http://dx.doi.org/10.18623/rvd.v22.n2.3315

KNOWLEDGE SOCIETY: THE FOUNDATION FOR SUSTAINABLE DEVELOPMENT IN VIETNAM

SOCIDADE DO CONHECIMENTO: A FUNDAÇÃO PARA O DESENVOLVIMENTO SUSTENTÁVEL NO VIETNÃ

Article received on: 2/3/2025
Article accepted on: 29/9/2025

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The authors declare that there is no conflict of interest

Abstract
In the era of knowledge-driven economies and global sustainability agendas, the notion of a knowledge-based society has emerged as a strategic framework for achieving long-term development goals. This paper examines the role of a knowledge-based society in fostering sustainable development in Vietnam. By integrating theoretical perspectives and analyzing national development policies, this study reveals that knowledge — particularly in the forms of education, innovation, and digital transformation — has become a decisive factor in achieving economic resilience, social equity, and environmental sustainability. The analysis highlights both achievements and constraints in Vietnam's current knowledge infrastructure, including the quality of human capital, scientific research outputs, and institutional coordination. The paper also provides comparative insights from other East Asian economies and proposes comprehensive policy recommendations to enhance Vietnam's knowledge systems for sustainable development. These findings aim to

Resumo
Na era das economias baseadas no conhecimento e das agendas globais de sustentabilidade, a noção de sociedade baseada no conhecimento emergiu como uma estrutura estratégica para alcançar objetivos de desenvolvimento de longo prazo. Este artigo examina o papel de uma sociedade baseada no conhecimento na promoção do desenvolvimento sustentável no Vietnã. Ao integrar perspectivas teóricas e analisar as políticas nacionais de desenvolvimento, este estudo revela que o conhecimento — particularmente nas formas de educação, inovação e transformação digital — tornou-se um fator decisivo para alcançar a resiliência econômica, a equidade social e a sustentabilidade ambiental. A análise destaca tanto as conquistas quanto as limitações da atual infraestrutura de conhecimento do Vietnã, incluindo a qualidade do capital humano, os resultados da pesquisa científica e a coordenação institucional. O artigo também fornece insights comparativos de outras economias do Leste Asiático e propõe

contribute to the ongoing discourse on transforming Vietnam into a fully functional knowledge-based society that serves as a foundation for its sustainable future.

Keywords: Knowledge-Based Society. Sustainable Development. Vietnam. Education. Innovation. Policy. Digital Transformation.

recomendações políticas abrangentes para aprimorar os sistemas de conhecimento do Vietnã para o desenvolvimento sustentável. Essas descobertas visam contribuir para o discurso atual sobre a transformação do Vietnã em uma sociedade baseada no conhecimento totalmente funcional, que sirva de base para seu futuro sustentável.

Palavras-chave: *Sociedade Baseada No Conhecimento, Desenvolvimento Sustentável, Vietnã, Educação, Inovação, Política, Transformação Digital.*

1 INTRODUCTION

In the 21st century, the capacity to generate, disseminate, and apply knowledge has become the central pillar of socio-economic development. The emergence of the "knowledge-based society" marks a fundamental transformation in development paradigms, shifting the focus from industrial capital and natural resources to intellectual capital, innovation systems, and information infrastructure. This shift is particularly relevant in the context of achieving the United Nations Sustainable Development Goals (SDGs), which require multidimensional strategies that transcend traditional economic growth models. Vietnam, a rapidly developing economy in Southeast Asia, has undergone remarkable transformations over the past three decades. With sustained GDP growth, poverty reduction, and social advancement, the country has positioned itself as a dynamic player in the regional economy. Yet, as Vietnam aspires to achieve higher-income status and deeper global integration, the limitations of its current development model—heavily reliant on low-skilled labor and resource-intensive industries—have become increasingly evident.

In response, Vietnam has recognized the strategic importance of transitioning towards a knowledge-based society. The Resolution No. 52-NQ/TW (2019) issued by the Communist Party of Vietnam explicitly emphasizes the need to foster digital transformation, innovation, and knowledge as core drivers of national modernization. Furthermore, the National Strategy for Sustainable Development (2021–2030) identifies knowledge, education, and technological advancement as key pillars for achieving sustainability in economic, social, and environmental dimensions.

