



Editorial letter

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The modern world is very dynamic and complex, with accelerated evolutionary changes that lead to new challenges and challenges every day. The human being is facing every day emerging problems of greater dimensions, multicausal origin, and multidimensional effects. Therefore, it is very important to reflect on the historical development of scientific research in Nicaragua, to better understand where we come from and where we are going, its genesis, and perspectives.

UNAN-Managua, since 1982, has been a pioneer in the institutional transformations that have created the appropriate institutional context of Research, Innovation, Entrepreneurship, and University Extension, *which has favored the development of scientific publications in Nicaragua.*

In this context of institutional changes and the search to improve every day its own conceptual, philosophical, methodological references, the UNAN-Managua has been transforming, to achieve better levels of quality and relevance in university education. Some institutional changes are highlighted below: 1) Creation of the Planning Directorate, in 2011. 2) Promotion and development of the Scientific Research Management Model, Model R&D&i, as of 2011. 3) Creation of the Vice-Rectorate for Student Affairs, in 2014. 4) Creation of the Directorate of Management and Institutional Quality, in 2019. 5) Creation of the Curricular Design by

Competences, in 2019. 6) Creation and Development of the Doctoral Program “Management and Quality of Scientific Research” in 2016. 7) Creation of the Vice-Rector for Knowledge Management and Social Linkage, on October 1, 2021.

Currently, UNAN-Managua faces the challenge of promoting, building, and developing new internal and external competencies, through research, innovation, and entrepreneurship, strengthening the strategic alliance with the health, education, and agricultural sectors, and contributing to strengthening the quality of undergraduate and postgraduate education and research in Nicaragua. *This leads to the enormous challenge of expanding and modernizing Nicaragua’s national system of scientific publications.*

Hand in hand with the historical development of scientific research in Nicaragua, *the development of scientific publications in Nicaragua has come and UNAN Managua has been at the forefront in surpassing the productivity and scientific quality of the country.*

It was from 2011, from the Research Directorate of UNAN-Managua, that serious institutional efforts were organized aimed at strengthening scientific publications, *processes that were in charge of Ph.D. Anielka Carballo Palma for UNAN-Managua and M.A. Ruth Velia Gómez Centeno for the CNU. Currently, UNAN Managua is contributing to this development with 12 active scientific journals (46.15% of the total), and of the 7 are indexed online international catalogs. At the level of the National Council of Universities(NCU), there are 51 scientific journals, while in 2009, in the Latindex Directory had registered 15 printed revisits and of them only 3 journals were online. According to the statistics of downloads of journals from Nicaragua in CAMJOL to 2021, there are 26 journals in force and of them, there are 25 scientific journals from the universities of the CNU, plus a dissemination journal.*

The current development of the magazine “Torreón Universitario” stands out, which was founded in 1995, being its first Director Ph.D. Gerardo Raúl Arévalo Cuadra. It was in 2011, being Dean of FAREM Carazo the MA. Pedro Aburto Jarquín, that this journal resumed the work under a new academic-scientific perspective and is consolidated with the management of Ph.D. Arévalo Cuadra, current Dean of the FAREM Carazo, thus achieving the present achievements. Currently, “Torreón Universitario” is an indexed scientific journal, whose Director is Ed.D. Alicia

María Idiáquez López, with international visibility through the portals: Portal OJS de la Revista, CAMJOL, and America, carrying out to date, the edition of Vol. 10 Num. 29 (2021).

The scientific journal “Torreón Universitario” stands out for being one of the most consulted scientific journals in Nicaragua, and only in 2021 published 36 scientific articles. According to the Portal de Revistas de Nicaragua, according to the number of realizadas downloads of julio 2014 to December 2021, the magazine Revista Torreón Universitario occupies fifth place, with 33616 downloads made in that period. At the beginning of the year 2022, “Torreón Universitario” launches its edition Vol. 11 Num. 30, standing out for its importance the publication of 10 scientific articles and 3 scientific essays.

Undoubtedly, our university UNAN-Managua has achieved great achievements with the scientific journal “Torreón Universitario”, disseminating new knowledge and technologies, so it is fair and necessary to congratulate the editorial team of the journal, as well as the authorities of FAREM Carazo, for the excellent work done and encourage them to continue advancing along peace routes, prosperity, and progress, for the sustainable human development of the Nicaraguan family.