

PhD Thesis proposal¹

General Information		
PhD Thesis Title	Development of a Lebanese Landscape Sustainability Assessment LSA tool towards a sustainability and standardization of existing environmental landscapes	
USEK Doctoral Degree	PhD in Agriculture and Food Sciences	
Research Unit		
Laboratory	Agriculture laboratories	
Axis	Environment, biodiversity, agriculture	
PhD Supervisor	Name & Title : Nabil Nemer, Associate Professor Email : nabilnemer@usek.edu.lb	University Address : Holy Spirit University of Kaslik-USEK
Co-supervisor (if applicable)	Name & Title : Eike Albrecht, Professor Email : albreche@b-tu.de	University Address : BTU Cottbus Senftenberg, Germany
Co-supervisor (if applicable)	Name & Title : Georges Mitri, Associate Professor Email : george.mitri@balamand.edu.lb	University Address : Balamand University, Lebanon
Location (s)	Location 1: USEK / Nature Reserves of Lebanon	Work shift calendar /per year (%): 9 months/year
	Location 2: (if applicable) Short stays in Germany	Work shift calendar /per year (%): 2-3 months/year
Potential funding and scholarship	Possible funding by DAAD	

Applicant Profile and/or Special Requirements	Applicant should have <ul style="list-style-type: none"> - An Agricultural engineering degree - M.Sc. degree in environment and/or Landscape - Experience in Ecology and Environment, GIS, Autocad
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Subject's national or worldwide Context, Objectives & Research lines
<p>Based on the uncontrolled urbanization, landscapes – especially of Lebanon – are disturbed and lack legibility and landmarks. Landscape social and environmental qualities, are thus threatened even lost. In this perspective, it is essential to set up a diagnostic and decision-making tool for the qualification and requalification of the natural, rural and/or urban landscapes which could cover the three components of sustainability: economically, socially and environmentally. The objective is to create a multidisciplinary tool which could reach the need for landscape standardization and sustainability of existing landscapes, and thus helping propose either their conservation or corrections, and on the other hand, contribute to landscape and environmental normalization and standardization of new landscape projects.</p>

¹ Thesis proposal should not exceed two pages

The aim of this work is to promote landscape conservation and correction through environmental normalization and standardization of landscape projects. The specific objectives are:

Objective 1: Create an operational tool for informed decision making on sustainability of landscape projects. This tool will be available upon landscape companies and institutions (teaching, research, development...etc.)

Objective 2: Test and evaluate the tool on different landscape sites across the Lebanese territory. The tool could thus be used to propose conservation and landscape intervention strategies, therefore ending (or at least control) all sorts of Lebanese landscape trespass.

Based on « Adapted sustainability indicators », this qualitative and quantitative approach will lead not only to sustainability analysis but will also provide a database to be analyzed by GIS (Geographic Information System), in order to validate and analyze the results of the proposed tool, and to present these results and the relevant propositions cartographically. The proposed tool will be implemented on different sites to measure its efficiency and to refine the parameters and their calculation methods.

Outcomes (OCs) : What do we wish to achieve?	
OC1:	The creation of a Lebanese LSA tool that could be used by multiple actors such as NGOs, public authorities, cooperatives, associations, higher education institutes, etc.
OC2:	Analysis of the state and sustainability of landscapes in a highly urbanized Mediterranean context, and prediction of the impact of new projects on the sustainability of the surrounding landscape.
OC3 :	The development of urban and peri-urban planning policies which respect the evolution of the landscape, while keeping other attributes of quality.

References (R) (5 most recent peer-reviewed publications)	
R1:	Albrecht, E., Schmidt, M., Mibler-Behr, M., Spyra, S.P.N. (2014). Implementing Adaptation strategies by legal, economic and planning instruments on climate change. Springer- Verlag Berlin Heidelberg. ISBN 978-3-540-77613-0 DOI 10.1007/978-3-540-77614-7
R2:	Yang D, Luo T, Lin T, Qiu Q, Luo Y (2014) Combining Aesthetic with Ecological Values for Landscape Sustainability. PLOS ONE 9(7), e102437. https://doi.org/10.1371/journal.pone.0102437 .
R3:	Peng, J., Zong, M., Hu, Y., Liu, Y., Wu, J. (2015) Assessing Landscape Ecological Risk in a Mining City: A Case Study in Liaoyuan City, China. <i>Sustainability</i> 7, 8312-8334.
R4:	Castanheira, G. and Bragança, L. (2014) The Evolution of the Sustainability Assessment Tool : From Buildings to the Built Environment. <i>The Scientific World Journal</i> , 491791, https://doi.org/10.1155/2014/491791 .
R5:	Eichler Inwood, S, López-Ridaura, S., Kline, K.L., Gérard, B., Gardeazabal Monsalue, A., Govaerts, B., Dale, V.H. (2018) Assessing sustainability in agricultural landscapes: a review of approaches <i>Environmental Reviews</i> , 26, 299-315, https://doi.org/10.1139/er-2017-0058