



“Gheorghe Asachi” Technical University of Iasi, Romania



SUSTAINABLE DESIGN STRATEGIES AND TECHNOLOGIES FOR A GREEN SPACE FOR STUDENTS AT TERRACINI CAMPUS, UNIBO

Sara Rizzo^{1*}, Francesca Cappellaro^{1,2}, José Ramón Ruiz-Checa³, Valentina Cristini³

¹*DICAM Department of Civil, Chemical, Environmental, and Materials Engineering. University of Bologna, 28 via Terracini, 40138, Bologna Italy*

²*ENEA Italian National Agency for New Technologies, Energy and Sustainable Economic Development, UTVALAMB-LCA*

³*Heritage Conservation Institute, Polytechnic University Valencia, Spain*

Abstract

To make sustainability transitions happen, it is crucial not only to have strategic planning processes committed by the top management, but also to encourage community engagement, approaching and promoting a bottom-up process. In the specific case of a University Campus, that means the involvement of the students not only as consumers, but with a leading role in the sustainability process. DICAM department of University of Bologna has recently started the implementation of some practical actions to create a sustainability campus Terracini. These activities are parts of the Sustainability Plan of Unibo. A multifunction group, called Terracini Transition Team is managing some of these actions located in Terracini Campus. Moreover, a new model of pedagogy, called flipped classroom, has been experimented. Therefore, Terracini Transition Team has been proposing an innovative and engaging idea that could support sustainability measures: the realization of a space for students designed by themselves with an inclusive and participative approach. To meet environmental performances, the space will be planned with the use of appropriate building technologies, employing low impact and local materials. In addition, the space will be realized in auto-construction, in order to strengthen the involvement of final users, the students. This paper will show an evaluation of appropriate building technologies with an LCA approach. Finally, the reported LCA case-studies has provided the robustness to drive the choices of low impact solutions for the sustainability of Unibo. Finally, the paper demonstrates the efficacy of the adoption of whole-system approach integrating experiential learning with sustainability assessment.

Key words: appropriate technologies, experiential learning, LCA, sustainability transition, sustainability campus

Received: December, 2014; Revised final: June, 2015; Accepted: June, 2015

* Author to whom all correspondence should be addressed: e-mail: sararizzo@gmail.com; Phone: +39 3495648721