**The Organization and Practice of Research and Development in ASEAN Countries: A Discussion Paper**

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**The authors gratefully acknowledge the extensive time and knowledge contributed by many friends and colleagues in the ASEAN countries.**

**Based on a scoping study of ASEAN research councils and think tanks carried out between October 2011 and May 2012 for the International Development Research Centre (IDRC)**

**August 2012**

**Abstract**

This study summarizes findings of a study of research management organizations and research performing organizations in the member countries of the Association of South East Asian Nations (ASEAN) — their environments, capacities, partnerships, research activities, strategies, and trends — and suggests some possible implications for development cooperation program thinking both within ASEAN and with outside partners. Following a comparative review of R&D spending and financing is a look at country research management subsectors, including council and ministry organizations, in terms of comparative functions, organizational structures, and related characteristics, with further detail for each country. Research performing subsectors are then addressed by sector and legal status, with particular attention to think tank organizational models, including private, public, semi-autonomous, autonomous, academic, and non-governmental organizations. The final two sections summarize and make suggestions for ASEAN and international collaboration in the expansion and improvement of the weaker ASEAN country knowledge sectors in the areas of tertiary education, research management, and think tank development. ASEAN collaboration, already substantial, is spurred by a rich variety of successes and the expected ASEAN Economic Community (AEC) by 2015. Other suggestions include ASEAN database development, R&D needs assessment for the AEC, and further discussion and development of investment mechanisms.

**Executive Summary**

This study summarizes findings of a study of research councils and think tanks in the member countries of the Association of South East Asian Nations (ASEAN) — their environments, capacities, partnerships, research activities, strategies, and trends — and suggests some possible implications for development cooperation program thinking both within ASEAN and with outside partners.

***R&D Spending and Financing***

One perspective is that of research and development (R&D) spending in each country, both in total and in terms of structure: private, public, higher education, non-profit, and foreign sectors in financing on the one hand, and R&D performance on the other. Although comparable figures are somewhat dated, they serve to highlight the enormous differences among ASEAN countries, which can be usefully divided into four main groups in terms of the state of development of their knowledge and R&D sectors.

A first group, consisting of Brunei Darussalam (Brunei), Cambodia, the Lao People’s Democratic Republic (Laos), and Myanmar, has quite low R&D spending by international and even ASEAN standards. Within these four there is also much diversity. Cambodia and Laos are relatively foreign dependent, with Cambodia also dependent on non-governmental organizations (NGOs) for funding. Myanmar has a larger R&D system (historically) relative to its gross domestic product (GDP), and although isolated until recently, its knowledge sector development is currently being re-energized. Brunei has embarked only fairly recently on economic diversification and related knowledge sector development; its R&D sector is thus small, but the country appears to have both the commitment and the financial resources needed.

In a second group, consisting of Indonesia and the Philippines, total R&D spending isstill quantitatively small relative to GDP, but their R&D systems are comparatively larger because of their larger economies, and systemic reform has been under way longer. Total spending is similar for the two countries, but Indonesia’s larger population and total economy mean that its R&D sector is considerably lower both per capita and relative to GDP than that of the Philippines. Indonesia’s R&D sector is also quite public-sector dominated, while the private sector is dominant in the Philippines.

A third group, Thailand and Viet Nam, has larger and more developed knowledge sectors, with reform processes ahead of those in the Philippines or Indonesia. Viet Nam’s R&D sector is much smaller in aggregate and per capita than Thailand’s, but is similar in terms of GDP, and is growing and evolving quickly.

Malaysia and Singapore formthe fourth and most advanced group, although a big gap exists between them in terms of R&D spending relative to both GDP and population, where Singapore tops even Japan. As well, Malaysia has a dominantly private R&D subsector, while Singapore’s public organizations are more prominent and varied.

***Types of R&D Organizations***

The study divides the various organizations and think tanks in ASEAN into two broad categories: R&D management organizations (RMOs) and R&D-performing organizations (RPOs). RMOsmanage R&D systems — their policy, funding or granting, system development and reform, and other support or advisory functions — and almost all are public sector organizations, either government ministries or “research councils.” In total, 70 RMOs were surveyed for the study. RMOs vary widely as to the extent and types of their R&D system management functions and structures. In some countries, ministries and councils perform the same functions; in others, sectoral councils exist within a Ministry of Health or of Science and Technology.

In contrast, RPOs can be referred to as “think tanks” and are divided for convenience into three categories: broad-spectrum “classical” think tanks, most of which are autonomous organizations; other multi-sectoral think tanks, which include private, public, autonomous, and academic organizations; and sectoral RPOs. In total, the study covers 144 RPOs, of which 9 are classical think tanks, 76 are other multi-sectoral think tanks, and 59 are sectoral RPOs.

*Research Management Organizations*

The survey for this study and secondary research suggest a number of perspectives of interest with respect to RMOs.

First, less-advanced R&D sectors tend to be more ministry centred, and the roles of councils grow over time in terms of policy, granting, and system development and reform. In this regard, the ASEAN countries again can be grouped into four types: ministry-centred public R&D sectors exist in Brunei, Cambodia, Laos, and Myanmar; Indonesia and the Philippines use sectoral councils, particularly in sectors such as health and science and technology; Thailand and Viet Nam have mixed systems, with greater use of councils at the national level; Singapore’s system is essentially council centred, but Malaysia is a somewhat special case in that its system is largely ministry centred but with a relatively small, centralized, and efficiency-oriented public R&D sector

Second, a greater role for councils typically accompanies the greater use of competitive R&D funding mechanisms relative to more top-down government and ministry budget allocation processes. Again, similar country groupings emerge, with nascent or no competitive mechanisms in Cambodia, Laos, and Myanmar; competitive mechanisms more at the sectoral level in Brunei, Indonesia, and the Philippines; competitive mechanisms strong at the national level in Singapore, Thailand, and Viet Nam; and competitive mechanisms mixed with centralized (but efficiency-oriented) allocation mechanisms in Malaysia.

Third, R&D management systems also differ in the extent to which policy, funding, and advisory and support functions are undertaken by separate organizations — particularly the extent to which councils are concerned only with policy (including system development and reform) or with both policy and funding. More advanced systems tend to be more separated and specialized.

Fourth, characteristic of more advanced systems are performance incentives in public organizations and incentives aimed at performance improvement in funding mechanisms for teaching and for R&D in public universities.

Fifth, in terms of the strength of public R&D demand relative to the supply of quality R&D performed, Cambodia and Laos appear to have both weak demand and thin supply despite the presence of several capable RPOs. In Brunei and Myanmar (of late), demand and funding appear to exceed the capacity of their RPOs. Indonesia and the Philippines may be characterized by excess supply and weaker demand relative to a considerable range of quality RPOs. Thailand and Viet Nam appear to have a medium-level balance, while a higher-level balance exists in Malaysia and, especially, Singapore.

*Research-Performing Organizations*

The total of 144 RPOs surveyed can be divided for convenience into two groups: 59 sectoral think tanks and 85 multi-sectoral think tanks, including 9 that can be considered classic broad-based think tanks. Not surprisingly, ASEAN countries’ RPO structures roughly correspond to their R&D spending perspectives in terms of the numbers and diversity of private, public, autonomous, academic, and NGO ownership, as well as legal status, which is important in considering possible initiatives in support of think tanks. Cambodia, for example, has several autonomous and academic think tanks, while Laos has very few and these are all public sector owned; Myanmar also has very few and these are mainly academic.

Few of the think tanks are *private* — for example, the Asian Strategy and Leadership Institute (Malaysia) — and they are in essence large consulting companies with economic research services.

Among purely *public* think tanks, the Philippine Institute of Development Studies is a good example. It conducts high-quality policy research and is connected to economic and social policymakers, while retaining sufficient independence to formulate its own research agenda. Among its challenges are its dependence on yearly public funding and the difficulties of operating partially under public sector rules and constraints, including compensation levels.

*Semi-autonomous* think tanks are independent organizations in terms of legal status, but depend on public funding and have strong government representation in their governance structures. More common in other regions, only one such RPO — the Centre for Strategic and Policy Studies in Brunei — was identified in the survey of ASEAN countries, but this type could be an effective and sustainable model where there is government commitment to both funding and independence.

*Autonomous* think tanks are non-profit organizations with independent boards. Distinguishing them from NGOs, and from each other, is their source of funding, of which four models are suggested:

* *Autonomous, government endowed.* Malaysia’s Institute of Strategic and International Studies (ISIS) and Malaysian Institute of Economic Research (MIER) are good examples of think tanks that are autonomous but endowed by government. The former is the more prominent, with a considerably larger endowment, but MIER has enough income from its endowment to cover costs in all but extraordinary years without dipping into the principal. This is clearly a highly sustainable model.
* *Autonomous, government and donor funded*. A large group of think tanks are autonomous but funded by both government and donors. All produce high-quality research but tend to have greater challenges in influencing public policy than do public and semi-autonomous organizations.
* *Autonomous, own-revenue funded*. The main example of a think tank that is autonomous and funded from its own revenue is the Economic Institute of Cambodia, which started as a policy think tank but developed a revenue base in economic research aimed at private sector needs, in capacity development for business innovators, and in business operations, one of which is very large. All these revenue streams stemmed from research and capacity development activities. This is an effective and sustainable model whose initiation depends on strong leadership.
* *Autonomous, with a private endowment or private funding.* These are mainly private R&D foundations such as the Ayala Foundation in the Philippines.

*Academic* think tanks are numerous and found in both public and private universities. Those with the strongest public funding are in Singapore, but they are also important in weaker systems, including those of Brunei, Cambodia, Indonesia, and Myanmar. University think tanks with private endowment funding have a definite advantage in terms of maintaining an independent research agenda. A good example is the Angelo King Institute in the Philippines.

*NGOs* are autonomous organizations with a board, but they tend to be oriented more toward community development and advocacy rather than research.

All successful models and cases share common factors in the areas of research quality, networking, policy impact, and core fund raising. Funders have a responsibility to consider and support resource expansion and longer-term development of funding bases for organizations they support. This applies particularly to foreign donors, whose priorities and staffs may shift frequently. Also in this context, leadership transitions are usually more crucial and more difficult for organizations lacking a stable funding base.

***Summary of ASEAN R&D Sector Issues and Perspectives***

Cambodia, Laos, and Myanmar, with their very weak knowledge sectors and organizations, are the countries most in need of substantial interim funding as well as ASEAN and international expertise and experience, notably in:

* tertiary education expansion and management, particularly the expansion and incentivization of both teaching and R&D activity;
* building and incentivizing national and sectoral council organizations and developing competitive national and sectoral R&D funding mechanisms; and
* developing think tanks, with medium-term core funding for some and sustained competitive policy R&D funding open to all, including sectoral think tanks.

There is widespread interest in all ASEAN countries in furthering intra-ASEAN and international collaboration in the knowledge sector, particularly in light of increasing economic integration and the planned implementation of an ASEAN Economic Community by 2015. Underlying this interest is the recognition that the ability of countries to design, build, reform, and develop their own knowledge sectors is a key goal, but that this goal clashes with the more supply-driven and results-based approaches of donors over the past decade.

Thus, strategic investments in knowledge sector development — particularly in Cambodia, Laos, and Myanmar and in partnership with ASEAN centres of excellence — could be of high value if they included several core features:

* ASEAN and international collaboration;
* the involvement of the appropriate research management organizations, council or ministry, in the design and governance of the R&D system;
* initiatives that are strategic in the sense of catalyzing national or sectoral knowledge sector developments;
* flexible funding in terms of different forms of collaboration and country/organization groupings;
* competitive funding, so that proposing organizations are self-selecting;
* the means to increase R&D demand where needed; and
* programs, including the selection of grants, that are managed and governed wisely and efficiently.

Strategic investments appear to be most needed in three main areas: to expand and manage tertiary education, particularly with respect to incentivizing both teaching and R&D activity; to build and incentivize national and sectoral council organizations and to develop competitive national and sectoral R&D funding mechanisms; and to develop think tanks through both medium-term core funding, and sustained competitive policy R&D funding. One way to achieve these goals could be through an ASEAN Strategic Knowledge Sector Fund with three components:

* a tertiary R&D and education fund to underwrite the costs of strategic investments and pilots, particularly, for example, in teaching incentives, R&D incentives, and competitive academic R&D funding at the national and university levels;
* an R&D management fund, a collaborative initiative involving councils, important because improvements in overall design — such as national competitive funding mechanisms — conceptually lead, support, and increase returns from sectoral investments; and
* a think tank initiative that could select a few think tanks in the ASEAN countries with the weakest R&D systems to receive organizational and program funding over a five-to-ten-year period, or provide competitive program funding for top collaborative proposals. In either case, the net could well be cast widely in terms of including autonomous, academic (private and public university), private, and public organizations, and encouraging partnerships among them.