However, the journey toward building a knowledge-based society in Vietnam faces significant challenges. These include disparities in access to quality education, insufficient investment in research and development (R&D), weak linkages between universities, research institutes, and industry, and underdeveloped digital infrastructure in rural and marginalized areas. In addition, the coordination between government policies and actual implementation at local levels remains inconsistent.

This paper aims to analyze the role of a knowledge-based society in achieving sustainable development in Vietnam. It seeks to address the following research questions:

How is the knowledge-based society conceptualized and applied in Vietnam's development context?

What is the current state of knowledge-related systems, including education, innovation, and policy frameworks?

How does knowledge contribute to sustainable development in Vietnam in terms of economic growth, social equity, and environmental protection?

What are the gaps and challenges in this transformation, and what policy interventions are needed?

The structure of the paper is as follows: Section 2 presents a review of relevant literature and theoretical perspectives on knowledge-based societies and sustainable development. Section 3 outlines the methodological approach. Section 4 discusses key findings from Vietnam's policy landscape and empirical data. Section 5 concludes with policy recommendations to foster a knowledge-driven sustainable future for the country. Through this analysis, the paper contributes to the academic discourse on knowledge-society transitions in emerging economies and provides practical insights for policymakers and stakeholders engaged in Vietnam's sustainable development pathway.

2 LITERATURE REVIEW

2.1 Theoretical foundation of the knowledge-based society

The concept of a "knowledge-based society" (KBS) emerged prominently in the 1990s, building upon prior notions of the "information society" and "post-industrial society." Peter Drucker (1993) identified the transition to a knowledge society as a profound economic and social transformation, where knowledge becomes the most

critical resource for development. According to Drucker, knowledge is not just a factor of production but the primary driver of productivity and growth.

Manuel Castells (1996) further developed this notion by linking the rise of the knowledge society to networked forms of production and communication. In his theory of the "network society," Castells emphasizes that knowledge and information, when processed through technology and institutional structures, form the core of global competitiveness and social change.

The Organisation for Economic Co-operation and Development (OECD) defines a knowledge-based economy as "one in which the production, distribution and use of knowledge is the main driver of growth, wealth creation and employment across all industries" (OECD, 1996). The World Bank (2007) adds that such societies rely heavily on human capital, innovation systems, and a regulatory environment that supports the free flow of information.

2.2 Dimensions of a knowledge-based society

Scholars generally identify four core pillars of a knowledge-based society (Chen & Dahlman, 2006; UNESCO, 2005):

Education and human capital development: High-quality, equitable education systems are essential to build and sustain a society capable of producing and using knowledge.

Innovation systems: Research institutions, universities, and industries must work synergistically to produce applicable knowledge and technologies.

Information and Communication Technology (ICT): ICTs enable the creation, dissemination, and access to knowledge.

Institutional and policy environment: Effective governance, intellectual property rights, and regulatory frameworks facilitate the knowledge economy.

These dimensions serve as indicators to evaluate the extent to which a country has developed its knowledge-based infrastructure.

2.3 Knowledge and sustainable development: the linkage

The concept of sustainable development was formally articulated in the Brundtland Report (WCED, 1987) and further institutionalized in the United Nations' 2030 Agenda. Sustainable development involves the simultaneous pursuit of economic growth, social inclusion, and environmental protection.

Several studies (e.g., Stiglitz et al., 2009; Sachs, 2015) have emphasized that knowledge—through education, research, and innovation—is essential to reconcile these three pillars. For instance, innovations in clean energy reduce environmental impacts while creating green jobs, and inclusive education promotes both economic productivity and social equity.

The UNESCO World Social Science Report (2016) underscores that societies capable of producing, sharing, and utilizing knowledge are better equipped to respond to global challenges such as climate change, inequality, and digital transformation.

2.4 Knowledge-based development in asia: lessons for Vietnam

East Asian economies offer important comparative insights for Vietnam. South Korea, for example, transitioned from an aid-dependent economy to a leading high-tech exporter through aggressive investments in education and R&D. According to the Korean Ministry of Education (2018), education accounted for nearly 5% of GDP, with a strong emphasis on STEM (Science, Technology, Engineering, Mathematics) disciplines.

Similarly, Singapore's Knowledge-Based Economy framework, launched in the early 2000s, focused on enhancing digital literacy, fostering innovation ecosystems, and developing lifelong learning policies (Tan, 2007). These strategies positioned Singapore among the top global innovation economies, according to the Global Innovation Index (WIPO, 2021).

