

Human capacity-building: STI and entrepreneurship promoting policies and practices

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Contents

- Myanmar
- History and background of STI
- STI and Related Laws
- Myanmar STI related Policy and Strategies
- STI Challenges
- Need Areas and Support



Country: The Republic of the Union of Myanmar

Neighboring countries: China, Laos, Thailand, Bangladesh and India

Area: 676 578 squared kilometers

Population: 53.6 million people (2018)

Capital : Nay Pyi Taw (2005)

Spoken Language : Burmese (Official)

Ethnic : Major 8 (Different Languages)

Religions: Buddhism (89.2%), Christianity (5.0%), Islam (3.8%), Hinduism (0.5%), Spiritualism (1.2%) and others (0.2%).

GDP: 71.21 billion US dollars in 2018

GDP per capita : 1571.90 US dollars

Important industries: Agriculture , Food, Fuel Products

Myanmar Government Budget at: -2.5 % of GDP

Unemployment, total (% of total labor force) : 1.6 in 2018

TRADE SITUATION OF MYANMAR

Myanmar Trade	Lastest
Balance of Trade	-38.20 USD million
Current account	-3592.00 USD million
Current account to GDP	-2.00 %
Import	1392.80 USD million
Export	1354.60 USD million
Foreign Direct Investment	447.59 USD million

<https://www.commerce.gov.mm>

- ❖ **Ministry of science and Technology – 1996**
- ❖ **SCIENCE AND TECHNOLOGY DEVELOPMENT LAW (1994)**
- ❖ **Ministry of education – 2016**
- ❖ **SCIENCE ,TECHNOLOGY AND INNOVATION LAW (2018)**
- ❖ **Department of research and innovation – National Council of STI (2019)**

Science, technology and innovation for sustainable development and inclusive growth

6

Ministry of
Education



Department
of Research
and
Innovation
(DRI)



National Council Office STI (COSTI)

- Policy and Strategies Development
- National STI Council Meeting arrangement
- Sector Committee Organizing
- Science, Technology and Innovation Research Development
- Funding
- Conference and Forum Holding
- Publishing Scientific and Technology Journals
- Training and Awareness Section
- Award for STI

Overview of current STI related laws in Myanmar

Laws related with STI	Law No.	Enacted Date
1.STI Law	Pyidaungsu Hluttaw Law No.22/2018	25 June, 2018
2. Trademark	Pyidaungsu Hluttaw Law No.3/2019	30 January, 2019
3.Industrial Design	Pyidaungsu Hluttaw Law No.2/2019	30 January, 2019
4. Patent	Pyidaungsu Hluttaw Law No.7/2019	11 March, 2019
7 5. Copyright	Pyidaungsu Hluttaw Law No.15/2019	24 May 2019

Ministry of Education (Science and Technology) has designated as a focal Ministry for the STI matters.

“We need the power of education. We will flourish socially and economically through education.”

Daw Aung San Suu Kyi



What are the government policies in your countries for human capacity building towards STIs?

No specific STI policy in Myanmar

Current Policies related STI

National education Policy

- ✓ To nurture new generation as intellectuals and intelligentsia in human resource development
- ✓ To implement quality assurance system in all educational sectors
- ✓ Encourage on Vocational and Technical Training School for polytechnicals
- ✓ Quality Education
- ✓ Promotion on Industry Innovation and Infrastructure

Higher Education Institutions (University/ College)



- 160 Higher Education Institutions (HEIs)
- 4250 researchers/professors (mostly female)
- 22533 faculty member totally
- 142,884 students have been conferred with diplomas, degrees, masters' and doctorates
- 3,841 research papers (Mostly Basic Research)

National Education Strategic Plan (NESP) 2016-21

- Mostly lack on STI , especially on applied research area

Educational development plan on 12 priority sectors and implementing the tasks (NESP)

- (1) Early Childhood Care and Development.
- (2) All citizens must have access to primary education; must have the better education opportunity to under privileged students.
- (3) School curriculums with different ethnic national languages must be created with the supervision of state and region governments and the ethnic nationalities' languages and cultures must be elevated.
- (4) The ratio of teachers and the students must be appropriate in the schools.
- (5) The skills and teaching abilities of the teachers must be uplifted.
- (6) Teaching aids and materials for the less developing regions must be filled up for the easy access of primary education to all citizens.
- (7) The students with poor learning must have the opportunity for study at vocational schools for better livelihood.
- (8) The universities must have the rights to draw international standard curriculums independently.**
- (9) The technical and vocational schools must have the equal rights to develop along with the universities.**
- (10) All the educational arrangements must not be a burden to the parents and the community.
- (11) The budget allocated by the government and the private sectors must be utilized in transparency and in effective way.
- (12) All the implementation must be based on accurate and correct data and information.

