

POLITECNICO DI TORINO  
SECOND SCHOOL OF ARCHITECTURE  
Master of Science in Architecture for Sustainability  
**Honors theses**

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**EVALUATING SUSTAINABILITY IN NEIGHBORHOOD DESIGN**

**A comparable study of the evaluation process**

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We are facing an “*Inconvenient Truth*”, that is global climate change. This situation becomes even more horrible when we consider intricate social, cultural and economic issues. What we can do as planners and designers is momentous. Efforts have been done in this path but mostly in the architectural scale, while there is a lack of studies about sustainability in urban scale. There are assessment systems for evaluating sustainability in urban project, but it is necessary to develop more sophisticated measurement tools and methodologies that consider aesthetic, economic, and social dimensions rather than just technical and ecological terms. The study intended to delve into various aspects of each assessment system to knowing about differences and similarities between approaches.

First of all, four assessment systems have been chosen in order to be studied in their criteria and approaches: “LEED ND” from US and “BREEAM for communities” from UK as two international systems, “ESTIDAMA” from UAE and “QSAS” from Qatar as two localized ones. Second of all, the main categories of four assessment systems have been summarized in fifteen categories. Finally, three case studies from three continents (Msheireb in Qatar, West Don Lands in Canada, and Vastra Hamnen in Sweden) were chosen in order to be studied by fifteen categories. The study aimed to compare assessment systems via considering the weight that each system allocates to each category.



Figure 1, 15 criteria of sustainability in an urban project

Many interesting results came out. For instance, Water category in QSAS and ESTIDAMA has greater weight than in LEED and BREEAM or Smart Location category in LEED has a remarkable value rather than in other systems. Causes of these differences can be found in political, cultural, environmental, social, and economic features of each region. The success of this study will have effects on understanding sustainability in greater scales and in different contexts of the world.



Figure 2, Assessment systems and differences in weighting



**Figure 3, Difference in evaluation**

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