# Inclusive Innovation Policy for the Next Development Stage in Viet Nam

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# ACKNOWLEDGEMENTS

This report was commissioned by United Nations Development Programme (UNDP) Viet Nam and prepared by Dr. Robyn Vidra, King's College London and Dr. Dang Quang Vinh, Viet Nam - Japan University.

The authors would like to thank the UNDP Viet Nam team and several technical reviewers for essential inputs in shaping the framing and specificities of the final version of this report. At UNDP Viet Nam, special thanks to Ida Uusikyla and Nguyen Tien Phong for their initial direction and unwavering support over the course of the research project. Our appreciation also to Phan Hoang Lan at UNDP for her feedback on the report and the essential action-oriented research workshop in December 2019. Technical reviews by Tran Ngoc Ca and Tran Thi Thu Huong, from the Ministry of Science and Technology, and Phan Duc Hieu, at the Ministry of Planning & Investment, offered constructive comments that were essential to finalizing the report. Initial comments by Mr Nguyen Dinh Cung, former president of CIEM, Ministry of Planning and Investment, were received with sincere thanks. The research support by Nguyen Viet Tung and Hoang Thi Hai Yen from CIEM also made a valuable contribution to the report. In addition, our appreciation to the policymakers and SMEs who shared their time and insights. Any errors or omissions are the responsibility of the authors.

# EXECUTIVE SUMMARY

In this report we share the results of our comprehensive study of inclusive innovation strategies, which comprises a review of international approaches and the Vietnamese context. In doing so, it offers a contemporary assessment of inclusive innovation policies in Viet Nam and recommendations for further advancing activities in order to further promote a policy context that boosts the capacity of small firms and grassroots innovators. The recommendations are made on the basis of our in-depth review of Science, Technology and Innovation (STI) policy in Viet Nam as well as 21 semi-structured interviews with STI policymakers and small firms, conducted between August 2019 and January 2020. The report's framework benefitted from its presentation and discussion at an action-oriented research workshop held in Hanoi in December 2020.

To develop the study's framework, the research team first conducted an extensive literature review to distill a state-of-the-art understanding of inclusive innovation. This review revealed that inclusive innovation is typically conceived of in terms of producers of innovation, according to three main categories: (1) demographically-defined disadvantaged groups, (2) better spatial distribution, and (3) upgrading the innovation capacity of traditional industries. Collectively, these types of inclusive innovation emphasize inclusion according to demographic characteristics (often according to gender, ethnicity or disability status), geographic of spatial parameters (urban vs rural and socio-economically disadvantage) and industrial attributes (so-called traditional industries versus digitally-oriented ones).

Based upon this review and our desire to be holistic in our approach, in this study, inclusive innovation is defined here as:

> "*innovation of, by and for all as both producers/innovators and consumers/users for the purpose of both economic growth and social advancement*."

This conceptualization of the term helped inform the basis of the study, including our detailed policy review and selection of interviewees. It meant that we reviewed a breadth of policies that shape innovation capacity beyond demographics, geography or a narrow understanding of innovation as technological innovation. Thus, the STI environment studied here is not restricted to only information technology, but rather, on a broader scope of innovation activities, such as agricultural innovation. Such an inclusive understanding of innovation, as underscored by our findings and vividly demonstrated in Viet Nam's exceptional response to the Covid-19 pandemic, offers a significant opportunity for advancing the productivity potential of wider society, while ensuring that no one is left behind.

Our international review of inclusive innovation strategies distilled emerging efforts – especially employed in the Asia Pacific – into three categories: (1) Promoting innovation across a wide variety of firms, (2) Encouraging mass innovation and entrepreneurship and (3) Promoting social innovation. In the first category, the mechanisms involved policies that fostered SME-specific technical capacity building and encouraged large firm-SME collaboration. To encourage mass innovation and entrepreneurship (the second approach), policymakers run national campaigns and contests, promote technology transfer, and develop logistics and infrastructure to aid e-commerce platforms. The third type uncovered in the international policy review – promoting social innovation – involved the use of awards, prizes and competitions, offering public funding for collaborative social innovation, and facilitating the physical co-location of social and technological innovators in the same space.

Applying our framework and these insights from the international review, we then explored the Vietnamese context, to see which of these approaches – and to what extent – are effectively implemented. The review canvassed seven (broadly understood) STI policy areas: (1) mass innovation and entrepreneurship, (2) investment in science, technology and innovation (STI); (3) startup activity; (4) promote S&T organization and enterprises; (5) human resource development and attraction; (6) technology transfer; and (7) land use. Our review identified each policy's objective, mechanism(s) used and implementation conditions.

We found that Viet Nam has a promising base of policies that support inclusive innovation, though not explicitly in the language of inclusive innovation. A primary next step is to further institutionalize the collaboration – across grassroots innovators, SMEs, large firms, universities, and the public sector – that proved so essential to Viet Nam's ability to flatten the Covid-19 curve from late January 2020. Within this, there is scope for policies that further encourage SMEs' innovation capacity through the provision of soft skills training, alongside funding and tax incentives, to encourage the upgrading of SMEs and grassroots innovators. There is also the potential for STI strategies to further elicit participation from underrepresented demographic groups, regions and traditional industries. And finally, policies could continue to encourage collaboration across large enterprises and SMEs, particularly in the context of advancing inclusive innovation.

Recommendations are made on the basis of advancing inclusive innovation in the context of the Socio-Economic Development Strategy (SEDS) 2021-30 and the Ministry of Planning & Investment's National Innovation Center (NIC). In addition, recommendations suggest areas for further collaboration between the Government of Viet Nam and UNDP across both the SEDS and the NIC. The recommendations are as follows:

- **For Viet Nam's SEDS:** (1) Mainstream inclusive innovation into the Socio-Economic Development Strategy, (2) Leverage existing mechanisms to more effectively support SMEs and grassroots innovation, (3) Further increase intended beneficiaries in the innovation policy design process, (4) Further resources for follow-up support for innovation contests, (5) Invest in rural infrastructure for storage, packaging and shipping, (6) Provide soft skills coaching and training to encourage a mindset and culture of innovation.
- **For the MPI's development of the National Innovation Center:** (1) Incorporate inclusive innovation into the core of the NIC's aims, (2) Create accelerator programs that boost inclusive innovation, (3) Run coaching, training and consultancy programs, (4) Make space for collaborative inclusive innovation, (5) Create a studio for digital marketing.
- **For further collaboration between the Government of Viet Nam and UNDP on inclusive innovation:** (1) Encourage the design of the NIC as a model of inclusive innovation promotion, (2) Foster knowledge sharing and an innovation culture, (3) Partner to make advances on the Sustainable Development Goals: inclusive and sustainable innovation, (4) Design thinking: build feedback loops in the policymaking processes. K

The report is organized as follows. Section 1 introduces the study, the aims and our working definition of inclusive innovation. Section 2 then outlines the methodology and framework guiding the analysis. Section 3 presents the background findings, on the concept of inclusive innovation, policy approaches and emerging experiences internationally and in Viet Nam. Section 4 summarizes the Vietnamese policy context and presents the results of the detailed policy review. Finally, Section 5 concludes with recommendations for inclusive innovation policy design and implementation in general, for the National Innovation Center in particular, and in terms of further collaboration with UNDP.

Image: UNDP Viet Nam

# 01

# Introduction

Viet Nam has achieved tremendous economic growth, at an average of seven percent, since the *doi moi* ("renovation") reforms were implemented in 1986. Perhaps more impressive than the headline growth rate, across the period, Viet Nam has seen the reduction of extreme poverty and a persistently low score for societal inequality. In fact, in 2016 its Gini coefficient (35.3) was just below the 1992 level (of 35.7), evidencing the continued equity in society, decades after its growth boom began. The inclusive nature of Viet Nam's growth is consistent with the government's twin goals of "rapid economic growth and social and equitable sustainability" (Tran, 2017: 256).

Flashing forward to Spring 2020, Viet Nam made headlines for its exceptional response to the Covid-19 pandemic. Despite its emerging economy status and large land border with China, the country flattened the curve of virus' spread. As of May 31st, 2020, the country only had a total of 328 cases, with 279 of those individuals recovered and zero deaths. Innovation has been central to this strong performance in combating the pandemic; the government helped mobilize early efforts to develop affordable Covid-19 test-kits and enabled the timely approval of antibacterial masks for wider society, which helped avoid a shortage of masks for medical workers. Grassroots innovators helped ease the burden that the lockdown caused on livelihoods, by creating "rice ATMs" and "pink bakeries", amongst other initiatives. In the face of the pandemic, Viet Nam's policymakers, universities, entrepreneurs, and grassroots innovators came together in new ways to mitigate the health and socio-economic fallout.

This bodes well for the future of Viet Nam's ability to deliver inclusive growth as the Fourth Industrial Revolution (IR 4.0) advances. It also aligns with the current direction of policymaking, as evidenced by Government Resolution No. 50/NQ-CP, dated 17 April 2020, which issued action plans for the country's IR 4.0 strategy.[1] It is in this context that the IR 4.0 – meaning, the digital, or smart, production of traditional manufacturing and services – promises opportunities for advancing productivity and improving life standards. At the same time, there are also concerns that the IR4.0 advance can instigate societal inequality, as gains from technology-centered innovation could accumulate to a narrow subset of society, while automation could cause widespread job losses for low-skilled workers as well as displacement for white collared professions ranging from law, to accounting, to teaching. Underscoring the two-sided potential of the IR 4.0 globally, a study on the impact of artificial intelligence on the SDGs found that 134 targets are enabled, while 59 may experience a negative impact (Vinuesa *et al,* 2020). This motivates us to ask: which strategies can be pursued that help keep Viet Nam's future innovation activities on the inclusive path evident since the *doi moi* reforms in 1986, and in a more concentrated way, during the Covid-19 pandemic? How can Viet Nam's innovation ecosystem best encourage collaboration across small-and-medium-sized enterprises (SMEs), public institutes, universities and large firms so that inclusive innovation underpins its next stage of development?

Central to answering these questions is an understanding of the government support for upgrading the capabilities of SMEs. In Viet Nam, government support for SMEs is long-standing, focusing primarily on upgrading the technical capacity of SMEs, and more recently, start-ups. The Ministry of Science and Technology has, for instance, provided direct matching grants to hundreds of SMEs to boost their research and development (R&D) activities. Yet, there remain opportunities to upgrade the soft skills of SMEs, to help equip them with a mindset and culture of innovation. There is also the potential to more holistically promote the innovation system; though SMEs have been supported through various measures, the state budget for R&D tends to separate its purposive actions for public research institutes and universities.

1 Drafts for a national strategy on IR 4.0, developed by the Ministry of Planning & Investment, are also expected to be submitted for government approval soon, building on national IR 4.0 strategy drafting efforts developed over the last few years.

In order to drive system-wide innovation in the next phase of development, policies could strive to sustain collaboration amongst large firms, SMEs, universities and social innovators. This could involve policies that emphasize network and partnership promotion, infrastructure support – such as co-working spaces and database access – education and training around innovation management, and the facilitation of the university-centered innovation system. Collectively, strategies are needed that prioritize the advance of both technical and soft skills – both of which are needed in order to compete in the IR4.0. To move the needle on the SDGs, in particular, further collaboration across Viet Nam's innovation system is needed.

This includes collaboration with SMEs, which are said to account for more than 97% of Viet Nam's economy. It also means bringing the approximately 57% of workers in the informal economy in to more innovative activities. The aim would be to quell the widening gap between those who are skilled in advanced technologies and those adept at only basic technologies. The difference between one's advanced and basic technologies acumen is increasingly a crucial determinant of human capabilities (UNDP, 2019), and thus livelihood opportunities. To boost equality of opportunity and advance widespread productivity gains, the true mass of Vietnamese society will need to become producers and consumers of innovation. Strategies that encourage a mindset and culture of innovation across government, business and society will be central to advancing on this orientation. Our contention here is that this will necessitate the embrace of a broader concept of innovation, one that is not narrowly focused on technological R&D, but conceives of novel processes and management techniques as essential forms of innovation.

In light of the two-way potential of the IR 4.0 and the current drafting of the Socio-Economic Development Strategy (SEDS) for 2021-2025, this report explores strategies for Viet Nam's promotion of inclusive innovation, building on existing efforts and the momentum for collaborative innovations that helped to underscore the country's remarkable Covid-19 response. The study's working definition of inclusive innovation is:

> *"innovation of, by and for all as both producers/innovators and consumers/users for the purpose of both economic growth and social advancement."*

The promotion of inclusive innovation would contribute to each of the SEDS 2021-2025 pillars: the development of human resources, infrastructure and institutions. It entails strategies for involving more of society in the production of innovation and, re-thinking the ways in which innovation can benefit a wider set of consumers.

This report offers recommendations for taking the inclusive innovation policy agenda ahead, in terms of SEDS 2021-2025 policy design and implementation as well as the Ministry of Planning & Investment (MPI)'s National Innovation Center (NIC) as a physical hub for inclusive innovation in the age of IR 4.0. Early discussion of the NIC's activities include incentives for SMEs. Building on the policies already in place, the recommendations in this report propose novel ways of effectively designing support for the holistic upgrading of the soft skills necessary for SMEs and grassroots innovators.

Image: KOICA

# 02

# Methodology

The study's framework was presented for feedback at a workshop with policymakers and representatives from associations and think tanks in Ha Noi in December 2019. The workshop provided the research team with actionable feedback on how inclusive innovation is currently understood in the Vietnamese context, and challenges associated with policy implementation. That informed the basis of the review of international inclusive innovation policy experiences, and also shaped research into the Vietnamese policy context and fieldwork interviews with established firms and social innovators. Initially, the report's framing and assessment of inclusive innovation policy drew upon interviews with science and technology policymakers in August 2019. As a result of the various data collection methods, this report is able to provide suggestions relevant to Viet Nam's SEDS 2021-2025 and NIC strategies based upon a comprehensive analysis of international experiences and an assessment of the local context.

The study's methodology is four-fold: (i) a literature review that distilled the concepts of inclusive innovation and social innovation. Based upon this review, the study identified international examples (with an emphasis on the Asia Pacific region) of inclusive innovation policy and of inclusive innovators already operating in Viet Nam as SMEs and grassroots innovators; (ii) based upon the policy issues identified in the literature review, the research team conducted telephone interviews with science, technology and innovation (STI) policymakers in August 2019 and a comprehensive review of Viet Nam's policies shaping the context for innovation, including science and technology policy, entrepreneurship promotion, rural and mountainous areas initiatives, and land use policy in Viet Nam[2]; (iii) fieldwork interviews with micro and small-and-medium-sized enterprises in Ha Noi, Da Nang and Ho Chi Minh City, and surrounding areas, in December 2019 and January 2020; and (iv) an action-oriented research session in Ha Noi in December 2019.

