumni networks composed of successful apprentices could help provide role models and mentors for aspiring apprentices, as knowledge-sharing and peer support are often instrumental in driving youth participation and success.[36]

Work with governments at the state and federal levels to enhance inclusivity, equality and accessibility

Policies and programmes should be developed and implemented to improve inclusivity, equality and accessibility to education and training, specifically for women, those in rural communities, and persons with disabilities. This can include expanding scholarship programmes, offering stipends to learners, establishing vocational training centres in remote or less economically developed areas, providing transportation and childcare support to remove barriers to access, as well as allowing for flexible training schedules to accommodate a larger spectrum of apprentices. In addition, targeted initiatives to encourage greater participation of women in STEM (Science, Technology, Engineering, and Mathematics) fields and traditionally male-dominated industries contribute to gender equality and inclusion.

34 https://www.ilo.org/publications/strengthening-skills-recognition-systems-recommendations-key-stakeholders

35 https://apprenticeshipexpo.ie/; https://www.educationandemployers.org/research/apprenticeship-outreach-engaging-with-under-represented-groups-to-improve-social-mobility/

36 https://ijmhs.biomedcentral.com/articles/10.1186/s13033-023-00608-4

Recommendations to Achieve International, Regional, and National Collaboration

Strengthen Industry-Academic Collaboration

Facilitating strong partnerships between Industrial Training Institutes (ITIs), vocational schools, and industry stakeholders is crucial for developing effective training systems. Establishing joint advisory boards can ensure ongoing alignment between industry needs, educational capacities, and technological advancements. By co-designing programmes, educational institutions can train individuals with skills that directly match employers' needs.

Germany's Vocational Training Act is a good example of successful collaboration as it introduced a strong alliance between the federal government, states, and companies to provide training occupations that are recognised across the country.[37] In the context of upgrading ITIs, including these institutions in tripartite partnerships that incorporate industry forums and workshops, knowledge sharing, and feedback mechanisms to continuously improve curricula could be helpful.

Create recognition mechanisms for employers

Recognising employers, through apprenticeship awards, for example, can also be used as an effective tool to incentivise private sector investment in skills development. The United Kingdom's Department for Education launched the National Apprenticeship and Skills Awards over 20 years ago, awarding employers' and apprentices' achievements in career and business development in several categories.[38] Similarly, the Australian government holds the Australian Training Awards annually to recognise employers with innovative improvements in the training of apprentices.[39]

Moreover, a voluntary accreditation scheme for employers who offer quality apprenticeship programmes, based on agreed defined standards, such as those outlined in R208, would encourage businesses to develop their apprenticeship and WBL programmes to be recognised as quality employers. Complementary to this, government-based incentives for accredited employers, such as priority access to funding, recognition in publications, and eligibility boosts for government contracts or subsidies, could help drive private involvement in such accreditation.

Promote Regional Cooperation and Knowledge Exchange

Collaborative efforts among governments, industry, education institutions, and vocational training centres are essential for effective programming. By engaging employers and education and training institutions in curriculum design, policymakers can ensure that training programmes remain aligned with the needs of the evolving market and the capacity of the education system. Additionally, regular events and conferences between relevant stakeholders can serve as platforms for sharing best practices, highlighting success stories, and fostering partnerships that advance apprenticeship initiatives.[40]

37 https://www.bibb.de/dokumente/pdf/The_2005_Vocational_Training_Act.pdf

38 https://apprenticeshipandskillsawards.co.uk/about

39 https://www.australiantrainingawards.gov.au/award/australian-apprenticeships-employer-award

40 https://www.gan-global.org/announcement/the-roi-on-apprenticeships-work-based-learning-in-india/

Conclusion

Rapid technological advancements and evolving industry demands require a skilled and adaptable workforce. This review highlights the critical role apprenticeships and WBL play in bridging the skills gap and ensuring that workforces are prepared for the future. By examining successful strategies from India and South Asia (Annex 1 and 2), as well as other jurisdictions, it has identified key elements in enhancing vocational training and workforce development.

