Quality Efficiency

Innovation

Council on competitiveness, 2005, Innovate America
Innovate America (Council on competitiveness 2005)
OECD Innovation Strategy 2015

- Skilled workforce
- Sound business env.
- Knowledge creation and diffusion
- Promote Innovation
- Better governance
“Science, technology and innovation are central ... for building a more innovative and vibrant economy”

Source: Malaysia’s S&T policy for the 21st century
More R&D
Partnerships for innovations
Transform knowledge into products
Recognize the value of S&T

Source: Malaysia’s S&T policy for the 21st century
Among other things …

“A high proportion of science and technology workers are needed for driving innovation!”

OECD (2012) - 40%
Who are S&T workers

Demand for S&T workers in SL

Supply of S&T workers in SL

S&T skills match

Recommendations
S&T workers - Definitions
Who is a science and technology worker (narrow definition)?

- Everyone who has successfully completed post-secondary education in an S&T field

- Or, is working in an associated S&T occupation

Canberra Manual, 1995
Human Resources in S&T

Tertiary Educated (HRST-EDU)

- University Level - Degree or above (ISCED 6-8)
- Technical Level - (ISCED 5)

Occupied in a job requiring tertiary education (HRST-OCC)

- Professionals (ISCO – 2)
- Technicians and Associate Prof. (ISCO-3)
Measuring HRST

HRST-EDU

HRST-CORE

HRST-OCC

The Canberra Manual 1995
Employment in S&T in Sri Lanka
Share of HRST, by gender (%)
Share of HRST in Employed (%)

- United States (2013): 22.6% Professionals, 18.2% Technicians
- Germany (2013): 17.8% Professionals, 21.4% Technicians
- United Kingdom (2013): 24.0% Professionals, 12.9% Technicians
- Russian Federation: 18.8% Professionals, 15.4% Technicians
- EU 28 (2013): 18.2% Professionals, 15.7% Technicians
- Brazil (2009): 7.5% Professionals, 7.3% Technicians
- Sri Lanka (2016): 6.4% Professionals, 5.8% Technicians
- Sri Lanka (2013): 6.3% Professionals, 5.8% Technicians
- Indonesia (2010): 4.8% Professionals, 2.3% Technicians
- India (2011): 3.7% Professionals, 3.3% Technicians

Source: OECD, 2013 & LFS
Professionals, by type (%)

- Health Prof. 17.4%
- Teaching Prof. 60%
- Science and Eng. Prof. 7.7%
- Business and Admin 5.3%
- ICT 1.9%
- Other -7.5%

Source: Arunatilake 2016
Employment trends

- Share of employment in 2016 (%)
- Job growth 2013 to 2016 (%)

Source: LFS data

- Other
- Elementary occupations
- Plant and machine operators
- Craft workers
- Skilled agriculture workers
- Services and sales workers
- Clerks
- Technicians and Associate professionals
- Professionals
- Managers, senior officials and...

All
Tertiary Educated in Sri Lanka
Tertiary Educated (HRSTE)

15 and above population

- Technical: 10%
- University: 3.3%
- Other: 86.7%

Census 2002 data
Education of 30-39 year olds (%)

- OECD tertiary educated target: 40% (30-34 year olds)

Source: Census 2002 data
Tertiary educated working in S&T occupations (HRST-CORE) in Sri Lanka
University Educated, by activity

- S&T occupations: 51.0%
- All other occupations: 21.7%
- Unemployed: 6.4%
- Out of the labour force: 20.9%
Tertiary Educated – Technical Level, by activity

- S&T occupations: 42%
- All other occupations: 5.8%
- Unemployed: 14.2%
- Out of the labour force: 38%
Not Tertiary Educated – Technical Level, by activity

- S&T occupations: 50.6%
- All other occupations: 42.6%
- Unemployed: 3%
- Out of the labour force: 3.7%
Professionals, by Education

- All professionals
- Science and engineering professionals
- Health professionals
- Teaching professionals
- Business and administration professionals
- Information and communication professionals
- Legal, social and cultural professionals

Professionals by Level:
- University level
- Technical level
- Less than tertiary educated
Technicians and Associate Professionals, by education

- All technicians and associate professionals
- Science and engineering associate professionals
- Health associate professionals
- Business and administration associate professionals
- Legal, social, cultural and related associate professionals
- Information and communication technicians

- University level
- Technical level
- Less than tertiary educated
Recommendations

Expand access to S&T tertiary education
  - Expand access to universities
  - Promote vocational training
  - Career guidance

Promote professional and technical jobs
  - Attract FDI
  - Facilitate firm growth

Reduce mismatches
  - Better labour mkt information
  - Career guidance
  - Industry – training linkages
Nisha Arunatilake
Institute of Policy Studies
www.ips.lk