- ***Literature review***: The literature review informed the starting point for conceptualizing key concepts. The research team began by reviewing existing research by canvassing academic publications and policy documents. Then, it turned to scholarship and practitioner reports on the design and implementation of inclusive innovation strategies across the Asia Pacific region.
- ***Action research***: an action-research session with technical policymakers in Ha Noi on December 12, 2019 involved group exercises to understand varying conceptualizations of inclusive innovation, ideas about priorities and potential challenges in pursuing an inclusive innovation policy approach. It also raised questions and issues about policy design and implementation in the Vietnamese context.
- ***Policy review:*** Based upon the international literature review, the Vietnamese policy review covered the swath of government efforts that shape inclusive innovation. This includes the following seven categories of policies: (1) mass innovation and entrepreneurship; (2) promoting investment in STI; (3) startup promotion; (4) human resource development and attraction; (5) technology transfer; (6) promote S&T organizations and enterprises; and (7) land use laws. The review identified each policy's objective, mechanism and implementation conditions.
- ***Fieldwork interviews***: Insights were then garnered through 21 semi-structured interviews, conducted with STI policymakers in August 2019, and key informants from small firms in manufacturing and service sectors, as well as grassroots innovators in health, education, environmental protection and renewable energy, in December 2019 and January 2020. Interviews with policymakers centered on understanding existing and developing

2 We intentionally included a broader set of policies than only STI policies. The background review revealed that issues of land access, for instance, are an important impediment to growth for some of Viet Nam's SMEs and grassroots innovators. To holistically engage with the policy context around innovation, we have included such policies beyond the narrow remit of STI.

approaches to inclusive innovation, and interviews with SMEs and grassroots innovators focused on understanding the ways in which the interviewees currently engage with government policy and initiatives, and challenges they face.

This study explores inclusive innovation policy in terms of the policy's: (1) objectives, (2) mechanisms, and (3) implementation conditions.

- ***Objectives***: what are the aims? Who are the target beneficiaries? How inclusive is the objective?
- ***Mechanisms***: Which policy tools are deployed? How are they implemented?
- ***Implementation conditions:*** How does the government context shape policymaking? How does the environment affect would-be innovators' ability to act? How are stakeholders involved in the policymaking process? What are the conditions associated with successful implementation?

The framework for this study focuses on policies directed towards particular organizational types, specifically, the inclusion of (1) established micro and small and medium sized enterprises (SMEs) and (2) grassroots innovators. Thus, it explores:

**Table 1: Framework for inclusive innovation policy**

| Policy: | Key questions |
|---|---|
| **Objectives** | What are the intended outcomes? How inclusive are the aims? |
| **Mechanisms** | Which policy tools are employed? How do specifications target particular beneficiaries? |
| **Implementation conditions** | How are policies implemented? How are intended beneficiaries involved in the policymaking process? What are the conditions associated with successful implementation? |

# 03

# Background review

Image: 1516 Green Energy Technology Company Limited

## a. CONCEPT

Innovation, in the context of this report, is understood in broad terms, as novel products or processes, rather than in a strict science and technology sense.[3] This is consistent with the definition of innovation in Viet Nam, as according to Article 3 of Decree 13/2012/NĐ-CP, innovation is "a technical, managerial, or operational solution that is novel, and has been applied with practical benefit, within the relevant establishment". In this way, our starting premise is understanding innovation in terms of a range of social and management practices, such as new business models and social innovation, as well as technological innovation (this is also consistent with Glennie *et al,* 2020). What, then, does inclusive innovation mean? In his study of inclusive innovation in Viet Nam, Tran (2017) succinctly defines it as "*innovation for all, and by all*". The concept of inclusive innovation, as developed across development scholarship, often refers to inclusion through either the advance of *production* capabilities across groups underrepresented in innovation activities (Foster and Heeks, 2013; Heeks *et al,* 2014) or the purposeful development of innovative products for disadvantaged *consumers* (Chataway *et al,* 2014; George *et al,* 2012). Here, our conceptualization of inclusive innovation builds upon Tran's definition, adding in production/consumption distinction:

> *"innovation of, by and for all as both producers/innovators and consumers/users for the purpose of both economic growth and social advancement."*

Though the concept is not specific to technological applications, the proliferation of inclusive innovation strategies has grown in use along with the rise of the Industrial Revolution 4.0 (IR 4.0). While IR 4.0 can fuel prosperity and improve living standards, as past waves of technological advance have, it can also fuel greater inequality. Given concerns over its potential to displace workers and, relatedly, undermine equitable gains, government attention has ramped up in order to quell such pressures (Chataway *et al.,* 2014). Inclusive innovation policies aim is to better "pre-distribute" opportunity by bringing more of society into the production of IR 4.0 activities. The Human Development Report 2019 refers to this type of policy strategies as "premarket", in contrast with "in-market" (wages, profits and labor participation rates) and post-market (taxes) (UNDP, 2019: 4). Premarket, or pre-distribution, strategies include adapting the distribution of research and development (R&D) expenditures towards disadvantaged groups (Woodhouse and Sarewitz, 2007) and designing innovation policy to bring underrepresented members of society into solving societal challenges (Zehavi and Breznitz, 2017).

The state has made a comeback, given its economic role: as an "entrepreneurial state" (Mazzucato, 2013) that is to drive innovation that both promises technological prowess and sustainable, inclusive growth (Kattel and Mazzucato, 2018). The contemporary state is increasingly understood to have a fundamental role in boosting innovation capacity (Breznitz, 2007), in acting as a "venture capital state" (Klingler-Vidra, 2018), and in steering "green" industrial strategies (Rodrik, 2014).

While inclusive innovation as a term is relatively new, the underlying idea is not. The notion of supporting technological innovation for social inclusion purposes began with the 'appropriate technologies' movement in emerging economies in the 1950s. The movement was asserted as a strategy to assuage the tendency towards innovation investments in – and the gains being captured by – the rich, industrialized world (Jequier, 1976; Kaplinsky, 2011).[1] Mark Dutz first enshrined the phrase 'inclusive innovation' in development lexicon in a 2007 World Bank report on sustainable innovation in India. He defined it as "knowledge creation and absorption efforts that are most relevant to the needs of the poor" (Dutz, 2007: xv). A contemporary, consumer-focused segment of this movement emphasizes the advance of locally-relevant technological

3 This is consistent with the understanding articulated in the 2010 OECD Innovation Strategy.

capabilities and designing solutions for 'bottom of the pyramid' consumers (Chataway *et al,* 2014; George *et al,* 2012; Foster and Heeks, 2013; Heeks *et al,* 2014).

Social innovation definitions emphasize the novelty of the management or the process in order to address a societal issue. Mulgan *et al* (2006: 4-5), for instance, stresses the means and the aims, "innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organizations whose primary purposes are social" (*ibid*, p. 8). In a similar way, Morris-Suzuki and Soh (2016: 253) emphasize core elements as (1) meeting a social need, (2) effectiveness, (3) novelty, (4) moving from ideas to implementation, and (5) enhancing society's capacity to act. Another oft-cited conceptualization comes from Phills *et al* (2008), who bring in the moral imperative of the aim; in so doing, they define social innovation as "a novel solution to a social problem that is more effective, efficient, sustainable, or *just* than present solutions". Given the importance of collaboration across individuals and groups, some conceptualizations emphasize the social *management* of innovation, where the process of management itself is the innovation (Lin, 2017: 152).

## b. APPROACHES

As mentioned briefly above, an oft-cited conceptualization of inclusive innovation posits a dichotomy such that inclusion can either be about 'producers' or 'consumers' of innovation (Heeks *et al,* 2014; Zehavi and Breznitz, 2017;). With a producer focus, Planes-Satorra and Paunov (2017: 6) conceive of purposive actions "that aim to remove barriers to the participation of individuals, groups, firms, sectors and regions underrepresented in innovation activities." Three categories of producer-oriented inclusive innovation strategies are derived, according to the target criteria: (1) demographically-defined disadvantaged groups, (2) better spatial distribution, and (3) upgrading the innovation capacity of traditional industries.

1) **Demographically-motivated efforts aim to increase participation of disadvantaged groups, according to traits such as gender, age, ethnicity and disability status**. The aim of demographic-focused policies are to promote a higher rate of participation of marginalized groups as producers of innovation (Zehavi and Breznitz, 2017; Klingler-Vidra, 2019). They address inhibitors including "self-efficacy, institutional culture, [and] discrimination" as the biases that limit participation (Gonzalez and Kuenzi, 2012, p. 26) as well as structural issues such as access to education (e.g. science, technology, engineering and math (STEM) studies).

2) **Spatial conceptions of inclusion aim to diminish the gap between geographic dichotomies split according to urban/rural and wealthy/poor dichotomies**. Guth (2005: 334) posits a negative path dependence in regional patterns of innovation, as places already lagging behind cannot exploit knowledge-based economy opportunities, thus they "face the risk of an ever growing income gap as compared to more successful regions." Government intervention is needed to buck this spatial determinism through a variety of mechanisms, including place-based tax subsidies, R&D spending and infrastructure and education investment.

3) **Traditional firms and industries are encouraged to become more innovative producers**. Policies incentivize R&D activities and hiring of scientific staff as a means of ushering in more innovative practices. Without such a boost, analysts speak of a "two-speed" economy when one set of companies, typically large firms, perform well, while others, often traditionally-operating small firms, do not (see Goldman Sachs, 2015). This divergence occurs as small firms, on account of their limited resources and slow revenue growth, are less able to invest in innovation, perpetuating the productivity differential.

Consumption strategies, on the other hand, center on encouraging innovations that can address social issues, such as enhancing mobility and reducing poverty. This innovation-as-solution conceptualization is akin to that used in "bottom billion" or "base of the pyramid" thinking (Collier, 2007; Prahalad, 2009).

## c. EMERGING INTERNATIONAL EXPERIENCES

The literature review revealed a number of emerging experiences of encouraging inclusive innovation outside of Viet Nam, many of which come from the East Asian context. These approaches strive to drive national (often referred to "mass") entrepreneurship and innovation, to upgrade the innovativeness of traditional firms, and to advance society's innovativeness in addressing social challenges. International experiences can be distilled into three major categories of approaches, according to their key emphasis, as summarized below in Table 2. The table details the policy objectives, mechanisms, and implementation conditions.

**Table 2: Inclusive innovation policy types**

| | Objectives | Mechanisms | Implementation conditions |
|---|---|---|---|
| **1. Promoting innovation across a wide variety of firms** | To improve the innovativeness of management and products/services | (1a) SME-specific technical capacity building<br>(1b) Encouraging large firm-SME collaboration | Active learning<br>Consultations with to identify key challenges |
| **2. Encouraging mass innovation and entrepreneurship** | To encourage wider society, including rural communities, to undertake more entrepreneurial, creative and innovative activities | (2a) National campaigns and contests<br>(2b) Technology transfer<br>(2c) Logistics and infrastructure for e-commerce platforms | Further support for winning contestants<br>Consultations with target beneficiaries to understand regulatory and bureaucratic impediments<br>Communication and outreach to generate further participation |
| **3. Promoting social innovation** | Encourage novel, often-community based, approaches to social challenges<br>Build grassroots innovation ecosystem | (3a) Awards, prizes and competitions<br>(3b) Public funding for collaborative social innovation<br>(3c) Co-location of social and technological innovators in same physical space | (3d) "Active listening" to identify issues<br>(3e) "Outside-in" policymaking |

### *1. Promoting innovation across a wide variety of firms*

***Objectives:*** The aim, for governments, is to improve the innovation capabilities of traditional firms so that their productive capacity convergences towards the "high-speed" firms in the economy. As part of the upgrading aims, to encourage collaboration across firms in an effort to further knowledge transfer across firms.

***Mechanisms*:**

### (1a) SME-specific technical capacity building

Both R&D-based and non-R&D forms of innovation are encouraged in a bid to upgrade the innovation capabilities of SMEs. SME-specific R&D tax incentives and training often focus on how to conduct R&D, as standard R&D incentives do not often appeal to SMEs and the art of conducting R&D effectively has often not been mastered. Thus, given that small firms may lack both the human capital and financial resources to conduct R&D, policies both strive to encourage SMEs to make the investment, through financial incentives, and boost R&D-know how through the provision of technical assistance. In Korea, for example, the government has employed R&D tax incentives in the form of "a tax credit of 25% of spending on research and manpower development expenses or 50% of the additional spending above the average of the past year" (Jones and Kim, 2018: 18). In Israel, a collaboration between the Advanced Manufacturing Division of the Israel Innovation Authority and the Manufacturers Association of Israel drove the 2005 launch of a program that fosters innovation in traditional industries that typically are low-tech and do not engage in innovative activities (Klingler-Vidra, 2019). The program incentivizes firms to invest in R&D by providing grants that cover 50% of projects expenses, including the development of new models and acquisition of intellectual property (IP). Crucially, the program also provides for 'soft skills' training on how to approach R&D and on novel approaches to product marketing.

This inclusion of R&D soft skills was found across our international policy review. Alongside such incentives, professional training and counselling is often provided to traditional industry managers on how to conduct R&D so that the available funding comes with advice on how to effectively manage the activities. In several cases, such efforts also specify numerical targets for the number of established firms they hope to upgrade; the Korea government, for instance, has a program that strives to boost the ICT-oriented innovation capacity of 20,000 SMEs, specifically, for SMEs to establish "smart factories" that integrate software and the Internet of Things by 2022. Beyond its national borders, the Korean government is supporting the development of a web of distributed smart factories, in line with Korea's Manufacturing Innovation 3.0 and Germany's Industry 4.0. The initial web of factories connects the Korean smart factories with Fraunhofer, Germany.

**Policy type 1a:** Established firm R&D tax credits and training

| | |
|---|---|
| **Objectives** | • To increase the R&D activities (and investment) undertaken. |
| **Mechanisms** | • Tax credit on spending on R&D and on hiring technical staff.<br>• Training on how to conduct R&D. |
| **Implementation Conditions** | • Policymakers work to understand how R&D tax credits do - and crucially, do not - benefit new and small firms. For new firms, tax credits are not relevant as there is often not revenue (profit) to offset. Consultations reveal that it is attractive to offer 'carry over R&D spending' so that the spending can offset future revenue, and thus future tax liabilities. |

### (1b) Encouraging large firm-SME collaboration

Governments facilitate greater knowledge-sharing between large and small firms. This is done in an effort to upgrade the technology absorption capacity of SMEs; as SMEs can benefit from knowledge transfer in the context of networks, participation in value chains, and other forms of

collaboration. This, ultimately, can help SMEs to innovation on their own, and to successfully absorb newly acquired technologies. From 2014, for instance, the Korean government established 18 Centers for the Creative Economy and Innovation across the country, to bring together large conglomerates (known as "*chaebol*" in Korea) and entrepreneurs (see Pacheco-Pardo and Klingler-Vidra, 2019 for further details). Each Center has a *chaebol* anchor to provide financial support for the center and to be available as a possible business partner for start-ups. Another approach is the K-Startup Grand Challenge program, launched by the National IT Industry Promotion Agency in 2016, which incentivizes international entrepreneurs to come to Korea to establish their startup, and develop partnerships (such as licensing agreements) with *chaebol* firms.

