

An Environment & Development Information System in Lebanon

Introduction

Within the Lebanese public sector, two stakeholders are concerned with environment and development information: The Central Administration of Statistics (CAS), that assumes itself or in cooperation with the concerned parties to set forth all statistics related to economic and social aspects of the country (based on the Decree 1793/1979), and unifies the statistical databases; and the Ministry of Environment (MoE) that plays the role of conducting environmental statistical works in coordination with the CAS (according to the Law 667/1997).

As part of Lebanon's commitments to national policies and international initiatives and agreements, and believing in the importance of measuring its progress towards the lines of sustainable development, there was a need for an environment and development information system. Therefore, two major projects concerned with environment statistics were initiated in Lebanon:

- MEDSTAT-Environment: Within the Mediterranean region network and which CAS was the focal point for. It aimed at the establishment and harmonization of environmental indicators across the Mediterranean countries.
- Lebanese Environment & Development Observatory-LEDO: Established in 1999 at the Ministry of Environment, with the support of the European Union. It aimed at increasing the accessibility to environment and development data, playing the role of a national platform for information gathering, sharing and disseminating, and setting the basis for a monitoring system for environment and development indicators.

The cooperation and collaboration between the two partners CAS and MoE (facilitated by the supportive legislative framework) lead to the integration of the principles of both projects within LEDO, which introduced and developed a nation wide Environment and Development indicators as the basis for an environment information system.

The framework of the MEDSTAT-LEDO cooperation

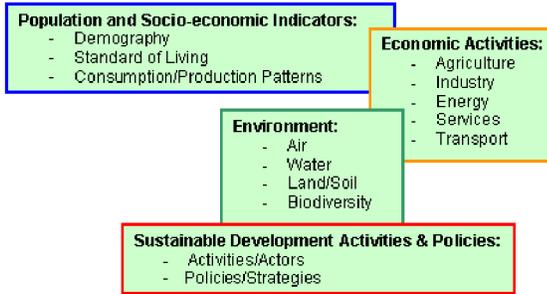
The cooperation between MEDSTAT (CAS) and LEDO (MoE) translated into the unification and integration of Blue Plan indicators (MEDSTAT) and the LEDO indicators within one national system, facilitating the comparison of environment and development parameters between Lebanon and other countries in the region.

How did it work?

The success of the compilation of environment and development statistics and indicators is highly dependant on the involvement of all stakeholders in the country (public sector, international organizations, research institutions, Academic sector, NGOs, Private sector, media and the general Public). Therefore, LEDO quickly pulled the strings of partnership since the early stages of preparation and conducted a national workshop with the participation of all stakeholders aiming at the identification of priority areas that should be monitored. Consequently the LEDO identified the indicators related to those priority areas. The identification

process was carried out by referring to international indicators and categories set by the Blue Plan and the International Commission on Sustainable Development.

- Categories of indicators: Ninety indicators were selected, based on the analysis of international environmental indicators and the national priorities. They were classified into 4 main categories/subjects.



Population & socio-economic indicators, economic activities, environment, and sustainable development activities and policies.

- Type of indicator: According to type of indicator, the ninety indicators were grouped into three main interrelated groups: Pressure (Human activities that exert stresses or pressures on the environment and change it such as. population growth, use of pesticides, industrial releases into water...), State (The quality and quantity of natural resources, and the quality of the environment such as level of air pollution, burnt forest area, ...) , Response (The environmental, economic, institutional or sectoral policies adopted in response to changes, such as regulatory action, legislation, environment or research expenditure...).



- Time Frame: Different indicators are compiled within different time frames depending on the availability of data, and a regular consistent methodology or system of compilation and monitoring. Therefore, some of the indicators were: Short -term indicators, Medium -term indicators, Long-term indicators

- Data Collection & Recording: To standardize the collection, and record keeping of data, a standard indicator datasheet was designed to store and display the information, and they constitute the input to the indicators' database. These forms include the main identifiers of each indicator that include:

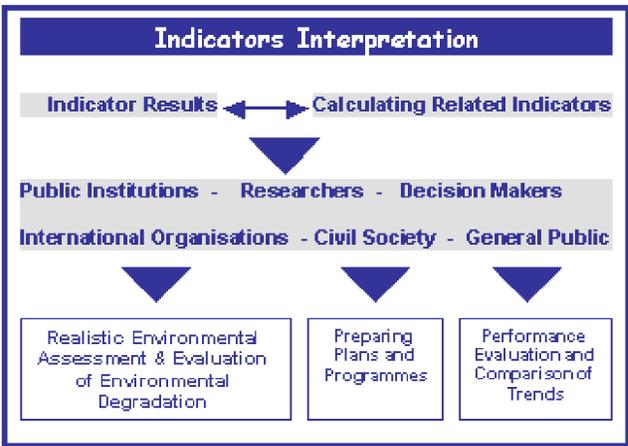
"Indicator name", "category", "theme", "type", "definition" (describing and explaining the indicator, "calculation method" of the indicator, "unit" (used in the calculation are also included in the data sheet to provide coherence as well as uniformity whenever an indicator is to be

INDICATOR DATA SHEET	
Indicator:	Category:
Definitions:	Theme:
	Type:
	Unit:
Other Definition:	Related Indicators:
Calculation Method	
Data Needed	Source
Standard/Target:	Graphical Presentation
Frequency for Updating:	
Comments:	
Year	Value of the Indicator
Source of Data/year geographic Coverage:	
UNEP Reference:	Blue Plan Reference:
Developed by:	Date:

updated), "Data needed" & " Source" (describing the raw data needed in the calculation process and specifies the source of this data), " Display of data" (whereby indicator values over a specified time period are presented in a table &/or map form). In addition, "Frequency of Updating" specifies the time period for the updating process of each indicator (monthly, yearly, every five years, ...), depending on the nature of this indicator.