China, while differing in political structure, has also advanced its knowledge economy by increasing R&D expenditure to over 2.4% of GDP by 2021 (World Bank, 2022). The government's strong role in steering universities, think tanks, and technology zones has catalyzed this transformation.

These cases underline the significance of coherent policies, cross-sectoral linkages, and sustained investment in human capital.

2.5 Vietnam's transition toward a knowledge-based society

Vietnam's pursuit of a knowledge-based society is embedded in several strategic documents:

Resolution no. 52-NQ/TW (2019) of the Politburo emphasizes proactive engagement in the Fourth Industrial Revolution and knowledge-driven development.

The National Strategy on Science, Technology and Innovation (2021–2030) focuses on improving the national innovation system and enhancing R&D capacity.

The General Education Curriculum (2018) marked a shift towards competence-based education and integrated learning.

Despite these efforts, empirical research has highlighted several structural bottlenecks. Nguyen & Pham (2020) found that Vietnamese universities contribute little to innovation due to rigid curricula and weak links with industry. Bui et al. (2021) point out that Vietnam's R&D expenditure remains below 0.5% of GDP—far behind the regional average.

Digital literacy and internet penetration are rising, but disparities persist between urban and rural areas (Nguyen, 2022). Moreover, intellectual property protection remains weak, undermining incentives for innovation (WTO, 2021).

2.6 Critiques and gaps in the literature

While the literature offers rich theoretical and empirical discussions, some limitations persist:

Many studies are descriptive, lacking comparative or evaluative methodologies.

The interaction between knowledge and environmental sustainability is under-explored in the Vietnamese context.

There is a scarcity of interdisciplinary approaches that integrate education, economics, and ecology.

Hence, this paper aims to address these gaps by combining insights from policy analysis, development studies, and knowledge economics.

3 THEORETICAL FRAMEWORK AND METHODOLOGY

3.1 Theoretical framework

This study is grounded in an interdisciplinary theoretical framework that draws from development studies, knowledge economics, and sustainability science. The intersection of these fields allows for a comprehensive understanding of how knowledge systems contribute to sustainable development in emerging economies such as Vietnam.

The core theoretical lens employed is the Knowledge-Based Development (KBD) paradigm, which emphasizes the central role of knowledge—both explicit and tacit—in shaping economic competitiveness, institutional transformation, and social inclusion (Carrillo, 2006). The KBD framework recognizes that knowledge is not merely a commodity but a systemic condition that enables societies to anticipate, innovate, and adapt to complex challenges.

In parallel, the study also references the Triple Helix Model (Etzkowitz & Leydesdorff, 2000), which posits that innovation arises through the dynamic interaction between university, industry, and government sectors. In this model, universities are no longer passive repositories of knowledge but active agents in national innovation systems.

Finally, the paper aligns with the capabilities approach (Sen, 1999), which views development not only in terms of GDP or industrial output but in terms of expanding people's capabilities and freedoms. This perspective is crucial for integrating social equity and human development into the assessment of a knowledge-based society.

Together, these frameworks provide the analytical scaffolding for evaluating Vietnam's transition toward a knowledge-based society and its implications for sustainable development.

3.2 Research design and objectives

This research adopts a qualitative case study approach, focused specifically on Vietnam as a country undergoing economic transition and institutional transformation. The case study method enables an in-depth exploration of complex and context-specific dynamics that shape knowledge-based development.

The research objectives are as follows:

To identify the structural components of Vietnam's knowledge-based society.

To evaluate the alignment between knowledge systems and sustainable development goals.

To explore challenges and opportunities in policy design and implementation.

These objectives are addressed through content analysis of policy documents, academic publications, and statistical data.

3.3 Data sources

The study relies on secondary data, which are drawn from both international and national sources. Key sources include:

Official Vietnamese documents: such as Resolution No. 52-NQ/TW (2019), the National Strategy on Science, Technology and Innovation 2021–2030, and the Education Development Strategy to 2030.

Statistical reports: including data from the General Statistics Office of Vietnam, the World Bank, UNESCO Institute for Statistics, and the Global Innovation Index.

Peer-reviewed academic articles and institutional reports from OECD, UNDP, and WIPO.