Apprenticeships and WBL offer a comprehensive approach to skill development by combining theoretical knowledge with practical application. These programmes not only promote inclusion and equity in the workforce but also foster economic growth and competitiveness.

This review has been developed as part of an overall IOE-GAN-EU partnership, which seeks to strengthen the capacity of employers' organisations, particularly highlighting the role of the private sector towards sustainable growth in developing countries.[41]

This review highlights the critical role apprenticeships and WBL play in bridging the skills gap and ensuring that workforces are prepared for the future.

41 https://www.ioe-emp.org/international-organisations/european-union

Case Studies

Annex 1. Best Practices in India

National Apprenticeship Promotion Scheme (NAPS-2)

The **National Apprenticeship Promotion Scheme (NAPS-2),** launched in 2016, is a government-led initiative promoting apprenticeships across sectors by providing financial incentives for employers and stipends for apprentices, encouraging widespread participation. With an emphasis on industry-relevant skills and certifications, third-party aggregators (TPAs) have been established as key partners by the Ministry of Skill Development and Entrepreneurship (MSDE) to bridge the demand between apprenticeship placements and aspiring candidates, with a special focus on MSMEs. NAPS-2 aims to develop a skills workforce by promoting WBL, support apprenticeships through a combination of government stipend reimbursements and employer contributions, offer upskilling for those who completed short-term government programmes, encourage apprenticeships in MSMEs and underserved areas, and raise awareness through an apprenticeship website featuring testimonials, videos, and resources.[42] The objectives of NAPS-2 are to:

- Develop a skilled workforce by promoting WBL.
- Encourage apprenticeships by providing financial support to apprentices. The government reimburses 25% of the stipend to apprentices, while the employers cover 50% of the training cost.[43]
- Provide upskilling opportunities for those who have already undergone short-term skilling through the government.
- Encourage apprenticeships, especially in MSMEs and in underserved areas.
- Awareness-raising activities and promotional campaigns through an apprenticeship website that includes a section on testimonials, videos, and resources.[44]

TeamLease Degree Apprenticeship (TLDA)

TeamLease Degree Apprenticeship (TLDA) was set up in 2014 as a public-private partnership and funded solely by employers. It is India's first- and largest-degree apprenticeship programme with partners including TeamLease Skills University (the country's first vocational skills university set up in 2013), Schoolguru, the Confederation of Indian Industry (CII), and the Ministry of Skill Development. In India, only 35,000 employers have created apprenticeship positions, which equals 0.01% of the workforce.[45] With the country's policy measures in place, the scenario is changing rapidly, and TLDA believes that India can reach the short-term goal of one million employers involved in apprenticeships, which would equate to 1% of the labour force.[46]

Buhler India Private Limited

Buhler India Private Limited is a subsidiary of Buhler AG, Switzerland, with a state-of-the-art manufacturing facility at Attibele, Bengaluru, and regional offices at prominent locations across India. Buhler India is a manufacturer of Food Processing and Grain Processing machines for valued customers within India and abroad. Some of its customers include Nestlé, ITC, and many

42 https://www.msde.gov.in/en/schemes-initiatives/apprenticeship-training/naps#:~:text=National%20Apprenticeship%20Promotion%20Scheme%2D2%20(NAPS%2D2)%20aims,advocacy%20assistance%20to%20the%20stakeholders

43 What is National Apprentice Promotional Scheme | Gretis India

44 https://www.nationalskillsnetwork.in/apprenticeship/

45 https://degreeapprenticeship.teamlease.com/about

46 https://degreeapprenticeship.teamlease.com/

rice/grain mills across the country. Buhler India has 1500 employees with 800 on payroll and the rest of them being contract workers, apprentices, and trainees.

Buhler Academy (in-house technical training facility) started in 2009 in Bengaluru to train the youths from rural and economically weaker sections of the country into industry-ready professionals who can be employed at Buhler, Buhler customers, or in other companies. The Academy started with four trainees and today close to 120 trainees are undergoing training in different programmes, with around 600 apprentices having graduated since its inception. Programmes are designed based on the Learn and Earn model where all apprentices in the academy are paid decent stipends to meet their daily needs as well as support their families. Apprentices are offered subsidised canteen facilities and are covered under applicable social security measures including health and accident insurance.