Myanmar current STI involvement in SDGs 2030

The 17 sustainable development goals (SDGs) to transform our world:	How STI involve in specific goal	Present Conditions in Myanmar
GOAL 1: No Poverty	-	-
GOAL 2: Zero Hunger	-	-
GOAL 3: Good Health and Well-being	-	-
GOAL 4: Quality Education	<ul style="list-style-type: none"> • Involve Creation of Job by mean of opening vocational training schools • Encourage in grassroots invention and innovation • Job creation by IP assets in all inclusive involvement 	<ul style="list-style-type: none"> • Intensively encourage to open vocational school/institute around rural and urban area • Need to be strong force in grassroots invention and innovation • Lack of IP assets usage
GOAL 5: Gender Equality	<ul style="list-style-type: none"> • Encourage to female to involve in innovation and use of it 	<ul style="list-style-type: none"> • Women entrepreneurships • MSMEs entrepreneurships
GOAL 6: Clean Water and Sanitation		
GOAL 7: Affordable and Clean Energy		
GOAL 8: Decent Work and Economic Growth		

The 17 sustainable development goals (SDGs) to transform our world:	How STI involve in specific goal	Present Conditions in Myanmar
GOAL 9: Industry, Innovation and Infrastructure	<ul style="list-style-type: none"> • Increase university industry collaboration with the use of IP rights • Promote the invention and innovation • Support free technology to MSMEs 	<ul style="list-style-type: none"> • Guideline for URI drafting • IP law enacted • STI law enacted • Promoting MSMEs programs by participating entrepreneurs in the support of free technology in their business
GOAL 10: Reduced Inequality	-	-
GOAL 11: Sustainable Cities and Communities	-	-
GOAL 12: Responsible Consumption and Production	-	-
GOAL 13: Climate Action	-	-
GOAL 14: Life Below Water	-	-
GOAL 15: Life on Land	-	-
GOAL 16: Peace and Justice Strong Institutions	-	-
GOAL 17: Partnerships to achieve the Goal	<ul style="list-style-type: none"> • Collaboration and cooperation with international organizations 	- Increased international collaborations

STI concern in Myanmar SD Plan 2018-2030 and Related to SDG 2030



The Government of the Republic of the Union of Myanmar
Ministry of Planning and Finance

Myanmar Sustainable Development Plan (2018 – 2030)

PILLAR 2: PROSPERITY & PARTNERSHIP

GOAL 3: JOB CREATION & PRIVATE SECTOR-LED GROWTH

- Create an enabling environment which supports a diverse and productive economy through inclusive agricultural, aquacultural and polycultural practices as a foundation for poverty reduction in rural areas
- Encourage greater creativity and innovation which will contribute to the development of a modern economy

