Item 4: Presentation of reports on science, technology and innovation policy reviews

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Contribution by

UNCTAD

Science, Technology and Innovation Policy Review:
Thailand

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The views presented here are the contributor's and do not necessarily reflect the views and the position of the United Nations or the United Nations Conference on Trade and Development.
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2 fact-finding missions
1 videoconference
+70 interviews
+100 stakeholders have participated
1 national consultation workshop

Today: International presentation

Forthcoming:
National presentation (July 2015)
Customised workshop for policy makers

Already:
National action on recommendations
Thailand's National innovation system

STI Performance
Critical issues
Policy suggestions
Moderate performance in STI

LOW R&D EFFORT
Gross Expenditure on R&D: 0.25% GDP
Private sector 41% of R&D effort

WEAK INNOVATION & PATENT PRODUCTION
Only 5% of patents granted to residents
Less than 30% firms conduct innovation activities

DECLINING PRODUCTIVITY GROWTH RATE

TFP (average annual growth rate)
IS IT A PROBLEM?

- REASONABLE ECONOMIC GROWTH RATE
- VERY LOW UNEMPLOYMENT
- POSITIVE TRADE BALANCE (or in low deficit)
- INTERNATIONALLY COMPETITIVE & ATTRACTIVE to FDI

Global Competitiveness Index - Thailand's ranking

2011-12: 39
2012-13: 38
2013-14: 37
2014-15: 31
... difficulties to get out of the middle income trap

GDP per capita ($)

Singapore 52,141
Rep. of Korea 23,052
Malaysia 10,050
China 6,070
Thailand 5,775
STRONG BASE FOR AN INNOVATION ECONOMY

SIGNIFICANT KNOWLEDGE INFRASTRUCTURE

GOOD BUSINESS CLIMATE
STRONG BASE FOR AN INNOVATION ECONOMY

IMPORTANT REGIONAL DISPARITIES
CHALLENGES

No shared perception of urgency to innovate

Inadequate STI institutions and system governance

Weak linkages with broader sector policies

R&D dominance

Limited impact of innovation incentives & programmes
POLICY RECOMMENDATIONS

- Enhance STI Governance & Management
- Stimulate Innovation Efforts
- Upgrade the Education System
Enhance STI governance & management

**RATIONALISE THE R&D STRUCTURE**
Merge overlapping institutions, suppress those that overlap
Audit R&D agencies

**ESTABLISH CLEAR DIVISION OF ROLES & RESPONSIBILITIES AND HIERARCHY**
National STI Policy Committee leading role
Policy committee effectively chaired by PM
Include representatives of wider society
NSTIPO focus on policy advice & evaluation

**DECLARKIFY THE RESPECTIVE ROLES OF R&D BODIES**
Separate funding from performing organisations

**DECENTRALISE STI POLICY & INFRASTRUCTURE**
Set up STI offices throughout Thailand
Upgrade regional S&T parks
Build local awareness & capacities for STI policies
Stimulate innovation efforts

- **Matching Funds**: Use matching funds to support collaborative R&D
- **Megaprojects**: Take full advantage of megaprojects to build domestic technological capabilities
- **Tax Incentives**: Review current tax incentives for R&D and innovation & their impact on SMEs
- **University-industry collaboration**: Provide incentives for university industry collaboration: progressively increase % of budget funded from contracts, value researches collaboration with industry for the advancement of their careers
- **Bridging schemes**: Scale-up bridging schemes and organizations that operate at the interface between sources of knowledge and clients seeking knowledge
Enhance STI education & training

**PROVIDE SUFFICIENT BUDGET**
For training teachers in STI, developing STI materials, upgrading equipment, supporting linkages with industry.

**MAKE EDUCATIONAL INSTITUTIONS ACCOUNTABLE**
Redress underperforming institutions
Adjust quality criteria to value collaboration
Raise performance standards

**OVERHAUL TECHNICAL & VOCATIONAL EDUCATION & TRAINING**
Make TVET an important mechanism for training skilled workers
Upgrade teachers' qualifications, teaching methods and resources
Enhance relevance of non-formal TVET

**REINFORCE EDUCATION-BUSINESS LINKAGES**
Programmes that expose students, teachers and academics to work in the private sector should be reinforced and scaled up.
Agricultural development success

35% labour force

Labour-intensive farming
small holdings
rain-fed production

4 MAJOR CHALLENGES:
land fragmentation
water management
soil quality
labour force

Long term plan needed

Small-holders remain key &
require adequate policy support
**KEY FINDINGS**

- STI activities can be better linked to long-term planning in agriculture
- No central policy / institution to ensure cohesion in R&D and Diffusion. Limited monitoring and evaluation
- Concentration of resources in Bangkok
- Weak central-local linkages
RECOMMENDATIONS

Articulate innovation roadmap
Develop soil improvement strategy
Consider national biosafety regime

FURTHER RESEARCH

Level of STI awareness at the local level
Best practices for establishing local links
Options for enhancing agriculture extension services
Monitoring & evaluation of R&D
POLICY RECOMMENDATIONS

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SUCCESS STORIES
- KMUTT
- Bamboo School
- Thailand Science Park
- Centex Shrimp
- Bioplastics
- iTAP