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# Bridging the Skills Gap: VET Centres as Catalysts for Sustainable Economic Growth

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**Abstract:** Vocational Education and Training (VET) facilities are essential in providing young people and underprivileged communities with valuable skills that promote social inclusion, economic development, and environmental sustainability. This article examines the potential of VET centers to advance the United Nations Sustainable Development Goals, with a focus on SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation, and Infrastructure). The study assesses the efficacy of VET centers in terms of training delivery, employability, gender inclusion, and the integration of green skills, drawing on both Indian and global experiences. Results show that VET significantly lowers youth unemployment and fosters local business, particularly in rural and semi-urban areas. The article ends with policy suggestions to strengthen VET centers' function as important drivers of sustainable human capital development.

**Keywords:** Vocational Education and Training centres; Sustainable Development Growth; Economic Growth; Social inclusion; Environmental Sustainability.

## Introduction

Sustainable development is a multifaceted framework that aims to integrate economic growth, environmental sustainability, and social inclusion. Achieving this equilibrium necessitates robust educational systems that extend beyond traditional academic instruction. In this context, Vocational Education and Training (VET) emerges as a vital bridge between education and employment, particularly in economies characterized by skill mismatches and youth unemployment.

Despite significant progress in expanding access to primary and secondary education worldwide, many countries continue to face persistent gaps between the skills taught in conventional academic settings and the competencies required by the labor market. This disconnect contributes to rising unemployment rates among youth and marginalized groups, even as industries struggle to fill critical vacancies. The acceleration of technological change and the emergence of new sectors, such as renewable energy, digital services, and advanced manufacturing, further amplify the demand for a workforce equipped with specialized, adaptable skills.

VET centres are uniquely positioned to address these challenges. By providing practical, market-driven training opportunities, they empower individuals to acquire competencies that are immediately applicable in the workplace. This alignment supports not only individual employability and income generation but also enhances national productivity and competitiveness in the global economy. Furthermore, inclusive VET systems help reduce social disparities by offering disadvantaged populations, such as women, persons with disabilities, and those from rural areas, pathways to decent work and upward mobility.

Importantly, VET is increasingly recognized as a strategic lever for advancing the United Nations Sustainable Development Goals. In addition to promoting quality education (SDG 4) and decent work and economic growth (SDG 8), modern VET programs can integrate green skills and entrepreneurship, supporting responsible industrial development (SDG 9) and environmental stewardship. As economies transition toward sustainability, the need for new

skill sets such as energy efficiency, waste management, and circular economy practices highlights the evolving role of VET in shaping a resilient, future-ready workforce.

Overall, strengthening VET systems is essential for equipping societies to navigate rapid economic, technological, and demographic changes. By focusing on demand-driven, inclusive, and forward-looking training, VET centres can serve as catalysts for sustainable economic growth and social progress.

### **Literature Review**

Vocational Education and Training (VET) centres have increasingly gained recognition as strategic hubs for skill development, lifelong learning, and workforce empowerment. By equipping individuals, particularly youth and marginalized populations, with practical skills tailored to current and anticipated labor market demands, VET centres contribute substantially to both individual wellbeing and broader socio-economic progress. Their transformative impact is especially pronounced in developing nations such as India, where bridging the skills gap is not only an economic necessity but also a pathway to social inclusion and resilience.

Recent literature underscores the importance of aligning VET systems with market dynamics. According to the International Labour Organization (ILO, 2021), VET systems designed in consultation with employers and industry partners ensure the relevance of the skills imparted, thereby driving not only employment but also equitable economic participation. The OECD (2021) similarly emphasizes that future-forward VET frameworks encourage adaptability, innovation, and lifelong learning, all of which are crucial in today's rapidly evolving economies.

Within the Indian context, Sharma and Mehta (2022) highlight the critical role of VET institutions in combating youth unemployment. Their study reports that targeted, skill-oriented training, especially when embedded in local economic contexts, significantly enhances graduates' employability and nurtures an entrepreneurial mindset. This is particularly vital in rural and semi-urban regions, where conventional educational pathways may offer limited prospects for gainful employment.

Furthering this perspective, Singh et al. (2023) identify VET centres as effective incubators for micro-enterprises, especially when their training is closely integrated with government-sponsored livelihood and skill development missions. These programs not only equip trainees with technical know-how but also with essential business and financial management skills, empowering them to launch and sustain small enterprises that fuel local economic growth.

Despite these successes, several studies caution that structural barriers can undermine VET's full potential. Jha and Ghosh (2022) raise concerns regarding persistent gender disparities in vocational education access and outcomes, calling for more gender-sensitive policies and curricula. Other researchers point to challenges related to underinvestment in infrastructure, limited industry participation in curriculum design, and the need for continuous upskilling of trainers. The National Skill Development Corporation (2023) identifies sectoral mismatches and evolving technology requirements as ongoing hurdles that necessitate periodic review and modernization of VET content.

