



جامعة بيروت العربية
BEIRUT ARAB UNIVERSITY

Research Center for Environment and Development

Annual Report
2019-2020

I. REFLECTION

In spite of all the challenges Lebanon has faced during the year 2019-2020 and all the limitations negatively influencing higher education and other sectors, the 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 environmental research.

II. HIGHLIGHTS

. Scientific Research

- Completion of the project “*Wild Leafy vegetables of Lebanon; a traditional component in Lebanese Food*” (submitted to International journal of Food Sciences & Nutrition & National Report of Plant Genetic Report)

The project aims at identifying wild edible vegetables that are gathered and consumed as part of traditional food and cultural practices of Lebanon. The study collected traditional Ethnobotanical knowledge by field investigation across Lebanese villages and towns between 2014 and 2019.

Findings demonstrate a wealth of alive ethnobotanical knowledge and a richness of wild vegetable species from mainly Asteraceae, Brassicaceae and Apiaceae plant families that are still collected and consumed.

Cichorium intybus, *Gundelia tournefortii*, *Malva sylvestris*, *Eryngium creticum* and *Portulaca oleracea* were the top five most common cited plants that are consumed in different row and cooked traditional food preparations.

The study calls for the revitalization, conservation, and integration of WLV into agricultural systems and livelihood development. Future research on the nutritional quality and safety aspects of popular species is recommended.



Crithmum maritimum



Scolymus hispanicus

- Continuation for the project of Compost Use in Potato Production: Effects on Soil quality and Plant growth.

Cooperation agricultural project between faculty of Agriculture and Environmental Sciences at Lebanese University and Research center for Environment & Development, BAU-Bekaa.



Potato Project @ RCED

- Continuation of the joint research published article on “Antihypertensive Indigenous Lebanese Plants: Ethno pharmacology and a Clinical Trial”
- **Saffron Farming**, joint research with Lebanese Agricultural Research institute (LARI) on “Effects of corm density and fertilization treatment on the productivity of Saffron (*Crocus sativus L.*) under open field farm conditions in Central Bekaa”. This project was launched at the experimental station of the BAU Research Center for Environment and Development. Plantation was performed at the beginning of November (2 and 3), 2018 and production was assessed in terms of numbers of flowers, fresh and air-dry weight of stigma.



Saffron Farming

• Scientific Publications

- “Genetic resources of fruit trees in the Fertile Crescent: a hotspot heritage.”
Proceedings of the International symposium on Survey of Uses of Plant Genetic Resources to the Benefit of Local Populations; Editors *R. Ramananarivo, D. Avanzato and I. Chalak*, Acta Horticulturae No. 1267, 2020 page: 77
- “Indigenous multipurpose shrubs of Lebanon, a rich resource for benefits and economic development in rural communities.”
Proceedings of the International symposium on Survey of Uses of Plant Genetic Resources to the Benefit of Local Populations; Editors *R. Ramananarivo, D. Avanzato and I. Chalak*, Acta Horticulturae No. 1267, 2020 page: 215
- “Socio-economic importance of some high value wild medicinal plants from Lebanon.
Proceedings of the International symposium on Survey of Uses of Plant Genetic Resources to the Benefit of Local Populations; Editors *R. Ramananarivo, D. Avanzato and I. Chalak*, Acta Horticulturae No. 1267, 2020 page: 247
- **First Investigations on Bioaccumulation Potentiality of Lemna Gibba L. for Heavy Metal Pollution in Lebanese Fresh Waters.**
- **In Vitro Proliferation of Lebanese Lemna Minor and Lemna Gibba on different Nutrient Media.**
- **Phytoremediation of Lebanese Polluted Waters: a Review of current Initiatives**

• Community Development

Development of a booklet entitled “A Bouquet of Debbieh Flora”

This booklet presents a selection of some important plants of the flora of Debbieh campus of BAU. It aims at enhancing the awareness of students and staff to the importance of flora biodiversity of Debbieh and inspiring all to work together to ensure a better understanding of the natural and cultural heritage and contribute to the environmental sustainability of the region. The booklet presents a small bouquet of characteristic selected plant species of Debbieh (دببية) coastal forest of Iklim Al-Kharroub (أقليم الخروب), Chouf Mountains (جبل الشوف) that were identified through few several field excursions by the authors; Dr. Safaa Baydoun, Director of RCED and Prof. Nelly Arnold, Flora Biodiversity Expert. It is hoped that the booklet is successful in expressing BAU’s keen interest on increasing the appreciation of the valuable and unique natural and cultural heritage of Debbieh, thus raising the awareness towards the pressing need for the conservation of this valuable Lebanese patrimony.



Cercis siliquastrum L.
Judas tree
زمريق



Crataegus azarolus L.
Crete Hawthorn, Azarole,
Mediterranean Hawthorn
زعرور (Za'arour)



Cyclamen persicum Mill.
Persian cyclamen
بخور مريم (Bakhour Maryam)

• Academic activities

- Launching PSF Project; “International Post Graduate Studies in Environmental Management and Sustainability for Mediterranean Countries)”

As a partner in the project led by the Faculty of Science, RCED has participated in developing the proposal and preparation meetings of the “Base-building projects for training in the South” of the Institute of Research for Development (IRD), France to co-fund **the project “International Post Graduate Studies in Environmental Management and Sustainability for Mediterranean Countries)” (ENVIPRO-Med)**. This project 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, Ministry of Environment of Lebanon 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 transboundary 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 will be composed of 3 phases: I) 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; II) Curriculum development and capacity building of Lebanese team involved delivering the intended program through a systematic multi-disciplinary approach; III) Launching of the program at BAU after finalizing all needed administrative and institutional approvals

- Bekaa Forums

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 central, western Bekaa and Baalback region Students to provide them with detailed information on the specialties available in the universities, admission requirements and extracurricular activities, in addition to financial aids & scholarships.