*Implementation conditions*: Policymakers need to keep in mind that the potential for SME innovativeness is greater in collaborative, ICT-supported environments, especially in emerging economies where SMEs' technological absorption capacity may be weak. Through collaborations, and a wider set of policies, SME upgrading is possible. Funding or tax incentives alone are insufficient. As an illustration, OECD (2018: 7) recommendations for boosting the dynamism of SMEs includes (1) upgrading workforce skills in SMEs, (2) helping SMEs adopt ICT and adapt to the digital revolution, (3) ensuring that R&D policy is inclusive of SMEs, (4) fostering IP use among SMEs, and (5) developing an effective and inclusive national innovation system. Other mechanisms for supporting SME upgrading include access to public money (grants, guarantees and loans), discounted prices for utilities, and the provision of credit guarantees.

### *2. Encouraging mass innovation and entrepreneurship*

***Objectives*:** Countries strive to increase national innovativeness by enacting policies that broaden participation in innovative activities by encouraging mass entrepreneurship, innovation and creativity. Also, acknowledging growing evidence that high-technology entrepreneurship is most available to the middle and upper class, due to the social and financial capital required to start such a business (see Mejia and Melendez, 2012), these efforts aim to better democratize access to high-growth entrepreneurship.

***Mechanisms*:**

#### (2a) National campaigns and contests

A combination of policy tools are used to encourage mass entrepreneurship and innovation. In the Chinese context, national mass innovation and entrepreneurship campaigns stress the advance of the "creativity of the people" (DRC, 2016). Beginning in 2014, the Chinese government introduced a campaign, accompanied by a number of measures to reduce the barriers to entrepreneurship (e.g. making it easier to start a business). Then, in the September 2018 State Council meeting, the following additional policy efforts were approved "further streamlining administration and delegating powers, making it easier to start new businesses, advancing the reform for simplified enterprise deregistration, formulating detailed policy incentives to encourage scientific researchers to start their own businesses, and improving policy support and services for migrant workers returning to their hometowns or ex-servicemen who wish to engage in entrepreneurial activities"[4]. To bring greater mainstream awareness of the technical policy changes, in May 2019 the National Development and Reform Commission announced that it would create a "National Mass Entrepreneurship and Innovation Week".

In Korea, the 'Creative Economy Action Plan', initiated by the Park Geun-hye administration in 2013, includes a wide range of policy mechanisms, spanning funding, tax incentives, education and

4 http://www.xinhuanet.com/english/2018-09/06/c_137450275.htm

training, and even billboard campaigns alongside highways (see Pacheco Pardo and Klingler-Vidra, 2019 for details of the full suite of policies).

**Policy type 2a**: National campaigns and contests

| | China Mass Innovation and Entrepreneurship; Korea's Creative Economy Action Plan |
|---|---|
| **Objectives** | • To upgrade entrepreneurial skills and awareness of entrepreneurship in wider society |
| **Mechanisms** | • Combination of efforts including: Education, Funding, Taxation, Campaigns, Digital and physical infrastructure investment, Regulatory changes |
| **Implementation Conditions** | • Coordination across ministries is required<br>• Challenges in evaluating effectiveness of efforts |

### (2b) Technology transfer

Another mechanism for encouraging more inclusive entrepreneurship is the promotion of more fluid technology transfer and commercialization. In China, there is now a pilot underway in which technologies developed by government workers in state-supported facilities are grant long-term use right of patent to the inventor, rather than the state. More specifically, the 2018 announcement of the pilot explained that it will "grant long-term use right or even ownership to researchers for their job-related scientific or technological achievements and to provide compensation to cover loan risks in the commercial application of such achievements". U.S. Minority Business Development Agency, in a partnership with the National Institute of Standards and Technology and the Federal Labs Consortium, takes a similar tack in transferring technology in order to encourage a more inclusive base of innovative firms. It operates a technology transfer program called the Inclusive Innovation Initiative ("I-3"), in which emerging technologies from federal labs are made available to minority-owned businesses. Klingler-Vidra (2019) explains that the aim of I-3 is to increase opportunities for commercialization.

**Policy type 2b**: Technology transfer

| | China's technology transfer pilot; Inclusive Innovation Initiative (U.S) |
|---|---|
| **Objectives** | • Encourage technology transfer to would-be innovators, particularly to transfer to the private sector (as in the Chinese case) and to underrepresented demographics (in the US example) |
| **Mechanisms** | • Inventor (a government employee) keeps ownership of IP they developed in government-sponsored lab<br>• Federal lab-developed IP transferred to entrepreneurs from underrepresented demographics |
| **Implementation Conditions** | • Regulatory change (pilot)<br>• State-community association collaborations |

### (2c) Logistics and infrastructure for e-commerce platforms

E-commerce platforms have evolved, especially in China, as a means to alleviate rural poverty through small, traditional producers' newfound ability to sell products online. Since they were first established in 2009, China's Taobao Villages benefit from the scale (and infrastructure) of national innovation production, by bringing rural villages into selling their goods (e.g. handicrafts) via Alibaba's e-commerce system. Alibaba, in collaboration with various levels of the Chinese government, has fueled the advance of Taobao Villages, which usher in the development of logistics infrastructure, digital literacy, and as a result, rural development (Li, 2017). A village is considered, by Alibaba, to be a Taobao Village when it constitutes "a cluster of rural electronic retailers where at least 10% of village households engage in e-commerce and total annual e-commerce transaction volume in the village is at least 10 million Chinese yuan" (Tan *et al,* 2016: 2). Alibaba, for its part, offers various online training programs to enable potential participants to sell via the platform.

Provincial governments enable online sales through investment in logistics infrastructure as well as skills upgrading, depending on the needs and resources of local producers. Wei *et al* (2019: 15)) explain, for example, that "the Bureau of Transportation in Songyang County built an urban-rural logistics system with three large logistics companies to facilitate the rural e-commerce development in Xishan". The Xishan model has been in decline, however, due to a lack of investment in innovation to upgrade production capacity. In other Taobao villages, local governments have invested in capabilities development for the wooden-toy industry, which have countered this challenge. For instance, the Qiaoyun local government "helped to build a Taobao industrial park in the village as an incubator and knowledge center" (Wei *et al* 2019: 16). In another case, the provincial government supported e-commerce abilities through investment to "improve Internet infrastructure, provide training to new online entrepreneurs and help build warehouses" (ibid: 18).

The potential for Taobao Villages, which fosters "netrepreneurs" (Lowery *et al,* 1998) is enormous. The model "can not only help rural areas develop distinctive industries, but also can promote employment opportunities in rural areas" (Peng *et al,* 2019: 2). Following a similar logic, Pinduoduo launched in 2015 as a group-buying e-commerce platform. Pinduoduo is another interesting IT-enabled mechanism, as it enables consumers (largely based in lower-tier cities) to coordinate "team purchases" from smallholder farmers and handicraft producers in poverty-stricken villages in China. Similar to Taobao Villages, Pinduoduo collaborates with local governments and civil society in the communities where it operates. Government relations have not all been positive; the Chinese government (more specifically, the State Administration for Market Regulation) has investigated Pinduoduo for its role in enabling the sales of imitation products and counterfeits.

**Policy type 2c:** Logistics and infrastructure for e-commerce platforms

| | **Alibaba (Taobao), Pinduoduo** |
|---|---|
| **Objectives** | • To improve the market access solutions of rural producers and increase the stock of available goods by enabling logistics infrastructure and digital skills |
| **Mechanisms** | 1. Education and training for internet use<br>2. Warehousing and logistics systems<br>3. Subsidies and tax incentives<br>4. Coordinate local production networks (i.e. by encouraging the establishing of e-commerce associations) |
| **Implementation Conditions** | • Local government partnerships with platforms (Pinduoduo & Taobao)<br>• Challenge of ensuring authenticity of goods |

### *3. Promoting social innovation*

***Objectives:*** Social innovation – as well as grassroots innovation – has been promoted as a means to instigate novel ways of solving environmental and societal challenges. Commenting on advances in East Asia, in particular, Shen and Li (2017: 4) asserts that the "use of ICT to enable social innovation has become mainstream" across the region.

***Mechanisms:***

**(3a) Awards, prizes and competitions**

Prizes, awards and competitions give greater attention, and value, towards social innovation activities. A Chinese communist party think-tank (the Central Compilation & Translation Bureau) has run, in partnership with Peking University, bi-annual events to promote social innovation activities since 2010. The "China Social Innovation Awards" select champions from across more than 22 provinces and autonomous regions (Lin, 2017). Related to efforts to promote social innovation, regulations were changed so that it is easier to form and fund NGOs, such as China's Charity Law, which was passed in March 2016.

**(3b) Public funding for collaborative social innovation**

The Hong Kong government created the Social Innovation and Entrepreneurship Development (SIED) Fund in 2013, with $HK 500 million, in order "to reduce poverty and social exclusion, and targets the poor as well as vulnerable groups including the elderly, people with disabilities, ethnic minorities and single-parent families".[5] Uniquely, the SIED Fund is available to individuals and private businesses, rather than only to charities (it was the first government to have such eligibility criteria). It supports initiatives that range from being in prototype through to scale-up stages. The money is distributed as grants through four intermediary organizations (a federation of non-governmental social welfare organizations, an academic institution, an impact investor and a philanthropic organization) to that the government is building the funding ecosystem's expertise in underwriting this type of activity. The SIED Fund usually also requires grantees to obtain money from another, private source, again as a mechanism to strengthen the ecosystem (and to limit the extent to which the government has to pick winners). Finally, the Fund supports "collective impact initiatives" which are "forums gathering public, private, third sector and academic organizations around a theme" (*ibid*).

The Nurturing Social Minds (NSM) initiative was launched in May 2015 through the collaboration of family foundation (the Yeh Family Philanthropy), financial support from the SIED Fund, and two universities (Hong Kong University of Science and Technology and the Chinese University of Hong Kong Business School). The NSM program provides "interdisciplinary action-based learning courses on social entrepreneurship and venture philanthropy at the university level" (Cheung and Fung, 2017: 14). Initially, it was the family foundation partnering with the university, and then later, the government provided support via funding through its SIED Fund. Together, the foundation offers grant funding to social enterprises, while the SIE Fund covers the program's operating costs. Thanks to the program's government funding and high-level of interest, it has now become a graduate-level course.

5 https://www.pioneerspost.com/news-views/20180110/hong-kong-why-even-wealthy-societies-need-social-entrepreneurs

### (3c) Co-location of social and technological innovators in same physical space

Physical spaces have been purposely organized to facilitate interaction across technological and social innovators, young and old, and men and women. The Seoul Innovation Park, for instance, is a physical space, opened in 2015 by the Seoul metropolitan government, that provides space for different types of citizens and groups to think about social innovation all in one place. More specifically, there is a "park for residents, a research center for innovators, and in incubation space for young entrepreneurs" as well as "Youth Hub, Social Innovation Support Centre, Village Community Support Centre, and many other social innovation groups" co-located in the park. Given the short time period since the innovation park was established (some of the buildings and projects only launched in 2019), thus far, evidence of the benefits of co-location are anecdotal.

**Policy type 3c:** Co-location of a range of innovative activities in a shared physical space

| | Seoul Innovation Park |
|---|---|
| **Objective** | • To provide a physical space for different groups to sit side-by-side to encourage cross-fertilization of ideas and resources. |
| **Mechanisms** | • Co-located activities and centers, including a research center, youth hub, social innovation support center and community center. |
| **Implementation conditions** | • The Seoul mayor created the Seoul Innovation Bureau to oversee the park as a space for recycling, sharing, fun and cooperation, with the idea being that the cross-pollination will help develop ideas for the Seoul Metropolitan Government to implement for the city. |

Other locales have also developed social innovation centers. In China, spaces such as the Social Innovation Center in Shunde District of Foushan City, constitute physical space, provided by local government funding, to support the activities of social enterprises (Lai and Zhou, 2017). To build trust and interaction with local constituents, the Center's board of directors is "subject to the supervision of the society from all walks of life" (ibid).

### (3d) "Active listening" to identify issues

Led by Park Won-soon, a former human rights activist, who became mayor in 2011, the Seoul Metropolitan Government is working to be a model for a socially innovative city, advancing its sharing economy. The government's dedication to "active listening" and responsiveness to drive social innovation is epitomized by a January 2013 Twitter exchange between a frustrated citizen, complaining about his lengthy late night commute, and the Mayor. As a result of the Twitter exchange, the city government piloted a project the next month, and ultimately, rolled out the "Night Owl Bus" service six months later (Lee, 2017).

**Policy type 3d:** Active listening to formulate responsive social innovations

| | Seoul's Night Owl Bus |
|---|---|
| **Objective** | • To improve mobility for Seoul citizens, particularly for the purposes of commuting at night. |
| **Mechanisms** | • Engaging with citizen complaints directly via social media platforms.<br>• Taking citizen complaints as an input for the city service agenda, the Mayor's office researched existing bus patterns and traffic flows.<br>• Then developing a small-scale pilot to test demand and feasibility of the service. |
| **Implementation conditions** | • An "active listening" approach to issues and complaints raised on social media to inform the policy agenda and to develop pilot projects. |

### (3e) "Outside-in" policymaking

Local citizens are empowered to set the policy agenda, driving a deep engagement in the governance of social issues. In Dobong, Korea, the municipality created a Sustainable Development Ordinance in 2015, to change the means of achieving development. It took an innovative governance approach, by organizing a Sustainable Development Committee through open election, and then the Committee and civil workers "establish related action plans and unit tasks" (Hope Institute, 2017: 1560). In doing so, it moved away from government-centric administration, and towards "outside-in" governance, with communities leading their own local development objectives.


Image: Tien Tuan

# 04

# Assesment of current policy in Viet Nam

## a. INSTITUTIONAL AND POLICY SETTING

Since the early 2000s, the Government of Viet Nam has placed science, technology and innovation (STI) at the center of economic policymaking, including its "industrialization and modernization" strategy. Within this, a substantial share of state support for R&D is channeled to public research institutes and universities, and also direct matching grants are available for SMEs' R&D projects. SMEs have benefitted from national Government support vis-à-vis a range of programs and STI-support institutions, including the National Program on Technology Innovation (2011-2020), the National Program on Hi-Tech Development, the National Product Development Program, the High-Tech Law 2008, the National Technology Innovation Fund (since its establishing in 2011), and Decree N-199/1999/ND-CP, which focused on support for SMEs' R&D projects.[6] Government support for SMEs to carry out innovation is provided via funding and tax incentives. In addition, in recent years encouragement and limited funding for start-up funding has been allocated (Klingler-Vidra and Wade, 2020). On top of these national support and policies, sub-national governments in cities and provinces also enact schemes to advance local innovation activities.

