STI Indicators in the Global SDG Indicator Framework

Monitoring Science, Technology and Innovation for the Sustainable Development Goals

WSIS Forum 2016 - ICT Statistics in support of the 2030 Agenda

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- United Nations data repository for:
  - Education
  - *Science, Technology and Innovation*
  - Culture
  - *Communication and Information*
UIS is the UN lead agency for STI statistics

- Official STI data source for:
  - UNESCO Science Report
  - UNESCO World Social Sciences Report
  - UN Statistical Division: UN Statistical Year Book
  - UNDP: Human Development Report
  - World Bank: World Development Indicators
  - Global Innovation Index (partly)

- UIS website ([http://www.uis.unesco.org](http://www.uis.unesco.org))
  - Data centre
  - STI Information papers, fact sheets, eAtlas on R&D statistics, data viz. on women in science
STI and the SDGs

- 17 Goals, but none specifically for STI (although innovation appears in Goal 9)
Selected targets

- 2a. Increase investment in agricultural research
- 3b. Support the research and development of vaccines and medicines for the communicable and non-communicable diseases
- 7a. facilitate access to clean energy research and technology
- 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation
- 8.3 Promote development-oriented policies that support entrepreneurship, creativity and innovation
- 9.5 Enhance scientific research, encouraging innovation
- 9b. Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment
- 14a. Increase scientific knowledge, develop research capacity and transfer marine technology
- 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation
- 17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries
Selected indicators

- 3.b.2 Total net official development assistance to medical research and basic health sectors
- 4.a.1 Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) etc.
- 9.5.1 Research and development (R&D) expenditure as a proportion of GDP
- 9.5.2 Researchers (in full-time equivalent) per million inhabitants
- 14.a.1 Proportion of total research budget allocated to research in the field of marine technology
- 17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation
Educational institutions with Internet, or fixed broadband, combined primary and secondary, 2012 or LYA

- 100 per cent of schools have Internet (fixed broadband) in most high income East Asian, Caribbean, and European countries
- Least common in low income and least developed countries (LDCs)
- Fixed broadband Internet varies from all to less than 50% of all Internet connections
- Some evidence of a leapfrogging phenomenon in some LDCs
Proportion of educational institutions with Internet, sub-Saharan Africa, 2013 or latest year available.
Based on those enrolled; does not take into account out-of-school children
- Gender difference are marginal if not non-existent
- These data however do not measure usage!
R&D expenditure as a % of GDP

Source: UIS e-Atlas of Research and Development
Researchers (FTE) per million pop.

Source: UIS e-Atlas of Research and Development
Addis Ababa Action Agenda (1)

- Notes uneven innovative capacity
- Promote the development and use of ICT
- Craft policies that incentivize the creation of new technologies, research and innovation
- Importance of adequate, balanced and effective protection of intellectual property rights
- Promote social innovation to support social well-being and sustainable livelihoods
- Promote entrepreneurship, including through supporting business incubators
- Foster linkages between multinational companies and the domestic private sector to facilitate technology development and transfer
- Traditional knowledge innovations and practices of indigenous peoples and local communities can support social well-being and sustainable livelihoods
- Strive for open access to research for publicly funded projects
Addis Ababa Action Agenda (2)

- Public and private venture funds investments to diversify risks and capture the upside of successful enterprises
- Scale up investment in STEM education, and enhance technical, vocational and tertiary education and training, ensuring equal access for women and girls
- Encourage the development, dissemination and diffusion and transfer of environmentally sound technologies
- Strengthen scientific, technological and innovative capacity to move towards more sustainable patterns of consumption and production
- Support research and development of vaccines and medicines
- Investment in earth observation, rural infrastructure, agricultural research and extension services
- Increase scientific knowledge, develop research capacity and transfer marine technology
Thematic set of STI indicators (1)

- Business innovation data (UIS)
- Gender equality in STEM (UNESCO SAGA project)
- Higher education data (UIS)
- IPR data (WIPO et al)
- Publication data (various) and open access
- Industrial data (UNIDO)
- ICT (Partnership on Measuring ICT for Development)
- STI policies (UNESCO GO→SPIN, UNCTAD)
- Entrepreneurship (World Bank)
Thematic set of STI indicators (2)

- Venture capital
- Social innovation
- Technology transfer
- Traditional knowledge
- Data on research and innovation for
  - clean energy
  - marine technology
  - agriculture
  - vaccines and medicines
  - etc.
Mechanism for a thematic set of STI indicators

Addis Ababa Action Agenda:

- Establish a Technology Facilitation Mechanism
  - Multi-stakeholder collaboration

- United Nations inter-agency task team on science, technology and innovation for the sustainable development goals
  - Organise the multi-stakeholder forum on science, technology and innovation for the sustainable development goals
  - Development and operationalization of an online platform

- Set up a work stream in the IATT STI SDG
Conclusion

- STI important to achieve the SDGs
- ICTs are an important component, representing the “T” in STI
- Recognised by the Addis Ababa Action Agenda
- But not overly present in the SDG indicators
- Develop a set of thematic indicators
- Include the Partnership’s thematic list
- Requires collaboration between many agencies
- Possibly through the IATT STI SDG
- Develop monitoring reports
Thank you for your attention!

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