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UNDERSTANDING THAILAND'S INNOVATION SYSTEM

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- **Content and research:** Thanyaporn Jarukittikun, Nattha Aungkasit (UNDP), Parut Penpayap (Independent consultant)
- **Design:** Priscila Vanneuville

Disclaimer: Information and data collected in January 2018.

1.
COUNTRY PROFILE

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1.1 INTRODUCTION

- Against the risk of falling into the middle-income trap, the Thai Government has launched the Thailand 4.0 campaign to promote an 'innovation-driven economy' in the ten targeted industries. In parallel, the area-based Eastern Economic Corridor Development (EEC) has been tasked to foster a new wave of foreign direct investment (FDI) to further enhance the innovation capacity of the country.

- While several innovation programmes have launched over the last few years, e.g. Food Innopolis, Innovation Coupon, and Talent Mobility, Thailand's innovation system is relatively weak in comparison with other Asian countries of similar size and development level.

- Constraints to innovation in terms of institutions, human resources and budget allocation have been widely recognised at the policymaking level, but there is still no comprehensive plan to tackle this.

- Amid growing interest in innovation policy and current economic challenges, it is opportune to support Thai policymakers by embedding new ideas and approaches through various programmes. For example, 'Cluster 4.0' will match with the government initiative of Thailand 4.0; 'Rural Innovation' will make the Thai innovation system more inclusive to the agricultural sector; and 'Frugal Innovation' will create possibilities for Thai policymakers to overcome shortcomings in various areas such as innovation funding and ecosystem connections.

1.1 INTRODUCTION

GLOBAL INNOVATION INDEX (2017)	GLOBAL COMPETITIVE-NESS INDEX (2017)	R&D GROSS DOMESTIC EXPENDITURE AS % OF GDP (2015)	HIGH-TECH EXPORTS, IN % OF MANU-FACTURED EXPORTS (2015)	RESIDENT PATENT APPLICATIONS (2014)	% GROWTH IN TOTAL PATENT APPLICATIONS BETWEEN 2004-2014	TIME REQUIRED TO START A BUSINESS (2017)
Rank 51 with the total score of 37.6	Rank 32 with the total score of 4.72	0.627	21	1,006	22.83	5 days

Source: Cornell University et al., 2017, World Economic Forum, 2017, World Bank, UNESCO Institute for Statistics.

Thailand is at risk of falling into the middle-income trap as the country is struggling to compete in export markets against lower-cost producers elsewhere. Since the 1980s, the economic performance of Thailand has depended on exports and foreign investment. During the last three decades, the country has successfully transformed its industrial base from agriculture to export-oriented manufacturing, and become a key production base for leading automotive and electronics firms from Japan, the US and Europe.[1] Yet, due to the changing global competitive landscape, leading industries in Thailand have recently experienced a slower growth rate. For example, the Thai auto industry - formerly in the lead - is now in decline, since it lost market share to competitors like Indonesia and South Africa.[2] To stay competitive, Asian Development Bank (ADB) recommended that, 'Thailand needs to move into the higher-value segment of economic activity and create high-quality jobs'.[3]

To fuel growth and drive improvement in productivity, creating the conditions for innovation has become an essential part of Thailand's economic policy mantra. Since 2002, the Office of the National Economic and Social Development Board (NESDB) has embraced the notion of innovation as part of the long-term vision for national development. According to the Ninth National Economic and Social Development Plan (2002-2006), a major development trend - which is the shift toward a more knowledge-based economy - has dramatically intensified global competition. To facilitate Thailand's restructuring process towards a knowledge-based economy, promotion of innovation has been highlighted in the Ninth Plan as one of the key national guidelines for development in science and technology.[4]

1 OECD., 2013
2 SCBEIC., 2017.
3 ADB., 2015.
4 NESDB., 2002.

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1.1 INTRODUCTION

In order to tackle the economic slowdown, the current military Government has launched the Thailand 4.0 campaign to promote a so-called 'innovation-driven economy' focusing on ten targeted industries, which can be divided into two segments as follows:[7]

The First S-Curve
Developing existing industrial sectors by adding value through advanced technologies for five industries:

1. Next-Generation Automotive
2. Smart Electronics
3. High-Income Tourism and Medical Tourism
4. Efficient Agriculture and Biotechnology
5. Food Innovation

The New S-Curve
Additional five growth-engine industries that will accelerate Thailand's future expansion:

1. Automation and Robotics
2. Aerospace
3. Bio-Energy and Bio-Chemicals
4. Digital
5. Medical and Healthcare

Even though Thailand 4.0 was launched in May 2016, the Government has yet to set out a clear timeline for policy implementation. By analysing the current economic structure of the country, the Economist Intelligence Unit (EIU) pointed out that, 'Thailand lacks the domestic capacity to move forwards with many of the target industries, and so the success of the strategy will be heavily contingent upon the country's ability to attract foreign direct investment (FDI). With the shortage of skilled labour and disappointing domestic demand prospects in comparison with other major Asian markets, EIU assessed that the muted outlook for Thailand's economy is "likely to slow the uptake of the 4.0 strategy by foreign firms".'[8]