Despite the myriad efforts to upgrade technical capabilities, Viet Nam's SMEs still "mainly rely on the advantages of cheap labor and raw materials exploitation" (Le, Pham, Ho & Tran, 2016: 35). Small firms, thus, compete on a cost basis, not on the basis of innovation or quality, despite the technical capacity support that has been on-going for SMEs for years. SMEs have not been able to sufficiently invest in R&D to enter more complex, value-added processes (Do, 2016). Despite the growing number of multi-national firms, technology transfer between Vietnamese firms – either in the same or other sectors – accounts for over 68 per cent of technology transfer. So there are "FDI spill-overs", but not through direct linkages between domestic and foreign firms. The result is that the distribution of firms displays a 'missing middle' (Hakkala & Kokko, 2007). The limited knowledge transfer from large enterprises to domestic SMEs contributes to the persistence of the so-called 'Two-Speed Economy'. Thus, there is a need for encouraging further collaboration between SMEs and public research institutes, large firms, and universities. What's more, given the long-time existence of technical support for R&D, studies suggest that a new tack is needed: strategies to upgrade SMEs' soft skills so they are better equipped for embarking on and managing innovation activities.

Analysts assert that: "*the overall policy environment is still not yet geared to be conducive for the needs of innovation in general, even less so for inclusive and social innovation*" (Tran, 2017: 271). On the positive, governance changes have contributed to a growing number of social enterprises. A CIEM and British Council (2019) report found a marked rise in social entrepreneurship in Viet Nam, which they attribute in large part to the 2015 change in the Enterprise Law.[7] Prior to the legalization of social enterprises as a category, a smaller number was formally registered. In 2012, for instance, the report, *Social Enterprise in Viet Nam: concepts, context, and policies*, identified only 200 'core' social enterprises.

In the VISTI and Nesta (2019c: 4) account of Viet Nam's STI policy-making process, they point to a need for greater participation, in particular that there should be "open policy dialogue which aims to involve many different stakeholders". They do, though, say that, as of 2019, there are "initiatives to promote firm-level innovation, in areas such as pilots of public-private partnership

6 For full details of our review of STI policies, see our Appendix. In the Appendix, we distil the mechanisms available across a large range of STI policies implemented in Viet Nam. This includes, for example, the Technology Transfer Law 2017 and Decree 76/2018/ND-CP), the Science and Technology Law 2013, the Law on SMEs and investment in start-ups, and the 2008 High-Technology Law, amongst many others.

7 In the 2015 law, social enterprises were defined as: an enterprise that is registered and operates to resolve a number of social and environmental issues for a social purpose; and reinvests at least 51 percent of total profits to resolve the registered social and environmental issues.

co-financing for implementation of science and technology projects, or broader support for the national entrepreneurship and innovation ecosystem by 2025" (VISTI and Nesta, 2019c: 15). These initiatives appeared approximately twenty years ago, with Decree 119/1999/ND-CP providing state budget co-funding for up to 30% of SMEs' R&D project costs. The thrust of the VISTI-Nesta analysis suggests that the issue, now, centers on making policy in a more participatory, collaborative manner.

Viet Nam's policymaking context consists of multiple levels and variations in the ways that sub-national governments support local firms. Relevant to inclusive innovation policy, at the ministerial level, this includes the Ministry of Science and Technology, but also the Ministry of Planning and Investment, Ministry of Training and Education, and the Ministry of Natural Resources and Environment. At the regional level, local governments as well as the provincial Departments of Science and Technology, which enact their own policies and funding schemes. The Viet Nam Women Association was identified as active in supporting women-led businesses. Local government, such as commune authorities, provide support through the use of public event or office spaces. Local governments help by including small-scale manufacturers in trade shows they organize, which boosts the manufacturer's ability to reach potential customers.

## b. COVID-19 INCLUSIVE INNOVATION INITIATIVES

As of June 22nd, Viet Nam had reported a mere 349 cases of Covid-19 and zero deaths. The country's effective response has been supported by both the state's marshalling of resources, as well as collaborative efforts across large enterprises, universities, and grassroots innovators. The inclusive innovations address a range of issues, from testing for Covid-19, to handwashing and face coverings, to ventilators, to (online) education in light of school closures, to reducing food waste and, relatedly, to help feed those in need.

Covid-19 inclusive innovation in Viet Nam is underscored by collaboration. Examples include the Ministry of Industry and Trade (MOIT) issuing a call for both businesses and citizens to help rescue agricultural products, mostly watermelon and dragon fruit, that were stuck at the border to China. In response, supermarkets and consumers changed behavior so that massive quantities of these products were bought and consumed domestically. Another illustrative example of the state's response is Vietnam Posts and Telecommunications Group (VNPT) cooperating with the Ministry of Information and Communications (MOIC) and the Ministry of Health to launch the NCOVI application. This application provides the latest and official information on Covid-19 cases in Viet Nam and worldwide and shows the locations of Covid-19 infections in Viet Nam. The combination of state-led, academic and entrepreneurial efforts resulted in three research teams developing affordable Covid-19 test-kits by early March. Also, the amalgamation of the government's timely approval of non-medical anti-bacterial masks and textile firms changing production came together to ensure sufficient supply of personal protective equipment. Grassroots innovations, such as the "rice ATM" and the "pink bakery" movement, helped to ease the burden of the socio-economic impact of the lockdown by providing sustenance for the most vulnerable. Here, we discuss three of these Covid-19 innovations – the test kits, rice ATM and the pink bakery movement – which serve as inspiring examples of inclusive innovation, in turn.

**Affordable test-kits**

Countries' ability to flatten the curve of the Coronavirus spread has been essential to their overall response to the pandemic. Testing capacity is crucial to identifying – and then isolating – cases of infection. Thus, countries have sought to have access to affordable, and accurate, test kits. Viet

Nam has had three different research teams - the Viet Nam Academy of Science and Technology (VAST), the Institute for Military Medicine (IMM) and the Hanoi University of Science and Technology (HUST) develop affordable Covid-19 test-kits by early March 2020.[8] The IMM's work was being commissioned by the Ministry of Science and Technology. Virologists from this particular team, amongst others, were also invited to a meeting convened by the Ministry in late January, which placed test-kit development at the top of the agenda.

In addition to the role of the Ministry of Science and Technology, Viet Nam's National Institute for Hygiene and Epidemiology, for its part, was quick in working to isolate Covid-19 from patient samples so the virus could initially be studied. Equally, hospitals were effective in sending samples for research. Collectively, the government was active in coordinating sources of research materials (from hospitals), basic science, and applied science to ensure that Viet Nam had sufficient Covid-19 testing capacity.

**Pink bakery**

In response to the call by Ministry of Industry and Trade's (MOIT), both businesses and citizens joined the effort to rescue agricultural products[9] - mostly dragon fruits and watermelon - that were stuck at the border of China after Viet Nam shut down much of its trade with China due to coronavirus concerns. As a result, a baker, Kao Sieu Luc from ABC bakery, created the "pink bakery" movement, which uses dragon fruit in the production of bread, so that the produce does not go to waste. This created a new trend of baking "pink food" in the country, from KFC dragon fruit buns, to dragon fruit pizza bases and so on, is helping farmers to sell their produce. The pink bread was an instant sensation in Viet Nam and its popularity forced ABC bakery to increase production to 20,000 loaves of dragon fruit bread a day. ABC Bakery was also forced to limit customers to only buying five loaves at a time.

**Rice ATM**

In April 2020, a Ho Chi Minh City-based entrepreneur, Hoang Tuan Anh, set up the first "Rice ATM", which provides free food for Vietnamese people out of work, in a grassroots effort to ease the economic impact of unemployment as a result of Covid-19. The ATM provides 1.5 kilograms of rice to each person in the queue, once their smart phone order is processed. The first location is reported to have dispensed 5 tons of rice in its first two days of operation and had over 1000 people waiting in the queue. Since its creation, other entrepreneurs and charities across the country established similar rice ATMs across the country.

**Antibacterial masks**

Amid the coronavirus epidemic in Viet Nam, many textile businesses shifted to producing antibacterial masks to serve market demand. For example, since early February, Vinatex and its members cut part of their clothing production lines to produce antibacterial masks. By April 19th 2020, Viet Nam had shipped over 415.7 million cloth masks, fine dust masks, and two-layer fiber masks worth US$63.2 million to US and Europe according to the General Department of Viet Nam Customs[10]. With an annual garment export worth US$39 billion, Viet Nam is projected to become a leading face mask exporter. According to the Ministry of Industry and Trade, there are around 50

8 For more details on the development of Covid-19 test-kits in Viet Nam, see https://www.globalpolicyjournal.com/blog/09/04/2020/testing-capacity-state-capacity-and-covid-19-testing

9 See the MOIT announcement here: https://moit.gov.vn/web/web-portal-ministry-of-industry-and-trade/tin-chi-tiet/-/chi-tiet/ministry-of-industry-and-trade-seeks-measures-to-boost-consumption-of-farm-produce-17835-1308.html

10 http://hanoitimes.vn/vietnam-exports-415-million-face-masks-311952.html

firms capable all together of producing up to eight million antibacterial cloth masks per day. Viet Nam has also donated millions of face masks to many countries since the pandemic, including China, the US, the UK, Russia, Myanmar, Laos and Cambodia.

## c. POLICY REVIEW

The review canvassed seven policy areas, around science and technology innovation and social innovation: (1) mass innovation and entrepreneurship, (2) investment in science, technology and innovation (STI); (3) startup activity; (4) promote S&T organization and enterprises; (5) human resource development and attraction; (6) technology transfer; and (7) land use. The review is guided by the study's analytical framework, identifying each policy's objective, mechanisms and implementation conditions. The syntheses of specific policies (Laws, Decrees and Regulations) are included in the Detailed Policy Review in the Appendix, in a table that identifies each of the major policies within each of the seven policy areas.

Viet Nam's STI promotion policies strive to encourage the upgrading of SMEs' technical capacity and to encourage SMEs' further R&D activities, to drive greater participation in the production of innovation, and to boost efforts aimed at solving social or environmental challenges. Strategies are in place for supporting particular demographics (women entrepreneurs), regions (rural, agricultural production and disadvantaged regions) as well as investing in environmental and agricultural innovation. Table 3 analyzes each of the seven policy area's inclusive innovation objectives, mechanisms and implementation conditions, in line with the study's framework.

**Table 3:** Assessing the inclusiveness of Viet Nam's STI policies

| Policy area | Objectives | Mechanisms | Implementation conditions |
|---|---|---|---|
| **1. Promote mass entrepreneurship and innovation** | Encourages entrepreneurship and innovation activities for wider society; some efforts also explicitly encourage participation from particular demographics (e.g. women).[11] | – Contests, awards and competitions<br>– Financial support<br>– Information and knowledge dissemination<br>– Promoting networks<br>– Training | These efforts are appreciated, especially the contests, funding and training. The competitions for innovation in agriculture, tourism, and the more general competitions, could be further resourced. Also, mechanisms focused more explicitly on increasing rates of participation amongst underrepresented groups could be increased. |

11 See, for example, Decree 13/2012/NĐ-CP, which stipulates that competitions are run across the country to incentivize and reward innovations with financial prizes and certificates of merit. Anyone in society can participate, as long as the idea has benefit for their firm, community or wider society.

| Policy area | Objectives | Mechanisms | Implementation conditions |
|---|---|---|---|
| **2. Investment in STI activities** | Increase investment in STI; there are modest allocations for STI in disadvantaged areas, for agricultural innovation, and for environmental upgrading | – Preferential tax rates for particular activities or types of organizations<br>– Tax exemptions | The further provision of soft skills training programs would be a valuable complement to existing funding schemes and tax incentives that target inclusive activities, such as soft skills for agricultural innovation and STI activities led by disadvantaged groups. |
| **3. Start-up activities** | To increase the number and quality of start-up and scale-up activities;. | – Establishing legal frameworks<br>– Facilitation of university-based ecosystems<br>– Funding schemes<br>– Infrastructure support (co-working spaces and database access)<br>– Training, coaching and support related to IP, trade, etc. | Start-up promotion has been increasing, alongside the longer-established, and larger scale, SME support provisions.[12] Soft skills provision (e.g. further training and coaching) would be a useful complement to funding and tax provisions for startups aimed at socially-minded start-ups. |
| **4. Human resources attraction and development** | Incentives to attract and retain talent at universities, and to encourage collaboration between university and business. | – Co-creation environments and open labs<br>– Favorable working conditions<br>– Funding<br>– Network and collaboration opportunities<br>– Prizes<br>– Regulation<br>– Training and human resources<br>– Salary incentives | There are already provisions for special preferences for researchers coming from three targeted groups.[13] Building on this, effort could be made to encourage an even broader pipeline of talent, in terms of demographic and spatial participation traits. |

12 See the SMEs Law and Decree 96, for example, as evidence of long-established SME support.

13 Decree 40/2014/ND-CP (on using and treating S&T individuals) specifies general preferential treatment for S&T workers and special treatment for sector-leading S&T experts, S&T experts in charge of special state-level projects and young talented S&T workers.

| Policy area | Objectives | Mechanisms | Implementation conditions |
|---|---|---|---|
| **5. Promote technology transfer** | To aid the commercialization of technologies. Advances on environmental and social challenges – as well as agricultural productivity – are aims. | – Consultancy<br>– Database access<br>– Financial support<br>– Help with dissemination<br>– Investment priority<br>– Low-interest rate loans<br>– Support for intermediary institutions<br>– Tax incentives<br>– Training<br>– Tech-marks | Policies already allocate money explicitly for technology transfer activities that have to do with improving environmental performance and addressing social issues. Further attention could be paid to developing soft skills and to increasing inclusion in terms of who is transferring technologies to whom. |
| **6. Promote S&T organizations and enterprises** | These policies shape the S&T activities performed by state-run bodies, without specific reference to environmental or social aims, or the inclusion of SMEs | – Loan guarantees Preferential access to credit<br>– Reduced land and water surface rent<br>– Tax incentives (corporate and personal income) | Strategies could further encourage collaboration across S&T organizations, large enterprises, and SMEs. This type of collaboration promotion could be especially beneficial for those in remote regions. |
| **7. Land use** | Land use policies strive to balance economic growth and production increases with the protection of land for (small farm) agricultural production. | – Laws informing the use of land in terms of which crops can be cultivated and who has the right to use the land. | Greater clarification in land use rights could ease the administrative effort that SMEs and grassroots innovators need to invest in this aspect of their operations; this is particularly salient for agricultural innovation. |

Overall, Viet Nam already has a base of policies that support inclusive innovation, though not explicitly in the language of inclusive innovation. A primary next step for the further encouragement of SMEs' innovation capacity, in particular, is the provision of soft skills training, alongside funding and tax incentives, to encourage the upgrading of SMEs and the encouraging of grassroots innovators, as well as eliciting greater participation from underrepresented demographic groups, regions and traditional industries. There is also a need for further encouragement of collaboration across large enterprises and SMEs, particularly in the context of advancing inclusive innovation. To expand knowledge of where and how policies can be further developed, the below table provides a summary assessment of Viet Nam's policies in line with the types of inclusive innovation policies identified in the study of international experiences.