Finally, further input from ASEAN experience and experts no doubt would alter, refine, and add to this kind of programmatic thinking, which suggests that regional consultations would be productive. Input would also be important from a range of potential contributors and partners both within and outside ASEAN. One current activity of this kind is the IDRC initiative on “Science Granting Councils: An Exploration of Policies and Practices for Building Research Capacity.”This project provides for a set of consultations in each of six global regions, including Southeast and East Asia, aimed at better understanding the changing contexts of councils, joint learning and knowledge sharing, identifying opportunities for enhanced collaboration and cooperation within and across regions, and exploring next steps, opportunities, and partnerships to support granting councils.

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**Note**

A separate Appendix C provides, for each country and regionally, a listing of the organizations surveyed by legal status and sector, diagrams and information on structures of major organizations where available, and some useful perspectives or excerpts from secondary research. A concluding section provides some comparison of “best-practice” country funding systems for education services, both teaching and R&D. This Appendix is available online from the IDRC or from the author at: <http://db.tt/qka95L1I> .

A separate Appendix D provides summary information on each of the 214 organizations surveyed — their mission, vision, objectives, structure, research, funding, and partnerships as well as contact information — as presented on their websites at the time of the survey. This appendix also contains a listing, with brief descriptive and contact information, of gender and development organizations in ASEAN countries. This Appendix is available online from the IDRC or from the author at: http://db.tt/UoJhcBkp. A simple list of organizations, with direct website links, can be found at: <http://db.tt/NagjCfko> .

# Introduction

Governmental and nongovernmental organizations (NGOs) and think tanks[[1]](#footnote-1)1 play a vital role in research and development (R&D)[[2]](#footnote-2)2 in the 10 member countries of the Association of Southeast Asian Nations (ASEAN), a region that is growing rapidly in economic importance. Accordingly, this study examines how these various bodies operate — their environments, capacities, partnerships, research activities, strategies, and trends — and suggests some possible implications for the design of development cooperation programs both within ASEAN and between ASEAN countries and outside partners. The study also aims to strengthen awareness of the capacity of these bodies to produce quality research and to affect policy in Southeast Asia in order to inform future programs of the International Development Research Centre. The sectoral focus of the study is broad, including agriculture, natural resources, the environment, social and economic policy, health, security and governance, and science and technology, but not complete, as it omits such sectors as energy, infrastructure, education, and community development.

The choice to examine ASEAN was made because of the existence of comparable information from its 10 member countries, and because of the change and activity surrounding ASEAN economic integration and the intention to form an ASEAN Economic Community by 2015. Within ASEAN, however, sub-regions are also important. A prominent example is the Greater Mekong Subregion — consisting of Cambodia, the Lao People’s Democratic Republic (hereafter, Laos), Myanmar, Thailand, Viet Nam, and the Chinese provinces of Yunnan and Guanxi — where business, economic, and knowledge sector activity has developed steadily since funding by the Asian Development Bank (ADB) began in 1992.

The study divides the various organizations and think tanks in ASEAN into two broad categories: R&D management organizations (RMOs) and R&D-performing organizations (RPOs). RMOsmanage R&D systems — their policy, funding or granting, system development and reform, and other support or advisory functions — and almost all are public sector organizations, either government ministries or “research councils.” In total, 70 RMOs were surveyed for the study. RMOs vary widely as to the extent and types of their R&D system management functions and structures. In some countries, ministries and councils perform the same functions; in others, such as the Philippines, sectoral councils exist within a Ministry of Science and Technology.

In contrast, RPOs can be referred to as “think tanks” and are divided for convenience into three categories: broad-spectrum “classical” think tanks, most of which are autonomous organizations; other multi-sectoral think tanks, which include private, public, autonomous, and academic organizations; and sectoral RPOs. In total, the study covers 144 RPOs, of which 9 are classical think tanks, 76 are other multi-sectoral think tanks, and 59 are sectoral RPOs.

It is important to note, however, that this survey of ASEAN R&D organizations is much more a large sample than an exhaustive list, and that certain caveats apply to the coverage.

* With respect to governmental organizations, the study focuses on those associated with the executive branch, which is the principal branch for research, and largely leaves out those related to the legislative and judicial branches of government even though such institutions play important roles and operate or engage with RMOs and RPOs.
* The study largely omits institutions affiliated with political parties.
* The study pays very little attention to private or privately funded R&D organizations, except for some cases where there is private philanthropic funding or endowment for autonomous and academic organizations in, for example, private universities.
* The study does not include many university and tertiary education departments that undertake research. As well, as noted above, there is less focus on the energy, education, community development, industry, and infrastructure sectors. Business and management research, including research done in business and public sector management educational organizations, is also largely omitted.
* The coverage of institutions in Cambodia, Indonesia, Singapore, Thailand, and Viet Nam is largely as a result of meetings and discussions with officials in those countries,[[3]](#footnote-3)3 while coverage of institutions in Brunei Darussalam (hereafter Brunei), Laos, Malaysia, Myanmar, and, to some extent, the Philippines comes more from secondary sources.
* Statistical agencies and central banks are not included, although they do important research in many countries.
* With one or two exceptions, coverage of regional organizations is limited to those that are ASEAN oriented and based, and thus excludes most pan-Asian and Asia-Pacific organizations. Coverage of international organizations is similarly limited to the few with a strong ASEAN orientation, and thus excludes many major international research organizations such as the World Bank.
* The study omits most of the many training organizations that also do research.
* Since many R&D networks do not have their own legal identity, the study, with some exceptions (such as ASEAN ISIS and SEATRANET), omits them. Occasionally such networks eventually become organizations, and so the survey misses some organizations currently in the making.
* Finally, since every organization changes its specific structures occasionally and its activities more often, it should be noted that information based on organizations’ websites was taken from those sites as they existed at the time of the survey — that is, between October 2011 and February 2012.

The study is broadly organized as follows. The next section provides a comparative analysis of R&D spending and funding in ASEAN countries. The third section examines RMOs, with relative emphasis on councils and attention to [competitiveness](#_Toc318739021) in R&D systems; the balance between R&D [demand and supply](#_Toc318739022); c[ouncil](#_Toc318739023)- versus ministry-centred systems; how systems function as a whole; and the roles of principal RMO organizations, whether ministries or research councils. The fourth section looks at RPOs, with relative emphasis on think tanks and attention to the prevalence of different kinds of organizations in each country; their ownership or legal status (private, public, semi-autonomous, autonomous, non-profit); different models of think thanks; and key problems and success factors of each model. The fifth section offers a summary and overview of some main ASEAN knowledge sector perspectives. The study concludes by suggesting some implications of its findings for donor and other programming. As well, the study contains appendixes that provide data on gross expenditures on R&D by ASEAN organizations, brief case sketches of ASEAN think tanks and think tank networks, and an annotated reference section covering some of the available knowledge sector research in each country.

# R&D Spending and Funding in ASEAN Countries

One useful perspective concerning the environment in which ASEAN RMOs and RPOs operate is that of R&D spending in each country, both as a percentage of gross domestic product (GDP) and in its structure — that is, the share of R&D spending by the private, public, higher education, non-profit, and foreign sectors). Although comparable figures for gross expenditure on R&D are somewhat dated — for most AEAN countries, the most recent available data are from 2007; for Cambodia, Laos, and Myanmar, the most recent are from 2002 — they nevertheless serve to highlight the enormous differences among ASEAN countries, which can be divided into four main groups in terms of the state of development of their knowledge and R&D sectors (see Figure 1).

**Figure 1. Gross expenditures on R&D as a percentage of
gross domestic product, ASEAN and other selected countries.**

Source: Please see Appendix A for data and sources.

One group, consisting of Brunei, Cambodia, Laos, and Myanmar, has quite low R&D spending by international and even ASEAN standards. Within these four, there is also much diversity. Cambodia and Laos are relatively foreign dependent; Cambodia is also dependent on NGOs for funding. Myanmar historically has spent more on R&D relative to gross domestic product (GDP) than the other countries in this group, and although the country has been isolated until recently, it appears from discussions that people and organizations are becoming re-energized in terms of the development of Myanmar’s knowledge sector. Brunei has embarked only recently on economic diversification and related knowledge sector development, and thus its R&D sector is small, but the country has the commitment and financial resources needed for further development.

In a second group, consisting of Indonesia and the Philippines, total R&D spending isstill quantitatively small relative to GDP, but the R&D sectors in these two countries are much larger because of their relatively larger economies and because systemic reform has been under way longer. Total spending is similar in the two countries, but Indonesia’s larger population and total economy mean that spending on the R&D sector is considerably lower both in per capita terms and relative to GDP than in the Philippines. Indonesia’s R&D sector is also dominated by the public sector, while private sector R&D spending dominates in the Philippines.

A third group, consisting of Thailand and Viet Nam, has larger and more developed knowledge sectors and reform processes that are ahead of those in Indonesia and the Philippines. Viet Nam’s R&D sector is much smaller both in aggregate and per capita than Thailand’s but similar in relation to GDP, and it is growing and evolving quickly.

Malaysia and Singapore form the fourth and most advanced group, although there is a big gap between them in terms of both R&D spending per capita and relative to GDP — indeed, among ASEAN countries, Singapore is in a class of its own, its per capita R&D spending topping even that of Japan. The knowledge sectors in the two ASEAN countries also differ in that Malaysia’s is dominated by the private sector, while Singapore’s is more broadly supported by the public sector.

R&D spending by source also helps to explain the environment in which RMOs and RPOs in ASEAN countries operate (see Figure 2). In particular, the private sector plays the dominant role in Malaysia (85 percent of all R&D spending), Singapore (65 percent), and the Philippines (60 percent), while public sector spending dominates in Brunei (90 percent of all R& D spending), Indonesia (77 percent), and Viet Nam (66 percent). Foreign funding the source of 50 percent of R&D spending in Laos and of 25 percent in Cambodia. Cambodia is also the only ASEAN country in which non-profit organizations play a significant role (50 percent of R&D spending). The academic sector accounts for 40 percent of R&D spending in Thailand and for about 20 percent in Indonesia, the Philippines, Singapore, and Viet Nam. By comparison, in most major economies outside ASEAN, 50 percent or more of R&D spending is accounted for by the private sector, 15–20 percent by the public sector, 10–15 percent by the academic sector, and less than 5 percent by the non-profit sector.

**Figure 2. Gross expenditures on R&D by source of funding,
ASEAN and selected countries.**



Source: Please see Appendix A for data and sources.

# ASEAN R&D Management Organizations

## Comparative Functions, Organizational Structures, and Related Characteristics

In many countries, including those with the weakest knowledge sectors, public sector R&D management systems and organizations are the main sources of demand for and users of R&D, and often the main funders of R&D as well. As such, RMOs form a big part of the environment and orientation of think tanks and other organizations that perform research. A related part of this environment is the political climate, particularly the degree to which change and reform in the knowledge sector is promoted. Although this study does not offer political commentary, some of the characteristics of RMOs in ASEAN countries are reasonable indicators of the dynamics involved — for example, the degree of competitiveness in the system and the strength of public R&D demand.

As noted earlier, RMOs can be divided into two kinds: government ministries and “councils,” which, in ASEAN countries, often take names such as academy, agency, board, commission, committee, foundation, fund, or union. Table 1 lists the main RMOs in each country as well as regional RMOs. From this list, one can discern that less advanced R&D sectors, such as those in Brunei, Cambodia, Laos, and Myanmar, tend to be more ministry centred. Indonesia and the Philippines, in contrast, make more use of councils, particularly in sectors such as health and science and technology. In Thailand and Viet Nam, RMOs are a mixture of ministry and council centred organizations, with greater use of councils at the national level, and Singapore is also essentially council centred. Malaysia is again a somewhat special case, being largely ministry centred but with a relatively small, centralized, and efficiency-oriented public R&D sector.

**Table 1: Summary of R&D Management Organizations (RMOs) and R&D Performing Organizations (RPOs) by Country**

**RMOs - R&D Policy/Management/Advisory type RPOs - R&D Performing legal status sector**

***Brunei Darussalam***

Prime Minister’s Office (PMO) central ministry

 Brunei Research Council council

 Brunei Economic Development Board council

Ministry of Finance central ministry

Ministry of Development central ministry

 National. Science and Technology Committee council

Ministries of Education, Health sectoral ministry

Ministry of Foreign Affairs (MFA) central ministry

Ministry of Commerce and Industry(MCI) sectoral ministry

 Brunei Industrial Development Authority councilKuala Belalong Field Studies Centre KBFS Academic Agriculture

Universiti Brunei Darussalam UBD Academic Think Tank

UBD Institute for Leadership, Innovation and

 Advancement ILIA Academic Security

UBD Institut Technologi Brunei ITB Academic Science & tech.

