INCLUSIVE INNOVATION IN VIETNAM: CURRENT SITUATION AND POLICY SOLUTIONS

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Abstract: This article examines the current landscape and proposes policy solutions to promote inclusive innovation in Vietnam, within the broader context of transitioning toward a more sustainable and equitable development model. By analyzing key factors such as the needs, motivations, and financial capacity of vulnerable groups, the capacity of intermediary organizations and enterprises, and the enabling role of the State, the paper identifies major barriers that have hindered inclusivity within the national innovation ecosystem. The proposed policy measures include: designing flexible financial mechanisms; strengthening the capabilities of intermediary institutions; fostering inclusive business models; developing tools to evaluate inclusive innovation; and integrating inclusive goals into national development and science and technology strategies. These solutions are grounded in empirical realities and informed by international experiences, with the aim of building a more effective, equitable, and sustainable innovation ecosystem in Vietnam.

Keywords: Inclusive innovation, inclusivity, innovation policy, inclusive innovation policy.

1. Overview of Inclusive Innovation

Inclusive innovation emerged in the early 2000s in response to rising global inequality and the uneven distribution of development benefits. Its core objective is to ensure that all social groups—especially the disadvantaged—can participate in, benefit from, and contribute to innovation processes (Heeks, Foster, & Nugroho, 2014). According to the World Bank (2013), inclusive innovation not only involves expanding access to technology but also emphasizes the equitable distribution of innovation outcomes, ensuring that economic growth is accompanied by social equity.

Foster & Heeks (2013) conceptualize inclusive innovation along two dimensions: (i) inclusion in process—allowing the poor and marginalized groups to take part in the design, production, and distribution of innovation; and (ii) inclusion in outcomes—ensuring that innovation results directly benefit these groups. This perspective broadens the traditional understanding of innovation, which often focuses solely on productivity and competitiveness, toward a more human- and society-centered approach (George, McGahan, & Prabhu, 2012).

There exist multiple schools of thought surrounding inclusive innovation:

First, the sustainable development and development economics school is grounded in the principles of sustainable development (Brundtland Report, 1987) and developmental economics. It posits that innovation should serve goals such as poverty alleviation, employment generation, and capacity building within local communities. Kaplinsky (2011) views inclusive innovation as a means to "bring the poor into the innovation economy" through models like Prahalad's (2004) Bottom of the Pyramid (BoP), which identifies low-income populations as potential markets for socially relevant innovations. This school emphasizes "innovation for inclusion" as a vehicle for human development and social justice (Sen, 1999). Examples such as the Grameen Bank in Bangladesh and decentralized energy solutions in India exemplify this developmental approach (OECD, 2015).

Second, the technology and innovation ecosystem school emphasizes the role of endogenous technological capacity and innovation ecosystems in fostering inclusion. Chataway et al. (2014) argue that inclusive innovation

involves more than simply delivering new technologies to the poor—it must build local capacity for adaptation and knowledge creation. Cozzens & Sutz (2012) further highlight the importance of grassroots, non-disruptive innovation based on local knowledge and community needs. Heeks et al. (2014) propose an inclusive innovation system comprising three pillars: (i) grassroots creative capabilities, (ii) open data and technology infrastructure, and (iii) policies enabling participation from marginalized stakeholders. This systems approach has influenced innovation strategies in several Asian countries, including India, Thailand, and Vietnam.

Third, the social innovation school views inclusive innovation as part of broader social innovation, focusing on solving social problems through novel business models, public services, or community-based initiatives (Mulgan, 2006). Here, individuals are not merely beneficiaries but co-creators of innovation. Nicholls & Murdock (2012) argue that both inclusive and social innovation seek to restructure power relations by empowering disadvantaged groups to shape and implement technological solutions—such as frugal innovation or social enterprises. This school is more prominent in European research, where innovation is framed as a tool for social cohesion and justice (Howaldt & Schwarz, 2017).

Fourth, the policy and governance school focuses on macro-level institutional frameworks needed to enable inclusive innovation. Foster & Heeks (2015) highlight the government's role in designing multi-layered policy instruments—spanning technology policy, education, microfinance, open data, and legal frameworks to encourage knowledge sharing. OECD (2018) and UNCTAD (2020) argue that inclusive innovation policy should aim to close "innovation gaps" between urban and rural areas, large and small enterprises, and across gender and regional divides. This approach emphasizes multi-stakeholder governance and "quadruple helix" models involving the state, business, academia, and communities.

From these theoretical foundations, key principles of inclusive innovation can be distilled: (i) accessibility—innovations must be affordable and contextually appropriate for low-income users; (ii) participation—disadvantaged groups should be actively involved in the innovation process; (iii) adaptability—solutions must reflect local knowledge, geography, and culture; and (iv) sustainability—innovations should deliver long-term social and environmental benefits without introducing new barriers. Thus, inclusive innovation is not only a conceptual framework but also a transformative development approach that places people and equity at the core of the innovation agenda (Schillo & Robinson, 2017).