**Table 4:** Viet Nam's policies in comparison to international experiences

| Inclusive innovation policy types | Current activities in Viet Nam |
|---|---|
| **1. Promoting innovation across wide variety of firms**<br><br>(1a) SME-specific technical capacity building<br><br>(1b) Encouraging large firm-SME collaboration | (1a) R&D tax incentives are provided – through the CIT Law and the High Technologies Law, amongst others – to encourage the upgrading of SMEs' innovation capacity, by addressing the limitations they face in undertaking R&D. Notable SME-focused funding for the support for technology use and innovation for qualifying projects, via the SME Development Fund. Further efforts include the Ministry of Science and Technology's Program on S&T for Rural and Mountainous Area, which contributes to the process of using and implementing technologies to address the challenges of rural and mountainous areas, farmers and ethnic minority groups. Other programs, run by the Ministry of Industry and Trade as well as the Ministry of Agriculture and Regional Development, offer support for SMEs and farmer community development.<br><br>Further support could be provided in boosting SMEs' soft skills.<br><br>Training for SMEs that focuses on intellectual property rights, patent information access, technology management and more is offered to SMEs by agencies within the Ministry of Science and Technology, such as the National Agency for Technology Entrepreneurship and Commercialization Development (NATEC), the National Office of Intellectual Property, the State Agency for Technology Innovation, the Directorate for Standards, Metrology and Quality and the Viet Nam Institute for Science, Technology and Innovation (VISTI). In addition, training is offered to particular target groups, such as female founders, and also youth-founded, businesses. Such training is provided for a range of SMEs and entrepreneurs by non-governmental organizations, such as the Women Association, Viet Nam Union of S&T Associations, Viet Nam Chamber of Commerce and Industry, Farmer Association, and the Viet Nam Youth Union amongst others. These efforts could be complemented with greater soft skills training as well as R&D management training.<br><br>(1b) R&D tax incentives are provided through the S&T Law and Decree N-80 on S&T enterprises. There are incentives for businesses to collaborate on S&T with universities. However, clear and effective policies to encourage collaboration across large enterprises and small firms, in terms of R&D activity, are lacking. |

| Inclusive innovation policy types | Current activities in Viet Nam |
|---|---|
| **2. Encouraging mass innovation and entrepreneurship**<br>(2a) National campaigns and contests<br>(2b) Technology transfer<br>(2c) Logistics and infrastructure for e-commerce platforms | (2a) The current legal context provides for policies to promote initiative, technical improvement, product rationalization and innovation.[14] Within this broader context, specific innovation contests – that encourage mass innovation, such as the VIFOTEC National technical innovation contest, and the Viet Nam Talent Contest – have been carried out for many years in Viet Nam. Campaigns to promote workshop workers to suggest technical improvements have also been organized by the Labor Union. While such formats can propel inclusion, the contests and challenges are not followed up with support for commercialization and dissemination, so the scale of the outcomes are limited rather than amplified. In terms of inclusion, underlying regulations and laws do specify the promotion of innovation in order to bring benefits to wider society as an aim.[15] However, to be more inclusive in terms of participation, the contests do not give special consideration to applications from underrepresented demographics. Taken together, such contests are useful for promoting inclusive innovation, but could more purposefully drive inclusion through targeting specific participants, and would benefit from further resourcing and follow-up support.<br><br>(2b) Technology transfer is encouraged (through the Technology Transfer Law 2017 and Decree 76/2018/ND-CP) in socially-motivated arenas, such as high-tech, environmentally-friendly advances. This is done through the distribution of loans, provision of training, and by giving priority to bidding and access to high-tech parks. Policies support S&T enterprises and organizations, and individuals at research or higher education institutions as well as SMEs. To further promote commercialization, recent acts allow R&D results to be granted to researchers, universities or to research organizations.<br><br>(2c) There are plans in progress to develop physical hubs to support community initiatives and startups, especially at the provincial and local government level. For instance, in 2017 Binh Duong Province, near Ho Chi Minh City, announced plans to establish a Center for Community Initiatives and Startup Support.[16] Operational mechanisms vary from center to center. |

14 For details, see the S&T Law 2013 (specifically Article 47) and Decree N-13/2012/ND-CP on innovative initiatives.

15 See, for example, S&T Law 2013 and Government Decree N-13/2012/ND-CP with respect to the promotion of innovation initiatives in order to benefit wider society.

16 https://eng.binhduong.gov.vn/Lists/TinTucSuKien/ChiTiet.aspx?ID=1939&PageIndex=36

| Inclusive innovation policy types | Current activities in Viet Nam |
|---|---|
| **3. Promoting social innovation**<br><br>(3a) Awards, prizes and competitions<br><br>(3b) Public funding for collaborative social innovation<br><br>(3c) Co-location of social and technological innovators in same physical space<br><br>(3d) "Active listening" to identify issues<br><br>(3e) "Outside-in" policymaking | (3a) The Innovation for Community Challenge is Viet Nam's national contest that most closely encourages social innovation. The Challenge is open to ideas by organizations and individuals, with ideas for supporting their communities, reducing poverty and promoting socio-economic development. The Challenge, however, is not followed up, so winners are limited in the resources available to fully develop their ideas.<br><br>(3b) In Viet Nam, preferential tax rates are offered to encourage investment in STI in disadvantaged areas, to encourage agricultural development, and to motivate environmental protection, through the Investment Law and CIT Law. Further the Law on enterprises 2014 required the Government to provide incentive policies to promote and support the development of social enterprises; though specific incentives have not yet been issued.<br><br>(3c) The Law on SMEs (Article 12) provided for Government support for SMEs in terms of land-leases and tax incentives for co-working spaces and incubators. This basis offers an opportunity for the development of the physical co-location of social and technological innovators, such as that seen in the Seoul Innovation Park.<br><br>(3d) and (3e) The participation of various stakeholders in policymaking processes are encouraged by different kinds of business forums, policy dialogues and Meeting with Leaders. These operate in the spirit of "active listening" and "outside-in" policymaking.<br><br>The Covid-19 pandemic also offers salient contemporary examples of "active listening" or "outside-in" policymaking in the context of Viet Nam's innovation policymaking. For example, the process of review of cloth masks for non-medical usage, in which policymakers listened to the challenges and then proactively worked to review and approve the patent in a timely fashion. |

***Implementation conditions:*** In our Vietnamese fieldwork interviews, funding for growth was the most oft-cited challenge. Interviewees asserted that the lack of financial support for their businesses was a crucial impediment to expansion. Our detailed policy review, however, found numerous forms of support for SMEs' upgrading, in terms of state funding administered by multiple ministries, including the Ministry of Planning and Investment, the Ministry of Science and Technology, the Ministry of Industry and Trade and the Ministry of Agriculture and Regional Development. Specific funding mechanisms for SME upgrading include the National Technology Innovation Fund and the Ministry of Planning & Investment's SME Development Fund, and more, as well as tax incentives, training provision and the promotion of co-working spaces and incubators.

Further support is needed in terms of soft skills training for SMEs. There could be, for instance, a greater coupling of mentorship and training alongside financial support for SMEs. Provincial and city governments will each have their own unique approaches; the opportunity, going forward, is that more of the national and sub-national government policies and funding schemes incorporate soft skills development into their activities. Within this, digital marketing and skills training would be beneficial in order to fully promote mass entrepreneurship and entrepreneurship. Some of our interviewees explained that they are using digital platforms, such as Facebook and YouTube, as a central way of marketing and ultimately selling, their products. Others, aware of such means for growing the reach of one's business, said that their businesses would benefit from training on how to effectively use these platforms. However, they did not have this knowledge in-house, so were not able to access these platforms.

For SMEs, particularly in remote areas, there are challenges with physical dimensions of their business, including land, logistics and shipping infrastructure. Local warehousing, packaging and shipping infrastructure is insufficient for distributing goods to geographically-dispersed customers. So, if they are able to use e-commerce platforms, they then struggle to efficiently deliver their products due to underdeveloped physical infrastructure for warehousing, packaging and shipping. What's more, one interviewee expressed their desire to package and deliver their products in an environmentally sustainable way, by not using plastic. They hoped for training on how to package their products without using plastics.

Finally, interviewees identified NGOs, such as the Women Association, as especially beneficial, through the provision of funding (credit), consulting as well as leadership training. One interviewee, a rural agricultural cooperative implementing innovative methods, explained that the Women's Association "helped [them] to prepare documents for getting the development credit of VND 300 million at 5% interest rate (versus the commercial rate of at least 8%)." The consulting cost was also paid by the program. Another interviewee shared NGOs had "invited experts in marketing, branding and technology to teach the women entrepreneurs", including how to use organic fertilizer and how to use digital media platforms, such as Facebook and Zalo, for communication and marketing. These types of NGO-provided training could be further expanded and linked with government policy efforts.

# 05

# Recommendations

Image: Center for Disability and Development, DRD Vietnam

## a. FOR VIET NAM'S SEDS 2021-2025

*1) Mainstream inclusive innovation into the Socio-Economic Development Strategy*

Inclusive innovation policy is broader than STI policy; innovation also includes novel social and managerial practices. These varying types of innovation – rather than only technological innovation – are essential to achieving the UN Sustainable Development Goals (SDGs). To take forward truly inclusive innovation, policy needs to be mainstreamed into policy ideas and actions across ministries, not only in STI policy and in the new Strategy for 2021-2025. The forthcoming Socio-Economic Development Strategy, coordinated by the Ministry of Planning and Investment, could help to mainstream inclusive innovation policy by linking the strategy with the SDGs. As identified across our report, policies managed by a wide variety of ministries, ranging from the Ministry of Science and Technology, the Ministry of Industry and Trade, the Ministry of Agriculture and Regional Development, the Ministry of Planning and Investment, and the Ministry of Natural Resources and Environment, shape the context for inclusive innovation. The country's effective collaborations in response to the Covid-19 pandemic, across Ministries, research institutes, universities, entrepreneurs and grassroots innovators suggests that further collaboration in inclusive innovation is possible.

The aim is to mainstream inclusive innovation into policymaking, through a more coordinated, holistic approach. Given that provincial governments are implementing national decisions and decrees, there is a need for greater work with local and provincial governments to promote inclusive innovation across the country. The recommendation here is to leverage existing mechanisms to make innovation policymaking more inclusive. For instance, the network of Centers for S&T application exist in each province, which operates within the umbrella of the State Agency of Technology Innovation (SATI), in the Ministry of Science and Technology. The experience of the META Group in the Mekong River Delta, with SATI support, offers an example of how policymakers can effectively share experiences and resources. Another way of enhancing coordination via mainstreaming inclusive innovation is by increasing the reliance on the National Council for Competitiveness and Sustainable Development in the context of achieving the SDGs. Finally, this effort could be supported through the creation of an independent working group, which would include representatives from SMEs, large enterprises, grassroots innovators, universities and NGOs, to further institutionalize policymaking dialogues and "active listening" activities. Ultimately, this can help to increase inclusion in innovation policymaking, in terms of participation in agenda setting, design and feedback mechanisms.

*2) Leverage existing mechanisms to more effectively support SMEs and grassroots innovation*

Innovation policy for disadvantaged regions, for the advance of innovation in agricultural production and more sustainable energy in particular, is already in place. These channels could be leveraged to deploy further soft skills development, particularly amongst SMEs and grassroots innovators. Inclusive innovation intermediaries could help to encourage collaboration, and knowledge transfer, across large enterprises, public research institutes and SMEs. In particular, one recommendation is to encourage inclusive innovation intermediaries to connect the demands of SMEs and grassroots innovators to technological solutions of universities and research institutes, and then support the SMEs and grassroots innovators in identifying technical solutions to resolve their business challenges. A second recommendation is to focus on enhancing the effectiveness and efficiency of the National Technology Innovation Fund (NATIF) in supporting SMEs' innovation, by, perhaps considering the use of matching-funds mechanisms.

*3) Increase intended beneficiaries in the innovation policy design process*

In the international review, recent advances were identified in which policymakers involved target groups to ascertain items for the policymaking agenda and to glean feedback on policy (pilots) in practice. Moreover, there are examples in which local government was actually led by community groups, flipping the policymaking model so that target beneficiaries are in fact designing policies for themselves. Policymaking draws on the use of social media platforms help to inform the agenda, and novels ways of institutionalizing the role of community groups in the policymaking process. The recommendation here is to continue to build out the existing "active listening" and "outside-in" approaches already underway (e.g. the Business Forums, Policy Dialogue, Meeting with Leaders, etc.) to further increase participation in the policymaking process.

*4) Further resources for follow-up support for innovation contests*

Contests, prizes and awards offer a promising opportunity to encourage innovation and entrepreneurship across wider society. Two recommendations could help further boost the impact of these efforts. First, to build on these efforts by designing – and fully resourcing – follow-up funding and support for the winning projects. The winners of national innovation contests would benefit from further financial and training support, to develop their project at larger scale. These winners, then, would both be able to have a greater societal impact, through the advance of their winning project, and also a more substantial influence as a role model for successful innovation. Second, to encourage greater engagement of established businesses in the innovation contests. Already, the contests are open to anyone who has an idea for an improvement for the firm, community or wider society. But, contests and prizes that explicitly encourage SMEs to get involved would be a valuable complement to these efforts.

*5) Invest in rural infrastructure for storage, packaging and shipping*

We are at a unique inflection point, when rural entrepreneurs and innovators have the ability to distribute their products and services across the country and around the world, by harnessing digital marketing platforms. In the international review, China's provincial support for rural manufacturers, through the Taobao and Pinduoduo platforms, was identified as a useful example of ways to provide economic opportunities to rural manufacturers and farmers. In Viet Nam, fieldwork insights revealed that rural manufacturers and agricultural innovators are using e-commerce strategies, but are currently limited in their opportunities due to challenges with storage, packaging and logistics infrastructure. To address this challenge, we recommend programs – executed at the local commune or provincial levels – that foster investment in sustainable packaging and shipping infrastructure. More specifically, to foster investment in storage, packaging and warehousing infrastructure, financial support, such as tax holidays or preferential tax rates, may be needed.

*6) Provide soft skills coaching and training to encourage a mindset and culture of innovation*

Soft skills coaching and training – including entrepreneurship, problem-solving, creativity, leadership, communication, teamwork, digital skills, and technology management skills – is needed in order to further foster a culture of creativity, open mindedness and taking risk. The recommendation is to build on existing skills training provision, such as that offered by the Ministry of Science and Technology and Ministry of Planning and Investment, as well as NGOs, to expand the offering of soft skills training. This includes the provision of technology absorption and innovation support for SMEs, in terms of training and financial support for the designing, testing and development, marketing, commercializing of new products and services. Such soft skills coaching

and training could be provided alongside existing financial support, such that grant holders, for example, have access to coaching and mentorship on business planning and management advice. Partnerships could be sought with non-government organizations and private firms, and also, digital platforms themselves, to help deliver this range of coaching and training to SMEs and grassroots innovators across the country.