MCI Departments – Agriculture, Forestry, Fisheries Public Agriculture

Brunei Agricultural Research Centre BARC Public Agriculture

PMO – Energy Department Public Energy

MOH laboratories Public Health

MFA Brunei Darussalam Institute of Policy and Strategic

 Studies IPSS Public Security

Centre for Strategic and Policy Studies CSPS Semi-auton. Think Tank

***Cambodia***

P.M., Council of Ministers central ministry

 Council for the Development of Cambodia council

 National ICT Development Authority council

 Cambodia National Mekong Committee council

Royal Academy of Cambodia advisory council

Ministry of Planning central ministry

Ministry of Economy and Finance central ministry

Ministry of Health sectoral ministry

Ministry Agriculture, Forestry and Fisheries sectoral ministryRoyal University of Phnom Penh (RUPP), Population

 Studies Programs RUPP-PS Academic Econ. & social

RUPP Development Studies Programs RUPP-DS Academic Think Tank

Royal University of Law and Economics RULEs Academic Econ. & social

International Relations Institute of Cambodia, IRIC Academic Security

Community Based Natural Resources Management

 Learning Institute CBNRMLI Autonomous Agriculture

Center for Khmer Studies CKS Autonomous Community

Economic Institute of Cambodia EIC Autonomous Econ. & social

Center for Advanced Study CAS Autonomous Health

Cambodian Institute for Cooperation and Peace CICP Autonomous Security

International Institute, Cambodia University of

 Technology IICTU Autonomous S&T

Cambodia Development Resource Institute CDRI Autonomous Think Tank

Cambodian Research Centre For Development CRCD Autonomous Think Tank

Cambodian Economics Association CEA NGO Econ. & social

Cambodia Center for Human Rights CCHR NGO Security

The Learning Institute TLI NGO Think Tank

National Institute of Public Health NIPH Public Health

Telecom Cambodia TC Public ICT

Cambodia Agricultural Research & Development

 Institute CARDI Semi-auton. Agriculture

***Lao People’s Democratic Republic***

President, Prime Minister central ministry

Ministry of Science and Technology (MOST) central ministry

 National Science Council council

Ministry of Planning and Investment central ministry

Ministry of Health sectoral ministry

 Council of Medical Sciences council

Ministry of Finance central ministry

Other Ministries and Agencies sectoral ministryFrancophone Institute for Tropical Medicine FITM Autonomous Health

National Agriculture and Forestry Research Institute NAFRI Public Agriculture

National Economics Research Institute (MPI) NERI Public Econ. & social

The Economic Research Institute for Trade ERIT Public Econ. & social

MOST Environmental Research Institute ERI Public Environment

National Institute of Public Health (MOH) NIOPH Public Health

MOST Information Technology Research Institute ITRI Public Info. & Comm.

MOST Research Institute for Science RIS Public S&T

MOST Technology Research Institute TRI Public S&T

***Myanmar***

President, Vice President, President’s Office central ministry

Ministry of Science & Technology central ministry

Ministry of National Planning & Economic

 Development central ministry

Ministry of Finance central ministry

Ministry of Health, Ministry of Education sectoral ministry

Other Ministries and Agencies sectoral ministry Universities of Myanmar Academic Multisectoral

Myanmar Think Tank M TT Priv Econ. & social

Yangon Institute of Economics YIE Academic Econ. & social

Departments of Health Research DHR Public Health

***Indonesia***

President, Cabinet Coordination Office central ministry

 Indonesian Institute of Sciences (LIPI)

Ministry Research and Technology (RISTEK) central ministry

 Agency for Assessment and Application of

 Technology (BPPT) council

National Research Council (DRN) advisory council

Ministry of National Education

Ministry of Finance (MOF) central ministry

National Development Planning Agency

 (BAPPENAS) central ministry

Ministry of Health sectoral ministry

Other Ministries and Agencies sectoral ministry Institute of Social & Economic Research,

 University of Indonesia) LPEM Academic Econ. & social

Lembaga Demografi LD (University of Indonesia) Academic Econ. & social

University of Indonesia Research Centers (64) Academic Multisectoral

Institute of Technology Bandung ITB Academic Science & tech.

Center for International Forestry Research CIFOR Autonomous Agriculture

Research Triangle Institute Indonesia RTII Autonomous Security

Center for Strategic and International Studies CSIS Autonomous Think Tank

SMERU Research Institute SMERU Autonomous Think Tank

Lembaga Alam Tropika Indonesia LATIN NGO Agriculture

Habibe Center HC NGO Security

Indonesian Center for Agriculture Socio Economic

 and Policy Studies ICASEP Public Agriculture

LIPI Economic and Social Research Institutes (4) Public Econ. & social

BAPPENAS Departments (13), Inspectorates

 and Centres (6) Public Econ. & social

Center for Policy and Implementation

 Studies (LIPI) CPIS Public Think Tank

***Philippines***

President, President’s Office central ministry

 Commission on Higher Education council

 National Anti-Poverty Commission council

Department of Education sectoral ministry

Dept of Science & Technology (DOST) central ministry

 Philippine Council for Agriculture, Aquatic and

 Natural Resources. R&D (PCAARRD) council

 Philippine Council for Health R&D (PCHRD) council

 Philippine Council for Advanced Science and

 Technology R&D (PCASTRD) council

 National Research Council of the Philippines advisory council

National Economic Development Authority central ministry

Department of Finance central ministry

Department of Health (DOH) sectoral ministry

Other Departments and Agencies sectoral ministry Ateneo Center for Economic Research and

 Development ACERD Academic Econ. & social

Economic Research Center (School of Economics,

 University of the Philippines, Diliman ERC Academic Econ. & social

University Centers of Excellence (100) Academic Multisectoral

University Centers of Development (148) Academic Multisectoral

Angelo King Institute, De La Salle University AKI Academic Think Tank

Philippine Center for Economic Development PCED Autonomous Econ. & social

Scalabrini Migration Center SIM NGO Econ. & social

Institute for Strategic and Development Studies ISDS NGO Security

International Institute of Rural Reconstruction IIRR NGO Security

Philippine Institute for Peace, Violence & Terrorism

 Research PIPVT NGO Security

Ayala Foundation AF Priv Community

Philippines Institute of Development Studies PIDS Public Think Tank

DOST R&D Institutes (7) Public Multisectoral

DOST S&T Service. Institutes (8) Public Science & tech.

***Vietnam***

Politburo of the Communist Party of Vietnam central ministry

President, Prime Minister central ministry

Ministry of Science and Technology (MOST) central ministry

National Council for S&T Policy (NCSTP) council / ministry

Vietnamese Academy of S & T (VAST) council / ministry

Vietnamese Academy of Social Sciences. (VASS) council / ministry

Ministry of Planning & Invest. (MPI) central ministry

Ministry of Education & Training (MET) sectoral ministry

Vietnamese Women’s Union council

Vietnamese Union S&T Assns. (VUSTA) council

Other Ministries and Ministry-level Agencies sectoral ministry Center for Agricultural Research and Ecological Studies Academic Agriculture

Vietnam Centre for Economics and Policy Research VEPR Academic Econ. & social

Center for Research and Environmental Studies,

 Vietnam National University Hanoi CRES Academic Env

Mekong Delta Development Research Institute MDDRI Academic Think Tank

Vietnam Economics Association VEA NGO Econ. & social

Institute for Social and Development Studies (VUSTA) ISDS NGO Think Tank

Indochina Research IR Priv Econ. & social

Institute for Policy & Strategy in Agriculture and Rural

 Development. IPSARD Public Agriculture

Center for Analysis and Forecasting (VASS) CAF Public Econ. & social

Central Institute for Economic Management (MPI) CIEM Public Econ. & social

Foreign Trade University FTU Public Econ. & social

Institute for Family and Gender Studies IFGS Public Econ. & social

Institute of Economics (VASS) IE Public Econ. & social

Institute of World Economics and Politics (VASS) IWEP Public Econ. & social

Vietnamese Economic Research Network (CAF) VERN Public Econ. & social

National Academy of Politics and Public Administration Public Mult

National. Institute for Science and Technology Policy

 and Strategy (MOST) NISTPASS Public Science & tech.

Development Strategy Institute (MPI) DSI Public Think Tank

***Thailand***

Office of the Prime Minister central ministry

 National Bodies: Energy, Security,

 Education Women’s Affairs council

 Economic and Social Development

 Board (NESDB) council

National Research Council of Thailand (NRCT) council

Thailand Research Fund (TRF) council

Ministry of Science, Technology and

 Environment (MOST) central ministry

 National Science and Technology

 Development. Agency (NSTDA) council

 National Innovation Agency (NIA) council

National Science, Technology and

 Innovation Policy Office (NSTIPO) council

Ministry of University Affairs sectoral ministry

Ministry of Public Health sectoral ministry

The Royal Institute advisory council

National Information Technology Committee council

Other Ministries and Agencies sectoral ministry International Institute for Trade and Development ITD Academic Econ. & social

South East Asia ATRAT Regional Center START-SEA Academic Environment

Universities and Organizations of Higher Education Academic Multisectoral

Institute of Security and International Studies ISIS Academic Security

King Prajadipok’s Institute KPI Academic Security

Institute for Population and Social Research, Mahidol IPSR Academic Think Tank

Public Policy Studies Institute, Chiang Mai University PPSI Academic Think Tank

Regional Centre for Social Science and Sustainable

 Development, Chiang Mai University RCSD Academic Think Tank

Thailand Environment Institute TEI Autonomous Environment

Health Intervention and Technology Assessment

 Program HITAP Autonomous Health

International Health Policy Program IHPP Autonomous Health

Thailand Development Research Institute TDRI Autonomous Think Tank

Asian Disaster Preparedness Center ADPC Autonomous Security

The Centre for People and Forests RECOFTC NGO Agriculture

Asian Research Center on Migration ARCM NGO Econ. & social

Focus on the Global South FGS NGO Econ. & social

Noviscape Consulting NC Priv Econ. & social

National Institute of Development Administration NIDA Public Education

Health Sciences Research Institute HSRI Public Health

NSTDA Natl. Centers Public Science & tech.

Knowledge Network Institute of Thailand KNIT Public Think Tank

***Malaysia***

Prime Minister, Deputy, Ministers in the

 Prime Minister’s Department central ministry

 Economic Planning Unit (EPU) central agency

Ministry of Science, Technology and

 Innovation (MOSTI) central ministry

 Academy of Sciences Malaysia advisory council

Ministry of Higher Education sectoral ministry

Ministry of Health sectoral ministry

 Secretariat, National Institutes of Health NIH council

Other Ministries and Agencies sectoral ministry Institute for International and Malaysian Studies IKMAS Academic Think Tank

Malaysian Strategic Research Centre MSRC Autonomous Security

Institute of Strategic and International Studies ISIS Autonomous Think Tank

Malaysian Institute Of Economic Research MIER Autonomous Think Tank

Institute for Development Studies, Sabah IDSS Autonomous Think Tank

Third World Network TWN NGO Think Tank

Asian Strategy and Leadership Institute ASLI Priv Think Tank

Stratad Asia Pacific Strategic Centre SAPSC Priv Think Tank

Forest Research Institute of Malaysia FRIM Public Agriculture

National Institute of Public Administration INTAN Public Econ. & social

National Institutes of Health NIH Public Health

MOSTI Divs/Depts/Agencies, Companies Public Science & tech.

***Singapore***

Cabinet, Prime Minister’s Office central ministry

Research, Innovation and Enterprise

 Council (RIEC) council

National Research Foundation (NRF) council

Ministry of Trade and Industry (MTI) central ministry

 Agency for Science and Technology

 Research (A\*STAR) council

 A\*STAR Science and Engineering Council council

 A\*STAR Biomedical Council council

Economic Development Board council

Singapore National Academy of Sciences council

Ministry of Education sectoral ministry

 Academic Research Fund council

Ministry of Health sectoral ministry

Ministry of Finance central ministry

Ministry of National Development central ministry

Other Ministries and Agencies sectoral ministry A\*STAR Science and Engineering Institutes Public Science & tech.

A\*STAR Biomedical Institutes Public Health

S. Rajaratnam School of International Studies, Nanyang

 Technological University RSIS Academic Security

Asia Research Institute (N.U.S.) ARI Academic Think Tank

East Asian Institute (N.U.S.) EAI Academic Think Tank

Institute of Policy Studies (LKYSPP) IPS Academic Think Tank

Institute of South Asian Studies ISAS Academic Think Tank

Institute of Southeast Asian Studies ISEAS Academic Think Tank

Lee Kuan Yew School of Public Policy LKY-SPP Academic Think Tank

Singapore Institute of International Affairs SIIA Autonomous Think Tank

Horizon Scanning Center HSC Public Security

Singapore-MIT Alliance for Research and

 Technology SMART Public Science & tech

**Regional (& International)**

ASEAN Association, Secretariat (ASEAN) council

 ASEAN Centres and Entities council

Asian Development Bank (ADB) council, donor

Mekong River Commission, Secretariat (MRC) council

Science Council of Asia (SCA) council

Southeast Asia Ministers of Education

 Organization (SEAMEO) council

United Nations Economic and Social

 Commission for Asia and the Pacific (ESCAP) councilSouth East Asia Trade Policy Training Network Acad Econ. & social

ASEAN Studies Centre (ISEAS, Singapore) Academic Think Tank

International Rice Research Institute IRRI Autonomous Agriculture

World Agroforestry Center (Indonesia / S. E. Asia) ICRAF Autonomous Agriculture

Asian and Pacific Developing Centre APDC Autonomous Think Tank

Asian Institute of Technology AIT Autonomous Think Tank

ASEAN ISIS Network Mixed Think Tank

Greater Mekong Sub-region Regional Cooperation Program Mixed Think Tank

Network of East Asian Think Tanks NEAT Mixed Think Tank

Asian Institute of Management AIM Private Security

Centre for the Alleviation of Poverty through Sustainable

 Agriculture (ESCAP) CAPSA Public Agriculture

Economic Research Institute for ASEAN and East Asia ERIA Public Econ. & social

S. E. Asian Central Banks Res. & Training Centre SEACBRTC Public Econ. & social

UN Women East and Southeast Asia Region UN WOMEN Public Econ. & social

Mekong Institute (MI) Public Think Tank

SEAMEO Centres Public Think Tank

Note: “mixed” — applying to institutionalized networks whose members in different countries have different legal status.