- v Reporting: The data needed to calculate the indicators are compiled and reported on a regular basis to continuously update the indicator database, and according to the updating period specified for every indicator. The institutions responsible for every set of indicators shall supply the up-to-date information regarding those indicators. All users would be able to access the indicators database through the Internet, and thus be aware of the state of environment and development in Lebanon, as well as assess changing trends overtime, and in relation to goals and targets.

- v Interpretation: The interpretation of an indicator is specific to each stakeholder in his own domain. Each indicator must be interpreted in the appropriate context, taking into account the ecological, geographic, social, economic and structural features of the country. To be useful, indicators need to be evaluated relative to a certain target, limit, legal requirement or a national or an international/ regional standard. High-level decision makers routinely ask for quantitative data that is easy to understand and use in decision-making, and as an early warning index to help set priorities for action.



What are the Outcomes & Outputs of LEDO?

As many stakeholders are concerned with environment and development indicators, it is crucial to have a dissemination system with wide accessibility and ease of use. The identified set of indicators was compiled in a database that is hosted on the website of the Ministry of Environment (presenting the list of indicators, indicator data sheets, the data compiled, results, graphs and relevant maps). The database was also disseminated via CD-ROM to all stakeholders and interested individuals.

In addition, the indicator results were used in reports such as the State of Environment report 2002, as well as the different annual reports of public institutions and international organizations dealing with environment and development issues (HDR-UNDP, MDGR-UNDP). Due to the importance of the identified indicators on one side and the absence of relevant data in the country on the other the LEDO took the initiative to create a further partnership between the Ministry of Environment the Ministry of Agriculture and the National Council for Scientific Research to develop a national comprehensive Land-Use Land – Cover map. The main objective of such map was first to cover the lack of data in

the country related to land-use and land-cover and to create an updated baseline reference for land-use and land-cover that was of significant value at the national level.

These indicators are also of significance at the regional level, thus their dissemination to countries in the region supports efforts of knowledge & information exchange, and pools the resources towards creating the network of observatories around the Mediterranean (MEDSTAT-Blue Plan).

Lessons learned

LEDO exemplifies a successful collaborative effort at the national level between concerned partners. However, this experience was not free of challenges and obstacles. The establishment and maintenance of an environment & development information system is not a simple process, rather a diversified and complicated one.

Intrinsic challenges:

Dealing with crosscutting themes like Environment & development that intersect many sectors, implies complicated data collection and compilation processes that are not simply covered or handled by simple survey methods.

The environment information are found within many sources (Ministries, research centers, others), and in many cases require monitoring systems (such as air and water sampling), as well as the application of sophisticated technologies (such as Remote Sensing) which are not always available at the relevant institutions.

In addition, the sustainability of an environment and development information system needs essential financial, human and technical resources.

In spite of the infrastructure work developed by the LEDO and the platform prepared for exchange of information among the different institutions, what could jeopardize the sustainability of LEDO in Lebanon is the unavailability of a devoted team to play the role of the catalyst in updating the indicators data base. The system requires a devoted team of competent experts (in the fields of statistics, environment & development) to maintain the network and data collection with all partners and sources of information. Although experts are available, the understaffing at both MOE and CAS makes it difficult to find a dedicated team for this issue. In addition, financial and technical resources are relatively lacking due to the unavailability of basic monitoring systems (like air and water sampling).

This translated into a reduced ability to collect data on some indicators (Especially the long-term indicators), lack of geographic distribution data (since the best available data is usually at the national level), and an overall risk of unsustainability of the environment & development information system.

Extrinsic challenges:

The Multiplicity of regional & international reports requiring the same indicators (such as MDGR and HDR by UNDP, GEO by UNEP, others), and the lack of consistency in the preparation of such international reports, lead to the utilization

of different data source for the same indicators, which resulted in contradicting figures on similar indicators. Thus there is a need to standardize the data sources used in all these reports, whereby figures are requested from a central unit (which LEDO serves as best example of) responsible for these statistics

In spite of the success made by LEDO in standardizing the definitions and concepts of the different environment & development indicators, there still remains a need for an international standardization not only of the environment and development indicators, but also of the scientific terms and concepts involved in the indicators (e.g. proportion of forest areas).

Recommendation & Conclusion

The Lebanese Environment & Development Observatory exemplifies a joint effort towards an information system that has set the infrastructure of environmental statistics (collection, compilation, reporting & interpretation) in Lebanon.

The continuous collaboration between all stakeholders, especially the Ministry of Environment & the Central Administration of Statistics, as well as the availability of needed resources, are essential requirement for the sustainability of this information system.

The status of environment statistics in Lebanon is not only based on, or limited to, the collaboration between the Central Administration of statistics and the Ministry of Environment for the establishment and follow up of the LEDO information system; however, it is maintained and strengthened through the mainstreaming & integration of environment & development in the surveys conducted by CAS in coordination with the Ministry of Environment.

Environmental statistics is relatively a new field in Lebanon and the region. Consequently, the role of the international organizations is significant, through their technical support and expertise, towards strengthening the national environment statistics and information systems, as well as harmonizing the environment and development indicators and concepts at the national, regional and international levels.