

Characterization of production systems and agricultural activities in the area of the Living Lab of Luxor, Egypt

C. Galanis¹, G. Kleftodimos^{1,2}, H. Belhouchette^{1,3}

¹CIHEAM-IAMM - Centre International de Hautes Etudes Agronomiques Méditerranéennes - Institut Agronomique Méditerranéen de Montpellier

²MoISA, Univ Montpellier, CIHEAM-IAMM, CIRAD, INRAE, Institut Agro, IRD, Montpellier, France

³ABSys, Université de Montpellier, CIHEAM-IAMM, CIRAD, INRAE, Institut Agro, Montpellier, France

E-mail: christos.galanis@iamm.fr

In North Africa agriculture is a significant sector influencing the lifestyle of the population. The current dominant form of cultivation is what is called conventional agriculture, which relies on the use of great amounts of inputs to achieve the desired outputs of production. Especially in the area of Luxor, Egypt, more than 30% of the population has a professional relation to agriculture. Moreover, its agricultural systems are vulnerable to exogenous factors, such as droughts, limited rainfall, booming population, and land fragmentation. Thus, there is the need to fortify those systems and establish their longevity over time by increasing their resilience. As a mean to do so, the study argues that the addition of agroecology, which includes participatory methods and practices as, low tillage, crop rotation and low inputs is the most suitable way to achieve resilience in Luxor. This study aims at the classification of the different food production systems based on their agricultural activities, with the parallel aim of adding agroecology as a proposed solution to the issues. In this context, in the area of Luxor, Egypt three producing systems were identified. These stemmed from meetings with stakeholders and action takers of the area, while in total twenty-five farmers participated in one-on-one interviews, for data to be collected. For the scenario generation, a bioeconomic model (DAHBSIM) will be used. The results of these studies provided a characterization of each, while at the same time were able to identify possibilities that with some further research, there is room for change to more optimal agroecological pathways to production. These findings highlighted the path for the adoption of agroecological practices by the local farmers by assessing the main farmers determinants in their adoption process, while the demonstrated their techno-economic efficiency towards the resilience of the north-African agricultural systems.



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