Buhler Academy facilitates apprentice exchange programmes and Industry Institute Collaborations to develop high-quality apprentices and build a future talent pipeline. The Academy runs five different skill programmes and Swiss VET is one of its unique programmes, with two years apprenticeship for students after training at an ITI. Swiss VET (SIVET) started in 2009 as an outcome of bilateral agreements between the Indian and Swiss governments. The SIVET programme was customised to suit the Indian context, and the duration was made to two years considering the students would have already undergone ITI education (Indian) for 2 years.

Training is designed as a dual-track programme and students enrolling in SIVET would receive certification from Swiss Partners and ATS (Apprenticeship Training Scheme) from Indian authorities. Initially, it started as a public-private partnership model involving Swiss representatives, Local Government, and Buhler as a partner. The objective of the SIVET programme was to develop ITI students into Multi Skilled Production Technicians (MSPT) based on industry requirements and industry readiness so that they can be hired easily. During the initial days, trainers from the company and ITI were trained by Swiss professionals on curriculum, assessment, training delivery, etc.

Apprenticeship training consists of a 75% hands-on and 25% classroom training approach and mentoring by seasoned professionals in the company. Buhler India pays a stipend of INR 12,000 per month during the first year of training and INR 13,000 per month during the second year. In addition to the stipend, Buhler India spends about INR 10,000 per apprentice per month towards course fees, learning aids, food, insurance, teacher's salary, etc.

Regarding RoI, costs incurred on SIVET apprentices are recovered much faster than the normal apprentices. During the training, the apprentice's productivity contribution is lower in the first year (about 15%) but increases to 50 % by the end of the second year compared to normal skilled workers in Buhler India.

Once they start their position at Buhler, and with additional functions specific to the job focus and mentoring, the productivity can go up to 60=75% by the end of the first year of employment and can reach 100% productivity by the end of the second year of employment, which is at par with any regular and experienced worker. An internal study indicates that RoI can be achieved in two years, making this a worthwhile investment for a progressive company like Buhler.

Overview of Buhler Academy

Particulars	BASE* 1 (Academy)	BASE 2 (Diploma Engineer Trainee / Graduate Engineer Trainee)	BASE 3 (Swiss VET)	BASE 4 (Govt. ATS)	BASE 5 (Customer Education)
Duration	4 Years	DET: 1 Year GET: 1 Year	2 Years	1 Year	Short-term programme as per customer needs
Batch Size	10 / year	DET: 10 / Year GET: 10 ~ 15 / year	10 ~ 15 / year	65 / year	10 ~ 25
Eligibility	2nd PUC / 10 + 2 with science background	Diploma / BE in Mechanical, Mechatronics & Electrical stream	ITI (from Fitter, Welder, Electrician trade)	ITI (from Fitter, Welder, Electrician trade)	NA
Age limit in years	18 ~ 20	Max 23	18 ~ 20	18 ~ 22	NA
Selection methodology	Written test, Interview				NA
Benefits	Stipend, subsidised canteen facility, coverage in ESI / medical insurance, uniform + applicable PPEs				NA
Placement	Need-based absorption in Buhler, else placement assistance within the Buhler value chain				NA

*BASE – Buhler Academy for Specialised Education.

Annex 2. Best Practices in Other South Asian Countries

While India serves as a significant economic powerhouse in South Asia, other countries within the region also bring unique approaches and best practices for developing and upgrading skills, particularly within the manufacturing and industrial sectors. Below, the context and a few practices across select South Asian countries are explored.