7 BOI, 2017
8 EIU, 2017

1.2 STATISTICAL HIGHLIGHTS

	SINGAPORE	S. KOREA	MALAYSIA	VIETNAM	THAILAND	PHILIPPINES	INDONESIA
OVERALL GII SCORE	58.7	57.7	42.7	38.3	37.6	32.5	30.1
INSTITUTION	94.4	74.5	67	52.8	55.8	52	41.2
HUMAN CAPITAL & RESEARCH	63.7	66.2	41.9	31	30.8	22.3	23
INFRASTRUCTURE	69.1	63.4	52.4	42.7	45	44.6	42
MARKET SOPHISTICATION	71.2	61.6	57.6	52.8	51.2	41.3	46
BUSINESS SOPHISTICATION	62.9	51.1	35.7	52.8	31.8	36.9	26.2
KNOWLEDGE & TECHNOLOGY OUTPUTS	47.3	54.7	31.7	35	29.8	28.3	20.9
CREATIVE OUTPUTS	42.9	49.4	37.3	34.8	34.6	22.8	28.1

Source: Cornell University et al., 2017

Although the Thai Government and policymakers have made the promotion of innovation one of the top policy agenda priorities for more than a decade, Thailand's innovation system is still relatively weak in comparison with other Asian countries of similar size and development level. According to the Global Innovation Index 2017, Thailand is not only far behind Singapore and the Republic of Korea (top world performers), but it is also outcompeted by Malaysia and Vietnam.[5] By assessing the current framework conditions and interactions that characterise Thailand's national innovation system, UNCTAD pointed out that 'political instability and a lack of policy continuity have weakened the ability of public institutions to provide an enabling environment for businesses and, equally important, to steer and sustain major reforms over time'. With regard to the organisation and functioning of institutions in charge of overseeing and funding science, technology and innovation (ST&I) policies, UNCTAD stressed that there is a proliferation of agencies with overlapping responsibilities.[6]

5 Cornell University et al., 2017
6 UNCTAD, 2015

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1.3 HIGHLIGHTS OF KEY INNOVATION PROGRAMMES

· **THAILAND FOOD INNOPOLIS:** Launched in 2016 as part of the Government's 'Super Cluster' policy, this programme seeks to make Thailand a hub of global food innovation, and better align the Thai agricultural sector and domestic food production with the global food value chain. Located at Thailand Science Park, north of Bangkok, Food Innopolis provides an innovation ecosystem for both large companies and startups: i.e. rental spaces and facilities for R&D; one-stop service centre to facilitate coordination with relevant agencies such as BOI, the Revenue Department, Food and Drug Administration, the National Food Institute, testing and accreditation service organisations, universities and research institutes, etc.; consulting services on market research and business development. To encourage foreign direct investment (FDI), the Government has provided the so-called 'Super Cluster Incentives': i.e. eight-year corporate income tax (CIT) exemption and additional five-year CIT reduction up to 50 per cent; exemption of import duties on machinery; permits for foreign nationals to own land for operating promoted businesses; permits for foreign skilled workers and experts to work in investment-promoted activities; work permit and visa facilitation for foreign specialists and researchers; personal income tax exemption for leading international specialists; 300 per cent CIT deduction for technology and innovation R&D expenses.
http://foodinnopolis.or.th/en/home/

· **INNOVATION COUPON:** In collaboration with FTI and TCC, this programme was launched by NIA in 2011. Its aim is to enable Thai SMEs to innovate products or services that will eventually create a positive impact on the business community and Thai society as a whole. The grant or 'Innovation Coupon' is provided to qualified candidates at 75 per cent of the proposed projects' value up to THB 1.5 million per project. NIA also provides a feasibility study grant up to THB 200,000 per project, for a candidate who needs further support from NIA's Innovation Acquisition Service (IAS), and a technology matching grant of 50 per cent of the actual expense, up to THB 100,000 per project, for a candidate who further needs support on acquiring overseas technologies. During the last five years, an Innovation Coupon has been granted to more than 700 projects with the total value of THB 500 million.
http://coupon.nia.or.th/