RMOs also differ in the extent to which policy, funding, and advisory/support functions are undertaken by separate organizations, particularly in the extent to which councils are concerned only with policy (including system development and reform) or with both policy and funding. More advanced systems tend to be more separated and specialized. This also applies to the separation between RMOs and RPOs, as many councils and ministries have R&D-performing departments, centres, institutes, and so on within them. Typically, where councils play a greater role in the R&D sector, there is greater use of competitive R&D funding mechanisms relative to more top-down government and ministry budget allocation processes. Again, the ASEAN countries can be divided into groups, with nascent or no competitive mechanisms in Cambodia, Laos, and Myanmar; competitive mechanisms more at the sectoral level in Brunei, Indonesia, and the Philippines; competitive mechanisms strong at the national level in Viet Nam, Thailand, and Singapore; and competitive mechanisms mixed with centralized (but efficiency-oriented) allocation mechanisms in Malaysia.

Also characteristic of more advanced R&D systems is the existence of incentive structures — in terms of both compensation levels and performance incentives — in public organizations, including with respect to teaching and R&D in the funding of public universities. It is beyond the scope of this study to look in detail at incentive mechanisms, but Appendix C provides some international good practices in university R&D and education funding mechanisms.

A related perspective is that of the strength of public R&D demand relative to the supply of quality R&D performed. Cambodia and Laos appear to have a low-level balance between the two, with weak demand and thin supply, despite having several capable RPOs. In Brunei and Myanmar, both R&D demand and funding appear to exceed the capacity of RPOs to produce. Indonesia and the Philippines, in contrast, may be characterized by excess supply, with relatively weak demand compared with the considerable range of quality RPOs in those countries. Thailand and Viet Nam appear to have a medium-level balance between demand and supply, while both demand and supply are relatively high in Malaysia and higher still in Singapore.

## A Closer Look at R&D Systems by Country

### Brunei

Brunei’s R&D system is in the early stages of transformation toward a larger modern system, reflecting the need and objective to diversify the economy and upgrade education and quality of life. The system looks well designed, and is similar to Singapore’s in its emphasis on both commercial and economic development and the human resource and knowledge base. But it is also growing from a very small base of expenditure and researchers. One strong indicator, although also reflecting a small population, is Brunei’s level of gross expenditures on R&D of $17 per capita (all dollar amounts in this study are in US currency), equal to that of Thailand ($18) and next only to Malaysia ($80) and Singapore ($1,300) among ASEAN countries. As of 2007, 90 percent of Brunei’s R&D spending came from the public sector; however, Brunei has few resource constraints compared to other ASEAN countries with similarly less-developed R&D sectors — namely, Cambodia, Laos, and Myanmar. Accordingly, in Brunei, the building of R&D-related human resources and organizations depends largely on consistent effort and collaboration. The Brunei Long Term Plan of 2007 lists the following problems in the country’s research management system: absence of a central agency to champion the development of science, technology, and innovation (STI) and to identify specific objectives; issues in coordinating and integrating STI policy; lack of priority; and the small number of researchers in R&D compared with that in other countries in the region.

Cambodia

As of the latest available data, from 2002, Cambodia’s R&D system is heavily dominated by non-profit organizations (50 percent) and foreign funding (75 percent). Cambodia’s system is, however, very small, and public sector granting functions appear to operate mainly through annual ministerial budget funding and allocation processes (internally, and to other organizations). More recent data might show a changing picture, but the damage done to the economy and resource base during the Khmer Rouge era has not been rebuilt easily or quickly, and the combination of public finance limitations and dependence on foreign inflows of funding persists. At the same time, the Cambodian economy is growing quite rapidly, thanks to a considerable extent to the exploitation and export of natural resources, and development plans appear to be based on increasingly better knowledge from survey and community and household monitoring processes supported by government and some NGOs and donors.

The public sector funds and performs only about 20 percent of R&D in Cambodia, and although there are pockets of greater activity and commitment, the demand and support for research by government appears generally low. Indeed, Cambodia is the only country in ASEAN with no central ministry or agency of science and technology, and no other coordinating mechanism identified in government.[[4]](#footnote-4)4 Research demand and funding in the private sector, however, are growing. The higher education sector is small, and so is the amount of research it carries out, but both are important for Cambodia’s autonomy and knowledge development. Cambodia has capable research institutes — particularly in multi-sectoral policy R&D, agriculture, economic and social policy, and security and human rights. Most are autonomous, academic, or other non-government organizations, with few in government.

### Laos

The primarily ministerial-directed R&D system in Laos operates mainly through annual ministerial budget funding and ministry (internal and external) allocation practices, where incentives for quality and results can be low. Figures for gross expenditures on R&D are available only to 2002 and not complete, but at under $3 million in total, Laos appears to have had the least developed knowledge sector in ASEAN in recent years. The past decade has nevertheless seen growing effort aimed at building a national R&D system.

The National Science Council (NSC) was established in 2002 to promote the development of scientific research activities in Laos. The NSC is responsible for academic and professional organizations in the country and also provides postgraduate training opportunities. The Lao Union of Science and Engineering Associations and all public science, engineering, and technology research institutes, many of which cooperate with international institutions, come under the umbrella of the NSC. In 2003, the Laotian government created the National Authority for Science and Technology (NAST) from its predecessor, the Science, Technology and Environment Agency. In 2011, a new Ministry of Science and Technology (MOST) replaced NAST, but its success has not yet been determined. An important sectoral role is played by the Council of Medical Sciences, and there are capable research institutes in economics and trade, agriculture and forestry, and science and technology.

### Myanmar

It was not possible to visit Myanmar for the purposes of this study, and my most recent visit was 20 years ago. At that time, research organizations were threadbare in terms of resources and international interactions, although there was some academic collaboration with other countries in Asia and elsewhere. Discussions in November 2011 with knowledge sector experts currently working in Myanmar indicated, however, a surprisingly high degree of commitment and capability on the part of the country’s R&D institutions. At 0.16 percent of GDP, gross expenditures on R&D in Myanmar in 2002 put that country close to Viet Nam’s figure of 0.19 percent in 2007 and ahead of Cambodia, Indonesia, Laos, and the Philippines.

In 1996, a new Ministry of Science and Technology was formed from older sectoral departments, with a mandate that covers the science, technology, and innovation sectors as well as technical and vocational education. Ministries also appear dominant in other sectors. In 2002, Myanmar introduced a National Human Resources Development Plan that involved setting up 24 special development zones across the country. In each zone, colleges were upgraded to universities and new technical high schools were opened. Myanmar does not yet have a well-structured national R&D system, but many of the required components are in place, including a basic science and technology framework, growing human resources, and substantial natural resources. Research strengths exist also in the economics and health sectors. Most lacking perhaps are linkages between sectoral components.

Indonesia

As of 2007, about 70 percent of R&D spending and funding in Indonesia was from the public sector, 20 percent from the academic sector, and 10 percent from the private sector. Poor incentives, however — particularly low compensation as a result of a lack of sustained funding and weak human resources management — have led to the loss of leaders, managers, and researchers in the public sector, with many going to the private sector, donors and international organizations. Rigidities in budget processes and rules delay the receipt and spending of funds in most sectors, and curtail substantial NGO and university funding (without organizational ruses to circumvent the rules). Relations between government and potential suppliers of knowledge are dominated by personal connections rather than by institutional networks and processes. At the same time, Indonesia is experiencing a generational movement toward greater transparency and efficiency in government. Moreover, the National Research Agenda (2010–14) has excellent aims, including emphasis on long-term thinking, the coherence of institutional frameworks, the underwriting of domestic capacity to produce research in other sectors, diversification of knowledge supply and institutions, greater access to international resources, and accepting non-profitability and externalities where these are inherent in public R&D.

For both scientific and social science research, investment needs are lumpy, and for socio-economic research, it is difficult to persuade funders and donors to cover the relatively large costs of survey and data gathering. Indonesian universities are a source of important and good research, but professors are often too busy to do research, as their salaries depend on the number of courses taught. Thus, a change of incentives in university teaching and R&D funding mechanisms is needed. In my discussions with Indonesian scholars, the point was emphasized that education reform is a crucial part of knowledge sector development. Many university research centres are also in need of more international collaboration and support. Some of the strongest RPOs, including the Center for Strategic and International Studies (CSIS) and the Social Monitoring and Early Response Unit (SMERU), as well as several University of Indonesia centres, are seeking or need more stable or broader funding bases.

### The Philippines

The Philippines has major strengths in its knowledge sector. Economic and social policy R&D and management systems are served by strong councils — for example, the National Economic Development Authority — and strong RPOs exist in the public, academic, NGO, and private sectors. Indeed, many of those who were consulted for this study suggested that constraints on the country’s knowledge sector were in policy implementation, rather than in good policy analysis and development. As well, information and communications technology, including the use of mobile phones for text messaging, banking, and payments, is widespread in the Philippines. Thus, the country appears to have all the ingredients of a strong R&D and innovation system.

It is thus disconcerting that gross expenditures on R&D, already low at 0.12 percent of GDP in 2007, have been falling recently, due primarily to declining government R&D performance and funding. Much of the explanation for this decline might simply be relatively low economic growth, the after-effects of the recent financial crisis, increasingly constrained public finances, and a focus on other priorities, including decentralization, local development and poverty reduction, and infrastructure investment. As well, although provision and financing of R&D by the private sector has been encouraged since the end of World War II, the tertiary education sector has never enjoyed a high level of public funding compared with what the primary and secondary education sectors receive. Nevertheless, the high demand for, and supply of, higher education has led to more than 30 percent of the workforce having a tertiary qualification, which compares well to levels in Singapore or Japan. Many universities are strong R&D performers, particularly the University of the Philippines, De La Salle University, and Ateneo de Manila. Philippine universities have also been active in training students from the Greater Mekong Subregion.

The Philippines has one of the strongest civil society sectors in the developing world, due in large part to the country’s experience of democratization and political pluralism. A significant factor enabling civil society organizations to interact with government and to participate in policy-making has been the political tone set by different administrations. Most civil society organizations, however, rely on membership fees, donations, subsidies, and other fee-earning activities, and hence they struggle financially, which means they have thinly spread managerial and R&D capacity.

### Viet Nam

The current R&D system in Viet Nam centres on the Ministry of Science and Technology (MOST), the Ministry of Finance (MOF), and the Ministry of Planning and Investment (MPI). R&D plans are incorporated into national budgets by MOF and approved by the National Assembly. The National Council on Science and Technology is the top organization for policy, strategy, and system management. On the economic and social policy side, the MPI’s Central Institute of Economic Management and Development Strategy Institute are leading organizations. Although formal national processes and organizations are well developed, Viet Nam is also perhaps particularly well known for its informal policy advisory groups and networking.

There are several funding mechanisms. MOST funds competitive national R&D programs in science and engineering[[5]](#footnote-5)5 and in the social science and humanities, as well as science and technology departments in other ministries and regional departments of science and technology. Ministries obtain funds from MOST by competitive tendering, but the process tends to be more top-down in terms of the funding of organizations under the ministry. In addition, MOST provides grants to the Vietnamese Academy of Science and Technology and the Vietnamese Academy of Social Sciences, again through competitive tendering. The Ministry of Higher Education and Training gives grants to universities, some of which are under the jurisdiction of ministries that provide additional funding. Responsibility for Innovation funding, previously provided mainly through MOST and MOF, is shifting to the National Foundation for Science and Technology and Development (NAFOSTED) in the case of basic research and R&D organizations and to the National Fund for Technology Innovation (NAFOTEI) in the case of firms. NAFOSTED and NAFOTEI, with annual budgets of about $10 million and $50 million respectively, have their own boards and are managed by MOST. Salaries and infrastructure of public organizations are funded by their parent ministries, while funds for upgrading, which are large, are managed by the MPI.

