

**Science, Technology and
Innovation Observatories (STIOs):
Importance and Regional Efforts**

What is an STIO?

Main Objectives of an STIO

- Provide information on the status of Science, Technology and Innovation (STI), monitor their evolution, analyze available data, measure the impact of RDI policies and strategies and provide STI foresight and recommendations on ways to enhance the system

Tasks for STIOs

- Design and build STI indicators for decision making, monitoring and evaluation of the SRI system
- Produce studies on relevant STI aspects
- Contribute to the development of statistical information systems in STI
- Promote methodological knowledge in the production of STI indicators and strategic/forecasting studies and analyses
- Maintain relationships and cooperation with international agencies specializing in STIOs

STIO: a Hybrid Structure

- A technical institute *and* a research centre
- Design/production of indicators and tools *and* capacity for scientific analysis
- Dual constraint of autonomy and independence (methodology) *and* services activities (for the stakeholders' needs)

Design Conditions for STIOs

- Solid political support
- Clear mission and approved work programme
- Balance between representation and autonomy
- Funding model compatible with the mission and work programme
- Existence of a portfolio of products
- Imbedded learning capacities
- Cooperation network

No Blue Print for an STIO

- What functions should the STIO have?
- Which position does it have in the monitoring and evaluation of the SRI system?
- What is its level of specialisation?
- What degree of autonomy does it have?
- How should it be organised internally?
- Where does its funding come from?
- What profiles should its staff have?
- What are its products?
- Who are its users and what might be their needs?

**Importance of STIOs:
Evidence-based
policy-making**

STIOs for evidence based policy-making (1)

- Do I need to invest in R&D or in Higher Education?
 - Better know how much you are investing already
 - What is a convenient and relevant measure?
 - Percentage of GDP? Number of graduates?

STIOs for evidence based policy-making (2)

- In which areas should I invest predominantly?
 - In which areas am I already investing?
 - Which are important economic sectors, in mining, agriculture, industry, services, etc?
 - Which are crucial public sectors, and what are national or regional peculiarities? (health, environment, utilities, defense,...)

STIOs for evidence based policy-making (3)

- Do I need to improve quality of higher education or research?
 - Better know how you compare to other countries
- Are there sufficient links of universities and institutes to industry?
 - Need to know the data

Regional STIO Efforts

Lebanese STIO: Background

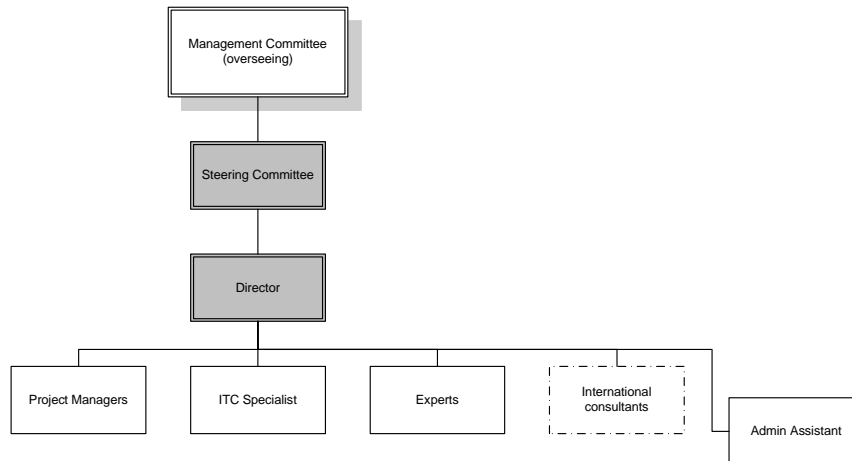
- In 2006, Lebanon (with assistance from UNESCO) developed a national Science, Technology and Innovation Plan (STIP) to enhance national efforts in STI for socio-economic development
- STIP identified two areas of focus: (1) Establishing a national STIO to monitor Lebanon's performance in STI and the knowledge society; (2) Strengthening the co-ordinating role of the National Council Scientific Research (NCRS/CNRS) in the SRI system
- NCSR requested ESCWA's assistance in producing a feasibility study for the Lebanese STIO, which was done in 2007

Lebanese STIO: Objectives and Tasks

ESCWA study recommended that it focuses on:

- Defining relevant indicators serving specific needs
- Collecting primary input data through internationally recognized methodologies about resource indicators
- Identifying relevant information from pre-existing data sources
- Developing a national STI database

