



## Annual Report 2020-2021

### Research Center for Environment and Development

#### I. REFLECTION

In spite of all the repetitive lockdown Lebanon has applied during the academic year 2020-2021 due to Covid-19 pandemic, Research Center for Environment and Development (RCED) has continued its efforts to contribute to the educational and development mission of BAU. This annual report briefly presents a highlight of the RCED's main activities achieved during this academic year focusing on academic services and initiatives as well as environmental research.

#### II. ACTIVITIES AND WORK PROCESS

##### - Water-Life activities

Being an active member in Water-Life one of the axis of the Environmental Observatory O-Life, RCED has pursued its efforts in studying and monitoring the quality of Litani watershed. In this direction, assessment of water quality parameters laboratory analysis at the Litani River Authority station in Kerbet Kanfar have been launched for a complete hydrological year of October 2020 - September 2021. The aim is to develop a water quality index (WQI) for the watershed using Principal Component Analysis of data of physiochemical and biological properties of five sites. While this work is still under progress, a Knowledge, Attitude and Knowledge (KAP) study related to antibiotic use among the population of Upper Litani Basin was conducted and completed (in press). This aspect of the study will hopefully contribute to the understanding of the public health challenge of antibiotic resistance at both local and global levels. In parallel and jointly with Litani River Authority, monitoring activities using TROLL multiparameter probes of two sites Litani River and a monitoring wells of in the basin have recently been launched.



Setting the monitoring probes  
of ground water at el-Marj



Data collection of TROLL multiparameter probes  
at el-Marj

- **Initiation of the project “*International Post Graduate Studies in Environmental Management and Sustainability for Mediterranean Countries*”**

This project is funded by the “Base-building projects for training in the South” program of the Institute of Research for Development (IRD), France. It is designed to develop a joint postgraduate master's program between the Faculty of Science at BAU and the Master Ingénierie en Écologie et Gestion de la Biodiversité (IEGB) of Montpellier University, France with partnership of the Environmental Observatory O-Life and ECO-MED, France. It aims at improving environmental education and capacities of Lebanon and the region to address the severity and complexity of current environmental challenges. It focuses on overarching issues such as environmental sustainability, interdisciplinary aspects of ecosystem services and risk/benefit assessment with the integration of experiential learning opportunities. The project highly emphasizes cooperation with industry and employers, local authorities and both governmental and non-governmental institutions and organizations to enhance innovation potential and employability of graduates. It also addresses issues of trans boundary concern in the Mediterranean Basin and build regional cooperation between Lebanon and France. The intended postgraduate program will be majorly new while benefiting of some existing graduate courses offered by MSc program in Environmental Science of the Faculty of Science and other courses of different departments at BAU.



It is composed of 3 phases:

- Knowledge sharing between partners and exchange of teaching and research practises and institutionalization strategies at the IEGB of Montpellier University and Faculty of Science of BAU;
- Curriculum development and capacity building of Lebanese team involved delivering the intended program through a systematic multi-disciplinary approach;
- Launching of the program at BAU after finalizing all needed administrative and institutional approval.



- **Completion and contribution to several research activities, these are:**

- S. Baydoun, N. Arnold-Apostolides, L. Itani, H. Naser, M. Haidar and L. Chalak (2020). Preliminary nutritional characterization of some wild edible fruits from Lebanon. *Acta Hort.* 1297. ISHS 2020. DOI 10.17660/ActaHortic.2020.1297.43  
XXX IHC – Proc. V International Symposium on Plant Genetic Resources: Sustainable Management and Utilization for Food, Nutrition and Environmental Security  
Eds.: S. Gupta et al.
- S. Baydoun, L. Itani, H. Naser, M. Haidar, L. Chalak and N. Arnold-Apostolides (2020) Proximate composition and nutritional attributes of some wild edible leafy plants from Lebanon. *Acta Hort.* 1297. ISHS 2020. DOI 10.17660/ActaHortic.2020.1297.41  
XXX IHC – Proc. V International Symposium on Plant Genetic Resources: Sustainable Management and Utilization for Food, Nutrition and Environmental Security  
Eds.: S. Gupta et al.



- H. Ghanem, S. Baydoun, H. Abou Hamdan, L. Itani , L. Chalak and S.I. Korfali (2020). First investigation on bioaccumulation potentiality of *Lemna gibba* L. for heavy metal pollution in Lebanese fresh waters. Poll Res. 39 (2) : 207-220 (2020) Copyright © EM International ISSN 0257–8050.

#### - Participation in School Higher Education Orientation- Bekaa Forum

RCED in coordination with the dean of student affairs and the director of admission department attended school forums for secondary students of public and private schools in Bekaa region. During the forum, students were provided with detailed information on the degree programs BAU offers, admission requirements, in addition to financial aids & scholarships.



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