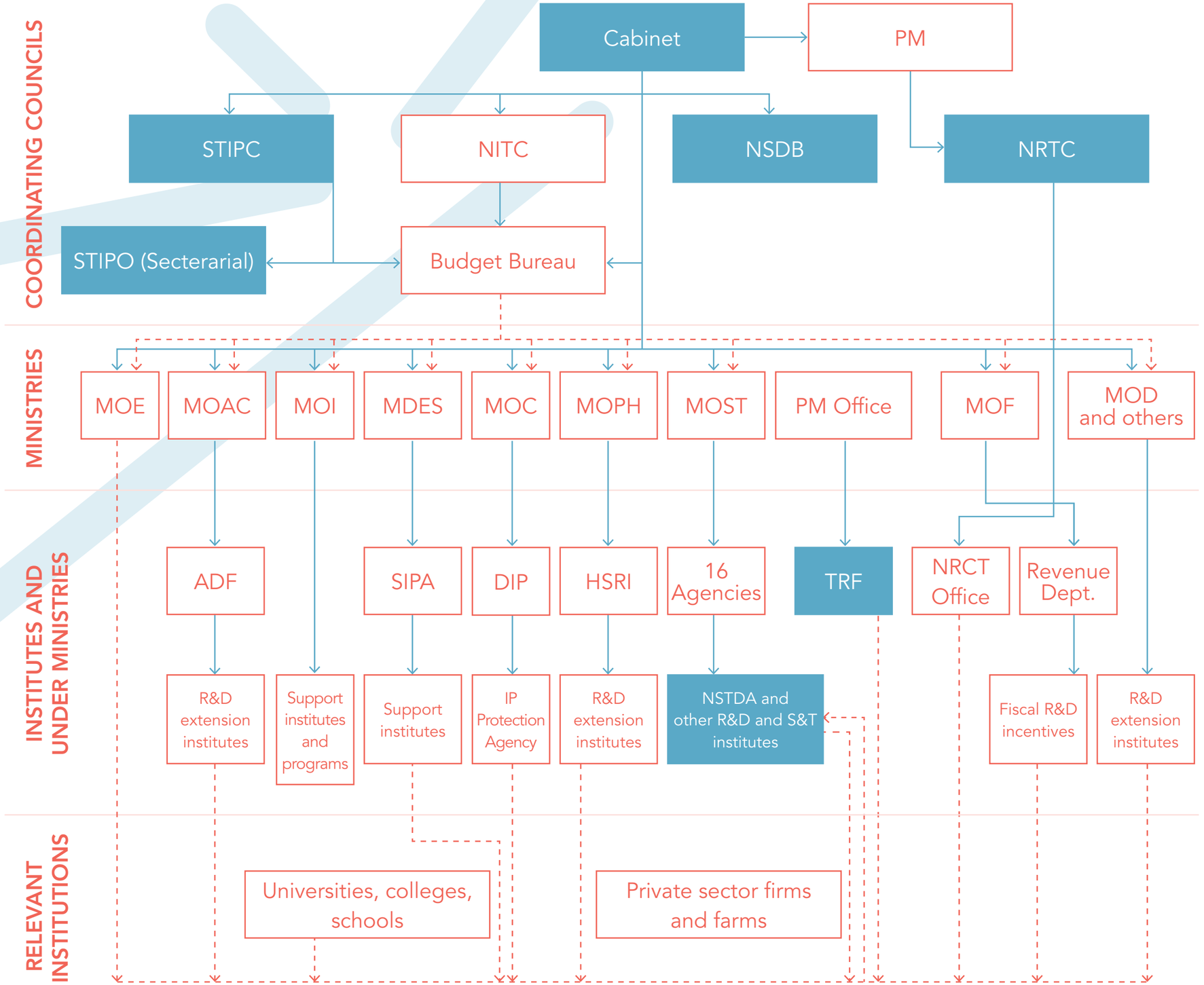
1.3 HIGHLIGHTS OF KEY INNOVATION PROGRAMMES

- **INNOVATION AND TECHNOLOGY ASSISTANCE PROGRAMME (ITAP):** Launched in 1993 by NSTDA, ITAP seeks to leverage the level of competitiveness for Thai SMEs by providing technology development guidelines and financial support at 50 per cent of the proposed projects' value, up to THB 400,000 per project. NSTDA has worked with more than 1,300 experts to support Thai SMEs, with a successful track record of more than 4,000 technology capacity building projects.
https://itap.nstda.or.th/index.html

- **TALENT MOBILITY PROGRAMME:** Launched in 2013 by STIPO, this programme seeks to provide incentives to researchers in government agencies and higher education institutions, to work in the industrial sectors as full-time or part-time staff by providing their expertise in identifying technological problems and conducting industrial research for a maximum period of two years. Researchers who participate in the programme will receive grants or consulting fees from the participating firms. Firms are obligated to reimburse universities by making use of tax incentives, while SMEs are exempted from payment and are subsidised by MOST. During the last four years, 292 firms have participated in the programme and 993 researchers have been mobilised to work in industry.
http://talentmobility.or.th/

1.4.1 INSTITUTIONAL MAP OF THE INNOVATION SYSTEM

- This institutional map represents the existing organisational structure of the national system of science, technology and innovation policy.
- In practice, certain agencies have overlapping responsibilities.
- The establishment of the National Research and Innovation System Policy Committee through Article 44 of Thailand's interim constitution will probably transform this institutional map in the near future.