Bangladesh

According to the Bangladesh Bureau of Statistics (BBS), in 2018, around one-third of the country's entire labour force was comprised of young people (15-29 years), with an average of two million people joining the workforce each year. To take advantage of the country's demographic dividend, preparing its youth for the world of work, particularly through an effective skills development system, is one of the highest national priorities. Hence, Bangladesh's National Skills Development Policy (NSDP) aims to increase access and participation in skills training.[47]

The economy has enjoyed progress and achieved a GDP growth rate of more than 6% per year during the past decade.[48] The industrial sector represents 30% of GDP and employs more than 20% of the population, primarily in the ready-made garment (RMG) and light manufacturing sectors. Such rapid transformation of the economy will contribute towards Bangladesh's aim to become a developed country by 2041.[49] For this, it needs to sustain this growth momentum for another two decades.[50]

To increase productivity, skilling the workforce in high-yield industries will play a vital role in the future development of the country. Dhaka, the capital, has emerged as an information technology (IT) hub. More than 1500 IT and software-related companies are registered in the country, which has created employment opportunities for more than one million people, with information and communications technology (ICT) exports exceeding one billion USD.[51]

As manufacturing and services sectors are growing rapidly, Bangladesh is adopting new technologies and production processes including the use of digital technologies in various sectors and sub-sectors.

Currently, most workers in clothing manufacturing departments in Bangladesh are men who went to technical colleges or were promoted to digital jobs internally. Women are typically concentrated in the lower tiers of the supply chain training. As a result, they are left behind. However, because women represent 60.8% of the apparel supply chain, the industry must ensure access to training.

One example of an innovative technique in upskilling is a public-private collaboration project supported by C&A Foundation, Microsoft, and Shimmy Technologies, which is scaling technology via factory training programmes. Shimmy is an ed-tech, upskilling garment workers so they can learn to operate multiple machines and gain the digital literacies needed to work on new, automated machines. Digital tutorials through Shimmy's app teach skills in machine

47 https://nsda.portal.gov.bd/sites/default/files/files/nsda.portal.gov.bd/npfblock/2020-12-21-14-24-8c85b4482cf8516df94dd6471eaf30a4.pdf

48 https://nsda.portal.gov.bd/sites/default/files/files/nsda.portal.gov.bd/npfblock/2020-12-21-14-24-8c85b4482cf8516df94dd6471eaf30a4.pdf

49 https://nsda.portal.gov.bd/sites/default/files/files/nsda.portal.gov.bd/npfblock/2020-12-21-14-24-8c85b4482cf8516df94dd6471eaf30a4.pdf

50 https://nsda.portal.gov.bd/sites/default/files/files/nsda.portal.gov.bd/npfblock/2020-12-21-14-24-8c85b4482cf8516df94dd6471eaf30a4.pdf

51 index.php (ioe-emp.org)

operation, terminology, techniques, and machine care.[52] Additionally, the establishment of sector-specific skill councils has ensured alignment with industry demands, fostering greater employability among graduates.

With increased productivity in these sectors, there is immense potential for further employment in other areas, such as hardware manufacturing. The country also has large pharmaceutical, footwear, and agricultural-processing industries, providing great opportunities to diversify its exports and generate employment in those sectors.

To adapt to massive skilling needs, the government has undergone several skills development frameworks, starting with the enactment of the National Skills Development Authority Act and the subsequent National Skills Development Authority Rules, which placed the National Skills Development Authority (NSDA) as the cornerstone of the skills ecosystem of the country. The 2021 iteration of the NSDP aligns with the skills required for the Fourth Industrial Revolution (4IR).[53] Under this policy, the government has facilitated collaboration between industries and training institutions, leading to the creation of a skilled workforce tailored to the needs of the manufacturing and industrial sectors.

The new NSDP policy is based on key principles including shared responsibilities between actors in skills training design and delivery, matching skill demands to supply, and equal opportunity. [54] An estimated 23 ministries and 35 government departments engage in providing training on skills development, with significant strides made in skill development through public-private partnerships and investment in vocational training programmes.[55]

Sri Lanka

TVET in Sri Lanka currently provides training in vulnerable sectors such as health, agriculture, infrastructure, and industry in the country.[56] While previous policies have recognised the need to reduce skills gaps in construction, tourism, light engineering, and information and communication technology, skills gaps in other sectors with the potential for export growth and promising rates of labour absorption have received less attention. Two manufacturing subsectors, food, and beverages (FB), and electronics and electricals (EE) have been identified as priority sectors for promoting export-led growth by the Board of Investment and the Export Development Board.[57]