Under Viet Nam’s system of central planning, as in China, there is a rich array of research organizations. Since the decision two decades ago to move to a mixed private-public economy, these organizations have largely succeeded in reorienting their objectives. The R&D system has gone through some consolidation and reduction, but has retained and developed its major assets in terms of scientists, technicians, and research organizations, policy and granting organizations, and experience and comfort with sector and system planning and development. Viet Nam also collaborates to a great extent with international donors, including aid agencies in various European and Asian countries, Canada, the United States, and Australia; a large World Bank project on enhancing science and technology systems is under discussion. NAFOSTED is beginning to fund scientists to work with foreign partners — including to travel abroad and to host conferences in Viet Nam — but amounts are small, and support from donors is particularly helpful. Viet Nam is seeking international collaboration in R&D system evaluation and accountability and to participate in “platforms of excellence” in the region and internationally.

An ASEAN “platform of excellence” on managing research and innovation systems, including training activities, was one suggestion that arose from my discussions with officials in that country. Discussions, however, also revealed concerns related to research capacity, with young people increasingly attracted to business, rather than R&D, and the difficulty and expense of gathering data, although there has been much progress in areas such as public investment and the banking sector. Concerns were also raised about the degree of inconsistency among public organizations, the need to improve the quality of research, and the relative lack of academic incentives, in that university professors are paid according to the classes they teach, leaving little time and incentive to undertake research.

### Thailand

Thailand devotes much specific attention to management and system change in its national R&D system, a macro and holistic approach that is more like that of Malaysia, Singapore, and Viet Nam than of other ASEAN countries, although knowledge sector reform appears to be spreading more generally throughout the region. The main granting bodies of the national public system are the National Research Council of Thailand (NRCT) and the Thailand Research Fund (TRF). The NRCT primarily reviews and approves all government research expenditures, while the TRF gives grants, primarily on a competitive basis, and determined by national research priorities that are regularly reviewed and updated.

Ministries do some research internally, but contract out most to institutes and universities. Several people interviewed for this study indicated that the quality and impact of this research are generally low. On the demand side, interest in research and follow-up are often weak and the capacity to seek and review proposals is low, so that quality control is poor. The Ministry of Science and Technology and its agencies — including the National Science and Technology Development Authority — manage the science, technology, and innovation portfolio, with policy or application leadership from the National Science, Technology and Innovation Policy Office and the National Innovation Agency. Other sectors are primarily managed by the sectoral ministries.

The development of the Thai health system over the past 15 to 20 years — in terms of both R&D and the entire system — is a particularly interesting example of investment in strategic knowledge sector development. In the mid-1990s, the TRF chose a rural doctor as its first non-academic senior fellow. After initial service, he was given support to study at the London School of Hygiene (LSH), and on his return was helped to set up the International Health Policy Program (IHPP), a semi-autonomous program that conducts research on national health priorities in Thailand. Support from senior people in the TRF, the Health Sciences Research Institute (HSRI), and the Ministry of Public Health (MOPH) was critical. The process was repeated with a second young doctor, who, upon his return, worked with the emerging IHPP and subsequently set up the Health Intervention and Technology Assessment Program. This process continues with the generation of new programs and research capabilities and the training of personnel to head them, mostly at the LSH. In the process, foundations have been set up to provide sufficient resources. Thailand also earmarks a portion of the tax revenue from alcohol and tobacco sales for health system development, a strategy that economists generally object to, but in this case it is hard to argue that the results have been anything but excellent. On their creation, the new organizations were deliberately placed outside ministry structures, which MOPH itself recognized as too restrictive. The new bodies started as programs within existing organizations, and initially focused on developing a sustainable funding base before becoming more formally institutionalized.

As a manager of the overall R&D system, the TRF in this case played a key upstream role in the generation of the research agenda. To do this well required experience and expertise in both midstream R&D management and downstream use, capabilities that the TRF has built up over the years. The HSRI has played a similar key support role in the health sector:

Key success factors were “self-initiation” and “local ownership”, external support from international partners, notably the WHO fellowship programme, as well as research networking in the phase of capacity development. In the phase of sustaining capacity, it was the responsibility of the organization to ensure equitable sharing of benefits, both financial and non-financial, critical mass, policy-relevant research, political impartiality, programmatic and financial accountability and a collegial environment. Scientific links with stronger partner institutes played a crucial role in sustaining capacity. Although these lessons are context specific, the principles are applicable to other developing countries. (Pitayarangsarit and Tangcharoensathien 2009, p. 74)

In interviews I conducted in December 2011, it was noted that Thailand’s R&D system faced some problems related to corruption — for example, autonomous organizations have lost contracts because they could not or would not pay kickbacks. Concerns were also expressed about the lax review of large budgetary expenditures and the need for transparency and proper review of proposed spending alternatives. A lack of dynamism was noted in the Ministry of Education for research and education system improvement. Some of these problem areas were seen as similar to those in Indonesia and the Philippines, and appear to be more prevalent in times of political contention.

### Malaysia

Unlike other ASEAN countries, Malaysia is a quite highly centralized federation. Malaysia’s R&D sector is roughly twice the size of Thailand’s in terms of spending, and more than 80 percent of funding comes from the private sector — the largest share in ASEAN. The public sector is relatively small, but well resourced and oriented to private sector collaboration. The public system appears mostly ministerial, with strong planning and coordination by sectoral ministries, the cabinet, and the Economic Planning Unit. Government skills as well as university and RPO strengths are many. Although academic-business and public partnerships may need further development, accomplishments and infrastructure such as the Multimedia Super Corridor and Putrajaya are substantial as well as grand in scope and scale. Malaysia’s R&D sector has been growing rapidly.

### Singapore

Singapore’s R&D structure is both council oriented and relatively simple, with clear lines of authority, funding, and responsibility (see Figure 3). There is clarity and coordination among bodies dealing with commercial development, social and economic policy, security, science, technology, innovation and education. Singapore’s R&D spending grew by about 60 percent between 1996 and 2002, despite the effects of the 1998–2000 Asian financial crisis, and all areas are well funded and innovative, devising effective strategies and borrowing from global good practice where useful.[[6]](#footnote-6)6 For example, since the 1990s, Singapore has had commercial R&D programs in which, if a company signs a development agreement and if the technology proves out, Singapore pays for most or all of the research. Through this kind of approach, and despite a now high cost base, Singapore has attracted research collaboration with many top global corporations and research organizations.

**Figure 3. Singapore’s national R&D framework.**



Source: Provided by A\*STAR, November 2010

Underlying the funding of R&D initiatives has been a high level of national savings, notably through the National Provident Fund, and their coordinated investment by mainly public organizations known for their high incentives and zero tolerance for corruption. Singapore’s high savings and investment have been assisted by market-friendly economic policies combined with careful public strategy and investment, which have generated rapid economic growth — although, of course, Singapore’s advantageous geographic location is a major asset as well, with re-exports to the wider region providing a large addition to domestic value added. In the process, Singapore makes extensive use of economic signals. For example, many analysts attribute Singapore’s shift from low-technology to high-technology manufacturing in the 1970s and 1980s to an increase in the minimum wage combined with heavy investment in technical education and housing. Despite its status as a small city state, aspects of Singapore’s successful strategy offer lessons of interest to other ASEAN countries.

Importantly, Singapore is pursuing an integrated education strategy in which major organizations such as the National Institute of Education (NIE) play a major role. In 2007, for example, NIE was spearheading programs to ensure that all school teachers have master’s degrees and all primary and secondary students learn about innovation in their curricula. As well, R&D undertaken at the main universities is well funded from the Academic Research Fund, the research budgets of various government ministries, and other, more specific endowments and funding. Singapore’s universities attract top international scholars and maintain a high level of analysis of national and regional security, economic, and public policy issues. Their research centres collaborate extensively with counterparts in other ASEAN countries. Most have a focus on governance. In addition, Singapore has a large number of think tanks and multi-sectoral research organizations.

### Regional Research Councils

Although lacking regional ministry-like organizations, ASEAN nevertheless has several councils that influence R&D and considerably more regional RPOs. Of the councils surveyed, the ASEAN Association — together with its Secretariat and the ASEAN Centres and Entities — and the Southeast Asia Ministers of Education Organization are ASEAN in scope and treaty based. The Mekong River Commission is also treaty based, but is subregional, as its members are Cambodia, Laos, Thailand, and Viet Nam. The Asian Development Bank, the United Nations Economic and Social Commission for Asia and the Pacific, and the Science Council of Asia are Asia-wide organizations, but are included here because of their importance in R&D funding, collaboration, and advisory functions in ASEAN countries. Other regional and international organizations, notably the World Bank, are also involved in R&D funding or in funding and performance, including United Nations and Consultative Group on International Agricultural Research centres. ASEAN economic integration is having a substantial impact on R&D thinking and priorities — particularly, of course, in economic policy, but also in other dimensions of the integration expected to stem from the ASEAN Economic Community that is expected to be in place by 2015. These issues are explored further in a later section of this study.

## Some R&D Management Priorities

The perspectives presented above suggest areas in the weaker national R&D systems where strategic investments could be beneficial in developing national and sectoral knowledge sectors. Meetings and discussions in which I have participated reinforce the idea of strategic RMO funding and partnerships; some considerable amount of this is already taking place on an intra-ASEAN basis and much with international partners as well. The countries for which assistance is most important are Cambodia, Laos, and Myanmar, particularly in developing competitive R&D funding mechanisms and performance and quality incentives in public and university R&D and education funding.

Brunei has resources, motivation, and structures, but has only recently started building R&D systems for economic growth and diversification. Brunei will benefit from further international and ASEAN collaboration, particularly with Malaysia and Singapore, whose R&D systems are similarly geared toward commercial development.

Cambodia undertakes very little R&D activity, and has weak public systems and demand and no science and technology ministry or focal point. Discussions indicated, however, the existence of pockets of R&D demand and support in the government, particularly in economic and social policy areas. Support and investment to expand these pockets appears a high priority, although challenging in terms of identifying partners and designing interventions. Investments in the education capabilities of the university system and its several centres of policy R&D are indicated as further priorities.

Laos has very little R&D activity, and about half is performed by the public sector and half financed from abroad. Both demand and supply are weak, and the public system is ministry centred and lacking in competitive mechanisms and incentives. Collaboration and strategic investments to reform the public system appear to be high priorities. Investment in tertiary education is also a necessary building block.

Myanmar has had a small and under-resourced public system until recently. A renewed sense of commitment and energy now seems in place, although with the caution that a lot of building is needed, including in functioning legal systems, to underpin private and public sector development. Nevertheless, if overall reforms proceed fairly rapidly, Malaysia presents a rare opportunity for ASEAN and international collaboration in tertiary education and R&D. On the research management side, one suggested priority is introducing more competitive and incentive mechanisms into the public sector and public university system at an early stage. General tertiary training and fellowships are also an immediate priority.

Indonesia‘s R&D sector, larger than that of the Philippines or Viet Nam but very small relative to its GDP and population, is dominated by the public sector and at a challenging stage of public system reform. Priorities appear to include more competitive funding mechanisms, revised incentives, regulations, and culture in the public sector, and more effective coordination of ministry and council organizations. Public and private universities are important, providing 20 percent of R&D spending, and have strengths. The knowledge sector is getting much help from donor countries, especially Australia.

The Philippines has a relatively large share of private sector R&D, is relatively advanced in its public system development, and, like Indonesia, has strong universities. Public demand and R&D have declined in recent years. Priorities appear to include expanded use of competitive national R&D funding mechanisms and of incentives in public organizations. University funding and incentive systems are also areas in need of reform. Further collaboration is also of value to weaker ASEAN partners in areas of Philippine R&D strength, including economic policy, statistics, and poverty monitoring.

Because of its centrally planned system, Viet Nam has strong RMOs, not only in the sciences but also in the social sciences, which have been substantially adjusted to a market economy orientation over the past two decades. Private sector R&D remains small, but public sector R&D has undergone sustained reform and development, and now does quite well in coordination, competitive funding, and, to some extent, incentives. My discussions in Viet Nam revealed a strong interest in international collaboration with international centres of excellence, although budgets are still restricted for such activity, and also in ASEAN with Cambodia, Laos, Myanmar, and Thailand, for which some support is now devoted.

Thailand’s R&D sector is three to four times larger than that of Indonesia, the Philippines, or Viet Nam, and almost 50 percent is accounted for by the private sector; its university share is also the largest in ASEAN. The public system is quite advanced in the use of competitive funding and incentive mechanisms, although sharing some weaknesses with Indonesia, the Philippines, and Viet Nam in this regard. For example, research funds are allocated to known experts who may be too busy to do good work, and professors are rewarded only for teaching and thus lack time and incentives to undertake R&D. Thailand is currently on the road to further reform — the Knowledge Network Institute of Thailand is undertaking a major study of the need for such reform, with emphasis on the clearer and simpler institutional separation of R&D policy, granting, and performing functions — and has much to offer in collaboration with weaker ASEAN countries in, for example, the design of the national public research management system and sectoral research and development initiatives.

Priorities for Malaysia appear to be mainly in continuing the rapid growth of business, government academic and autonomous organizations, and deepening partnerships among them. Considerable collaboration exists with several other ASEAN countries, and internationally, providing a basis for expansion in the ASEAN Economic Community context.