PILLAR 3: PEOPLE & PLANET

GOAL 4: HUMAN RESOURCES & SOCIAL DEVELOPMENT FOR A 21ST CENTURY SOCIETY

- Improve equitable access to high quality lifelong educational opportunities

Reference Number	Action Plans	Strategic Outcomes		Relevant Agencies	Relevant SDG Targets
Pillar 2	Prosperity & Partnership				
Goal 3	Job Creation & Private Sector Led Growth				
Strategy 3.7	Encourage greater creativity and innovation which will contribute to the development of a modern economy				
3.7.1	Develop and strengthen relevant legal and regulatory frameworks in support of greater innovation, creativity and a spirit of entrepreneurialism, including through the development of a National Innovation Policy	Strengthen legal and institutional basis to promote innovation		MoIND, MoTC, MoE, MoCOM	SDG 9.5, SDG 9.b
3.7.2	Strengthen links between academia, research institutions and the private sector to develop a national innovation and creativity ecology	Strengthen legal and institutional basis to promote innovation		MoIND, MoTC, MoE, MoCOM	SDG 9.5, SDG 9.b
3.7.3	Increase access to financing for research and development	Strengthen legal and institutional basis to promote innovation		MoIND, MoTC, MoE, MoCOM	SDG 9.5, SDG 9.b
3.7.4	Facilitate greater access to finance and the commercialization of products and services produced by local entrepreneurs and ‘startups’	Strengthen legal and institutional basis to promote innovation		MoIND, MoTC, MoE, MoCOM	SDG 9.5, SDG 9.b, SDG 8.3
3.7.5	Encourage and support innovation and scientific research in all sectors	Strengthen legal and institutional basis to promote innovation		MoIND, MoTC, MoE, MoCOM	SDG 9.5, SDG 9.b
3.7.6	Strengthen intellectual property rights, including through a Myanmar patent and trademark office to protect innovations and inventions	Strengthen legal and institutional basis to promote innovation		MoIND, MoTC, MoE, MoCOM	SDG 3.b

Reference Number	Action Plans	Strategic Outcomes	Relevant Agencies	Relevant SDG Targets
Pillar 3	People & Planet			
Goal 4	Human Resources & Social Development for a 21st Century Society			
Strategy 4.1	Improve equitable access to high quality lifelong educational opportunities			
4.1.5	Develop comprehensive 21st century-ready TVET curricula that meets current and future private sector needs	More learners access TVET and graduate from quality assured and labour market responsive TVET programs under a more effective TVET management system	MoE, MoLIP, MoCOM, MIC,UMFCCI, MoALI	SDG 4.3, SDG 4.4
4.1.6	Enable greater access to TVET for target and underrepresented groups, including disadvantaged population groups and people living with disabilities	same as above	MoE, MoLIP, MoCOM, MIC,UMFCCI, M o S W R R , MOALI	SDG 4.3, SDG 4.4, SDG 4.5
4.1.7	Improve the quality of and access to higher education through improved teacher training and academic administration	Students have equitable access to a world class higher education system, leading to better opportunities for employment and significant contributions to a knowledge-based economy	MoE, MoLIP	SDG 4.3


Government Expenditure on Education

		%
Expenditure on education as % of government expenditure	Year 2011	5.4
Expenditure on education as % of government expenditure	Year 2017	10.15
Expenditure on education as % of government expenditure	Year 2018	9.9
Expenditure on pre-primary as % of government expenditure on education (%)	Year 2018	0.5
Expenditure on primary as % of government expenditure on education (%)	Year 2018	39.3
Expenditure on secondary as % of government expenditure on education (%)	Year 2018	41.0
Expenditure on tertiary as % of government expenditure on education (%)	Year 2018	14.8
Expenditure on tertiary as % of government expenditure on research (%)	Year 2018	< 0.5

Gross domestic expenditure on R&D (GERD) %

GERD by source of funds (%)	
Business enterprise	0
Government	77.40
Higher education	...
Private non-profit	0.02
Funds from abroad	22.52
Not specified	0

GERD by field of science	(%)
Natural sciences	4.22
Engineering & technology	32.80
Medical sciences	29.97
Agricultural sciences	32.61
Social sciences	0.40
Humanities	0