To ensure reliability, all documents are cross-validated across multiple sources and dated within the last ten years to reflect contemporary trends.

3.4 Analytical techniques

The primary method used is thematic content analysis, a qualitative technique that enables the identification of recurrent patterns, contradictions, and gaps in policy and institutional discourse (Braun & Clarke, 2006). This method is particularly suited for analyzing strategic narratives and policy language that shape knowledge-related agendas.

Thematic coding is organized around four key domains of a knowledge-based society:

Human capital and education

Innovation systems

Digital infrastructure

Policy and institutional frameworks

These themes are then linked to the three dimensions of sustainable development: economic, social, and environmental sustainability.

In addition, a comparative dimension is included by referencing the knowledge systems of regional neighbors such as South Korea, Singapore, and China. This comparative lens provides a benchmark for Vietnam's trajectory and highlights potential policy lessons.

3.5 Validity and limitations

While qualitative case studies provide depth and richness, they are also constrained by limitations in generalizability. This study mitigates such limitations through:

Triangulation of sources (official data, academic literature, international databases)

Inclusion of policy documents at both national and provincial levels

Theoretical saturation by aligning data with three well-established frameworks: KBD, Triple Helix, and capabilities approach

However, the study does not employ primary fieldwork such as interviews or surveys, which may limit the insights into lived experiences of stakeholders. Further empirical research may be needed to validate the conclusions drawn from document-based analysis.

4 RESULTS AND DISCUSSION

4.1 Vietnam's knowledge-based society: current conditions and structures

Vietnam has shown growing commitment to building a knowledge-based society over the past two decades. Key pillars such as education, scientific research, digital infrastructure, and institutional reform have gradually evolved. However, compared to advanced Asian economies, the country still faces major challenges in terms of scale, integration, and impact.

4.1.1 Education and human capital

The Vietnamese education system has expanded significantly in both scale and accessibility. According to the Ministry of Education and Training (MOET, 2021), Vietnam has achieved near-universal literacy among youth and impressive enrollment rates in primary and lower secondary levels. Higher education has also expanded rapidly, with over 2.5 million students currently enrolled in tertiary institutions (General Statistics Office [GSO], 2023).

Yet, concerns about the quality and relevance of education persist. The World Bank (2020) notes that while Vietnamese students perform well in basic literacy and numeracy (e.g., PISA scores), higher-order thinking skills and digital competencies remain underdeveloped. The curriculum remains content-heavy and exam-oriented, limiting students' ability to think critically or apply knowledge creatively (Pham & Nguyen, 2020).

Moreover, inequalities in educational opportunities remain a pressing issue. Ethnic minorities and rural populations still face barriers in accessing high-quality education, especially in terms of ICT access and English proficiency—both crucial for participation in the knowledge economy (UNESCO, 2021).

4.1.2 Science, Technology, and Innovation (STI)

Vietnam has made some progress in strengthening its STI ecosystem. The government's Strategy for Science and Technology Development (2021–2030) emphasizes boosting R&D, technology transfer, and innovation linkages. In 2022, R&D expenditure reached 0.5% of GDP—up from 0.2% a decade ago—but still below the ASEAN average of 1.1% (UNESCO Institute for Statistics, 2023).

Research output has improved in quantity but lags in impact. Most universities in Vietnam are not ranked in global indices and struggle with low citation rates and international collaborations (Do & Tran, 2021). Barriers include outdated infrastructure, bureaucratic funding mechanisms, and weak protection of intellectual property rights (Nguyen, 2022).

The private sector's engagement in innovation remains limited. Unlike in South Korea or Singapore, where firms play a central role in funding R&D, Vietnamese

enterprises—especially small and medium-sized enterprises (SMEs)—lack incentives and capacities to innovate (WIPO, 2022).

4.1.3 Digital infrastructure and data ecosystems

Digital connectivity has grown rapidly. As of 2023, 75% of the Vietnamese population had internet access, and mobile broadband penetration exceeded 85% (Vietnam Internet Center, 2023). Initiatives like the National Digital Transformation Program to 2025 have promoted e-government services, online learning, and digital payments.

However, the quality and integration of data systems remain fragmented. For instance, national databases on population, health, education, and social security are often siloed across ministries, making cross-sectoral policy design difficult (Vu & Bui, 2022). In addition, rural and mountainous areas still lack robust digital infrastructure, limiting inclusive participation in the knowledge economy.