Political influence

Provides funds

Major Institutions

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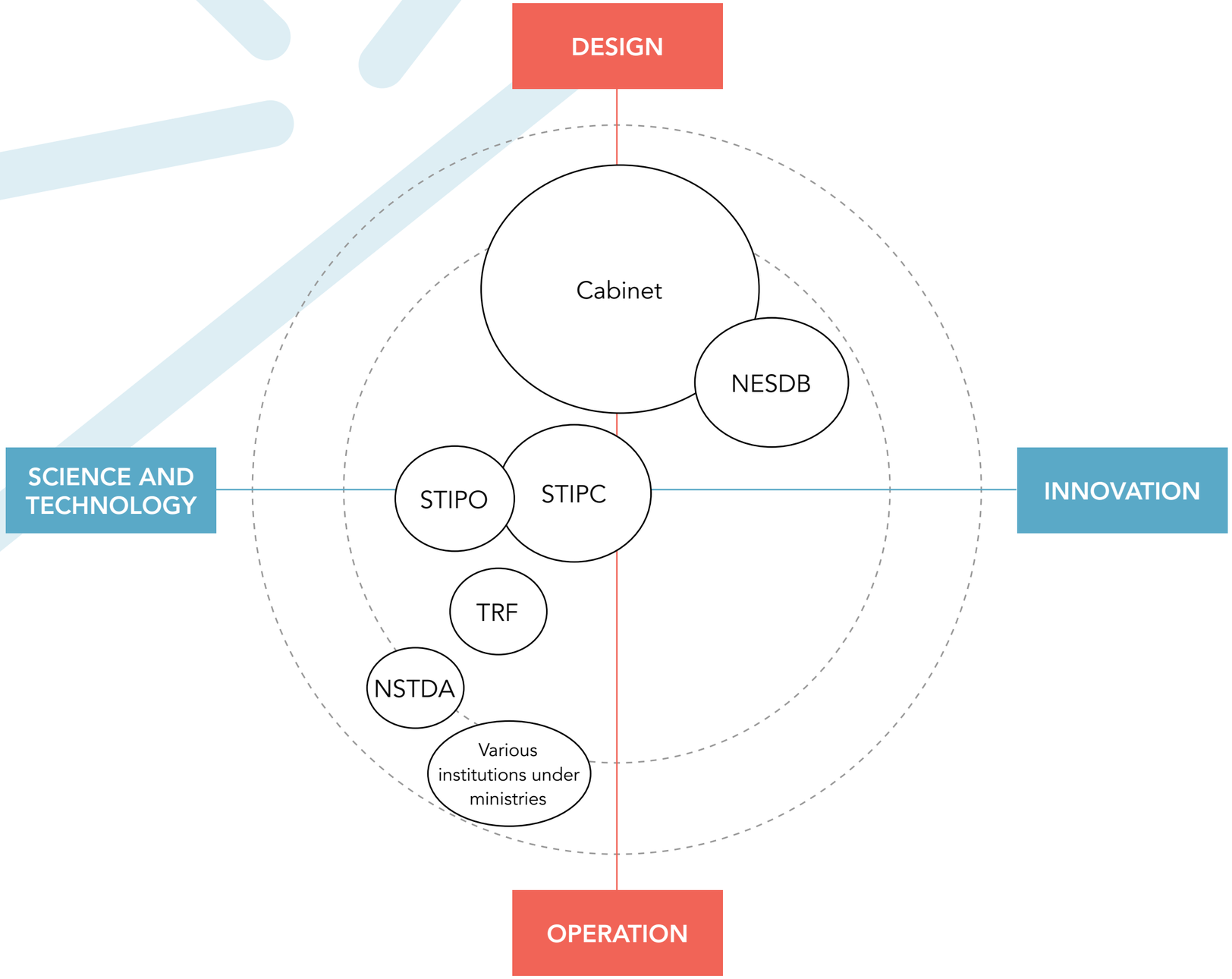
1.4.2 ROLE AND INFLUENCE DIAGRAM OF KEY MINISTRIES AND AGENCIES

- The cabinet and NESDB play a major role in developing the innovation policy from a macroeconomic perspective.
- Most of the agencies from the public sector in the national innovation system have historically focused on science and technology.

Level of influence: the bigger the size of the bubble, the more influence in the innovation system.

This influence map is indicative and reflects the insights of the project team rather than a formal statement of roles and structures.



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1.5 GLOSSARY OF INSTITUTIONAL ABBREVIATIONS AND ACRONYMS

- **ARDF:** Agricultural Research and Development Fund
- **BOI:** Board of Investment
- **DIP:** Department of Intellectual Property
- **FTI:** Federation of Thai Industries
- **HSRI:** Health Systems Research Fund
- **MDES:** Ministry of Digital Economy and Society
- **MFA:** Ministry of Foreign Affairs
- **MOAC:** Ministry of Agriculture and Cooperatives
- **MOC:** Ministry of Commerce
- **MOD:** Ministry of Defence
- **MOE:** Ministry of Education
- **MOF:** Ministry of Finance
- **MOI:** Ministry of Industry
- **MOPH:** Ministry of Public Health
- **MOST:** Ministry of Science and Technology
- **NESDB:** National Economic and Social Development Board
- **NIA:** National Innovation Agency
- **NITC:** National Information Technology Committee
- **NRCT:** National Research Council of Thailand
- **NSTDA:** National Science and Technology Development Agency
- **PM:** Prime Minister
- **SIPA:** Software Industry Promotion Agency
- **ST&I:** Science, technology and innovation
- **STIPC:** National Science Technology and Innovation Policy Committee
- **STIPO:** National Science Technology and Innovation Policy Office
- **TCC:** Thai Chamber of Commerce
- **TRF:** Thailand Research Fund