Some studies have distinguished inclusive innovation from related concepts such as social innovation, frugal innovation, and open innovation. George et al. (2012) note that while open innovation emphasizes knowledge sharing for productivity, inclusive innovation focuses on sharing benefits to reduce inequality. Frugal innovation is viewed as a subset of inclusive innovation, aiming to lower costs for low-income consumers (Bound & Thornton, 2012). Moreover, while social innovation broadly encompasses nonprofit and community-driven initiatives, inclusive innovation stresses the interaction between public, private, and civil sectors, supported by national innovation policies (OECD, 2018).

In recent years, inclusive innovation has become a core component of global development agendas. The United Nations (UNDP, 2017) identifies it as central to achieving the Sustainable Development Goals (SDGs), particularly SDG 9 (Industry, Innovation, and Infrastructure) and SDG 10 (Reduced Inequality). Academically, the focus has shifted from "BoP 1.0" (corporate provision of innovation to the poor) to "BoP 3.0" (co-creation with poor communities) (London & Hart, 2011). There is also growing interest in "digital inclusive innovation," where open data, digital transformation, and AI serve to enhance access to knowledge, finance, and social services for disadvantaged populations (World Bank, 2021; OECD, 2022).

In developing countries, inclusive innovation is increasingly institutionalized through public policy. India has established an Inclusive Innovation Fund, Thailand's National Innovation Agency promotes "Innovation for All," and Vietnam has begun building inclusive innovation ecosystems in remote and underprivileged regions. These models reflect a shift from concept to practice, wherein innovation becomes a driver of equitable, sustainable, and human-centered development.

While the above literature offers valuable insights for policymakers, experts, and managers, it often lacks contextualized analysis of the specific factors affecting inclusive innovation in Vietnam. This article seeks to

address that gap by combining secondary data and expert interviews to identify these factors and propose policy recommendations tailored to Vietnam's disadvantaged areas.

2. Factors Influencing Inclusive Innovat

Inclusive innovation is a complex process shaped by both micro- and macro-level factors. These elements determine the capacity of diverse social groups to participate in innovation ecosystems and influence the equitable distribution of innovation benefits.

According to Foster and Heeks (2015), an effective institutional framework must ensure: (i) multistakeholder participation between the state, enterprises, research institutions, and communities; (ii) flexible financial and legal mechanisms supporting grassroots innovation; and (iii) legal corridors for knowledge sharing, open data, and technology. In many developing countries, poor coordination among science and technology (S&T), education, and social welfare policies limits innovation to formal sectors and large corporations (OECD, 2018). In contrast, countries like India and Thailand have embedded inclusive innovation into national strategies through microfinance and community incubator programs (UNDP, 2017).

Technology is a key driver of inclusive innovation, especially amid global digital transformation. Heeks, Foster, and Nugroho (2014) highlight the role of digital technology and data infrastructure in enabling low-income populations to access knowledge, markets, and public services. Digital platforms, mobile tech, and open data create low-cost, scalable innovation environments. However, the digital divide remains a significant barrier, driven by weak infrastructure, low digital literacy, and high access costs. OECD (2022) recommends major state investment in inclusive digital infrastructure to close this gap and promote inclusive digital transformation.

Social and cultural factors significantly influence community receptiveness and innovation absorption. Studies (George, McGahan, & Prabhu, 2012; Schillo & Robinson, 2017) show that cultural norms, gender roles, and education levels affect technology adoption. Traditional beliefs may impede innovation efforts unless interventions are tailored to local contexts. Furthermore, human capital—especially innovation skills, digital literacy, and critical thinking—is essential for disadvantaged groups to co-create rather than passively receive innovation. Sen (1999) stresses that human development underpins inclusive development, and innovation is meaningful only when it expands individual "freedoms of choice."

Enterprises play a central role in scaling and commercializing inclusive innovation. Prahalad (2004) and London & Hart (2011) argue that when firms recognize the market potential at the "bottom of the pyramid" (BoP), they can develop affordable, sustainable solutions. However, enterprises often lack incentives for long-term investment and access to supporting ecosystems—such as social investment funds, social enterprises, and risk-sharing platforms. Chataway et al. (2014) emphasize restructuring innovation ecosystems to support SMEs, social startups, and cooperatives that can drive community-level innovation.

Amid globalization, inclusive innovation is also shaped by international collaborations and cross-border knowledge transfer. Cozzens and Sutz (2012) argue that involvement in global R&D networks, open innovation initiatives, and technology aid projects enables developing countries to access advanced knowledge while adapting it locally. Public-private-community partnerships have shown that inclusive knowledge transfer is a strategic tool to enhance domestic innovation capacity and promote equity (UNCTAD, 2020).

This study focuses on five critical factors affecting inclusive innovation in Vietnam's disadvantaged regions: (i) demand and motivation among marginalized groups; (ii) affordability of inclusive innovation products and services; (iii) capacity of intermediary organizations; (iv) enterprise capability in supplying inclusive innovation; and (v) state readiness in economic welfare provision.