## b. FOR THE MPI'S DEVELOPING OF THE NATIONAL INNOVATION CENTER (NIC)[17]

*1) Incorporate inclusive innovation into the core of the NIC's aims*

The NIC represents an opportunity to develop a space for inclusive innovation. Before the operational level, in which programs are designed and the physical space is set, this begins with the goals, or mission, of the center. The SDGs represent a clear, inclusive set of goals, which could inform the way in which the center is designed in its physical and digital infrastructure. The goals of the center would be measureable, and could benefit wider society. The NIC would be a center for harnessing IR 4.0's ability to improve water sanitation, eradicating poverty, and more. In order to deliver on the NIC as a network-based center without rigid walls and fences, it could run programs, projects and learning platforms that help it to extend it digital reach well beyond its physical location. The digital nature of IR 4.0 technologies helps to achieve this, and in so doing, to bring in a broad set of innovators – including SMEs and grassroots organizations – across the country.

*2) Create accelerator programs that boost inclusive innovation*

On the program level, we recommend the creation of a SDG + IR4.0-themed accelerator programs at the NIC that strive to increase the participation of individuals from disadvantaged backgrounds, regions and industries. The accelerator programs could help to deliver soft skills training – on entrepreneurship management and digital literacy – to individuals from across society. On an individual basis, participation in an accelerator to advance a business idea would help the small number involved to develop their idea, and improve their human capabilities. But there would be a multiplier effect, as graduates in the accelerator would return to their home communities with the ideas and skills they acquired, and help to diffuse those resources across society. Again, the physical reach of the NIC could be greatly extended by opening its online platform to a broad community from the outset.

*3) Run coaching, training and consultancy programs*

At innovation centers around the world, there is a tendency for physical, and emotional, walls to separate the Center from the local area. An innovative approach to the NIC would be to encourage wider participation, so that more feel "at home" in the center. The recommendation is to welcome SMEs and grassroots innovators into the space by offering a range of "soft skills" as well as technical coaching and training programs. This could be called "technology extension" programs, that rely on both traditional and IR 4.0 learning platforms. Coaching, training and consultancy programs, particularly training on entrepreneurship, management skills for growing businesses, on incorporating research and development practices into more traditional industries, and digital literacy skills. The public-private partnership (PPP) mechanism could be used to encourage the

17 It is worth first noting that the government has already effectively established three high-tech parks in the country. The NIC offers an opportunity to advance a novel type of space at the dawn of the IR 4.0. The below suggestions focus on designing the NIC as novel in its inclusive approach to innovation. As this is just one center, and located outside of Ha Noi, there is of course a limit in the extent to which it can be truly nationally inclusive. Knowing these limitations, our recommendations center on the NIC inspiring a more holistic and collaborative approach to inclusive innovation across state, business and society.

business sector to take a greater role in the effort (as the Centers for the Creative Economy & Innovation in Korea exhibit). Large enterprises can be encouraged to invest in training and tailored support programs to support the broader innovation ecosystem.

*4) Make space for collaborative inclusive innovation*

One of the challenges of inclusive innovation is convening the holistic set of stakeholders. The NIC could offer a physical space for such interactions. Inclusive innovation events – perhaps held on a monthly or quarterly basis – at the NIC would be open to representatives from a variety of backgrounds, including policymakers, SMEs, large enterprises, universities, NGOs, and grassroots innovators (linking with the first recommendation, innovation that strives to achieve the SDGs). This would provide opportunities for "active listening" as policymakers would have regular interaction with a variety of innovators – including SMEs and grassroots innovators – to understand their evolving challenges and opportunities, particularly with respect to delivering on the SDGs.

*5) Create a studio for digital marketing*

Our research revealed that digital marketing channels are already enabling mass entrepreneurship in Viet Nam. In addition for a need for greater digital literacy, SMEs and grassroots innovators would benefit from support with producing high-quality digital content, such as advertisements as well as regular video programs. The NIC could offer a state-of-the-art digital marketing studio for a variety of users, from startups, to SMEs and grassroots innovators, so they can produce high-quality digital content to better market their products across Viet Nam and beyond.

## c. FOR COLLABORATION BETWEEN THE GOVERNMENT OF VIET NAM AND UNDP

There are several ways in which further collaboration between the Government of Viet Nam and the UNDP Viet Nam country office would benefit inclusive innovation policymaking in the context of the SEDS 2021-2025 and the National Innovation Center.

*1) Encourage the design of the NIC as a model of inclusive innovation promotion*

The UNDP Viet Nam team, along with the UNDP Regional Innovation Center based in Bangkok, have insight into the state-of-the-art ways in which inclusive innovation policymaking is being advanced. The UNDP Viet Nam Country Office team could collaborate with the MPI's NIC team to share best practices for how innovation centers across the Asia Pacific region – from Bhutan to Bangladesh to Thailand – are encouraging inclusive innovation. In the NIC design stage, regular meetings between the UNDP Viet Nam and the MPI team focused on the Center could help to effectively transmit questions, proposals and feedback on what has worked – and what has not worked – elsewhere.

*2) Foster knowledge sharing and an innovation culture*

The UNDP can help facilitate knowledge-sharing, of emerging practices throughout Viet Nam and the Asia Pacific region. Inclusive innovation policy is a fast-moving area, with exciting developments in governance approaches as well as means of government support. The UNDP team, in Viet Nam and the regional innovation center in Bangkok, keeps a pulse on inclusive innovation policymaking, in terms of evolving objectives, mechanisms and ways in which other locales address challenges in policy implementation. Within Viet Nam, as a complement to the Government's feedback mechanisms, UNDP can draw on its activities with social innovators and

SMEs, and collaborations with local governments, to provide regular insights into the ways in which new policies and initiatives are affecting intended beneficiaries. UNDP can also share experiences based upon targeted, regional partnerships, such as the CityLab it is running with Da Nang City to advance public service innovation.[18] Finally, UNDP can help to further mainstream inclusive innovation through the organizing of innovation system activities that bring together universities, SMEs community groups, and grassroots innovators. Collectively, these myriad activities can help to disseminate a culture of innovation, creativity and risk-taking across society.

3) *Partner to make advances on the Sustainable Development Goals: inclusive and sustainable innovation*

The UN Sustainable Development Goals, since being established in 2015, have provided a unifying set of objectives for governments, businesses and individuals, to advance sustainable, inclusive economic activity. Several of the Goals are explicitly focused on issues of inclusion; for instance, Goal 5 focuses on Gender Equality, and Goal 10, on Reduced Inequality. Other goals emphasize innovation, particularly Goal 9 on Industry, Innovation and Infrastructure. Public policy to advance inclusive innovation, then, necessarily strives to simultaneously deliver several SDGs. UNDP is able to support policymaking and private sector activity that strives to achieve the 17 UN Sustainable Development Goals. The recommendation is that the UNDP advises on how to translate the SDGs into action at different stages, including in policy strategy, in measuring performance, and in reporting activities. A concrete recommendation is for the Ministry of Science and Technology and UNDP to collaborate in creating an Innovation Lab, in which innovative entrepreneurs would work to advance IR 4.0 solutions – as grassroots innovators or small firms – to address the SDGs in Viet Nam. The Innovation Lab could focus on the participation of a range of innovators to experiment with IR4.0 technologies to address challenges in agriculture, environment and urban development.

4) *Design thinking: build feedback loops in the policymaking processes*

Building on the first two areas for greater collaboration, the third recommendation for UNDP-Government of Viet Nam activities vis-à-vis inclusive innovation is to leverage UNDP's work on design and portfolio thinking into innovation policymaking. UNDP has, itself, reorganized to deliver activities in a new, more "design-led" manner. This include the use of (short) feedback loops, to assess how pilots, or variations on an approach, work in practice. The new (as of mid-2019) Accelerator Labs team in Viet Nam is set up as a network to facilitate learning in design thinking, in how to approach challenges, and novel ways of organizing people and places. This lends towards policymaking through iterative processes, by running pilots to glean insights before rolling out larger, long-term initiatives and in collaborating across government entities. Such an approach could be a strong contribute towards inclusive innovation policymaking, which is inclusive in both how it's made – by involving target beneficiaries in the design and pilot processes – and in terms of its targets – aiming to involve more of society in innovation. This design thinking mindset could help to upgrade the capabilities of innovation policymakers at all levels, helping to put people at the center of every policy.

18 For more on the UNDP Da Nang CityLab, see a UNDP Viet Nam post by Nguyen Tuan Luong in December 2019, on the beginning of the CityLab efforts, and its initial focus on waste management.

**Table 5: Summary of inclusive innovation policy recommendations**

| FOR VIET NAM'S SEDS 2021–2025 | FOR THE MPI'S DEVELOPING OF THE NATIONAL INNOVATION CENTER (NIC) | FOR COLLABORATION BETWEEN THE GOVERNMENT OF VIET NAM AND UNDP |
|---|---|---|
| 1. Mainstream inclusive innovation into the Socio-Economic Development Strategy | 1. Incorporate inclusive innovation into the core of the NIC's aims | 1. Encourage the design of the NIC as a model of inclusive innovation promotion |
| 2. Leverage existing mechanisms to more effectively support SMEs and grassroots innovation | 2. Create accelerator programs that boost inclusive innovation | 2. Foster knowledge sharing and an innovation culture |
| 3. Increase intended beneficiaries in the innovation policy design process | 3. Run coaching, training and consultancy programs | 3. Partner to make advances on the Sustainable Development Goals: inclusive and sustainable innovation |
| 4. Further resources for follow-up support for innovation contests | 4. Make space for collaborative inclusive innovation | 4. Design thinking: build feedback loops in the policymaking processes |
| 5. Invest in rural infrastructure for storage, packaging and shipping | 5. Create a studio for digital marketing | |
| 6. Provide soft skills coaching and training to encourage a mindset and culture of innovation | | |

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**[1]** Here we use the OECD definition of SME, and MSME, according to number of employees, as up to 249. Micro-enterprise (1 to 9), small firms (10-49) and medium-sized enterprises (50-249).

**[2]** Adapted from Stanley I, Glennie A and Gabriel M (2018) *How inclusive is innovation policy? Insights from an international comparison*, London: Nesta

**[3]** According to Ali Research, by 2018 there were already more than 3,000 Taobao Villages (Peng et al, 2019), and then more than 4,000 by August 2019 (see http://www.xinhuanet.com/english/2019-08/02/c_138278689.htm).

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2. Tran Ngoc Ca, VISTI, 7 August 2019
3. Nguyen Van Tang, National Technology Innovation Fund (NATIF), 9 August 2019
4. Phan Huong, Newton Fund Viet Nam, 12 August 2019
5. Agricultural cooperative, Bac Ninh, 23 December 2019
6. Clean farm, Bac Ninh, 23 December 2019
7. Agricultural cooperative, Bac Ninh, 23 December 2019
8. Education advisory services, Ha Noi, 2 January 2020
9. Science and technology education training provider, Ha Noi, 3 January 2020
10. Agribusiness education, Ho Chi Minh City, 3 January 2020
11. Education and training services, Ho Chi Minh City, 3 January 2020
12. Education for people with disabilities, Ho Chi Minh City, 3 January 2020
13. Youth social and development innovator, Ha Noi, 3 January 2020
14. Youth education, Ha Noi, 3 January 2020
15. Rural English education provider, Ninh Thuan, 3 January 2020
16. Online education provider, Ha Noi (by telephone), 6 January 2020
17. Food and entertainment startup, Bac Giang (by telephone), 8 January 2020
18. Natural product manufacturer, Ha Gian, (by telephone), 11 January 2020
19. Small appliance manufacturer, Ho Chi Minh City (by telephone), 11 January 2020
20. Food and entertainment service, Ha Noi (by telephone), 12 January 2020
21. Service and technology consultancy, Ho Chi Minh City, 12 January 2020

# APPENDIX: Detailed Policy Review

### *1. Policies to promote mass entrepreneurship and innovation*

*1.1. Support for women's entrepreneurship and innovation*

In 2017, the Prime Minister issued the Decision 939/QĐ-TTg to approve the Project to support women entrepreneurship in 2017-2025.

| | Decision 939/QĐ-TTg |
|---|---|
| **Objective** | • To support women materializing their business ideas and models.<br>• Though innovation is not the dominant objective of this project, it does support innovative business models at local levels and it is highly inclusive because supported businesses are often small and located at less developed areas.<br>• Especially, it targets women-led and women-owned business models and provides valuable incentives and assistance. |
| **Mechanisms** | • Funding<br>• Training<br>• Promoting networking and trade links<br>• Strengthening agencies responsible for supporting women's innovation and entrepreneurship |
| **Implementation conditions** | • Implemented by the Viet Nam Women Association<br>• Many women-led businesses have been supported under this project |

*1.2. Support for youth and student entrepreneurship and innovation*

The Viet Nam Youth Union developed the Project for Youth Entrepreneurship 2019-2022, the latest version of the Program to support youth entrepreneurship, first initiated in 2016.

| | Project for Youth Entrepreneurship 2019-2022 |
|---|---|
| **Objective** | • Support at least 1,000 start-up projects, providing knowledge about entrepreneurship for at least 5 million young people.<br>• The Project target groups are students in higher education institutions, young people in rural areas and young entrepreneurs. |
| **Mechanisms** | • Information and knowledge dissemination<br>• Providing training and consulting for young entrepreneurs<br>• Establishing a fund to support youth entrepreneurship<br>• Supporting marketing activities and networking<br>• Contest for Innovative business projects by rural youth in 2018 and 2019 to attract young people to business activities in rural areas |

| Project for Youth Entrepreneurship 2019-2022 | |
|---|---|
| **Implementation conditions** | • The policies have been widely implemented throughout the country.<br>• Provincial Youth Unions have developed their own projects to support innovation and entrepreneurship by young people in their provinces. For example, Hung Yen province's Youth Union has developed a project to support local young people innovating and starting businesses. In Lam Dong province, they have developed programs like "Practical exchanges, business linkup" or "Youth entrepreneurship club". |

*1.3. National contests to encourage innovation*

a. National technical innovation contest by VIFOTEC

| VIFOTEC National technical innovation contest | |
|---|---|
| **Objective** | • Provincial technical innovation contests encourage innovative activities at local levels and attract innovative projects by people of various ages and backgrounds. |
| **Mechanisms** | • National innovation contests.<br>• Also separate innovation contests for students and children. |
| **Implementation conditions** | • The Viet Nam Fund for Technical Innovation Support (VIFOTEC) was established in 1992 and it has organized national technical innovation awards since then.<br>• This innovation promotion model is also implemented at the provincial level as a way of selecting best local projects for the national contests.<br>• The contests receive submissions from individuals from less developed areas. |