1.6 STRENGTHS AND WEAKNESSES ANALYSIS

INSTITUTIONAL FRAMEWORK

STRENGTHS

The Thai Government has set out a master plan for an 'innovation-driven economy'.[9]

- To drive policy implementation towards Thailand 4.0 - which fits broadly with the Thai Government's new 20-year National Strategy - the Committee for National Administration under the Framework of National Reform, National Strategy and Reconciliation have been established.
- The Committee for National Administration under the Framework of National Reform, National Strategy and Reconciliation have been assigned to ensure stability in the policy formulation and the smooth implementation of the next four Social and Economic Development Plans (12th-15th NESDB Plan).

WEAKNESSES

Several public institutions involved in the national innovation system still have hierarchical and silo-based administrative processes that are impediments to innovation policy implementation.

- The World Bank pointed out that 'rigid organisational siloes are widely recognised as a problem in Thailand', including policymaking processes in various ministries.[10]
- UNCTAD stressed that 'cumbersome, non-transparent bureaucratic procedures are often cited as factors that adversely affect the quality of the business environment, including for innovation'.[11]

9 MFA, 2017
10 World Bank, 2017
11 UNCTAD, 2015

1.6 STRENGTHS AND WEAKNESSES ANALYSIS

FUNDING

STRENGTHS

A new law has been introduced to enhance Thailand's competitiveness and create a foundation for an 'innovation-driven economy'.[12]

- The National Competitive Enhancement Act for Targeted Industries BE 2560 (2017) came into force in February 2017 subsiding investment expenses for R&D and innovation provided from the Fund for Enhancement of Competitiveness for Targeted Industries with the seed money of THB 10 billion (~ US$ 285 million). The Act also waives corporate income tax for up to 15 years in targeted industries such as biotech, advanced manufacturing, creative and digital industries, as well as companies using new technology or advanced production methods in the areas of nanotechnology, advanced materials, digital technology, etc.

- The Act provides for the establishment of the Committee on Policy for National Competitive Enhancement for Targeted Industries, with Thailand's Board of Investment as the secretariat. Members of the Committee include, among others, the Prime Minister, one of the Deputy Prime Ministers, the Minister of Finance, and the Minister of Science and Technology. The Committee is assigned the tasks of formulating a strategic plan to enhance national competitiveness, specifying the target industries to be promoted, and approving the payment of grants from the Fund. The Act also recommends that the Sub-Committee on Nomination and Negotiation look for, and negotiate with, potential investors to invest in targeted industries and receive incentives.

WEAKNESSES

Despite the passing of the National Competitive Enhancement Act for Targeted Industries, existing innovation promotion schemes, managed by various ministries, have shown no synergy.

- According to UNCTAD, the various existing financial and non-financial schemes to improve innovation efforts are 'too fragmented and uncoordinated', leveraging little R&D and private sector funding for innovation, and involving a relatively small number of firms.[13]

12 Library of Congress, 2017
13 UNCTAD, 2015

1.6 STRENGTHS AND WEAKNESSES ANALYSIS

STRENGTHS

Ongoing programme to develop skilled labour in science, technology and innovation (ST&I), with a basic legal foundation for intellectual property (IP) in place.

- A large number of programmes to support the development of human resources in ST&I have been put in place and implemented at all levels of education.[14]
- A basic level of protection and a registration system has been put in place for copyrights, trademarks and designs with a basic legal framework for the enforcement of IP rights.[15]

WEAKNESSES

Human capital development cannot keep up with the pace of rapidly rising demand for more and better skilled labour in ST&I, while commercialisation of R&D is still limited.

- Increasing market demands for human resources in ST&I, both at the vocational and higher levels of education, has exacerbated the skilled labour shortages.[16]
- Commercialisation of research and IP management is still underdeveloped in Thai universities.[17]
- There is inadequate patent protection, with holes in patentability and severe patent backlogs.[18]

14 UNCTAD, 2015
15 GIPC, 2017
16 Intarakumnerd, Patarapong (2017)
17 UNCTAD, 2015
18 GIPC, 2017

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1.6 STRENGTHS AND WEAKNESSES ANALYSIS

BROADER ENVIRONMENT

STRENGTHS

There are relatively good macroeconomic prospects with the area-based economic development policy in place.

- According to a recent World Bank report, economic growth in Thailand is gaining momentum, with an expansion of GDP by 3.3 per cent in the first quarter and 3.7 per cent in the second quarter of 2017, exceeding market expectations. Against uncertainty in the global economy, Thailand's economic growth for the full year 2017 is now projected at around 3.5 per cent and is expected to expand further in 2018 to around 3.6 per cent.[19]

- With the goal to facilitate and attract investment in ten innovative target industries (the First S-Curve and the New S-Curve Industries), the current Government has initiated the Eastern Economic Corridor Development (EEC): a special economic zone located on the Eastern Seaboard of Thailand. Investors undertaking investment projects in EEC will receive several privileges such as exemption of corporate income tax for a period of up to 15 years, and a matching grant under Thailand Competitiveness Fund.[20]

WEAKNESSES

There is an existing downside risk to policy continuity.