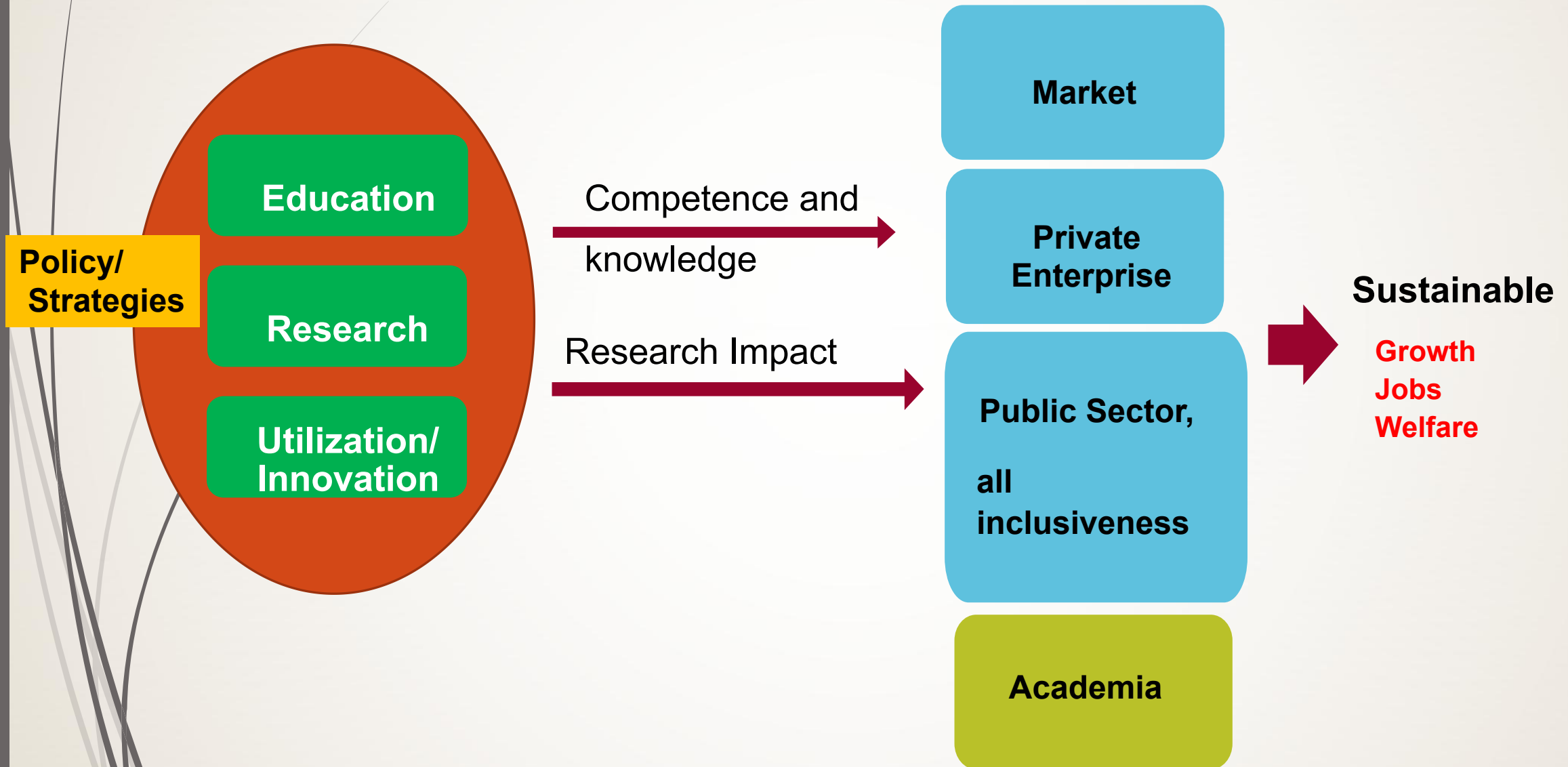


What are the key challenges for implementing such policies?

Challenges

- ✓ Lack of Policy and Strategies
- ✓ Low interest of Government in STI promoting
- ✓ Very low Government Expenditure in R & D
- ✓ Lack of Encourage on Innovation in each level
- ✓ Low Government Budget Allocation for STI
- ✓ Low cooperation between relevant government departments and public associations
- ✓ Weak of Government Encouragement to University Research and public to aware of Innovation /Applied Research
- ✓ Lack of knowledge and practice the benefit of Technology Transfer (All inclusiveness Rights)
- ✓ Lack of Technology Transfer Office (practice) in Myanmar

What support do you think the development partners should provide in order to build human capacity in developing countries?



Need Areas for support

- Establishment of National STI policy and strategies and long term enforcement for those policies
- Provide for upgrade R and D Infrastructure (Eg. The way to think for establishment of one international advance level facility laboratory for STI) in Myanmar
- Involve in the promotion of innovation in various level (grassroots to higher educated people, based on incentive), appoint the focal department to collaboration with international partners
- Support on the matter of national the technology transfer office development to be commercial use of results of R and D

Thank you for your attention!
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