4.2 Knowledge and sustainable development: interlinkages in the vietnamese context

Knowledge is a transformative force across all three pillars of sustainable development: economic growth, social inclusion, and environmental sustainability. In Vietnam, various initiatives have demonstrated the enabling role of knowledge—but not without significant limitations.

4.2.1 Economic growth and productivity

Since the mid-1990s, Vietnam has maintained an average GDP growth rate of over 6% per year. Much of this growth, however, has been factor-driven—dependent on labor and capital inputs—rather than efficiency- or innovation-driven (ADB, 2021). The contribution of total factor productivity (TFP) remains low compared to regional peers (Nguyen & Vo, 2020).

Investments in knowledge—especially in vocational training, digital skills, and industrial R&D—could significantly boost productivity. A study by McKinsey &

Company (2022) estimated that digitalization alone could contribute up to $100 billion to Vietnam's GDP by 2030 if supported by knowledge infrastructure.

Sector-specific knowledge also matters. In agriculture, for example, the adoption of smart farming technologies, precision irrigation, and data-driven logistics has helped increase yields and reduce waste (FAO, 2021). Yet, diffusion remains limited due to capacity gaps among farmers and lack of advisory systems.

4.2.2 Social equity and inclusion

Access to knowledge determines individual life opportunities and societal cohesion. Education, health information, and public services that are knowledge-based can reduce poverty, empower marginalized groups, and enhance democratic participation (Sen, 1999).

In Vietnam, the National Target Program on New Rural Development incorporates educational and technological components aimed at narrowing rural–urban divides. However, implementation varies significantly by province. According to UNDP (2020), knowledge-related inequality—including digital literacy, access to educational technology, and media use—has grown during and after the COVID-19 pandemic.

Moreover, the underrepresentation of women and ethnic minorities in STEM fields and leadership roles hinders inclusive development. A report by the Asian Development Bank (2022) found that only 30% of scientific researchers in Vietnam are female, and most are concentrated in teaching rather than applied innovation.

4.2.3 Environmental sustainability

Sustainable development requires both scientific knowledge (e.g., climate modeling, environmental monitoring) and traditional/local knowledge (e.g., indigenous farming, water conservation). Vietnam, one of the countries most affected by climate change, needs both kinds of knowledge to craft adaptive and resilient strategies (World Bank, 2021).

Programs such as the National Climate Change Adaptation Plan (2021–2030) emphasize education, public awareness, and inter-disciplinary research. However,

environmental education remains peripheral in most school curricula, and scientific knowledge is rarely translated into actionable local policies (Nguyen & Le, 2021).

4.3 Structural barriers and institutional challenges

Despite progress, several persistent obstacles continue to hinder the transition to a fully functional knowledge-based society in Vietnam.

4.3.1 Policy fragmentation and weak coordination

Multiple ministries (e.g., Education, Science & Technology, Information & Communications) are responsible for aspects of the knowledge economy. However, policy coherence and coordination remain weak. This results in overlapping strategies, underfunded programs, and fragmented implementation (Vu & Doan, 2022).

In addition, vertical coordination between central and local governments is often inconsistent, leading to policy misalignment and waste of resources.

4.3.2 Limited public–private partnerships and civil society engagement

The innovation ecosystem lacks robust collaboration between academia, industry, and civil society. Most universities operate in isolation from business needs, and research outputs are rarely commercialized (Nguyen, 2020).

Moreover, civil society organizations that could play a role in knowledge dissemination, training, and community engagement remain under-recognized and under-resourced.

4.3.3 Regulatory and financial constraints

Weak enforcement of intellectual property rights (IPR), burdensome research funding processes, and limited fiscal autonomy for public universities all constrain knowledge production and application (WTO, 2021).

Without structural reforms—such as simplifying grant application processes, enhancing IPR enforcement, and incentivizing innovation—the country risks lagging in regional knowledge races.

5 CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

This paper has examined the theoretical foundations, empirical conditions, and policy implications of transitioning toward a knowledge-based society as a pathway for achieving sustainable development in Vietnam. Drawing upon interdisciplinary frameworks and a qualitative analysis of secondary data, the study highlights that knowledge—whether embedded in education, innovation, or digital infrastructure—is no longer peripheral but central to modern development trajectories.