- Political instability, short-lived governments and the resulting lack of policy continuity have intermittently weakened the conditions for innovation in the private sector. UNCTAD pointed out that the existing confrontational political system has 'favoured the development of policies that seek to address the concerns of increasingly divided constituencies'.[21]

19 World Bank, 2017
20 MOI, 2017
21 UNCTAD, 2015

1.6 STRENGTHS AND WEAKNESSES ANALYSIS

ECOSYSTEM CONNECTIONS

STRENGTHS

Various programmes related to EEC have been set out to create an appropriate ecosystem for innovation within the Special Economic Zone.

- The Eastern Economic Corridor of Innovation (EECi) will be set up as an innovation city within EEC with a supporting ecosystem for integrated R&D and innovation, such as a fabrication laboratory, test-bed sandbox, and certification centre.[22]

- Foreign experts and investors in fields deemed helpful to advancing the ten target industries will be eligible for free visas of up to four years. Three groups of foreign experts and investors would be eligible for visas ranging from two to four years, with no work permits required: 1) experts such as medical personnel, researchers and aviation engineers who work in EEC projects; 2) investors who invest in the ten target industries; 3) investors in startups.[23]

WEAKNESSES

Disparity in access to the innovation system has persisted.[24]

- The technology provided by foreign companies, which have set production bases in Thailand, has not spilled over to domestic firms.[24]

- While large multi-national companies, state-owned enterprises and family-owned domestic conglomerates play a major role in the development of innovation capabilities and exercise their influence on the design of economic policies, small and medium-sized enterprises (SMEs) - accounting for 80 per cent of employment and about 36 per cent of GDP - still have limited participation in the national innovation system.

- Since Thailand still has a significant labour force in the agricultural sector (32 per cent of the total employment), the National ST&I Policy and Plan (2013-2021) has highlighted a number of agricultural products as priorities for ST&I efforts. However, UNCTAD pointed out that this policy framework requires more workable programmes and detailed plans.

22 MFA, 2017
23 Royal Thai Embassy, 2017
24 UNCTAD, 2017

2.
CAPACITY BUILDING FOR INNOVATION IN THAILAND

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2.1 MAPPING INNOVATION POLICYMAKERS: ASSESSING THE SIZE OF THE CORE AUDIENCE

In the table below, we estimate the number of policymakers employed in key institutions in innovation policy roles at each of four key levels of seniority. The numbers below are drawn from publicly available data on government employment, combined with insights from expert interviews.

CORE INNOVATION POLICYMAKERS PER LEVEL OF SENIORITY					
Country	L1	L2	L3	L4	Total Core Innovation Policymakers
Thailand	35	45	95	470	645

Note:

L1 represents the number of cabinet members

L2 represents the number of executive board members

L3 represents the number of director generals of key institutions

L4 represents the number of deputy director generals and directors of key institutions.

2.2 INNOVATION POLICYMAKER PERSONAS

Deputy Secretary General

He has worked with Agency X for eight years. Prior to this, he was a researcher at C University. His main responsibilities include directing policy research and formulation with regard to science, technology and innovation, as well as supervising secretariat works for the National Science, Technology, and Innovation Policy Committee and subcommittees.
Ph.D. in Biochemistry, Science and Technology Policy Development Studies technology.

"Research management in Thailand is mainly based on the linear model, and there is no constructive linkage between academia and industry."

"Innovation system has been fragmentally developed. Most of the research has been conducted with an aim for academic publication, and they have hardly made a contribution to innovation."

"Key policymakers should not only understand what innovation is, but also to know the how and why."

"Public sector is familiar with investment in the hard infrastructure development. It is challenging for them to envision the intangible outcomes from the innovation perspective."

KEY INDIVIDUAL AND COLLECTIVE CHALLENGES

- There is no proper ecosystem to facilitate the process of innovation in Thailand.
- Most of the foreign companies which have made investments in Thailand are mainly employed in technologies for business purposes, rather than fostering innovation for systemic change.
- While there is growing awareness that it is critical for Thailand to make a long-term investment to create conditions for innovation, perception of innovation in the public sector is still relatively vague.
- Lack of people with skills in innovation management.
- The silo mentality has persisted in most of the public institutions.
- Policymaking process is rarely driven by the demand side.

ASPIRATIONS AND EXPECTATION FROM INTERNATIONAL TRAINING PROGRAMMES

- The programmes are based on a multidisciplinary approach with experts on innovation policymaking as mentors.
- Gaining opportunities to exchange and discuss ideas on approaches to create positive economic and social impacts through innovation policy implementation.
- Leveraging abilities to monitor and evaluate the effectiveness of innovation policies.
- Building a network of talent both in Thailand and abroad to better align the innovation system.

International Coordinator

Her passion lies in fostering development and innovation through public policy. She has worked for Agency Y for eight years and reported directly to deputy secretary general of the agency. She has participated in various training programmes with regard to public and innovation policies both in Thailand and abroad.