Overall, the literature converges on the view that well-governed, demand-driven, and inclusive VET systems are indispensable to advancing the United Nations Sustainable Development Goals, particularly those related to quality education, decent work, and sustainable industrial growth. Strengthening these systems through greater industry collaboration, policy innovation, and targeted social interventions remains a key priority for policymakers and practitioners alike.

### **Objectives**

1. To evaluate the effectiveness of VET centres in promoting sustainable development.
2. To identify key challenges faced by VET centres in delivering quality and inclusive training.
3. To provide policy and strategic recommendations for enhancing VET's contribution to the SDGs.

### **Methodology**

This study employs a narrative literature review to explore the role of VET centres in bridging the skills gap and promoting sustainable economic growth. The review synthesizes recent academic research, policy reports, and sectoral data, with a primary focus on India alongside relevant global perspectives. Sources were selected based on their relevance to VET's impact on employability, gender inclusion, integration of green skills, and alignment with the Sustainable Development Goals. Thematic analysis was used to identify key trends, challenges, and best practices related to training delivery, employment outcomes, and social inclusion. This qualitative approach enables a

comprehensive understanding of how VET centres contribute to sustainable human capital development and informs the policy recommendations presented in the paper.

To minimize internal bias in the qualitative synthesis, several methodological safeguards were adopted. First, data triangulation was ensured by drawing evidence from diverse and credible sources, including peer-reviewed journals, international agency reports (ILO, UNESCO, OECD), and national policy documents. Second, only recent and thematically relevant studies were included to reduce selection bias. Third, the review followed a transparent and systematic thematic analysis approach, wherein findings were categorized across predefined dimensions such as employability, inclusion, sustainability, and industry linkages. This structured approach reduced subjective interpretation and enhanced the reliability and consistency of the qualitative insights derived.

The narrative review is based on an analytical synthesis of approximately 34 scholarly sources, including peer-reviewed journal articles, government policy documents, and reports published by international organizations between 2018 and 2024. These sources were selected to ensure relevance, credibility, and comprehensive coverage of vocational education and training in the context of sustainable development.

The selected sample size of 34 sources was considered appropriate for a narrative literature review, as it allows for in-depth thematic analysis while maintaining conceptual clarity and analytical rigor. Prior qualitative review studies suggest that a focused corpus of 30 - 40 high-quality sources is sufficient to capture recurring patterns and policy-relevant insights without compromising interpretive depth.

This study is based entirely on secondary data obtained from publicly accessible and properly cited sources. All ideas, data interpretations, and factual references are appropriately acknowledged to avoid plagiarism and copyright infringement. No proprietary databases or copyrighted instruments were reproduced. The manuscript adheres strictly to academic integrity standards and ethical research practices.

## **Findings and Discussion**

### **Contribution to Employment and Entrepreneurship**

VET centres play a significant role in bridging the skills mismatch and enhancing employability. According to Sharma & Singh (2023), programs such as the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) have improved job placement rates, particularly in semi-urban and rural areas. Sector Skill Councils and the National Skill Development Corporation have aligned training modules with labour-market demands, creating pathways to employment in healthcare, IT, and construction (ILO, 2022).

Entrepreneurship development, a key focus under DDU-GKY and PMEGP, has enabled rural youth to start microenterprises, contributing to self-reliance and rural economic growth (Kumar & Jain, 2022).

### **Promotion of Gender Equity and Inclusion**

Gender parity in vocational training is slowly improving. A report by the Ministry of Skill Development and Entrepreneurship (2022) shows increased female enrollment, but social barriers and occupational stereotyping still limit progress. Targeted schemes like "Skill India for Women" have promoted inclusivity (Chaudhary et al., 2021). There is also growing inclusion of SC/ST communities and differently-abled individuals, although infrastructure and pedagogy are often not fully accessible.

### **Integration of Green Skills and Digital Literacy**

In alignment with SDG 13 (Climate Action), green skills integration is gaining traction. Recent initiatives like the Green Jobs Portal and Solar Technician courses promote sustainability-oriented skill development (UNESCO-UNEVOC, 2023). VET curricula are evolving to include modules on renewable energy, waste recycling, and eco-friendly manufacturing.

Post-COVID, there is also a notable shift towards digital learning. Blended learning models and digital toolkits have been adopted in several ITIs and Skill Development Centres, although digital divides persist in rural areas (NITI Aayog, 2023).