*b. Viet Nam Talent Contest*

The Viet Nam Talent Contest is a national contest for science and technology projects in various sectors such as ICT, environment, and health.

| Viet Nam Talent Contest | |
|---|---|
| **Objective** | • Attract talented people to technical innovation activities and encouraged innovation activities throughout the country. |
| **Mechanisms** | • Calls for submission of R&D projects and innovative ideas for specific themes.<br>• In 2019, a new set of prizes for self-study talents was awarded to two so-called grassroots projects: "Commercializing treated wastes" by Mr Do Le Chi from Quynh Phu district, Thai Binh province and "Cassava cutting machine" by Mr Ha Kim Toi, a farmer from Thanh Ba district, Phu Tho province. |
| **Implementation conditions** | • The Contest is co-organized by Dan Tri Newspaper and Viet Nam Posts and Telecommunications Group (VNPT) and encouraged by the Government. Its award ceremony is often attended by ministers and high-ranking officials.<br>• Many prizes have been awarded to projects developed by state-sponsored organizations (research institutions, universities) or enterprises in both public and private sectors located in big cities or provinces.<br>• Further follow-up support for commercialization and dissemination could increase the potential impact of this effort. |

*c. Innovation for Community Challenge*

The Innovation for Community Challenge has been organized biannually since 2015 by the Ministry of Science and Technology, The Communist Journal, the Confederation of Labor Unions and Viet Nam Electricity Group (EVN).

| | Innovation for Community Challenge |
|---|---|
| **Objective** | • Aims to create opportunities for organizations and individuals to present their inventions and innovations for supporting communities, reducing poverty and promoting socio-economic development.<br>• The challenge is designed to encourage innovations in the general public and at grassroots level. |
| **Mechanisms** | • An innovation challenge that is open to submissions from all localities and different kinds of groups and individuals, ranging from senior citizens to primary schoolers. |
| **Implementation conditions** | • Many cities and provinces encourage their local entities and individuals to submit to the provincial and national challenges.<br>• Like other innovation contests and challenges, further follow-up activities to support these projects could help them to fully develop and generate wider social benefits. |

### *2. Investment in STI activities*

Investment promotion policies are specified in the Law on Investment 2014, the Law on Corporate Income Tax (CIT) 2008, and the Law on High Technologies 2008. These Laws provide for promotion ranging from tax treatments (preferential CIT, import tax, non-agriculture land use tax) to supporting policies such as: credit support, training and human resources development assistance, market development, and information provision assistance.

*2.1. Hi-tech enterprises and high-tech R&D activities*

Incentives to promote hi-tech enterprises and hi-tech R&D activities include a preferential CIT, import tax, non-agriculture land use tax and other preferences. Many technologies in the *List of prioritized high technologies* and products in the *List of hi-tech products* are advanced, environmentally-friendly and energy-saving technologies. The prioritized list also targets technologies of IR 4.0 that can inclusively impact and benefit the wider population, including virtualization & cloud computing technology, converting & storing renewable energy sources technology, artificial intelligence technology, big data & big data processing technology, robot technology, power generation systems powered by wind, solar, tidal, sea wave or geothermal energy. However, boosting societal inclusion in the production of these technologies is not an explicit aim.

The policies do deliberately promote high-technology application for agricultural enterprises, acknowledging that enterprises and farmers in the agricultural sector need special attention to access the innovation process. The inclusive factor is also shown by the fact that SMEs only have to meet lower conditions and requirements to be recognized as high-tech enterprises. However, these legal documents do not mention innovation by small groups or individuals who can be important innovators and who innovations are not supported by policies at any level.

| | Hi-tech enterprises and high-tech R&D activities |
|---|---|
| **Objective** | • To encourage enterprises to invest in advanced technologies or hi-tech activities |
| **Mechanisms** | • **Preferential CIT, according to the CIT Law and the High Technologies Law**: enterprises can receive 10% CIT in 15 years, tax exemption for 4 years, 50% reduction for the next 9 years for qualifying new projects.[19]<br>• Projects qualifying for the **preferential import tax and preferential non-agriculture land use tax** can receive: (i) tax exemptions for imported goods for the purpose of creating fixed assets; (ii) tax exemptions for raw materials or components which must be imported because of local manufacturing failure to meet production requirements of investment projects; (iii) tax exemptions for non-agriculture land use tax.<br>• Projects that belong to the *List of business lines eligible for investment incentives* include: (i) **investment in R&D; (ii) production of energy-saving products**; etc.<br>• Projects can receive: (i) **tax exemptions** for imported goods for the purpose of creating fixed assets; (ii) 50% **non-agriculture land use tax reduction**.<br>• According to the High Technologies Law, hi-tech enterprises and hi-tech application agriculture enterprises can also receive financial support from the national hi-tech development program for training, research and development or trial production. |
| **Implementation conditions** | • The various Laws have different terms, conditions, and lists of business lines and areas that are eligible for support. To track down and apply for their rights and benefits, enterprises must read many different and complex legal documents, and as a result, endure significant cost. For more specific criteria and guidance, see:<br>• Decision 19/2015/QD-TTg for criteria for identifying hi-tech enterprises.<br>• There are distinct criteria for companies to be recognized as a hi-tech application agricultural enterprise (see Decision 19/2018/QD-TTg).<br>• To receive preferential import tax and preferential non-agriculture land use tax, enterprises need to fulfil requirements in the Investment Law and its guidance decrees (see Decree 118/2015/ND-CP). |

*2.2 Policy to promote STI in disadvantaged areas, agricultural projects and environmental protection projects*

**The Investment Law and CIT Law also have incentives for investment in disadvantaged areas, agricultural development and environment protection**. This can create knowledge and skills spill overs to local people and entrepreneurs and help them become more innovative in their own ways.

19 (1) Incomes of new projects in economic zones, and hi-tech zones; (2) Income from new projects on: (i) scientific research and technology development; (ii) application of high technologies, development of high technologies, development of hi-tech enterprises; high-risk investment in the development of high technologies in the list of prioritized technologies. The list of prioritized technologies is specified in Decision 66/2014/QD-TTg of the Prime Minister (amended by Decision 13/2017/QD-TTg and Decision 34/2019/QD-TTg).

| | Investment Law and CIT Law |
|---|---|
| **Objective** | • To incentivize STI investment in disadvantaged areas, to encourage agricultural development, and to motivate environmental protection. |
| **Mechanisms** | • In case of preferential CIT, according to the CIT Law, enterprises can receive 10% CIT for 15 years, tax exemption for 4 years, 50% reduction for the next 9 years for qualifying incomes.[20]<br>• A 10% tax rate is applicable to qualifying income streams[21]<br>• A tax rate of 17% for 15 years is applicable to income from new projects in particular activities.[22] |
| **Implementation conditions** | • To receive preferential import tax and preferential non-agriculture land use tax, new projects must belong to the *List of business lines* eligible for special investment incentives or the *List of business lines eligible for investment incentives*.[23]<br>• Investment into **localities facing extreme socio-economic difficulties or localities facing socio-economic difficulties can also enjoy preferential import and non-agriculture land use tax**. These projects can receive: (i) Tax exemptions for imported goods for the purpose of creating fixed assets; (ii) Tax exemptions for raw materials or components which must be imported because of local manufacturing failure to meet production requirements of investment projects; (iii) Tax exemptions or reduction for non-agriculture land use tax. |

### *3. Start-up activities*

#### *3.1. Law on SMEs and investment in start-ups*

Start-ups have been officially and enthusiastically supported under the Law on SMEs in 2017, Decree 38/2019/ND-CP and Decree 39/2018/ND-CP. Start-up is defined in the Law on Assistance for SMEs as "an SME that is established to implement its business ideas based on the exploitation of intellectual property, technology and new business models and is able to grow quickly". Incentive policies for start-ups, as prescribed in the Decree 39/2018/ND-CP, cover multiple elements to help start-ups develop and commercialize their products, as detailed policies are provided in the table below.

20 (1) Incomes from new projects in localities facing extreme socio-economic difficulties. The list of localities facing extreme socio-economic difficulties and localities facing socio-economic difficulties are issued in the Decree 118/2015/ND-CP; (2) Income from new projects in software production; production of composite materials, light building materials, rare materials, renewable energy, clean energy, energy from waste destruction; development of biological technology, and environment protection.

21 (1) Income from planting, cultivating, and protecting forests; from agriculture, forestry, and aquaculture in localities facing socio-economic difficulties; from the production, multiplication, and cross-breeding plants and animals; from the production, extraction, and refinement of salt; from investment in post-harvest preservation of agriculture products, aquaculture products, and food; (2) Incomes of cooperatives from agriculture, forestry, fisheries, and salt production that are not in localities facing socio-economic difficulties or localities facing extreme socio-economic difficulties.

22 (1) Income from new projects in localities facing socio-economic difficulties; (2) Incomes from new projects in: production of high-grade steel; production of energy-saving products; production of machinery and equipment serving agriculture, forestry, aquaculture, salt production; production of irrigation equipment; production and refinement of feed for livestock, poultry, and aquatic organism; development of traditional trades.

23 This, for example, includes: (i) software production; production of composite materials, light building materials, rare materials, renewable energy, clean energy, energy from waste destruction; (ii) agricultural investment (forestry, aquaculture, farming, animal breeding…); (v) environment protection and infrastructure construction investment (waste collection, treatment, water supply, drainage system, recovery of oil spill, landslide, dyke, riverbank, seashore, dam, reservoir erosion, and other environmental emergencies…), etc.

| | Decree 39/2018/ND-CP |
|---|---|
| **Objective** | • To encourage the establishing of startups and the commercialization of their products and services. |
| **Mechanisms** | • Support on consultancy on intellectual property (IP); IP utilization and development.<br>• Support on procedures for technical regulations and standards, quality measurement; testing and improvement of new products and business model.<br>• Support on technology applications and transfers. This covers 50% of the cost of the contract for high technology applications and contract for technology transfers but not exceeding VND 100 million per contract (one per year).<br>• Support on training, information, trade promotion, and commercialization.<br>• Support on technical facilities, incubators, and common working areas. |
| **Implementation conditions** | • These new policies will take time to be fully implemented and bear fruit.<br>• Start-ups in Viet Nam are usually established by young people with technological backgrounds. Those active in the growing start-up scene tend to be well-educated and from (or living in) major cities. Thus, those directly benefiting from this support are not demographic or spatial targets of greater inclusion. |

To support startups, the government also issued Decree 38/2018/ND-CP, which encourages investment in innovative SMEs. In particular, the aim is to advance the private capital – including venture capital – sources available for Vietnamese startups. This is done through the advance of a legal framework for venture capital funds as well as a state-owned fund that invests in venture capital funds, in order to increase the pool of capital available to start-ups.

| | Decree 38/2018/ND-CP |
|---|---|
| **Objective** | • To encourage private equity investment, particularly venture capital funding, available for start-ups. |
| **Mechanisms** | • **Legal framework for private venture capital funds.** Stipulates the establishment, management and operation of venture capital funds.<br>• **Establishing of the SME development fund, which is a not-for-profit, state-owned fund.** |
| **Implementation conditions** | • While the venture capital funds for start-ups are private funds, they can receive investment from both private sector and local governments.<br>• While the legal framework for state-invested venture capital funds is relatively developed, its implementation has been slow. Since the issuance of these decrees there has not yet been any state-invested fund. Ha Noi City, for instance, has announced that they will create a venture capital fund, but the fund has not been officially created. |

*3.2. Project 844*

In 2016, the Prime Minister issued the Decision 844/QD-TTg on approval of the project "Supporting start-up ecosystem until 2025". This project is often referred to as Project 844.

| | Project 844 |
|---|---|
| **Objective** | • To create favorable conditions for enterprises that can grow fast on the basis of IP, technology and new business models. The project aims to support (indirectly) 2,000 start-up projects and 600 incorporated start-ups.<br>• It does not take inclusivity per se into account. However, small projects developed by young people from less developed regions do also receive support from the project. |
| **Mechanisms** | • The project gives technical and financial support for incubators and accelerators, builds a national portal on start-up activities, organizes annual start-up festival (TechFest), provides training and coaching, and improving technical infrastructure for innovation, etc. |
| **Implementation conditions** | • Project 844 has supported innovation activities and start-ups not only in big cities but also in less developed regions. Through supported partners such as Da Nang Start-up Incubator (DNES) in Da Nang and Business Start-up Support Center (BSSC) in Ho Chi Minh City, start-ups and start-up support agencies in central and southern provinces have been trained and assisted.<br>• One interesting project supported by Project 844 is the Tra Vinh Khmer Cultural Village, which applies IT and modern management to develop a traditional cultural site into a sustainable cultural and tourist attraction. |

***4. Human resources attraction and development policies***

The Government has employed talent attraction and retention policies in scientific and technological areas. Decree 40/2014/ND-CP stipulates regulations and incentive policies for talent and leading scientists as follows:

| | Decree 40/2014/ND-CP |
|---|---|
| **Objective** | • To attract talent to scientific and technological activities.<br>• To encourage research and scientific activities.<br>• These incentivize individuals working in S&T, especially young people (under 35). However, they do not aim to promote inclusion.<br>• A more inclusive version of these policies would strive to bring underrepresented demographics into these talent pools. |

| | Decree 40/2014/ND-CP |
|---|---|
| **Mechanisms** | • **Regulations on scientific and technological titles.** Such individuals with high scientific and technological titles will be provided with favorable salaries, workplace (adequate facilities, equipment, laboratories), and a late retirement age.<br>• **Training and retraining human resources:** ministries and local government create plans for training human resources working in scientific and technological area.<br>• **Policies for utilizing leading scientists[24]:** qualifying scientists can enjoy the following privileges, (a) Salary double of current salary, (b) annual funding for research, (c) funding for lab usage, (d) funding for publishing research results to international journals, (e) funding for attending scientific seminars at home and abroad; (f) funding for organizing workshops.<br>• **Policies for appreciating young scientists:** (a) considered for special recruitment to work in public scientific and technological organizations and enjoy higher salary than normal (wage coefficient of 5.08). (b) Being given priority to participate in post-doctoral research programs specialized in science and technology in Viet Nam or abroad; be given priority to send to work for a limited period in overseas science and technology organizations; be given priority to directly preside over potential scientific and technological tasks in the specialized domain. (c) May be assigned the ownership or the right to use results of scientific and technological research (funded by the state budget) to set up a science and technology enterprise. (d) Funding for national lab usage. (e) Funding support for publication of scientific and technological results, registration of IP rights over inventions in Viet Nam and abroad. |
| **Implementation conditions** | • The Ministry of Science and Technology has the main responsibility to elaborate plans on fostering and improving professional skills for individuals engaged in scientific and technological activities.<br>• The MOST is also responsible for plans to train outstanding research groups according to priority and key science and technology fields. |

24 The decree stipulates criteria and procedures for a talent to be recognized as a leading scientist as well as his/her responsibilities after being recognized (every year, a leading scientist must have at least 1 scientific article published in a prestigious international journal or writing 1 specialized book or having 1 patent; chairing at least 1 international scientific conference; directly participate in training science and technology human resources, in science and technology development policy formulation...).