Received National Scholarship from MOST for undergraduate and postgraduate degrees with Ph.D. in IT Policy from Carnegie Mellon.

"Public policy can create real impact on society at large."

"Policymakers must know how to match supply and demand at the right time. It is of significance to not only know why it should be this policy, but also why it should be this policy now."

"Based on my experience working in the US, if the ecosystem works, everything will work. I want to prove it in Thailand."

"To manage knowledge and resources effectively, we need to analyse data across the region. Since the public sector has a privilege to access various data points, we need to find an approach to manage and utilise this data at its best."

KEY INDIVIDUAL AND COLLECTIVE CHALLENGES

- Data management is critical to innovation. In order to develop effective policies, the public sector needs to manage data in a comprehensive manner.
- Thailand needs to form more strategic partnerships in key economic sectors at both domestic and global levels in order to create conditions for innovation in the long run.

ASPIRATIONS AND EXPECTATION FROM INTERNATIONAL TRAINING PROGRAMMES

- Gaining opportunities to develop insight and foresight into global trends of innovation.
- Leveraging abilities to better formulate innovation policy and implementation.
- Learning best practice for governments in developing an appropriate innovation ecosystem.
- Building capacity to mobilise talents and share resources for innovation across ASEAN countries.

Government Advisor

Grew up in a political family, he has worked for the government on a pro bono basis for almost two years. His main responsibilities include advising Ministers on strategic planning, and providing briefings on the weekly cabinet meetings with regard to economic issues to the media.

Bachelor's degree in Engineering from Brown University; Master's degree in Finance from Wharton School, University of Pennsylvania.

"Transparency is critical. Otherwise, you will be skeptical about everything, even on a good initiative."

"Systematic change only occurs when there is an enabling environment and an appropriate infrastructure."

"To foster innovation in Thailand, setting out an appropriate legal foundation can be seen as one of the key drivers."

"To change the mindset and behaviour of the Thai people, policymakers should develop a campaign that is not only effective, but also attractive in the eyes of the public."

"The Thai people are very creative, but most of the time we use our creativity to cut the corner."

"The public sector has no room for failure or taking risk. But innovation will be widespread only when people have freedom to fail."

"We first need to acknowledge what are our actual problems."

KEY INDIVIDUAL AND COLLECTIVE CHALLENGES

- Cultural diversity and biodiversity can be seen as sources of competitiveness for Thailand, but it is necessary to know how to make the best out of these assets.
- Rather than being the regulator, government officers should think like the facilitator.
- Public-private partnership is the new driver for the government to foster innovation.
- The existing national innovation policy is comprehensive, but there is no alignment of priorities among the key institutions. This eventually leads to inefficiency in policy implementation.

ASPIRATIONS AND EXPECTATION FROM INTERNATIONAL TRAINING PROGRAMMES

- Exploring case studies of innovation policies across the world to change the mindset of the government officers.
- Building capacity for effective collaboration between public and private sectors.
- Developing an approach to create an effective linkage between academia and industry.

3.
ASSESSMENTS OF CURRENT AVAILABLE RANGE OF SUPPORT AND TRAINING FOR INNOVATION POLICYMAKERS IN THAILAND

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PROGRAMME	ASSESSMENT
THE GOVERNMENT INNOVATION LAB (GOVLAB)	Launched in 2017 by UNDP in cooperation with the Office of the Public Sector Development Commission and other key stakeholders from the public sector, the programme seeks to transform the bureaucratic structure that is hierarchical and silo-based with an innovation-driven process, as well as reforming public service systems with a citizen-centred approach. GovLab comprises two major components: 1) training the trainers programme that brings international design thinking experts to conduct training for selected government representatives with an aim to build capacity and to lead design thinking processes in their respective ministries; 2) pilot projects that aim to develop public service prototypes through design thinking processes. Since the Memorandum of Understanding of GovLab was recently signed in June 2017, the result of the programme remains to be seen.[25]
ST&I POLICY AND MANAGEMENT PROGRAMME (PMP)	In response to UNCTAD's Science, Technology and Innovation Policy Review, STIPO launched PMP in 2015 with an aim to create synergy of ST&I policy implementation among various government institutions, both at the ministerial and under-ministerial levels. The programme provides training for policymakers and ST&I executives at both central and regional levels with regard to national ST&I framework, ST&I policy analysis and the integration of ST&I policy into a national development plan.[26]
SCIENCE DIPLOMACY FOR NATIONAL COMPETITIVENESS	Launched in 2014 by MOST and MFA, the programme seeks to facilitate international partnership development in ST&I by promoting inter-ministerial collaboration at both policy and operational levels. The programme is organised in a workshop format for policymakers, think tanks and business leaders to share and discuss ideas on possible ways to leverage the level of competitiveness for Thailand in key sectors such as agriculture and food processing, medical technology and life science, manufacturing, infrastructure, education and lifelong learning, etc.[27]

25 UNDP, 2017
26 MOST, 2015
27 MFA, 2014

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4.
ASSESSMENT OF LIKELY AREAS OF FOCUS FOR A GLOBAL INNOVATION POLICY ACCELERATOR TEAM FROM THAILAND

1.
New Policy Instruments as the Catalyst for Innovation

Thailand's GIPA team has recognised that existing innovation policies do not deliver the results as expected, due to the inefficient bureaucratic process. Given the awareness of existing challenges in terms of policy implementation, there is a strong interest in exploring new and innovative instruments to better promote innovation in Thailand: e.g. the uses of Public Private Partnership (PPP), test-bed sandboxes, and social enterprise. It would be constructive for Thailand's GIPA team to gain more insight into case studies and best practice of how to successfully deploy these new policy instruments as the catalyst for innovation.