Singapore’s R&D system has no apparent weaknesses and many remarkably good practices in knowledge sector management and in other areas of public policy, investment, and management. Singapore is active in ASEAN R&D collaboration, particularly in university education and collaborative security and social sciences research at major centres including the Institute of Southeast Asian Studies and its ASEAN Studies Centre, the Lee Kwan Yew School of Public Policy, and the S. Rajaratnam School of International Studies at Nanyang Technological University. Although Singapore’s advanced state and “unique case” can pose challenges for ASEAN and other regional collaboration, much of what Singapore has done has application elsewhere. Ongoing collaboration in tertiary education and R&D is making a key contribution, and further collaboration in research system and knowledge sector design and management has a high potential value.

As for the regional context, in the face of ASEAN economic integration there is an evident need to assemble a full range of statistical and related data on an ASEAN basis — a “regional council” idea taken up further in the last section of this study. Economic integration is likely to drive other changes and possible additions to regional RMOs and partnerships. It would also seem useful to undertake an R&D needs assessment for the ASEAN Economic Community.

# ASEAN R&D-Performing Organizations

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This section looks at R&D-performing organizations in the ASEAN countries, with a particular focus on think tanks, both broad based and multi-sectoral, and with attention to the prevalence of different kinds of organizations in each country, their legal status, different models of think thanks, and key problems and success factors of each model. The survey does not pretend to be a comprehensive overview of all RPOs in ASEAN — coverage is particularly lacking for Myanmar — but the 144 organizations that were surveyed (see Table 1) include a large share of the most prominent, making it possible to suggest some broad patterns of interest.

## Legal Status and Sectors

As Figure 4, panel A, shows, the public sector dominance seen in R&D spending and financing for RMOs is mirrored for RPOs in Laos and Viet Nam but not in Indonesia, where an array of non-public organizations stands out. Cambodia’s pattern is consistent with its small public sector share and large role of non-profit organizations (both autonomous and NGO) and university centres. The importance of the academic sector in the Philippines, Viet Nam, and, notably, Thailand is again underlined. Malaysia’s strength in autonomous organizations stems in part from government support and in some cases — for example, the Institute for Strategic and International Studies and the Malaysian Institute of Economic Research — from the endowment of think tanks. Singapore is strong in universities, while regional RPO strengths include public and autonomous organizations.

Figure 4, panel B, which shows the different sectoral configurations in each country, reflects the inadequacies and biases of the institutional sample, in that the survey sought out think tanks and economic and social sector groups. Nonetheless, some broad patterns of interest emerge. For example, Viet Nam has many specialized organizations — in both science and technology and the social sciences — whereas configurations in most other countries are characterized by at least a few broader spectrum think tanks. Viet Nam’s many economic and social RPOs also reflect both priorities and structures, essentially the ministry-level Vietnam Academy of Social Sciences and its many specialized institutes. Cambodia’s RPOs, in contrast, reflect an array of autonomous, academic, and NGO organizations.

**Figure 4. ASEAN R&D-performing organizations (RPOs)
surveyed, by legal status and sector.**

*A. Legal status.*

*B. Sector.*

Source: Table 1

A strong contingent of think tanks exists at the regional level, as well as in Singapore and Malaysia, but few organizations have a specifically ASEAN focus — namely, the new Economic Research Institute for ASEAN and East Asia (ERIA) in Jakarta and, on the academic side, the ASEAN Studies Centre within ISEAS in Singapore. Discussions indicated that the ASEAN Secretariat and its centres are mainly research users, which is not unusual for intergovernmental organizations. With growing ASEAN economic integration, however, more opportunities seem likely for donors to assist at the ASEAN level.

## Universities and Tertiary Education Organizations

Although not directly a part of this study, the importance of tertiary education development and reform was often emphasized in meetings with officials and others as a key part of the building of the knowledge sector, especially in ASEAN countries with a relatively weak R&D system, particularly Brunei, Cambodia, Laos, and Myanmar. Not only is it a prerequisite to have significant numbers of scientists, social scientists, engineers, and managers, but universities also do important R&D and may provide better bases than government organizations for expansion of some parts of the national R&D system. Accordingly, there is a good argument for expanding the tertiary education sector at a rate faster than that of economic growth in the short to medium term in these countries. As previously noted, although many other priorities are pressing in agriculture, health, primary education, infrastructure, poverty reduction, social security, and so on, R&D is seen as a key upstream element in all of these areas, and policy research and execution are very often most valuable investments.

## Think Tanks

In a sense, all of the RPOs surveyed for this study could be regarded as think tanks of one kind or another. For the sake of convenience and analysis, however, a group of 86 is singled out that can be classified further as 9 classical, autonomous, broad sector think tanks, 43 other multi-sectoral think tanks, and 33 economic and social policy think tanks (Figure 5, panel A). Of note is the wide variety of legal status of policy think tanks (Figure 5, panel B). Most of the classical-type think tanks are autonomous, most other multi-sectoral think tanks are academic, and both academic and public organizations feature among the economic and social policy think tanks.

**Figure 5. ASEAN think tanks surveyed, by sector and legal status.**

*A. Sector.*

*B. Legal status.*

Source: Table 1

Do countries need broad-sector think tanks? Viet Nam is one counterexample, having many RPOs, most specialized by sector. Such a system appears to work if coordination and interaction are strong, but that is not the case in countries with weaker systems. On this basis, there is a case for building up multi-sectoral and interdisciplinary think tanks in Cambodia, Laos, Myanmar, and Indonesia in particular. Also, ASEAN and international experience indicates that some competition between think tanks is important — for example, in Cambodia, between the Cambodia Development Resource Institute and the Economic Institute of Cambodia; in Indonesia, between the Social Monitoring and Emergency Response Unit (SMERU) and the Center for Strategic and International Studies; in Laos, between the Economic Research Institute for Trade and the National Economics Research Institute; and in Myanmar, between the Yangon Institute of Economics and the Myanmar Think Tank — as well as among the various university centres of excellence in these countries.

Think Tank Models

The effectiveness and sustainability of different think tank models is an important question for both ASEAN countries and foreign collaborators. In this regard, Appendix B provides case studies of eight different kinds of think tanks. From these and an examination of other think tanks (Table 2), several interesting models emerge in terms of legal status and funding sources.

### Private Sector

Only one private, broad-based think tank — the Asian Strategy and Leadership Institute (Malaysia) — was identified for the survey, but others in the multi-sectoral category are in essence large consulting companies with economic research services such as economic surveys and reviews; these include the Stratad Asia Pacific Strategic Centre (Malaysia) and the Myanmar Think Tank.

Public Sector

The Philippines Institute of Development Studies (PIDS) is a prominent example of a broad-based public sector think tank. Formally a “nonstock, nonprofit government corporation,” with a board chaired by the director general of the National Economic Development Authority and composed of both government and independent (business, academic, and R&D) representatives, PIDS has been successful in conducting high-quality policy research, while retaining sufficient independence in formulating research agendas. Among its challenges, however, are its dependence on yearly public funding in the absence of an endowment, the difficulty of operating partially under public sector rules and constraints — including with respect to compensation levels and the receipt of outside funds — and its ongoing need to refocus and re-energize.

Semi-autonomous

Semi-autonomous think tanks are independent organizations in terms of legal status — that is, they are outside government — but receive public funding and have strong government representation on their boards or governance structures. More often encountered in other regions of the world, in ASEAN only one was identified: the Centre for Strategic and Policy Studies (Brunei), which describes itself as “a government-funded corporate body set up to undertake independent and objective policy research and analysis on strategic issues” (CSPS website). The semi-autonomous model can be effective and sustainable where there is government commitment to both funding and independence.

### Autonomous

Autonomous think tanks are non-profit organizations with an independent board. A main factor distinguishing them from NGOs, and from each other, is their source of funding. There are several subgroups:

* *Autonomous, government endowed.* Malaysia’s Institute of Strategic and International Studies (ISIS), and Malaysian Institute of Economic Research (MIER), are good examples of think tanks that are autonomous but endowed by government. The former is the more prominent, with a considerably larger endowment, but MIER has enough income from its endowment to cover costs in all but extraordinary years without dipping into the principal. This is clearly a highly sustainable model, and has enabled MIER, as its website states, to “serve as a bridge between the government, the private sector and the universities, and become a focal point for economic, financial and business research in the country; ... In recent years, the above goals have been extended to cater for the research and training needs of countries outside Malaysia as well” (MIER website).
* *Autonomous, government and donor funded*. A large group of think tanks are autonomous but funded by both government and donors. All produce high-quality research but tend to have greater challenges in influencing public policy than do public and semi-autonomous organizations. The Thailand Development Research Institute (TDRI), for example, has been in and out of favour with different governments, while the Cambodia Development Resource Institute (CDRI) confronts the challenge of weak public demand for policy research. All face variable and declining donor funding at some point. Currently, CDRI and Indonesia’s SMERU Research Institute have medium-term core funding from the Swedish International Development Cooperation Agency (Sida) and the Australian Government Overseas Aid Program (AusAID), respectively. Indonesia’s Center for Strategic and International Studies is focusing its research programs and seeking private endowment. TDRI is more contract driven than it would like, and its resources are insufficient to sustain basic research and knowledge-building agendas. At its outset, it was intended to link TDRI with the National Economic and Social Development Board — more like PIDS and the National Economic Development Authority in the Philippines — and some such relationship might be worth re-examining.
* *Autonomous, own-revenue funded*. The main example of a think tank that is autonomous and funded from its own revenue is the Economic Institute of Cambodia, which started as a policy think tank, but developed a revenue base in economic research aimed at private sector needs, in capacity development for business innovators, and in business operations, one of which is very large, all stemming from research and capacity development activities. This is an effective and sustainable model whose initiation depends on strong leadership.
* *Autonomous, with a private endowment or private funding.* These are mainly private R&D foundations such as the Ayala Foundation in the Philippines; others exist in the Philippines and elsewhere in ASEAN, but they tend to focus more on human and community development than on research, and so were not, for the most part, included in this survey.

Academic

In the group of multi-sectoral think tanks, those in universities, both public and private, tend to dominate. Of those surveyed, the ones with the strongest public funding are in Singapore (Lee Kuan Yew School of Public Policy, the Institute of Southeast Asian Studies and the S. Rajaratnam School of International Studies), but such think tanks are also important in countries with weaker R&D systems, including Brunei, Cambodia, Myanmar and Indonesia. University think tanks with private endowment funding — typically found in private universities — have a definite advantage over public university think tanks in terms of maintaining an independent research agenda. A good example is the Angelo King Institute at De La Salle University in the Philippines.

Non-governmental Organizations

NGOs are also autonomous organizations with boards, but are in a separate category here because they tend to be oriented more toward community development and advocacy and less toward research. Three with strong research capacity are The Learning Institute (Cambodia), the Third World Network (Malaysia based), and the Institute for Social and Development Studies (Viet Nam). All face the usual NGO funding challenges and have important roles in research and influence in areas that include equity, inclusion, and poverty.

Success Factors and Priorities

Each type of think tank has its own advantages and challenges, but from the experience of Indonesia’s SMERU Research Institute (Sumarto 2011) a set of success factors can be derived that is applicable across the board:

* a knowledge organization that adheres to a measurable mission statement emphasizing social impact through policy change;
* personnel policies — recruitment, compensation, and training — that receives special care, since human capital is the chief determinant of an organization’s productivity;
* performance standards and a quality-control process that are high;
* an emphasis on networking with other stakeholders, such as NGOs, academic institutions, donors, and governmental officials at multiple levels;
* research topics and dissemination activities that are geared closely to what policymakers and donors actually need; and
* priority given to core funding and based on the organization’s credibility and reputation as an independent institution rather than a narrow contract outfit.

On the last point, funders also have a responsibility to consider and support resource expansion — the longer-term development of funding bases — for the organizations they support. This applies particularly to foreign donors, whose priorities shift frequently. Also in this context, leadership transitions are usually more crucial and difficult for organizations that lack a stable funding base.

In ASEAN, the need for core organizational support for think tanks is primarily in the countries with weaker R&D systems — particularly Cambodia, Laos, and Myanmar, and perhaps Indonesia as well. Any think tank initiative in ASEAN, therefore, should consider both *organizational funding* for a small number of think tanks, selected on the basis of competitive bids — as in the Think Tank Initiative sponsored by the William and Flora Hewlett Foundation, the Bill & Melinda Gates Foundation, the United Kingdom’s Department for International Development, the Netherlands Directorate-General for International Cooperation, and the International Development Research Centre (IDRC), which operates in Africa, Latin America, and South Asia (see IDRC website) — and competitive *program funding* that is open to all think tanks and potentially to sectoral RPOs as well. Both approaches are explored further in the last two sections of this study.

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# Summary of ASEAN R&D Sector Issues and Perspectives

In drawing together the results of the preceding survey of ASEAN R&D systems and research management and research-performing functions and organizations, several summary perspectives can be suggested.