Vietnam's efforts in expanding access to education, fostering digital transformation, and investing in science and technology show a strong political will to align national development with global knowledge-economy standards. Policies such as Resolution 52-NQ/TW (2019) and the National Science and Technology Strategy 2021–2030 reflect a commitment to knowledge-based growth and sustainable development. Progress is visible in improving school enrollment, increasing internet access, and enhancing research outputs.

However, the findings also reveal systemic constraints that limit the transformative potential of Vietnam's knowledge systems. These include:

Gaps in education quality and inequality in access.

Weak university–industry linkages and underfunded R&D ecosystems.

Fragmented data infrastructures and low institutional coordination.

Insufficient recognition of the roles of civil society and local knowledge.

These challenges underscore that while Vietnam is on the right track, the transformation into a truly knowledge-based society will require more profound, inclusive, and coordinated reforms. Knowledge must not only be generated but also widely shared, institutionalized, and democratized to support sustainable development.

The sustainability of Vietnam's economic growth, the inclusiveness of its social policies, and the resilience of its environmental strategies all hinge on how effectively it mobilizes and governs its knowledge assets.

5.2 Policy recommendations

Based on the above analysis, this section proposes five key recommendations aimed at strengthening the foundations of a knowledge-based society that supports sustainable development in Vietnam.

5.2.1 Reforming education for competency and inclusion

The first and foremost priority is to redesign the education system to foster creativity, problem-solving, and adaptability—skills essential for the knowledge economy.

Curriculum reform should shift from rote memorization to project-based and interdisciplinary learning, emphasizing digital, environmental, and civic competencies.

Teacher training should focus on pedagogical innovation, use of technology, and inclusive education for ethnic minorities and disadvantaged communities.

Investment in educational technology should be expanded, particularly in rural areas, through public–private partnerships and community-based initiatives.

Lifelong learning policies must be institutionalized to support re-skilling, especially for workers in informal and transitional sectors.

By aligning education with the demands of a rapidly evolving economy and society, Vietnam can cultivate a population capable of not only participating in but shaping sustainable futures.

5.2.2 Strengthening the national innovation ecosystem

To move beyond a labor-intensive growth model, Vietnam must foster an innovation system grounded in research excellence, enterprise dynamism, and international collaboration.

R&D spending should be increased to at least 1% of GDP by 2025, with funding allocated transparently and competitively.

University–industry partnerships should be institutionalized through joint research centers, innovation hubs, and technology incubators.

Incentive structures for innovation such as tax relief, innovation grants, and fast-track intellectual property registration should be streamlined.

Support for SMEs to adopt and generate innovations must be embedded in industrial policy.

By embedding innovation into the core of its development strategy, Vietnam can enhance productivity, diversify its economy, and create value-added industries that are globally competitive.

5.2.3 Building an integrated digital and knowledge infrastructure

Knowledge-based development cannot advance without a robust infrastructure that enables access, storage, processing, and sharing of information.

National data governance frameworks should be developed to ensure interoperability, security, and ethical use of public and private data.

Open data platforms can be promoted to enhance transparency, accountability, and citizen engagement in public decision-making.

Digital literacy campaigns should target all age groups and social strata to reduce digital divides and ensure equitable participation in the knowledge economy.

Smart local governance initiatives can pilot integrated data-driven services in areas such as health, education, and urban planning.

A well-integrated digital infrastructure not only supports innovation and economic planning but also enhances social responsiveness and environmental monitoring.

5.2.4 Enhancing institutional coordination and governance

Institutional fragmentation is a major barrier to knowledge-based development. Effective governance requires integrated, accountable, and participatory policy-making processes.

A national knowledge council could be established to coordinate cross-sectoral strategies, set targets, and monitor progress across ministries.

Policy coherence mechanisms, including joint budgeting and inter-ministerial task forces, should be institutionalized.

Capacity building for local governments is essential to adapt and implement national policies effectively, with flexibility and local knowledge inputs.

Monitoring and evaluation systems must be strengthened to track the outcomes of knowledge-related policies and adjust them dynamically.

Improving the quality of governance not only enhances efficiency but also builds public trust, which is vital for long-term sustainability.

5.2.5 Democratizing knowledge through civil society and local communities

A knowledge-based society is not only driven from above but also nurtured from below. Citizens, communities, and non-state actors must be empowered as both users and producers of knowledge.