### *5. Promote technology transfer*

The Technology Transfer Law 2017 and Decree 76/2018/NĐ-CP use different approaches to promote technology transfer activities. Collectively they have the following objectives, mechanisms and implementing conditions – some of which are inclusive in their objectives.

| | Technology Transfer Law 2017 and Decree 76/2018/NĐ-CP |
|---|---|
| **Objective** | • To promote transferring of advanced technologies, Industry 4.0 technologies, environmentally-friendly technologies and to limit outdated technologies which pollute the environment and cause negative externalities to society.<br>• The inclusive nature of policies on technology transfer is noticeable. For instance, the focus on high-tech, environmentally friendly, energy-efficient technologies and technologies which can address social issues. |
| **Mechanisms** | • Different mechanisms are available to encourage technology transfer. The full range of support includes:<br>• **Loans given with preferential interest rates.**<br>• **Hiring consultants** to evaluate adjustments made to equipment, technology processes and production lines; and to train and improve the enterprise's capacity to adopt and absorb technologies.<br>• **Financial support, loan guarantees and interest subsidies** from the National Technology Innovation Fund or credit institutions<br>• **Priority to invest in the high-tech park**<br>• **Prioritized in bidding** for purchase and supply of public products and services<br>• Searching and hiring professionals to analyze and evaluate R&D process and findings<br>• Participate in **training courses** to improve capacity to absorb technology;<br>• The Government supports market demand and supply by purchasing scientific and technological research results from enterprises (for technologies on the List of technologies encouraged for transfer); buying technologies and inventions that have been applied on a small scale and then transfer to enterprises for application and dissemination to the public. |
| **Implementation conditions** | • The efforts aim to support a range of different actors involved in technology transfer, including (a) enterprises investing in prioritized business lines and disadvantaged areas under the Investment Law; (b) organizations and individuals performing reverse engineering and investing in infrastructure for reverse engineering; (c) Science and technology organizations which produce R&D findings and associate with local organizations for applying or transferring technology; (d) Individuals who work at research institutions or higher educational institutions and carry out technology transfer, application and innovation at manufacturing facilities. |

The 2018 Law also has a separate Article and Decree 83/2018/NĐ-CP aimed at promoting technology transfer in the agriculture sector. In Viet Nam, technology transfer activities in agriculture sector are often called "khuyến nông" (agricultural extension services). Agricultural extension activities are usually carried out under central agricultural extension programs or provincial and local programs. Program staff often go directly to villages and communes to teach farmers about techniques, production methods or organize training course. Decree 83/2018/NĐ-CP has increased the maximum support level for extension activities compared to the previous decree as follows:

| | **Decree 83/2018/NĐ-CP** |
|---|---|
| **Objective** | • Incentivize technology transfer in the agricultural sector.<br>• Inclusion is an aim of these policy efforts. For instance, training minority ethnic and female to become agricultural extension is prioritized, and priority is given to pilot models operating in disadvantaged areas and extreme disadvantaged areas. |
| **Mechanisms** | • **Training support:** covers up to 100% costs of documents, meals, commuting and accommodation allowances during agricultural extension training courses and surveys.<br>• **Dissemination help:** (a) Cover up to 100% costs of developing agricultural extension contents that are disseminated through mass media, releasing agricultural extension magazines, documents and publications, organizing agricultural extension events; (b) cover the costs of documents, meal, commuting and accommodation allowances when attending agricultural extension events.<br>• **Model development and multiplication policies:** (a) cover up to 100% costs of varieties, equipment and materials necessary for pilot model in disadvantaged areas, and extremely disadvantaged areas; (b) Hi-tech farming models shall be provided with up to 40% of total funds for pilot model; (c) Agricultural production and trade management models shall be provided with up to 100% of funds for pilot model but must not exceed VND 100 million per model; (d) Cover up to 100% costs of provision of training, dissemination, organization of conferences and seminars and model learning tours.<br>• **Incentive policies for consultant organizations:** Organizations and individuals providing consultancy services and agricultural extension services are given priority to land lease, preferential loans, tax and fee exemption and reduction. |
| **Implementation conditions** | • Funding for agricultural extension activities mainly comes from the state and local budgets for extension programs. Part of the funding comes from other programs, which share same purposes and objectives. |

### *6. Policy to promote S&T organizations and enterprises*

The Science and Technology Law and its guiding decrees have issued regulations to support the activities of S&T organizations and enterprises, as detailed in turn below.

*6.1. Science and technology organizations*

The Law and Decree 08/2014/NĐ-CP have detailed regulation on the establishment, organizational structure, governance and reorganization of science and technology organizations. These regulations have created a full legal framework to facilitate these organizations' S&T activities. In addition, Decree 54/2016/ND-CP also provides a number of incentives for public science and technology organizations.

| | Decree 54/2016/ND-CP |
|---|---|
| **Objective** | • To encourage the operations and product development of (public) science and technology organizations. |
| **Mechanisms** | • Preferential credit policies of the Viet Nam Development Bank<br>• Ability to borrow money from the National Science and Technology Development Fund, the National Technology Innovation Fund, the Science and Technology Development Fund in ministries, local governments and other funds to carry out science and technology activities;<br>• If these organizations have financial autonomy, they can enjoy the following incentives: (a) 10% income tax rate for fifteen years; (b) tax exemption for no more than four years and reduction of 50% of payable tax amount for no more than the next nine years; |
| **Implementation conditions** | • These efforts could drive the further dissemination of knowledge, and collaboration across public S&T organizations and private firms, especially SMEs. |

*6.2. Science and technology enterprises*

In addition to the high-tech enterprises concept in the Law on High Technology, the Law on Science and Technology develops a brand of science and technology enterprises (STE). To create funding resources for these enterprises, the Government issued Decree 95/2014/ND-CP on investment and financial mechanisms regarding science and technology activities. The Decree has the following main points: (a) ensure S&T spending from 2% or more of the total annual state budget expenditure, and increase gradually according to the development requirements of S&T; (b) regulations on the establishment of S&T development funds of Ministries, local governments, SOEs and private enterprises; (c) SOEs have to spend from 3% to 10% of income before tax for S&T development fund; private enterprises can spend maximum 10% of income before tax for S&T development fund.

Most recently, preferential policies for these enterprises are stipulated in Decree 13/2019/ND-CP as follows:

| | Decree 13/2019/ND-CP |
|---|---|
| **Objective** | • The aim is to support S&T enterprises. Efforts can potentially indirectly support innovative SMEs throughout the country, but they are not designed in an intentionally inclusive manner. |
| **Mechanisms** | • **Corporate income tax**: Income from production and trading of products formed from scientific and technological results are entitled to 4 years tax exemption and 50% reduction of payable tax amounts for 9 subsequent years.<br>• **Land rent and water surface rent:** An STE is entitled to the reduction or cancellation of land rent and water surface rent in accordance with provisions of the law on land.<br>• **Credit** (preferential interest rates and/or guaranteed lines of credit)<br>• **Support for research activities and commercialization of scientific and technological achievements:** (a) Export and import tax incentives for scientific research, technological development and production and business activities; (b) priority and free service fees when using machinery and equipment at key national laboratories, technology incubators, scientific and technological research facilities of the Government; (c) priority to participate in commercialization supporting projects of the State's scientific and technological results and intellectual property; (d) Exemption from registration fee when registering land use right and house ownership.<br>• **Support for technology use and innovation:** (a) Investment in facilities for reverse engineering activities may receive capital support, loan guarantee and loan interest rate support up to 50% interest rate at commercial banks from the National Technology Innovation Fund; (b) Projects participate in industry clusters and value chains can receive loans by the SME Development Fund; (c) If scientific and technological results are effectively applied in practice and be recognized by the government, enterprises can receive funding from the state budget. If the results are of great significance to socio-economic development and national defense and security, the State will consider purchasing such results; (d) Given priority in establishing IP rights, recognizing and registering products formed from scientific and technological results. |
| **Implementation conditions** | • Thus far, a modest number of SMEs have been able to benefit from these policies, especially those in remote areas where general knowledge and information about supportive policies are low. |

| | S&T Law of 2013 |
|---|---|
| **Objective** | • To promote S&T activities in Viet Nam in general |
| **Mechanisms** | • Public investments<br>• Market development; encouragement of investment in S&T by enterprises<br>• Encouragement of S&T organizations and activity by wider society<br>• International integration |
| **Implementation conditions** | • The Law has made it easier to establish S&T enterprises and provided legal foundation for preferential treatment for S&T talented people, encouraging STI activities by all people. However, no specific clauses are aimed at promoting STI activities at the grassroots or SME level. |

| | Decree 13/2012/ND-CP on regulations for innovative initiatives |
|---|---|
| **Objective** | To promote innovative initiatives that can have commercial value |
| **Mechanisms** | State certification of innovative initiatives<br>Defining rights and obligations of parties involved in the generation and commercialization of initiatives<br>Advertisement of innovative initiatives; running innovation campaigns; |
| **Implementation conditions** | While innovative initiatives are still encouraged in the public sector, due to a lack of resources and attention, they are not widely promoted at the grassroots level. |

*6.3. S&T activities in higher education institutions*

Investment activities to develop science and technology capacity in higher education institutions receive separate support under Decree 99/2014/ND-CP. The incentive policies are aimed at the following two subjects: (i) university lecturers and (ii) enterprises investing in universities to enhance scientific capacity.

| | Decree 99/2014/ND-CP |
|---|---|
| **Objective** | • To develop science and technology capacity in higher education institutions by encouraging university lecturers, full-time professors and businesses and organizations that are investing in enhancing university's scientific capacity.<br>• The target of these policies are mainly higher education institutions and their lecturers, which do not represent the masses, and do not necessarily seek social inclusion. While they can have spill-over effects from these institutions to students and young people, they are not oriented towards better inclusion of underrepresented individuals or firms, or instigating SME upgrading. |

| | Decree 99/2014/ND-CP |
|---|---|
| **Mechanisms** | • **For lecturers in university:** (a) PIT incentives for income from scientific research and technological development contracts in priority and disadvantaged areas; (b) bonus of up to 30 times base salary if 1 article published in a prestigious international scientific journal (ISI, SCI, SCIE indexed); (b) support 50% of copyright registration fee; (c) bonus equivalent to 20 hours of theoretical teaching if 1 article published in a scientific journal listed by the National Professor Title Council.<br>• **For professors who are full-time lecturers in higher education institutions:** (a) can set up an excellent research group and receive funding for its activities from the scientific and technological career funding; (b) receives financial support for participation in national and international scientific conferences and conferences; can attend scientific seminars abroad is not more than 2 times / year; (c) Assigned to lead ministerial-level scientific and technological tasks associated with doctoral training tasks.<br>• **For lecturers who are young talented scientists in higher education institutions:** (a) are given priority to studying at home and abroad; (b) given priority to presiding over potential science and technology tasks; (c) considered for funding support for participation in national and international conferences and seminars; (d) considered for funding support for the use of national key laboratories, specialized and interdisciplinary laboratories to perform scientific and technological tasks.<br>• **For businesses, organizations invest in enhancing university's scientific capacity:** Enterprises are entitled to exemption or reduction of enterprise income tax, personal income tax and import tax. |
| **Implementation conditions** | • These are considerable incentives to attract and retain talented university staff (lecturers and professors). |

### *7. Land[25] use policies*

*7.1. Policies for protecting rice yields*

Because of the importance of rice to people's lives and its contribution to the economy, the Government has maintained policies to conserve paddy land to ensure sufficient rice production and food security. Resolution 63/2009/NQ-CP requires that Government keeps 3.8 million hectares of rice fields. The development of the world market and the low income level of rice cultivation, however, have led the Government to adjust this policy. In 2015, it issued Decree 35/2015/ND-CP on the management and use of rice cultivation land.

| | Resolution 63/2009/NQ-CP and Decree 35/2015/ND-CP |
|---|---|
| **Objective** | • Resolution 63/2009/NQ-CP: to maintain sufficient rice production to meet domestic demand and export (about 4 million tons/year).<br>• Decree 35/2015/ND-CP: to enable the conversion of land for use to cultivate crops other than rice. |
| **Mechanisms** | • Allows the conversion of rice cultivation to other crops or a combination of rice cultivation and aquaculture. |
| **Implementation conditions** | • The conversion is required to be in line with the plan of the commune government and the person wishing to convert must register with the Commune's People Committee (Article 4).<br>• The Commune's People Committee has the right to refuse the registration of crop conversion. |

*7.2. Land consolidation and land swap policies*

Each household's land in Viet Nam is divided into several pieces, at a small scale and in different positions. Since 1998, recognizing the limitations of such fragmentation, the Government has adopted policies to encourage farmers to voluntarily swap small plots to increase their average size. Land consolidation policy, however, still has many shortcomings, such as a lack of planning, the fact that adjustment and re-issuance of land use right certificates (LURCs) is slow, and there is inadequate infrastructure. In Ha Noi, land swap and consolidation has been widely implemented but the re-issuance of LURCs is still slow. The current re-issuance of LURCs in Ha Noi is only about 50% of the total re-issuance requests, meaning that there are still tens of thousands of households that have not yet been granted LURCs. This can discourage other farmers' desire to swap and consolidate plots for increasing scale or for securing mortgage loans. Moreover, Article 179 of the Law says individuals and households are only allowed to swap land with other individuals and households of the same communes.

*7.3. Allocation quotas of agricultural land*

According to the 2013 Land Law, the State can only allocate a maximum of 3 hectares of land to rice farmers in the Mekong River Delta and the Southeast, and a maximum of 2 hectares in other provinces and cities. In practice, land allocated to farmers for cultivation is mostly below this limit. To expand the scale of production, rice farmers must buy or rent land from others. But, the accumulation of land faces major barriers from current land policies, as detailed below.

25 In Viet Nam, private land ownership is not allowed and "land" here is meant to be "land use right" which is given or recognized by the State.

| | 2013 Land Law and Decree 43/2014/ND-CP |
|---|---|
| **Objective** | • Increase the quota of land allocation and transfer of agricultural land use rights compared to the previous regulation, to enable greater individual scale for farmers. |
| **Mechanisms** | • Each household may transfer a maximum of 30 hectares agricultural land use rights (which is used for annual crop, aquaculture land and salt-making) in provinces and cities in the Southeast region and the Mekong River Delta region; and not exceeding 20 hectares in other provinces and centrally- run cities (Article 44).<br>• Because of the maximums, each household in the Southeast and Mekong Delta cannot have more than 33 hectares of paddy land and each household in the Red River Delta cannot have more than 22 hectares of paddy land, not including rented land. |
| **Implementation conditions** | • Some households have expanded their farming to hundreds of hectares of land and produced high efficiency. However, this is only a small number of households. |

Image: Tien Tuan