



National Council for Scientific Research



PREFACE

It is well known that economic development in the world, in the past three decades, particularly in developing countries, has been directly linked to efforts exerted in science, technology and innovation. Countries that succeed in harnessing innovations in science and technology are today witnessing noticeable economic and social growth, while those countries that have not exerted enough effort in this domain are suffering from clear signs of economic stagnation and of regression in the quality of life. It is also well known that the role of national science and research institutions is to advise government and societies on the impact and repercussions of the rapid progress in the application of science and technology. Since its establishment in 1962, the National Council of Scientific Research in Lebanon has been the national institution entrusted, by law, to carry out this role, directly through its affiliated research centres, and indirectly through the cooperation relationships that exist with academic and other scientific institutions.

The Science, Technology and Innovation Plan (STIP) is the outcome of a joint effort by a large number of Lebanese professional scientists and international experts, who worked together for three years to prepare the documents that were objective in analyzing local conditions and forward-looking in their regional and international outlook on the development of scientific and applied research. The names of all those who contributed to STIP are listed in the following pages. The CNRS wishes to express its special appreciation to all of them for their efforts, commitment and valued contribution.

In preparing STIP, these scientists and experts undertook elaborate Strength, Weakness, Opportunity and Threats Analysis (SWOT) of most relevant social and economic factors in Lebanon, leading to the identification of the most pressing societal needs, and to the formulation of priority scientific research programmes that were incorporated in the STIP plan of action. The reports of various specialized task forces were incorporated in the basic report, called *STIP Basic Document*.

STIP represents not only a radical change in the operation of the CNRS itself, but also a radical change in its relationship with all relevant stakeholders, in that it is a formulation of a comprehensive vision, linking together identified socio-economic societal needs and qualified human resources available in Lebanon that are capable of finding relevant solutions to respond to these needs. STIP stresses the partnership between all stakeholders in Lebanese society in the formulation and implementation of the STIP plan of action in all its phases.

STIP recommends a series of initiatives in selected scientific research areas that have direct impact on identified social and economic priority areas, particularly on the production and services sectors. It recommends a noticeable increase in human and financial resources allocated to research and to related infrastructure.

It is expected that the implementation of these initiatives will result, in the medium time frame, in tangible economic results. It will drive the Lebanese economy to become a knowledge-based economy with clear competitive advantages at the regional and international levels, thus benefiting from young Lebanese, highly qualified, human resources that represent the only “National Resources” in Lebanon.

The effective application of technological innovation, in the most creative way, is the optimal path to establish production and services enterprises with high value added. Through such enterprises, it is possible to enhance Lebanon’s export capability, reduce the huge national debt and the big discrepancy in the balance of trade.

Furthermore, the optimal application of Information Technology, and other technological applications, whether locally developed or imported, is crucial to the modernization of Lebanon’s manufacturing sectors and the building of the services sectors on strong and sustainable foundations.

The creative outcomes of research and development efforts, along with suitable entrepreneurial incentives, will lead to a great leap forward in Lebanese productivity, to better performance in Lebanese export capability and to a noticeable increase in the Lebanese rate of growth. It will also provide promising investment alternatives in selected domains that respond to identified societal needs.

The CNRS has adopted STIP’s proposed approach and will implement its recommendations within its current operational programmes, as well as in new programmes that will be established to this effect. STIP will also be adopted as the basis for cooperation relationships with academic and research institutions and with relevant private and public agencies.

The Council aims to use STIP recommendations as a mechanism to involve Lebanese scientists in fruitful and operational partnerships with the services and production sectors. It will encourage scientists to link the outcome of their scientific research to the inputs of the above-mentioned sectors, and to

exert serious efforts to identify the needs of these sectors so as to try to find practical solutions that respond to these needs.

STIP aims also to encourage Lebanese scientists and academicians to link to international scientific networks, so that they can easily up-date their knowledge on innovations in science and technology, and thus they can qualify to participate in high value joint research with their peers abroad, particularly with the Lebanese community of scientists dispersed throughout the world; in this way, Lebanon can become an effective and interactive partner in regional and international networks of science and technology.

The CNRS considers STIP as a first step towards the formulation of National Comprehensive Vision on the role of Science, Technology and Innovation in enhancing the development of the national economy. It aspires to make this vision a common concern to all stakeholders in the scientific communities and to all beneficiaries in the social and economic sectors, as well as to decision-makers in Lebanon, so that all concerned can jointly participate in contributing to the priority initiatives identified in STIP.

The Council is also hoping to contribute to the development of a “national culture of science and innovation” at all levels in Lebanon; a culture that should become second nature to every Lebanese citizen, growing inside him/her from the early learning stages and continuing through all the stages of life after that.

Lebanon is aspiring to follow the path adopted by Asian and Latin American countries that have similar capabilities and socio-economic conditions and that have been able in recent decades to realize successful leaps forward in their economies, their industries and the quality of their manufactured products. This is a legitimate aspiration that can be objectively achieved if the Lebanese government is resolved to support all efforts in science, technology and innovation and to adopt the outcome of such efforts in national economic development plans.

Furthermore, the Council is expected, as the national institution entrusted with the implementation of STIP, to take the initiative in improving its own performance, rationalizing its use of scientific, administrative and financial resources, and enhancing its capability to mobilize scientific researchers, both the young and the well-established ones. The Council is also expected to formulate flexible modality for partnership and cooperation, based on transparency, performance and quality criteria; this will have a fruitful, positive impact on the production and higher education sectors.

The real value of STIP and its expected impact will depend on the official adoption of the plan by the Lebanese government, and its commitment to provide needed and sustained financial resources for the envisaged 5-year period, through a special “Programme Law”. The effective impact of STIP is also related to the proactive response of academic institutions, particularly the Lebanese and other private universities, to the proposed programmes and partnership agreements.

Finally, STIP is a continuous, innovative and comprehensive process; it has to be periodically reviewed and amended to secure credibility and to gain the confidence of all concerned in Lebanon.

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