First, Cambodia, Laos, and Myanmar clearly are the countries with the weakest knowledge sectors and the organizations that are most in need of substantial interim funding, as well as expertise and experience.

Second, all ASEAN countries are interested in further collaboration, both within ASEAN and with other countries, and especially with international centres of expertise. Indeed, considerable intra-ASEAN collaboration is already under way in tertiary education and R&D, with Indonesia and Brunei, Cambodia, Indonesia, Laos, and Myanmar as beneficiaries, and Malaysia (universities, think tanks, NGOs), the Philippines (universities), Singapore (university education and research), Thailand (the public sector and universities), and Viet Nam (the public sector), as contributors. Although Indonesia and the Philippines are mid-level in terms of their knowledge sector development, they nevertheless have major strengths to contribute to others. Both have think tank experience, for example, and many students from Cambodia, Laos, and especially Viet Nam attend Philippine universities. Faculty research collaborations on economic and social policy development often follow. Thailand’s recent experience in strengthening its health R&D and health system is a strong example both of knowledge sector development and of collaboration with and benefit to other countries of the Greater Mekong Subregion. There appears to be much interest in mechanisms for sharing this kind of best-practice experience and assisting the countries with the weakest R&D systems to make strategic investments in further development.

Third, two major regional background sets of issues stand out among the literally dozens of pressing issues that ASEAN countries and their knowledge sectors face. One is economic integration through the planned ASEAN Economic Community by 2015, which is seen as characterized by “(a) a single market and production base, (b) a highly competitive economic region, (c) a region of equitable economic development, and (d) a region fully integrated into the global economy” (ASEAN 2008, p. 8). The second set of issues is around equity, inclusion, and the political resolution of underlying forces and interests. As is the case with other regions, ASEAN countries face their own particular challenges with respect to these issues, as well as, for several of them, poverty reduction, and are conscious that issues of divergent prosperity and cultures will be intensified by economic integration. Greater equity is a widely shared goal that looks likely to result in more resources for weaker countries and more ASEAN-oriented regional investment in knowledge sectors. In this context, for example, while the ASEAN Economic Community does not envisage free movement of people among countries, its blueprint includes “facilitating movement of business persons, skilled labour and talents; and strengthening the institutional mechanisms of ASEAN” (ASEAN 2008, p. 7).

Finally, it is clear that good R&D in, say, health or technology is necessary for good health systems or technology sectors — indeed, the same applies in economic and social policy, security, agriculture, energy, the environment, and so on. At the same time, developing the research management systems and key RMOs in countries with weaker systems receive far too little attention and investment relative to both the returns on these investments — which take the form of well-functioning public services — and investments in research supply, which get the lion’s share of resources. While investments in policy and technical research supply are important, without a supportive and responsive policy system they tend to have little impact. Knowledge sector research in countries including Cambodia, Laos and Indonesia requires more effort to expand the quality and quantity of research demand by RMOs and corresponding investments in ministries and councils.

Possible Implications for Donor and Other Programming

Underlying these perspectives is the conclusion that the ability of ASEAN countries to design, build, reform, and develop their own knowledge sectors is the necessary goal over time, but that this goal clashes with the more supply-driven and results-based approaches of donors. It is noted that donors include: providers of official development assistance (ODA), both bilateral and multilateral, in the forms of grants and loans, technical cooperation, and debt relief; non-profit organizations, including domestic and international NGOs, foundations, universities, hospitals, and so on; and private sources in the form of philanthropic and semi-commercial funding directed systemically at knowledge sector R&D and training.

With respect to ODA, many donors support knowledge sector development in ASEAN in different ways, and some are the results of long-standing relationships. Except for a few programs such as AusAID’s “Revitalising Indonesia’s Knowledge Sector” and some country and foundation programs, donor programs and projects tend to target quite specific components of knowledge sectors (piece by piece) and to focus more on RPOs than on RMOs, a problem in weaker systems where the latter are usually key public R&D demanders, users, and funders.

Much of the inflow of donor assistance from outside ASEAN is aimed at Cambodia, Indonesia, Laos, and, more recently, Myanmar, but significant amounts also go to the Philippines, Thailand, and Viet Nam. The more advanced ASEAN countries, together with the Philippines and Indonesia, as noted above, are growing sources of initiative and resources for knowledge sector development in the weaker members. In addition, the stronger members are increasingly important partners for donors outside ASEAN with respect to activities aimed at the weaker members, as they often have a better understanding of the needs, challenges, and people of the weaker countries and have ongoing partnerships with them.

These factors, together with the analysis elsewhere in this study, suggest that strategic investments in knowledge sector development in Cambodia, Laos, and Myanmar, in particular, and in partnership with ASEAN and international centres of excellence could be of high value if they included several core features:

* ASEAN and international collaboration;
* the involvement of the appropriate research management organizations, council or ministry, in the design and governance of the R&D system;
* initiatives that are strategic in the sense of catalyzing national or sectoral knowledge sector developments;
* flexible funding in terms of different forms of collaboration and country/organization groupings;
* competitive funding, so that proposing organizations are self-selecting;
* the means to increase R&D demand where needed; and
* programs, including the selection of grants, that are managed and governed wisely and efficiently.

Strategic investments appear to be most needed in three main areas: to expand and manage tertiary education, particularly with respect to incentivizing both teaching and R&D activity; to build and incentivize national and sectoral council organizations and to develop competitive national and sectoral R&D funding mechanisms; and to develop think tanks through both medium-term core funding, and sustained competitive policy R&D funding. One way to achieve these goals could be through an ASEAN Strategic Knowledge Sector Fund with three components (or three separate funds), each with different specifics but sharing the design features noted above.

A Tertiary R&D and Education Fund

A tertiary R&D and education fund would underwrite competitively the costs of strategic investments and pilots, particularly, for example, in teaching incentives, R&D incentives, and competitive academic R&D funding at the national and university levels.

### An R&D Councils Fund

Demand in ASEAN might be primarily for sectoral R&D system improvement initiatives — particularly in health, economic policy, security (national and human security areas), agriculture, resources and the environment, and science, technology, and innovation. Strong interest also exists, however, in collaborative initiatives in the overall design, management, and reform of R&D systems or knowledge sectors more broadly. The overall national R&D system could be a good place to start a collaborative initiative involving councils, since improvements in overall design — such as national competitive funding mechanisms — conceptually lead, support, and increase returns from sectoral investments.

Many of the individuals with whom I had discussions raised the importance of strategic investments in ASEAN database development. ASEAN might not be ready for the model of the Organisation for Economic Co-operation and Development — with its regular data provision, peer review of sectors and performance, and collaborative R&D in common priority policy areas — but strategic investments in the development of statistical underpinnings appear warranted. In this context, the Economic Research Institute for ASEAN and East Asia (ERIA) is a new kind of ASEAN think tank that acts both as a council — in setting and funding research agendas on economic integration — and as a performer of R&D. A statistics initiative could be connected with ERIA, whose key donor is Japan, or organized in a similar way. Also of merit would be a needs assessment of R&D sector development and collaboration priorities for the ASEAN Economic Community.

A Think Tank Initiative

A think tank initiative along the lines of that undertaken by the IDRC and others (noted above) could select a few autonomous think tanks in the ASEAN countries with the weakest R&D systems to receive organizational and program funding over a five-to-ten-year period. Here, the net could be cast widely in terms of including autonomous, academic (private and public university), private, and public organizations, but selection would be based solely on the quality and results of their R&D and the merits of any proposed collaboration.

The counter-argument for targeting only autonomous think tanks is that such organizations tend to be more focused and, in many political environments, have the independence essential for quality R&D. At the same time, those funded by donors also tend to have lower prospects of financial sustainability than ones with private, public, academic, or NGO resources as well. There are thus reasons to further consider the question of which types of think tanks should be supported in any initiative whose focus is *organization funding*.

At the same time, there is strong interest in smaller, more flexible *program funding* for shorter amounts of time, to allow think tanks and their partners to pursue substantial strategic R&D initiatives. Here, there is an even stronger argument for a wider organizational net open to combinations of autonomous, university, private, public, and NGO collaboration — for example, private-with-university initiatives, typically so important in commercial innovation.

Finally, further input from ASEAN experience and experts no doubt would alter, refine, and add to this kind of programmatic thinking, which suggests that regional consultations would be productive. Input would also be important from a range of potential contributors and partners both within and outside ASEAN. One current activity of this kind is the IDRC initiative on “Science Granting Councils: An Exploration of Policies and Practices for Building Research Capacity.”This project provides for a set of consultations in each of six global regions, including Southeast and East Asia, aimed at better understanding the changing contexts of councils, joint learning and knowledge sharing, identifying opportunities for enhanced collaboration and cooperation within and across regions, and exploring next steps, opportunities, and partnerships to support granting councils.

# Appendix A: Data on Gross Expenditures on R&D in ASEAN and Selected Other Countries

**Table A-1. Summary of gross expenditures on R&D,
ASEAN and other selected countries.**



Note: Figures in local currencies have been converted to US dollars and adjusted for purchasing power parity. Figures for Brunei, Cambodia, Laos, and Myanmar are for 2002; all others are for 2007.

Sources: UNESCO 2010; UNESCO, Institute of Statistics, detailed tables on gross expenditures on R&D, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx?IF\_ActivePath=P,54&IF\_Language=eng; and Wikipedia 2012.

**Figure A-1. Gross expenditures on R&D per capita,
ASEAN and other selected countries.**

Sources: UNESCO 2010; UNESCO, Institute of Statistics, detailed tables on gross expenditures on R&D,
http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx?IF\_ActivePath=P,54&IF\_Language=eng; and Wikipedia 2012.

**Figure A-2. Gross expenditures on R&D, by sector of performance,
ASEAN and other selected countries.**

Sources: UNESCO 2010; UNESCO, Institute of Statistics, detailed tables on gross expenditures on R&D,
http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx?IF\_ActivePath=P,54&IF\_Language=eng; and Wikipedia 2012.

# Appendix B: Case Sketches of Think Tanks and Think Tank Networks

*Philippine Institute for Development Studies (PIDS)*

The following is taken from Nielsen (2010, pp. 55–56).

PIDS was established by Presidential Decree as a non-stock, non-profit government corporation in 1977. PIDS’ Endowment Fund was intended as a sustainable source of funding comprising contributions, donations, grants or loans from domestic or foreign sources, government subsidies and other income raising activities. The government’s first contribution was seven million pesos and subsequent allocations have been made through NEDAs annual budget i.e., averaging under 6 million pesos annually from 2003 to 2009.

PIDS submits an annual work program and budget estimates for approval to NEDAs Director General. Its research is organised around the themes of economic policy choices, policies for sustainable human development, and institutional development and good governance. It has about 40 researchers and three visiting. Its senior researchers have post-graduate qualifications, including PhDs from US, Japanese, Canadian and European universities. It produces a range of research materials including the Philippine Journal of Development.

PIDS clients include planners and policy makers in the executive and legislative branches of government, academia, the private sector and media. Its website provides public access to national income statistics, agriculture and poverty databases, and the Socio-Economic Research Portal. It conducts a range of activities, including hosting the Development Policy Research Month. While not NEDAs sole source of data, NEDA cites PIDS’ agriculture database in the MTDP and poverty alleviation research in MDG reporting.

PIDS’ research is of a consistently high quality. Its activities have made critical contributions to supporting government priorities in macroeconomic stabilisation and microeconomic reforms in the last 30 years. Yet, PIDS is showing signs of decline. Around 2000, a Philippine review conducted urged PIDS to become more responsive to government by presenting clear, practical findings to communicate better with policymakers and the public. It noted potential for PIDS to assist government with managing and targeting programs and evaluating the impact of public policy e.g., disaggregating poverty statistics according to gender and language group, or data on the impacts of public investments on different income groups and gender. It recommended PIDS develop networks with domestic, foreign, public and private research institutions and engage in more cooperative research.

In 2009, an AusAID commissioned study noted that PIDS was unable to keep statistical databases up to date. Budget austerities and declining real salaries were eroding its base of highly qualified economists. Across the economics profession there was a tendency for Filipino institutions to hire more locally educated staff, while highly trained economists were finding commissioned work and employment with international organisations more lucrative.

*Angelo King Institute for Economic and Business Studies (AKI)*

AKI is a successful model of think tank in which a key ingredient is endowment funding sufficient to allow it to pursue research agendas, do good commissioned research, and develop scholars and leaders. As its website notes (AKI 2008),

Since its establishment in 1999, the Institute has undertaken research projects in the areas of

(a) industrial adjustment and restructuring in the Philippines and
 ASEAN,

 (b) global and regional production networks,

 (c) agricultural marketing and trade,

 (d) investments in agricultural research and development,

 (e) family business issues,

 (f) cost analysis in higher education institutions,

(g) managing risks and opportunities of globalization particularly on
 financial liberalization and integration, human mobility, and trade,
 and

 (h) corporate governance and banking.

Among the main funding possibilities for think tanks — government, private, voluntary, and donor — AKI represents well the academic organizations with private funding that can retain autonomy and quality.

