

**Workshop on Science, Technology and Innovation (STI) Observatories in ESCWA Member Countries - Phase II: Capacity Building on STI Indicators and Observatories (STIOs)**  
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## **STIO EXAMPLES FROM THE ESCWA REGION**

From amongst the multitude of examples three examples from the ESCWA region are described: from Lebanon, Syria and Jordan in order to show the similarities and differences in the respective conceptual models.

### **LEBANON**

In 2006 Lebanon with assistance through UNESCO developed a national Science, Technology and Innovation Plan (STIP) with the aim of creating high quality jobs and investment opportunities, in line with the desire of the Lebanese government, the private sector, and organizations such as the National Council for Scientific Research (NCSR/CNRS) and the universities to make Lebanon part of the worldwide move towards a knowledge-based economy. The objectives of STIP are summarized as follows (STIP 2006):

- To increase and focus national efforts in science, technology and innovation;
- To strengthen the STI institutions and gear them to assist in the creation of high-quality jobs and economic growth, improve the quality of life and strengthen the position of Lebanon as a regional centre for high quality learning, economic development, trade, tourism and health care;
- To strengthen partnerships between institutions of high learning and research, and between these structures and the private productive sectors on one hand and the public sectors on the other;
- To strengthen the country's participation in regional and international networks in science, technology and innovation, and to use these networks for the most effective and efficient implementation of the STIP plan.

For the successful implementation of this plan new arrangements for auditing and performance should be put into place, and that the lead institution i.e. the NCSR should make sure that the management and the funding decisions are made highly transparent and responsible. It should also improve its internal operations and granting procedures in the same direction. Such an approach was expected to promote the needed partnership and the active collaboration of all stakeholders from the onset.

The STIP plan had identified two areas for strengthening:

- The establishment of an STI Observatory (ESCWA 2007b) whose scope should be pragmatically defined and an initial set of limited but well structured set of indicators to monitor Lebanon's performance in STI and the knowledge society;
- The strengthening of the co-ordination role of the lead agency (CNRS) for the benefit of the plan and the country.

It was recommended that the Lebanese STIO should perform the following tasks:

- to collect primary input data through internationally recognized methodologies about resource indicators, and to identify such information from pre-existing data sources;
- to elaborate a national data base;
- to elaborate relevant set of indicators serving specific needs.

Although the overall management of the STIO lies within the CNRS, operational autonomy is ensured by a Steering Committee that assumes the operational responsibilities of the STIO as shown in the diagram below:

## Structure of the Lebanese STIO

### SYRIA

Syria, also having faced the challenges of the knowledge society and in order to address issues of competitiveness requested assistance from ESCWA in order to develop its own STIO. There were several operational organizations and ministries that had available data, and Syria was participating in a number of international activities towards such an end. Syria was a member of the Arab Institute for Training and Research in Statistics (AITRS) and the Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC) which was founded as a subsidiary organ of the Organisation of the Islamic Conference (OIC) whose threefold mandate is the following:

- To collate, process and disseminate socio-economic statistics and information on and for the utilisation of the member countries,
- To study and evaluate the economic and social developments in the member countries to help generate proposals that will initiate and enhance co-operation among them,
- To organise training programmes in selected fields geared to the needs of the member countries as well as to the general objectives of the Organisation of the Islamic Conference.

To be able to contribute to such activities and in the absence of proper indicators, the authorities could significantly benefit from the establishment of an STIO whose design could be based on the national need for indicators to contribute to the formulation of national strategies in view of promoting cooperation and collaboration between the various stakeholders in both the public and private arenas.

The official request to ESCWA was 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”.

ESCWA and the Syrian authorities had identified the following major needs:

- Information and indicators on relevant indicators for science and technology and the absence of a national STI strategy;
- Information on various institutions of the public sector (for better coordination);
- Information on the private sector (for better cooperation);
- International and regional comparisons.

The indicators will be selected in order to address the above needs. i.e. data on expenditures, human resources etc. Accordingly, the STIO in the first instance, should develop and use international methodologies for collecting data and producing indicators, and be able to produce periodic consolidated data and indicators to monitor the country's SRI. Although the MOCT was the organization promoting the establishment of the national STIO, and was playing a very proactive role, the future STIO would probably be better incorporated within the Higher Commission for Scientific Research because, like Lebanon, it is attached to the highest level of Government, its mandate includes the elaboration of a national science policy and on its board sit prominent ministers directly related to the S&T sector in Syria.

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. The following structure was suggested:

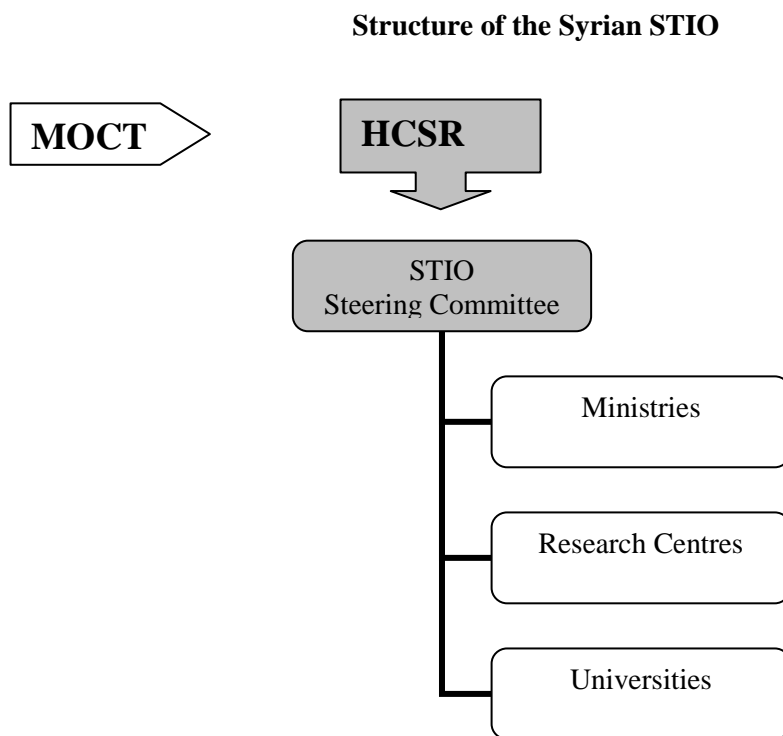
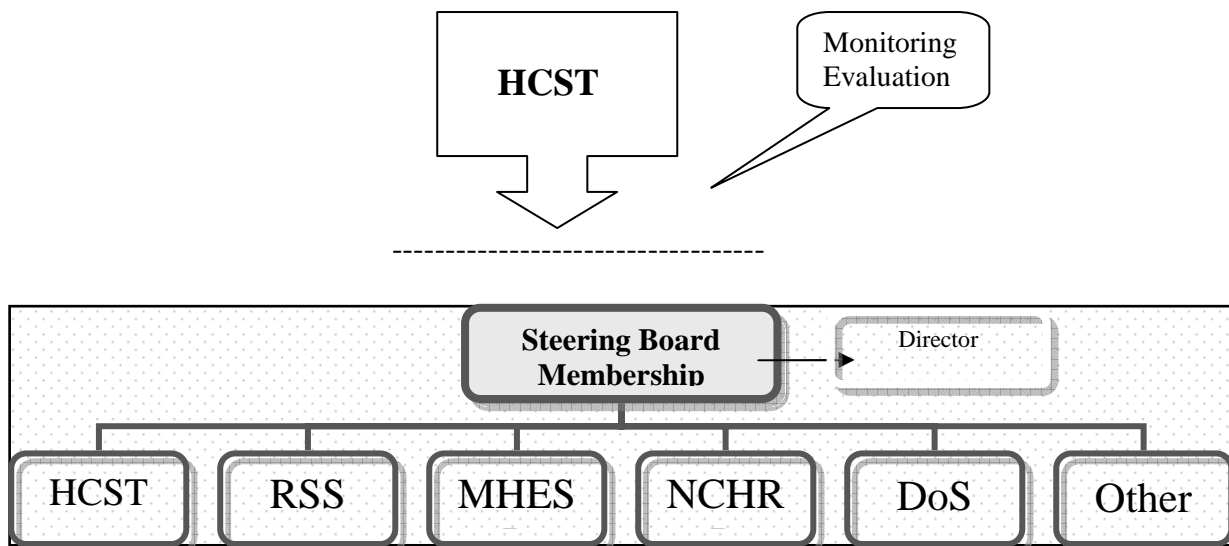


Figure 2 represents the basic organization of the Syrian STIO. Through the collaborative effort of all concerned and the political support the STIO will thus ensure international collaboration and cooperation with the various stakeholders (public and private) through a progressive and pragmatic approach and through an inbuilt system of capacity building and monitoring.

In both the Lebanese and the Syrian scenarios the STIOs are designed as institutional platforms to serve primarily the public need without, however, being cut off from the productive private sectors. A recommended approach would be to involve chambers of trade and industry in the steering committees for their support and financial contribution. The activities and the degree of autonomy of the two major players i.e. the NCSR/CNRS and the HCSR respectively, are at very different levels and partnerships with the private sector is in need of development even though the situation in Lebanon is much more dynamic and proactive whereby the CNRS has developed a close relationship with the Lebanese Industrialists to finance joint Research and Development (R&D) activities.



**Remarks on the structure:**

- The HCSR should take the initiative and nominate the members of the Steering Board following close consultation with the stakeholders. HCSR will have its own representative on the Board and assume the chairmanship. The Steering Board should be autonomous with its prerogatives of independence.
- An externally nominated add-hoc review committee should assist the HCST where the STIO is housed, to undertake monitoring and periodic evaluation of the activities of the STIO in collaboration with other experts.
- Although 6 organizations are mentioned in the figure, there should be provision for other institutions such as the Ministry of Agriculture through the National Centre for Agricultural Research. Over time private sector representatives should also be represented through the various chambers of industry or trade. During the mission to Amman it was not possible to visit all institutions.
- The selection of the director is crucial. He/she should be a specialist in the field and be proactive in operations. He is an ex-officio member of the Steering Board and acts as its secretary. Operations and supervision of staff is vested in him/her.
- Initially staff of the STIO could be composed, in addition to the director, by a project manager, a statistician and one or two research assistants. Over time with a broadening operational agenda its staff could grow to about 10. Some staff could be seconded from other partner institution.
- The structure should not be a rigid one as needs and requirements evolve and change over time. A periodically changing or rotating membership will have to reflect these changes.
- The bye-laws and operational modalities of the STIO will have to respond to the needs of the STIO and the functions it will be expected to fulfil in line with the suggestions in section E.2.