### **Infrastructure and Industry Linkages**

Outdated equipment, limited practical exposure, and poor employer connections continue to hinder the performance of many VET centres (World Bank, 2023). However, successful models, such as Tata STRIVE and Bosch's BRIDGE program, demonstrate how corporate partnerships enhance training quality and employability. Aligning vocational

curricula with the NSQF (National Skills Qualifications Framework) and involving industry in co-designing syllabi are proving effective.

### **Case Study: India's Experience**

The National Skill Development Corporation (2023) highlights significant progress in India's vocational education and training initiatives across various sectors. These programs have played a key role in reducing youth unemployment and fostering local entrepreneurship, especially in rural areas. This demonstrates the important contribution that VET centres make toward promoting inclusive economic development and supporting sustainable growth in India.

### **Challenges and Opportunities**

#### **Infrastructure Deficits**

Many VET centres face persistent challenges related to inadequate infrastructure. This includes outdated or insufficient equipment, limited access to modern training facilities, and a lack of essential resources for delivering high-quality, practical training. Additionally, the preparedness and continuous professional development of trainers often remain limited. Without updated infrastructure and skilled instructors, the effectiveness of VET programmes in imparting relevant competencies is compromised, hindering learners' ability to meet current industry standards.

#### **Curriculum Outdatedness**

The pace of technological advancement and the emergence of new industries require rapid and ongoing updates to vocational curricula. However, VET programmes frequently struggle to keep their curricula aligned with fast-evolving skill demands. Slow adaptation means graduates may acquire outdated or insufficient skills for current labor market needs. This gap reduces trainees' employability and limits the relevance of VET programmes in supporting emerging sectors such as digital technologies, renewable energy, and green services.

#### **Industry Partnerships**

A critical enabler of successful vocational training is close collaboration between VET centres and industry stakeholders. Stronger partnerships are needed to ensure that curricula reflect current job-market requirements and that trainees gain hands-on experience through placements, internships, and apprenticeships. Currently, many VET institutions lack systematic engagement with businesses, thereby restricting students' practical exposure and job placement opportunities. Enhancing these linkages can improve training quality, facilitate smoother school-to-work transitions, and increase employment rates among graduates.

#### **Gender and Social Barriers**

Despite improvements, significant cultural and social barriers continue to restrict access to vocational education for women and marginalized groups. Traditional gender roles and societal stereotypes discourage women from participating in specific trades or skill areas. Similarly, marginalized populations, including those from low-income families or disadvantaged communities, often face obstacles such as limited awareness, financial constraints, and discriminatory practices. Targeted interventions, including scholarships, awareness campaigns, and inclusive policies, are essential to overcome these barriers and create equitable opportunities within VET systems.

Addressing these challenges presents opportunities for transformative improvements in VET's contribution to sustainable development. Strategic investments in infrastructure, curriculum modernization, enhanced industry collaboration, and inclusive policies can collectively strengthen VET centres as engines of economic growth and social equity.

#### **Policy Recommendations**

1. **Modernize Curricula:** Regularly update training modules to incorporate the latest technological advances and embed green skills that support sustainability. This ensures that trainees acquire relevant and future-proof competencies aligned with evolving industry demands.
2. **Strengthen Industry Linkages:** Foster robust public-private partnerships to co-develop curricula, provide internships, and facilitate job placements. Enhanced collaboration with businesses will improve the practical relevance of training and increase employment opportunities for graduates.
3. **Promote Inclusivity:** Implement inclusive policies such as scholarships, mentorship programs, and outreach campaigns aimed at increasing participation from women and marginalized groups. These measures will address existing disparities and create equitable access to vocational education.

4. **Enhance Infrastructure:** Invest in modern training facilities, updated equipment, and continuous professional development for instructors. Improved infrastructure is essential for delivering high-quality, hands-on training that meets industry standards.
5. **Monitoring and Impact Evaluation:** Develop transparent tracking and evaluation systems to measure employment outcomes, assess course effectiveness, and gather feedback from stakeholders. This data-driven approach will guide program improvements and ensure accountability.

### Conclusion

VET centres are vital catalysts for driving sustainable economic growth, social inclusion, and environmental progress. By closely aligning with labor market needs and expanding access for marginalized communities, VET significantly contributes to achieving the United Nations Sustainable Development Goals, particularly SDG 4, SDG 8, and SDG 9. Continued policy innovation, investment in infrastructure, curriculum modernization, and stronger industry partnerships will enhance the role of VET centres in building resilient, inclusive, and future-ready economies.

To ensure the credibility of the conclusions, qualitative evidence was cross-validated across multiple sources and institutional contexts. Emphasis was placed on identifying convergent findings and consistent thematic patterns rather than isolated observations. By synthesizing insights from national and international studies, policy frameworks, and empirical evaluations, the study minimizes interpretive bias and derives balanced, evidence-based conclusions that support reliable policy and academic implications.

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