The TVET sector is governed by the Technical and Vocational Education Commission (TVEC) under the Ministry of Skill Development and Vocational Training (MSDVT) and has 525 public and 622 private (including non-governmental) institutions registered with the TVEC. The Government introduced a National Vocational Qualifications (NVQ) certification system which formalises training courses for young people to improve their employability.[58] Sri Lanka's TVET Sector strategy includes several measures such as establishing Industry Sector Skills Councils (ISSC) to get industry directly involved in the TVET system, and a Regional Industry Forum (RIF) as a mechanism to increase industry participation in the ISSC.

52 https://unlocked.microsoft.com/shimmy-upskill/

53 https://nsda.portal.gov.bd/sites/default/files/files/nsda.portal.gov.bd/npfblock/2020-12-21-14-24-8c85b4482cf8516df94dd6471eaf30a4.pdf

54 https://nsda.portal.gov.bd/sites/default/files/files/nsda.portal.gov.bd/page/79fe610e_04d6_4409_8331_1578b9a0e1d1/2022-11-28-14-55-14b0f8d58e53a1577422454fda3be908.pdf

55 https://thefinancialexpress.com.bd/trade/skills-dev-policy-awaits-cabinet-nod-today-1672110149

56 https://unevoc.unesco.org/pub/skills_development_and_climate_change_action_plans.pdf

57 https://www.adb.org/sites/default/files/publication/543046/skills-gaps-two-manufacturing-subsectors-sri-lanka.pdf

58 https://www.unicef.org/rosa/media/4516/file/Sri%20Lanka%20Country%20Report.pdf

An Employment Linked Training Programme (ELTP) was established to harness the private sector's capacity to skill workforces through the following three WBL models: centre-based training combined with on-the-job training; training that is delivered at both the centre and at the place of employment; and industry-based training.

Free of Charge Training Delivery is provided for free as post-secondary education and vocational training, particularly for young people. All vocational schools administered by the MSDVT have been offering free placements since early 2017. On-the-job training, human and social skills development, and employment services are also free of charge through the MSDVT.[59]

Furthermore, the Sri Lankan government has introduced market-oriented and accredited vocational training opportunities based on industry demand, with youth-centric institutions offering career guidance and counselling. The National Youth Services Council (NYSC) and the Vocational Training Authority annually facilitate accredited vocational training for around 85,000 young people with 80% of them securing employment after completion.[60]

Pakistan

Initiatives like the Prime Minister's Youth Skill Development Programme (PMYSDP) have focused on empowering youth with market-relevant skills to address unemployment challenges. The PMYSDP was initiated to strengthen the quality of TVET and to equip young people with market-driven conventional and high-tech skills required for career progression in line with international standards.[61] The programme offers free courses for young people, with the following objectives already achieved in 2024:

- More than 56,000 young people offered free courses in different fields in Pakistan
- About 16,000 young people are being trained in IT skills in a variety of sectors
- 25,000 young people offered engineering and various courses
- 15,000 young people offered technical courses in various fields, etc.[62]

On diversity, equity, inclusion, and accessibility, in 2023, Federal Minister Madad Ali Sindhi increased the quota for women from 33% to 40% in the PMYSDP. He also encouraged the participation of students with disabilities and improved accessibility in major cities. The Federal Minister highlighted that under this programme, 161,00 young people have already been trained, of which 96,000 have received high-tech training, while 64,000 have received conventional training. This trained workforce has an employment rate of 71%.[63]

The PMYSDP aims to continue to expand its objectives to meet the following targets:

- 16,000 students will be trained in High-Tech / IT Technologies
- 25,000 young people will be trained in High-End Industrial Revolution Technologies
- 15,000 young people will be trained in conventional technologies
- 15,000 students will be trained under the Global Skill Recognition of Pakistani expats & potential emigrants (RPL).[64]

59 https://www.unicef.org/rosa/media/4516/file/Sri%20Lanka%20Country%20Report.pdf

60 https://www.unicef.org/rosa/media/4516/file/Sri%20Lanka%20Country%20Report.pdf

61 https://navttc.gov.pk/prime-ministers-youth-skill-development-program-pmysdp/#:~:text=PMYSDP%20is%20the%20vehicle%20of,TVET%20system%20in%20the%20country.