Lebanese STIO: Proposed Structure



Syrian STIO: Background

- The official request to ESCWA was made through the Ministry of Communications and Technology (MOCT) even though there were other organizations such as the Higher Commission for Scientific Research (HCSR) that had a loosely defined mandate to “collect data”
- A visit to the various institutions potential partners in the national STIO was carried out
- A preliminary study was completed by two experts and sent to the MoCT
- A workshop discussed the study and finalization of the study was carried out afterwards

Syrian STIO: Needs

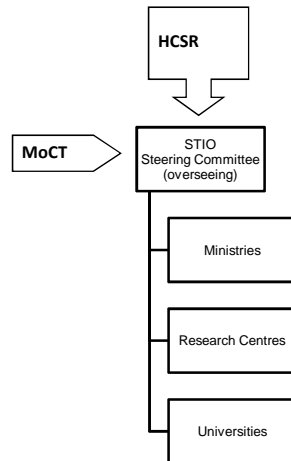
The following major needs were identified:

- Define relevant indicators for science and technology to help in the development of a national STI strategy
- Information on STI in various institutions of the public sector for better coordination
- Information on the STI in the private sector for better cooperation
- International and regional comparisons to measure the existing STI divide

Syrian STIO: Supervision

- MoCT is the organization promoting the establishment of the national STIO and is playing a very proactive role; however, the future STIO would probably be better incorporated within the HCSR because it is attached to the highest level of Government, its mandate includes the elaboration of a national science policy and on its board sit ministers directly related to the S&T sector
- It was therefore suggested to form a distinct unit within the HCSR with its own means and rules of procedures and with prerogatives in terms of independence.

Syrian STIO: Proposed Structure



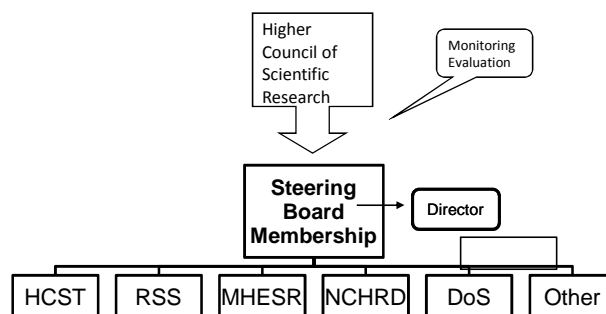
Jordanian STIO: Background

- The official request to ESCWA was made by the Higher Council for Science and Technology (HCST) to carry out a study for establishing a Jordanian STIO
- An expert mission was organized to Jordan during which the current situation and needs were analysed through meetings with the main institutions related to STI or RDI
- A report was drafted, including a proposal for establishing the STIO and various scenarios

Jordanian STIO: Objectives and Tasks

- Bridge-building and cooperation amongst the various actors associated with its activities
- Playing a prominent national role in data collection, production of indicators and carrying out studies upon the request of policy-makers and RDI actors
- Undertaking regular compilation of RDI statistics on resources (input) and results (output) to enable policy-makers evaluate the impact of STI on development
- Operating in a transparent manner and disseminate the results of its activities (indicators, studies, analyses) in a manner commensurate with its mission and expectation of stakeholders and policy makers

Jordanian STIO: Proposed Structure



Regional STIO

- Incorporated within the ESCWA Technology Centre for Development
- Playing a coordinating role among the national STIOs in the region (indicators, data collection, analysis, ...)
- Undertaking regular compilation of STI statistics at the regional level and analysis of these statistics to facilitate the development of a regional STI policy and strategy
- Providing consultative services on regional STI indicators and needed policies to the regional organisations/offices (ESCWA, UNESCO Regional Offices, League of Arab States, ALECSO, ...)

Capacity building at the national and regional levels (1)

- A workshop was held in Damascus, 25-26 February 2009, and attended by potential STIO stakeholders to review and finalize the study
- A regional workshop on STIOs was held in Beirut, 11-12 November 2009 addressed to top management in STI institutions in ESCWA member countries to raise awareness about the importance of STIOs, requirements and regional cooperation
- A second regional workshop for capacity building on establishing national STIOs and selecting STI indicators was also held in Beirut, 18-20 January 2010, was attended by senior technical and managerial staff

Capacity building at the national and regional levels (2)

- A workshop was held in Amman, 22-23 March 2010, attended by most Jordanian STIO stakeholders; focused on the implementation of the national STIO, including selection of STI indicators, data collection, STIO structure, phased execution and roles of stakeholders
- A similar workshop is planned in Cairo for 4-5 May 2010 for the benefit of various Egyptian STIO stakeholders

Thank you!