(i) Demand and Motivation: In Vietnam, marginalized groups—including women, ethnic minorities, people with disabilities, and remote farmers—increasingly seek access to innovation to improve livelihoods and climate resilience. UNDP (2022) reports that 68% of rural households desire access to sustainable agri-tech, yet only 23% receive relevant support. Motivations extend beyond economics to autonomy and social inclusion. Barriers such as digital illiteracy, limited capital, poor infrastructure, and misaligned policies exclude these groups from innovation

processes (MOST, 2023).

(ii) Affordability: Financial constraints hinder access to innovation among the poor. Oxfam (2021) notes over 70% of low-income rural households cannot afford advanced technology or technical services. Innovation products often require high upfront investment, while most poor families rely on precarious incomes. UNDP (2022) highlights the lack of targeted subsidies or co-financing, making even suitable innovations inaccessible. Inclusive innovation policy must integrate financial tools such as microloans, social business models, and cost-sharing schemes.

(iii) Intermediary Capacity: Innovation intermediaries—e.g., incubators, tech transfer offices—play vital roles but remain weak in Vietnam. MOST (2023) finds only 20% of intermediaries meet quality standards, while most lack expert staff, sustainable funding, or local knowledge. UNDP (2022) notes these organizations seldom tailor services for marginalized groups. Fragmented networks among intermediaries, firms, and local authorities further reduce impact. Capacity building, funding mechanisms, and multistakeholder linkages are urgently needed.

(iv) Enterprise Capacity: Vietnamese SMEs face constraints in supplying inclusive innovations. MOST (2023) reports only 21% conduct internal R&D, and under 10% hold patents. Financial, technological, and HR limitations restrict innovation potential. Many lack long-term innovation strategies, knowledge management systems, and access to government support. UNDP (2022) finds most tech firms struggle with commercialization due to poor market insights and adaptation to low-income segments. Strengthening holistic innovation capabilities is essential.

(v) State Readiness in Welfare Provision: Economic welfare policies in Vietnam inadequately support inclusive innovation. Although national programs aid rural infrastructure and vocational training, fewer than 15% of poor households access innovative products (MOLISA, 2023). Current welfare schemes lack incentives to adopt innovation in livelihoods. UNDP (2022) observes Vietnam lacks a welfare-tech policy framework—e.g., subsidies for innovation, innovation credit, or tech insurance. The government must enhance redistribution and welfare instruments to ensure fair, sustainable innovation access for marginalized groups.

3. Policy Recommendations for Promoting Inclusive Innovation in Vietnam

The policy objective of promoting inclusive innovation in Vietnam aims to expand access and participation for all social groups, particularly the vulnerable, in the national innovation ecosystem. Raising awareness enables these groups not only to recognize but also to actively participate in innovation programs and models, thereby broadening the policy's reach. Concurrently, the affordability of innovative products and services for disadvantaged groups should be improved. The State should encourage enterprises, research institutions, and S&T organizations to develop "innovation for the community" products using cost-effective technologies or social innovation models to ensure equitable access.

Thus, in the coming period, Vietnam should:

First, design flexible financial policies to support vulnerable groups in accessing innovative products. Mechanisms such as subsidies, co-financing, microcredit, and technology risk insurance should be implemented. These policies should be integrated into existing socio-economic development programs (e.g., poverty reduction, rural development, ethnic minority initiatives) to reduce end-user costs and enhance technological absorption capacity.

Second, strengthen the capacity of innovation-supporting intermediaries. Targeted investment is needed for innovation centers, incubators, and technology transfer organizations, especially in localities and disadvantaged regions. Developing expert teams capable of supporting vulnerable groups and enhancing co-creation and collaboration among enterprises, academia, and communities is crucial.

Third, develop inclusive business models applying innovation. Encourage enterprises to develop technological products addressing the essential needs of the vulnerable through models such as social enterprises, impact enterprises, or technology cooperatives. The government should provide tax incentives, investment support, and social recognition for inclusive innovation enterprises.

Fourth, establish systems of criteria and tools to evaluate inclusive innovation. A national index framework should assess the participation, benefits, and social impacts of innovative products on disadvantaged groups. This tool would support policy monitoring, guide technology investment, and identify replicable successful models.

Fifth, integrate inclusive objectives into science, technology, and sustainable development strategies. Inclusiveness should be institutionalized in national innovation strategies, with ministries and localities mandated to develop concrete action plans to enhance access to technology and creative services for vulnerable communities. Interdisciplinary and multi-level coordination is essential for effective policy implementation.

In conclusion, inclusive innovation is not only an imperative for sustainable development but also a means to bridge inequality in access to technology and development opportunities. This report's analysis shows that while vulnerable groups in Vietnam possess strong innovation needs and motivation, they face significant barriers due to financial constraints, limited technological capacity, and inadequate support mechanisms. Designing inclusive innovation policies requires coordinated efforts among the State (as institutional builder and investor), intermediaries (as support facilitators), and enterprises (as solution providers). The proposed policy solutions offer a comprehensive, actionable, and practically applicable framework to foster a more equitable and effective innovation ecosystem in Vietnam in the coming years.

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