

National Database of R&D in Lebanon

Content and Objectives

As part of the United Nations' 2030 Agenda for Sustainable Development, countries have pledged to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." In particular, SDG Target 9.5 aims to "enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and developments pending".

Providing comparable and timely available data on R&D is therefore crucial to plan and monitor R&D efforts in a country. In this framework, the UNESCO Institute for Statistics (UIS) produces key indicators to monitor progress towards this SDG target.

To present, no data for R&D indicators is available or provided by Lebanon. The current study aims to present first-time data for Lebanon on indicators specified by UIS to give a better idea of R&D in the country.

Methodology

A survey for R&D in Lebanon was developed and updated, aligning it also with UNESCO, Institute of Statistics / UIS Questionnaire.

The questionnaire covered **three years** (2017-2018-2019)¹ and was **aggregated by 4 Disciplines** (Basic Sciences, Engineering and Technology; Medical and Health Sciences; Agricultural and Environmental Sciences; and Social Sciences and Humanities). The survey gathered information by **gender, academic position** (researchers, PhDs, other supporting staff, post-docs...). The questionnaire also touches on overall research **budgets, expenditure, & funding**, whilst also aims to gather some information about organization of research at targeted institutions.

Eleven Institutions of Research and Higher Education (UL; AUB; USEK; USJ; NDU; BAU; AU; UoB; LAU; LARI & CNRS-L) were targeted. Ten institutions replied.

¹ Universities provide data by academic years (2017-2018; 2018-2019; 2019-2020)

Noting the importance of this initiative for collecting baseline data on R&D; It is essential to undertake another assessment (bi-annually) at the end of 2022, with a future commitment to: expand the target and response rate, and collect comparative data with particular interest to reflect on the effects of the COVID-19 and Lebanese economic crisis on R&D ecosystems in Lebanon.

National Database of R&D in Lebanon implemented by the CNRS-L Team with the Support of the Lebanese National Commission for UNESCO/ Participation Programme of UNESCO

Around 10,000 R&D Personnel (Headcount) are involved yearly in R&D sector in Lebanon. While the number of researchers per million inhabitants stands worldwide at 1,198 (2017), in Lebanon, the results indicate 740 FTE (Full Time Equivalent) per million inhabitants (2017), with a slight decrease to 681 in 2019.

4.63 persons out of one thousand labors are involved in R&D in every academic year covered (Headcount-HC per Thousand Labor Force in Jordan is 4.2 in 2018).

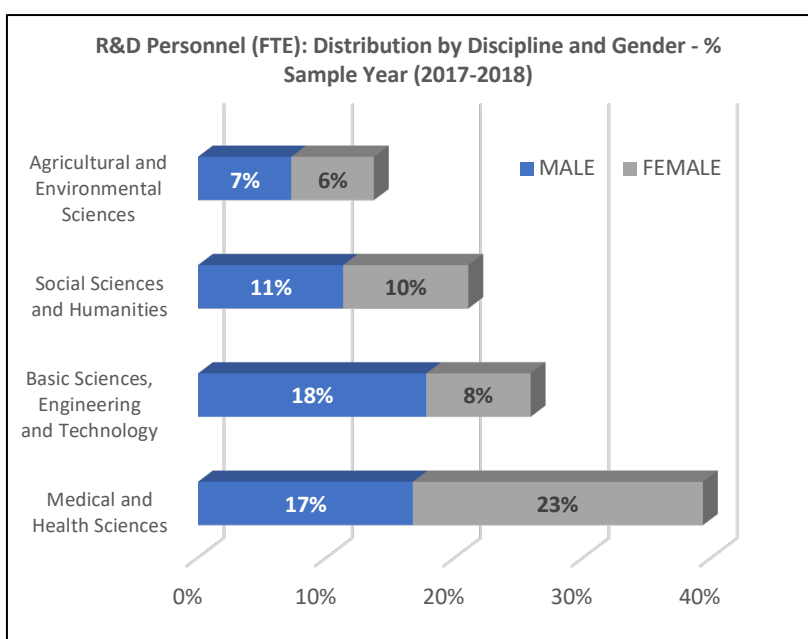
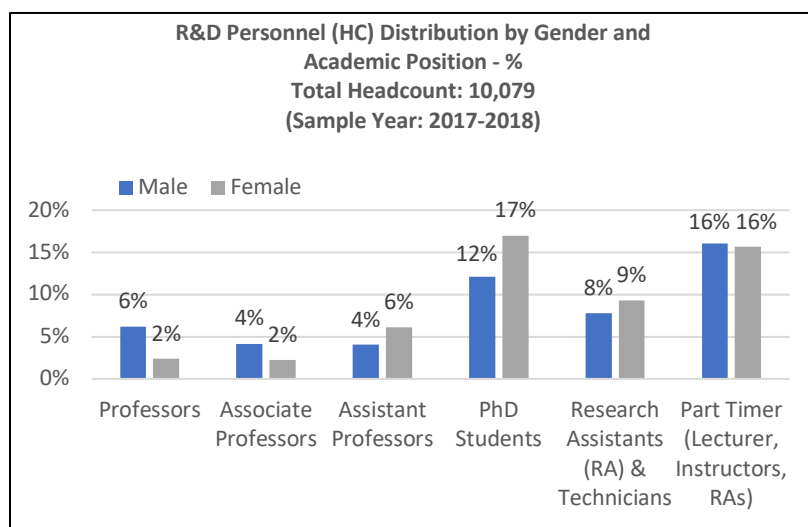
R&D Personnel (HC) Per Million Inhabitants (2017)	
Globally	1,198
Europe and North American	3,707
East & South East Asia	1468
North Africa & Western Asia	954
Lebanon (2017)	740
Latin America and the Caribbean	515
Central & Southern Asia	287
Sub-Saharan Africa	99
http://uis.unesco.org/en/news/new-uis-data-sdg-9-5-research-and-development-rd	

For all surveyed years, an equal gender distribution among men and women (HC) was observed, while a small difference in percentages at the level of FTE in favor of Women.

However, on investigating further the numbers within categories of academic position (Professors, Assistant Professors...), this distribution does not hold true at all levels. Men comprise the vast majority of professors, associate professors and assistance professors. Women have higher percentages in category of PhDs & research assistants/technicians. Females compromise on average 58% of PhDs and predominantly in disciplines of Social Sciences.

Distribution of Headcounts by Discipline and Gender (permanent staff) reveals that Medical and Health Sciences encompass 40% of Researchers; Basic Sciences, Engineering and Technology encompass 26%; Social Sciences and Humanities 21%; and Agricultural and Environmental Sciences 13%. Women have a higher percentage (%) representation in disciplines of Medical and Health Sciences.

In comparable percentages across surveyed years, total R&D expenditure in Lebanon amounted to 0.23%; 0.24% and 0.25% of GDP respectively in 2017, 2018 and 2019, which is below the average national target of 1%; lower than Arab States average at: 0.63 (2017) and 0.65 (2018); and significantly below world averages of 1.71 (2017) and 1.73 (2018)².



² <http://data.uis.unesco.org/index.aspx?queryid=63&lang=en>