2.
Rural Innovation

Innovation policy in Thailand has tended to concentrate on urban areas, and the notion of 'Rural Innovation' has not fully integrated in the National Economic and Social Development Plan. Although the Government and policymakers have demonstrated an attempt to foster innovation in the agricultural sector under the Thailand 4.0 campaign, it is critical to ensure that small-scale farming will be able to participate in the national innovation system. Given the existing political interest on the topic, it is opportune to share case studies and best practice of rural innovation policy with a special emphasis on possible ways to transform traditional agriculture - especially small-scale farming - into an innovative sector, that better responds to global demand for quality of life innovations such as healthier food, as well as environmentally friendly products and services. Thailand's GIPA team has shown strong interest in this area, especially on possible approaches to better align the value chains of Thailand's rural/local sector with the global economy through innovation policies.

3.
Frugal Innovation

Shortcomings of R&D budget allocation, insufficient commercialisation of research and IP management, and limited involvement of SMEs and the agricultural sector in the national innovation system have persisted for a decade. Instead of finding possible ways to improve the traditional top-down policy approach, it may be worthwhile to introduce a more experimental approach to Thailand's GIPA team. In order to turn limited resources - whether financial or institutional - into an advantage, it would be constructive to bring the concept of 'frugal innovation' into the discussion. Apart from exploring case studies and best practice, it would be beneficial for Thailand's GIPA team to have a brainstorming session on how to apply and adapt the concept of frugal innovation into the specific socio-economic context of Thailand.

4.
Cluster 4.0

The current Government has demonstrated a commitment to promote Thailand 4.0 with special emphasis on area-based development. Based on interviews with Thai policymakers, many of them have anticipated that EEC is likely to be the main focus for the Government to drive economic growth and induce FDI. By considering policy priorities from the point of view of Thai policymakers, it is timely to encourage discussion on 'Cluster 4.0': e.g. how to develop advanced cluster policies that will successfully create a relevant innovation ecosystem for Thailand, in response to the so-called 'Fourth Industrial Revolution'. While the notion of cluster development has been integrated in the National Economic and Social Development Plan for a decade, the shortcomings of traditional policymaking approaches to tackle new industrial challenges is widely recognised.

5.
Design Thinking in Innovation Policymaking

Thailand's GIPA team has clearly recognised the strengths and weaknesses of the national innovation system. Yet, there is a sense of reluctance to expand on possible solutions in a tangible manner. While the team has agreed that the lack of 'system integrator' or 'policy conductor', as well as the anachronistic mindset of government officials, are the two common threads behind all the weaknesses, discussion on possible approaches to tackle these challenges is limited at the level of abstract and theoretical delineation. Given the needs of practical tools and methods to drive innovation policies in Thailand, it is pivotal to introduce the design thinking process to the Thai policymakers, especially on how to develop policy prototypes to test and refine potential solutions in a manageable scale before implementation at the national level.

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5.
DIAGNOSIS AND RECOMMENDATIONS

1.
INNOVATION IN THE PUBLIC SECTOR

The Thai Government and policymakers have been quick to embrace new concepts of economic and social development. Yet, the chronic bureaucratic culture of departmental silos has become a severe impediment for the public sector to deliver the policy to the people in an effective manner. This bureaucratic constraint has been widely recognised by Thai policymakers. To improve the national innovation system in Thailand, it is critical to make the public sector more innovative and be able to better respond to the demand of the business sector and society at large. The engagement with GIPA should allow the Thai policymakers to play a leading role in breaking down silos and work in partnerships across organisations and sectors.

2.
BROADER INVOLVEMENT OF THE PEOPLE IN THE PROCESS OF INNOVATION

While Thailand 4.0 and the EEC development plan has been put in place, there is a need to ensure that this policy will not only benefit large multi-national companies, state-owned enterprises and family-owned domestic conglomerates, but also SMEs and small-scale agriculture. Since the trickle-down effect does not guarantee economic dynamism, it is critical to come up with a viable approach to distribute economic opportunities and create broader involvement of the small and medium-sized businesses in the process of innovation. Ongoing policies initiated by ministerial and under-ministerial levels, to support the innovation capacity of Thai SMEs are still fragmented, while existing programmes to support small-scale agriculture are mainly in the form of government subsidies for poverty reduction. There is certainly an opportunity for GIPA to collaborate with the Thai policymakers to make the national innovation system more inclusive.

6.
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