62 https://nayanews.pk/prime-minister-youth-skill-development-program/

63 https://mofept.gov.pk/NewsDetail/YWYzMTExNDEtMGJiZC00OTJiLTk1MDYtNmNlMTViOWFjYzdm#:~:text=Madad%20Ali%20Sindhi%20increased%20the,overcome%20the%20existing%20social%20challenges.

64 https://mofept.gov.pk/NewsDetail/YWYzMTExNDEtMGJiZC00OTJiLTk1MDYtNmNlMTViOWFjYzdm

Nepal

Nepal is currently experiencing a youth bulge, accounting for more than 40% of the population, and has yet to leverage this group to drive forward its economic development. Around 500,000 young people enter the labour force every year, with approximately 1,700 young people leaving the country daily according to official figures.[65] With so many young people leaving the job market, skills mismatch challenges are exacerbated, with businesses bearing the cost of constantly recruiting and retraining new staff. Slow growth can also be attributed to the limited number of operating Special Economic Zones and the agricultural sector's inadequate distribution of technological use, impeding its modernisation and industrial transition.[66]

Additionally, the main barriers facing the industrial sector include relaxed policies towards importers and an open border policy with India; lack of incentives and programmes aimed at attracting national and international investors to create goods and services with a comparative and competitive advantage; high tariff rates on raw materials, semi-processed goods, and spare parts; and poor coordination among government agencies.

Nepal has recognised the importance of skill development in driving economic growth and has implemented strategies to strengthen its TVET system. The government's emphasis on enhancing the quality and relevance of vocational education programmes has resulted in collaborations with international organisations and industry partners to modernise training facilities and curricula. Furthermore, initiatives such as the National Vocational Qualifications Framework (NVQF) have standardised skill certification processes, enabling seamless integration into the labour market for graduates within the manufacturing and industrial sectors.

Launched in 2020 by the government, the NVQF aims to transform Nepal's TVET landscape making it sustainable through the availability of skilled people, increased productivity of businesses and industries, and better earning opportunities for young people. The implementation of the National Qualifications Framework (NQF) in Nepal was approved by the Cabinet on 3rd May 2020. It presents the basis for a formalised structure of vocational and general education learning levels, which will allow for the development, assessment, improvement, and recognition of qualifications.

The Swiss Agency for Development and Cooperation (SDC) provides financial and technical assistance to develop the National Vocational Qualification System (NVQS) in Nepal through the Nepal Vocational Qualifications System Project (NVQS-P). The Council for Technical Education and Vocational Training (CTEVT)/National Skill Testing Board (NSTB) implements NVQS-P on behalf of the Government of Nepal. Swisscontact provides Technical Assistance to the project on behalf of SDC, and the project partner is the Council of Technical Education and Vocational Training (CTVET), and the National Skills Testing Board (NSTB).

The priorities for this project include:

- Communication and outreach expansion about NVQS, NVQF, and RPL
- Establishing an additional three sector skills committees
- Upscaling RPL in all provinces
- Developing an additional 30 National Competency Standards (NCS)
- Strengthening Accredited Skills Assessment Centres (ASCs)

65 index.php (ioe-emp.org)

66 https://www.ioe-emp.org/index.php?eID=dumpFile&t=f&f=158026&token=b932e084e96dba9b959656ba1cb385148dfc88f8

- Expanding NVQS in two additional provinces
- Facilitating collaboration among the federal, provincial, and local, governments in NVQS implementation, and
- Engaging employers in key processes.[67]

Malaysia

In Malaysia, the development and upgrade of skills in the industrial and manufacturing sectors are driven by a comprehensive framework of policies, programmes, and collaborative initiatives involving the government, educational institutions, and industry stakeholders. Some of its best practices include:

Government Initiatives and Policies:

The Twelfth Malaysia Plan (2021-2025) focuses on boosting productivity through upskilling and reskilling the workforce, TVET, and promoting lifelong learning. The first Policy Enabler of the Plan is to develop future talent, by realigning the labour market, education, and training. One of the key enablers to do so is improving the TVET ecosystem to produce future-ready talent to meet industry demand.[68]

As a key catalyst in Malaysia's socioeconomic development, a strong TVET ecosystem will allow the country to effectively address persistent issues such as dependency on foreign workers and low student outcomes. The attractiveness and quality of delivery and training of TVET will be enhanced through improvement in accreditation, recognition, and certification.

A ranking system for TVET institutions has been introduced whereby the allocation of funds is based on several components including employability, wage levels of graduates, industrial engagement, and the implementation of social initiatives in rural areas.[69] The mid-term review of the Twelfth Malaysia plan indicates that of the nine targets set for developing future talent, two were achieved, six are on track, and one is still lagging. Labor productivity per worker showed an average growth of 3.7% during the review period, above the target of 3.6%.[70]

The rate of graduate employability in higher education institutions and public TVET institutions was over 90% in 2022, exceeding the target of 85%. However, issues and challenges in talent development persist, which include an inefficient labour market and a less conducive education ecosystem.[71]

Funding and Incentives:

The Human Resources Development Fund (HRDF), also known as the Human Resources Development Corporation (HRD Corp), is an agency under the purview of the Ministry of Human Resources Malaysia, which provides financial assistance to employers for employee training and development. The HRD Corp aims to encourage employers covered under the PSMB Act 2001 to re-train and upgrade the skills of their local employees, apprentices, and trainees in keeping with the fast-evolving global business landscape while meeting the aspirations of their respective companies. The PSMB Act 2001 is a human resources development (HRD) levy to

67 https://www.swisscontact.org/en/projects/nvqs
68 https://rmke12.ekonomi.gov.my/en
69 https://rmke12.ekonomi.gov.my/en
70 https://rmke12.ekonomi.gov.my/ksp/storage/fileUpload/2023/09/2023091145_main_document_ksp_rmke_12.pdf
71 https://rmke12.ekonomi.gov.my/ksp/storage/fileUpload/2023/09/2023091145_main_document_ksp_rmke_12.pdf

promote the training and development of employees, apprentices, and trainees. The sectors covered under the PSMB Act 2001 include manufacturing, services, and mining and quarrying.[72]

In addition, the HRDF is a major stakeholder in setting national TVET policies. The HRDF offers job placement and career counselling services, promotes a culture of training through various initiatives, and undertakes research and analysis. It is resourced through a levy paid by employers in addition to government grants. The government grants cover initiatives related to training youth, as well as disadvantaged and marginalised groups.[73]

Public-Private Partnerships:

The National Dual Training System (NDTS) combines theoretical education with practical training in companies, involving industry experts in curriculum development and as instructors. The 2024 Budget allocation provides allowances and incentives to NDTS programme participants, namely apprentices, training centres, and companies. The main components of the NDTS programme include a training centre, which can be a public or private institution, and companies responsible for the practical aspects of the training programme.

Through a contract between apprentices and companies, apprentices are given a certain amount of allowance throughout the training by the company and are obliged to collaborate with the company upon completion if they are offered employment. The direct training is conducted continuously, and the apprentice is expected to get through the assessment as well as the final test, which is conducted at the end of the training programme. Successful apprentices are awarded the national skills qualification by the Department of Skills Development (DSD).

Malaysia's approach to developing and upgrading skills in the industrial and manufacturing sectors is characterised by strong government support, collaborative efforts between academia and industry, and a focus on continuous learning and digital transformation. By aligning training programmes with industry needs and embracing technological advancements, Malaysia aims to enhance its workforce's competitiveness and productivity in the global market.

72 https://www.mida.gov.my/setting-up-content/human-resources-development-fund/

73 https://unevoc.unesco.org/countryprofiles/docs/UNESCO_Funding-of-Training_Malaysia.pdf

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