*Malaysia Institute of Economic Research (MIER)*

The following is taken from Nielsen (2010, pp. 70–72).

MIERis Malaysia’s top ranking economic research institute. MIER is a company limited by guarantee which began operation in 1986. It has research divisions for Macroeconomic Surveillance and Forecasting, Policy Studies, Industry Studies and Area Studies. Its principal functions are to research economic and financial issues and organise symposiums and conferences. Its operations and activities are funded by a combination of grants, endowment fund income, project financing and consultancy fees … These institutions [MIER and the Institute for Strategic and International Studies, ISIS] were set up to analyse economic development policies. They emphasise research that is action-oriented, which feeds into policy and presents implementable options. They may be set up as independent, non-profit think tanks. But, in practical terms a balance is struck between independence, influence and financial sustainability or certainty.

Independence

Institutions close to government receive clear signals about purpose and demand for their research …

Influence

For government, access to expertise presumably improves the quality of policy. For the researchers, their involvement in such activities can give them both a better sense of government priorities as well as opportunities to influence policy …

Sustainability

MIERs income and expenditure statements for 2008 and 2007 illustrate the financial constraints. Its project expenses exceed revenues. Its administrative expenses are the largest single cost item. In 2007 it had an operating deficit, in 2008 an operating surplus. The largest single operating cost was staff costs, while the largest credits were government grants and interest income from bonds. MIERs endowment has not fully recovered from the effects of the Asian Financial Crisis …

Research and resource efficiencies are possible. For example, MIER cut back on research where demand is falling i.e., Area Studies have been partially absorbed into Policy Studies …

Another response is to strengthen linkages with government. For example, five years ago ISIS began presenting its forthcoming research programs to the Prime Minister for approval as a way of securing grants. ISIS insists that it takes the initiative in putting a program forward and that the government does not change the proposals much, but it admits to taking care to choose research programs that fit with the policy climate.

Institutions diversify their activities. Both MIER and ISIS earn income from commissioned projects and consultancies for a range of clients including government ministries e.g., the EPU and MITI, multilateral bodies such as the World Bank, ADB, UNDP and government linked corporations among others.

IDS has a long term plan to become a consultancy based operation, based on Japanese models. Its wants to shift from making recommendations and bridge the policy gap by applying knowledge to development projects.

*Thailand Development Research Institute (TDRI)*

TDRI was established in 1984 as a an autonomous organization (private non-profit foundation), and was intended to be under the National Economic and Social Development Board (NESDB), more like the PIDS-NEDA relationship in the Philippines. However, TDRI became separated from NESDB early, in large part over personality differences.

While very successful in many research areas, TDRI has faced funding uncertainties and reductions by donors over time, and periods of being in and out of favour with the government in power. Some observers suggest that a closer relationship with the government and the NESDB might again be considered or, alternatively, better ways of funding TDRI. The NESDB used to do a lot of research, but appears to do little now — contentious politics being one reason.

The Thailand Environmental Institute (TEI) developed within TDRI before separating, and is also strong in capabilities, but both have challenges to sustain funding and impact. Both need some core funding to supplement current project and program funding which is mainly from government and donors.

TDRI’s current research areas are: macroeconomics; agriculture, industry and services; economics of international trade; infrastructure, natural resources and the environment; human resources; equality and social security; the public sector; and other.

*SMERU Research Institute, Indonesia*

The following is taken from Sumarto (2011, pp. ii–iii).

SMERU, beginning in the last quarter of 1998 when a small group of researchers used AusAID funding with administrative support from the World Bank to form the organisation to analyse possible responses to the Indonesian 1997/98 financial and political crisis. In contrast to some wild claims circulating in public debates, SMERU examined the impact of the crisis on Indonesian poverty incidence using careful research, building its early reputation as an objective analytical resource. Shortly thereafter, SMERU expanded its mission in 2001 to become the preeminent independent organization in Indonesia providing analysis and guidance on socioeconomic issues, incorporating as a non-profit foundation with the standard divisions of administration, research, finance ...

In doing so, SMERU faced several major constraints that are likely to be instructive for other organisations in the sector. First, it struggled to obtain adequate resources for its activities. Only by aggressively pursuing funding beyond AusAID and the World Bank (specifically DFID and the Ford Foundation) and expanding into a mixture of core funding, project funding, and competitive research grants was SMERU able to support its growth. Second, SMERU faced the risk of producing poor quality research. By installing sophisticated quality control procedures, this challenge was overcome. Third, SMERU faced a challenge to its sustainability when its co-founding Director, Sudarno Sumarto, departed to serve as a visiting fellow at Stanford University in 2009. Strong incentives and standards for employee performance built a sufficiently broad human capital base to prevent this transition from significantly disrupting the organization. Fourth, SMERU has overcome the risk of relative isolation by aggressively pursuing linkages with other institutions within Indonesia and around the world. Lastly, SMERU has struggled to maintain its independence despite its close integration with policy world.

The history of SMERU leads to six substantive recommendations … First, a knowledge organization must develop and adhere to a measurable mission statement emphasizing social impact through policy change. Second, personnel policies—recruitment, compensation, and training—must receive special care. Human capital is the chief determinant of the organisation’s productivity. Third, performance standards must be high; SMERU’s quality control process is essential to its success. Fourth, staff must emphasize networking with other stakeholders, such as NGOs, academic institutions, donors, and governmental officials at multiple levels. Fifth, research topics and dissemination activities must be closely geared to the “demand side”—what policymakers and donors actually need. Lastly, research organisations must prioritize core funding: SMERU is credible because of its reputation as an independent academic institution rather than a narrow contract outfit.

*Economic Institute of Cambodia (EIC)*

EIC has a very interesting model: an economic research organization that was not in favour with the government, has succeeded in research and capacity development for the private sector, and operates a major rice milling company. Research associates are developed and some senior staff go to international organizations, but most stay in EIC or other companies (or start new ones) where the remuneration is higher and the mindset different. Both technology development and management development are emphasized. Policy research is a further activity and service, where there is collaboration with companies and some donors. Key ingredients are autonomy, credibility, training, and private funding. EIC invites assistance with research in further public/private interest investments, particularly in agriculture and food industries, and also the possibility of assisting with development of similar institutes in Laos and Myanmar.

*Cambodia Development Resource Institute (CDRI)*

The following is taken from CDRI (2012).

As an independent Cambodian development policy research institute, the mission of … CDRI is to contribute to Cambodia’s sustainable development and the well-being of its people through the generation of high quality policy-relevant development research, knowledge dissemination and capacity building.

CDRI works to achieve this mission in partnership with Cambodian public institutions, civil society and their regional and international development partners, with respect for the capacity of the Cambodian people and their institutions, for the value of local knowledge and experience, and for Cambodia’s history and culture ...

CDRI produces independent, objective, high quality policy-relevant development research, aiming to maximise its accessibility to policy makers, influencers and stakeholders, and to have it affect policy in five interrelated areas that are key for Cambodia’s sustainable development:

* economy, trade and regional cooperation;
* poverty reduction, agricultural development and rural livelihoods;
* democratic governance and public sector reform;
* natural resources and the environment;
* human security, peace building and conflict transformation ...

CDRI undertakes its programmes and projects in partnership with Cambodian government agencies and their international development partners, other research and tertiary education institutions and civil society organisations. To support its research and capacity building, it also offers library, information and publishing services, and both hosts and participates in local and international conferences, seminars and training programmes on development issues.

CDRI’s activities include:

* hosting an annual Cambodia Development Research Forum since 2007; and
* initiating and coordinating the Mekong Sub-Region Development Analysis Network (DAN) among CDRI, the Cambodia National Economic Research Institute (NERI), the Department of Statistics (DoS), the Ministry of Planning and Investment (MPI) Laos, the Thailand Development Research Institute (TDRI), the Central Institute for Economic Management (CIEM) Viet Nam, the Institute of Economics, the Vietnam Academy of Social Sciences, and Kunming University of Science and Technology.

*ASEAN-ISIS Network*

The following is taken from the ISIS website.

ISIS Malaysia is a founding member of the ASEAN-Institutes of Strategic and International Studies (ASEAN-ISIS), 1986, a group of leading strategic studies institutes from across the ASEAN region. The network currently has three flagships in the Asia-Pacific Roundtable (APR), ASEAN-ISIS Colloquium on Human Rights (AICOHR) and ASEAN People’s Assembly.

It is also active in the Track Two diplomacy process and enjoys a close relationship with the ASEAN government process. Formally constituted in 1998, ASEAN-ISIS now comprises eight other member institutions: Brunei Darussalam Institute of Policy and Strategic Studies (BDIPSS), Brunei Darussalam; Cambodian Institute for Cooperation and Peace (CICP), Cambodia; Centre for Strategic and International Studies (CSIS), Indonesia; Institute of Foreign Affairs (IFA), Laos; Institute for Strategic and Development Studies (ISDS), Philippines; Singapore Institute of International Affairs (SIIA), Singapore; Institute of Security and International Studies (ISIS), Thailand; and Diplomatic Academy of Vietnam (formerly Institute for International Relations (IIR), Vietnam).

The 25th Asia Pacific Roundtable, held in Kuala Lumpur in May and June 2011, brought together security specialists, scholars, and policymakers to discuss and exchange views on the region’s security issues and challenges.

*South East Asia Trade Policy Training Network (SEATRANET)*

Initially funded initially by CIDA, SEATRANET has successfully done trade policy research and training with policymakers in ASEAN countries through a network of academic individuals and organizations:

* [IIC University of Technology, Cambodia](http://www.seatranet.org/?q=members/cambodia);
* [Royal University of Law and Economics](http://www.seatranet.org/?q=node/179);
* [Trisakti International Business School, Indonesia](http://www.seatranet.org/?q=members/indonesia);
* [Trisakti School of Management, Indonesia](http://www.seatranet.org/?q=members/indonesia);
* [Economic Research Institute for Trade (ERIT), Laos](http://www.seatranet.org/?q=members/lao);
* [International Institute For Trade & Development (ITD), Thailand](http://www.seatranet.org/?q=members/thailand);
* [Philippine Trade Training Centre (PTTC), Philippines](http://www.seatranet.org/?q=members/philipines); and
* [Foreign Trade University (DAI HCO NGOAI THUONG), Viet Nam](http://www.seatranet.org/?q=members/vietnam).

Without current donor funding, the network does some services for government bodies, and is ready to gear up when additional funding comes, as appears likely in the ASEAN integration process.

SEATRANET provides an interesting model of a think tank group that is sustainable largely through the academic organizational bases of its members, and through its ability to adjust services supply to effective demand.

# Appendix C: Country Reference Section

A separate Appendix C provides, for each country and regionally, a listing of the organizations surveyed by legal status and sector, diagrams and information on structures of major organizations where available, and some useful perspectives or excerpts from secondary research. A concluding section provides some comparison of “best-practice” country funding systems for education services, both teaching and R&D. This Appendix is available online from the IDRC or from the author at: http://db.tt/qka95L1I.

# Appendix D: Organizations Surveyed; Website Summaries

A separate Appendix D provides summary information on each of the 214 organizations surveyed — their mission, vision, objectives, structure, research, funding, and partnerships as well as contact information — as presented on their websites at the time of the survey. This appendix also contains a listing, with brief descriptive and contact information, of gender and development organizations in ASEAN countries. This Appendix is available online from the IDRC or from the author at: http://db.tt/UoJhcBkp. A simple list of organizations, with direct website links, can be found at: http://db.tt/NagjCfko.

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1. 1 This study uses “organizations” to refer to actors such as universities, NGOs, think tanks, and ministries, and “institutions” to refer to policies, laws, rules, common habits, standards, norms, and so on that regulate relations and interactions among individuals and groups. [↑](#footnote-ref-1)
2. 2 Although “R&D” does not normally include innovation — the putting of knowledge into practice — this study keeps innovation in view as much as possible. For scientific and technical research, innovation typically takes the form of technology or product and service production and use. For social science and policy-oriented R&D, innovation typically means strategy and policy or program implementation and outcomes. [↑](#footnote-ref-2)
3. 3 Some first-hand discussions were conducted by Skype, rather than in person, and some experts were consulted at conferences in Cambodia and Thailand, rather than by meeting them in their home countries. [↑](#footnote-ref-3)
4. 4 The Royal Academy is primarily concerned with masters and doctoral training, and appears not to be dynamic in research. The Council for the Development of Cambodia is a broad, donor coordination mechanism. [↑](#footnote-ref-4)
5. 5 Current programs are in the areas of information and communications technology, new materials, mechanical engineering, automation, biotechnology, key products, post-harvest technology, disaster management, environmental protection, natural resources use, marine economy and management, and public health care. [↑](#footnote-ref-5)
6. 6 These observations are derived from discussions in November 2011 with the Agency for Science and Technology Research and heads of principal academic think tanks, similar discussions in 2007, and the author’s working in Singapore between 1990 and 2000. [↑](#footnote-ref-6)