Support for community knowledge initiatives, such as local media, cultural centers, and indigenous knowledge repositories, should be expanded.

Civil society organizations should be recognized as partners in education, environmental action, and technology dissemination.

Participatory knowledge platforms, such as citizen science, open-source innovation, and community labs, can foster social cohesion and co-creation.

Sustainable development requires not only advanced technologies and formal institutions but also the lived experiences, creativity, and agency of ordinary people.

Final Reflections

The path to a knowledge-based society in Vietnam is neither linear nor technocratic. It requires a long-term vision, deep structural reforms, and most importantly, a social contract that values knowledge as a common good. As the country navigates the complex terrain of economic modernization, climate crisis, and social transformation, knowledge must serve as both compass and engine.

Only when knowledge is produced inclusively, governed transparently, and applied ethically can it become a true foundation for Vietnam’s sustainable development in the 21st century.

REFERENCES

Asian Development Bank. (2022). Women in STEM in Southeast Asia. ADB Publishing.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bui, T. H., Tran, M. Q., & Le, P. T. (2021). Assessing Vietnam's innovation system: Challenges and prospects. Vietnam Journal of Science and Technology, 59(4), 21–34.

Carrillo, F. J. (2006). Knowledge cities: Approaches, experiences, and perspectives. Butterworth-Heinemann.

Castells, M. (1996). The rise of the network society. Blackwell Publishers.

Chen, D. H. C., & Dahlman, C. J. (2006). The knowledge economy, the KAM methodology and World Bank operations. World Bank.

Do, T. H., & Tran, H. T. (2021). Research productivity and international collaboration in Vietnamese universities. Higher Education Research, 29(1), 33–48.

Drucker, P. F. (1993). Post-Capitalist Society. HarperBusiness.

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From national systems and "Mode 2" to a Triple Helix of university–industry–government relations. Research Policy, 29(2), 109–123.

FAO. (2021). Smart farming and sustainable agriculture in Vietnam. Food and Agriculture Organization.

General Statistics Office. (2023). Statistical Yearbook of Vietnam 2022. Hanoi: GSO.

McKinsey & Company. (2022). Vietnam's digital transformation: Opportunities and challenges. McKinsey Global Institute.

Ministry of Education and Training. (2021). Vietnam Education Report. Hanoi: MOET.

Nguyen, M. T., & Pham, H. D. (2020). Universities and knowledge production in Vietnam. Journal of Higher Education Policy and Management, 42(5), 433–448.

Nguyen, T. H. (2022). Digital inequality in Vietnam's rural education. Asian Education Review, 17(3), 122–140.

Nguyen, T. V., & Le, Q. H. (2021). Environmental knowledge and local planning in the Mekong Delta. Vietnam Journal of Environmental Science, 12(3), 44–58.

Nguyen, T. V. (2020). Building Vietnam's knowledge-based society: Progress and prospects. Vietnam Development Review, 26(1), 7–21.

OECD. (1996). The Knowledge-Based Economy. OECD Publishing.

Pham, M. D., & Nguyen, T. T. (2020). Rethinking education quality in Vietnam. Journal of Comparative Education, 45(4), 121–136.

Sachs, J. D. (2015). The age of sustainable development. Columbia University Press.

Sen, A. (1999). Development as freedom. Oxford University Press.

Tan, J. (2007). Singapore's education reform: From quantity to quality. International Journal of Educational Development, 27(6), 556–565.

UNDP. (2020). Human Development Report: Vietnam. United Nations Development Programme.

UNESCO. (2005). Toward knowledge societies. UNESCO Publishing.

UNESCO. (2021). Global Education Monitoring Report 2021. UNESCO Publishing.

UNESCO Institute for Statistics. (2023). Science, technology and innovation in Southeast Asia. Montreal: UIS.

Vietnam Internet Center. (2023). Internet Penetration Statistics. Hanoi: VNNIC.

Vu, T. N., & Bui, Q. A. (2022). Data integration challenges in Vietnam's e-government. Asian Public Administration Journal, 15(2), 89–104.

Vu, L. A., & Doan, H. M. (2022). Institutional fragmentation in Vietnam's STI policy. Vietnam Review of Public Policy, 18(3), 41–58.

WIPO. (2022). Global Innovation Index 2022. World Intellectual Property Organization.