

## SUSTAINABILITY AS ARCHITECTURE FOR PEOPLE - THE CASE OF FOOTBALL STADIUMS

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**Keywords:** Sustainability, Architecture, People, Football Stadiums

**Abstract** *The football stadiums are a center of emotions. In use the assembly is of thousands of people in a short period of time, a few hours. The sustainability of these sports facilities can not only be associated with its construction and operation. In 2011 the Quality Manual of Stadiums developed by UEFA appears the concept of Sustainable Architecture - Architecture for people.*

*The concept of "architecture for people," emphasizes the need for well-being, comfort, and both psychological and physical, which should be an integral feature of any construction project sustainable. This can be defined as sustainable architecture for the planet and for people. Sustainable architecture can be considered as a simple, but important to the human scale, psychology, culture and ergonomics. It also encourages the design sensibility and interpretation that seeks to go beyond the basic requirements of the customer and therefore aims to give added value to the project.*

*Sustainable architecture also focuses on the importance of creating a sense of place and encourage social interaction, which is particularly significant buildings, such as stadiums, where the idea of promoting the community is very important. This can be promoted through a variety of additional activities and facilities within the stadium complex that can offer the community recreation options as needed, without forgetting the business benefits they will bring to the development of the stadium itself.*

*Thus presents the current situation of the Euro 2004 stadiums in relation to the parameters of Sustainable Architecture defined by UEFA as well as what they can improve, given that facilities that are still present only one fifth of its useful life. Football stadiums can thus leverage new forms of interaction, connection and even change their mindsets thousands of users.*

## 1. INTRODUCTION

Sustainability is considered based on three pillars: environment, economy and social. These three aspects usually the least addressed, both in terms of certification of sustainability measures as recommended in design and construction, is social.

Sports facilities, especially football stadiums, have a very important component in its operation, the users. May come to be present within the stadium thousands of users in a short period of time, a few hours. Be taken of the welfare, comfort and safety of users, among other more specific aspects can be a great contribution to the sustainable functioning of these sports facilities.

Both FIFA and UEFA have developed recommendations to be taken into account in relation to sustainability in stadiums. However only UEFA in 2011, [1] presents a chapter of specifications called architecture for people. This new approach to social sustainability of sports facilities to develop a different perspective of the operating facilities of cities and their links to users.

## 2. BACKGROUND

So UEFA [1] states that the promotion of sustainable construction project, based on the need to save energy, reduce emissions, and respecting the planet, has great influence on our way of thinking about architecture and construction. However, sometimes it is not explicit how this approach affects the comfort and well-being of the end user.

The concept of "architecture for people," emphasizes the need for well-being, comfort, and both psychological and physical, which should be an integral feature of any construction project sustainable. This can be defined as sustainable architecture for the planet and for people. Sustainable architecture can be considered as a simple, but important to the human scale, psychology, culture and ergonomics. It also encourages the design sensibility and interpretation that seeks to go beyond the basic requirements of the customer and therefore aims to give added value to the project.

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This design philosophy can be defined by the slogan "location does globalization", which seeks to understand the essence of local and individual of a particular project instead of treating a building as generic production line facilities.

The core objectives of the design and development stage to adopt the philosophy of sustainable architecture are:

- To promote the welfare, health and comfort of the users through a human-centered design;
- Design with a human scale, for example, creating pleasant environments and sequential routes architecture;

- Create a sense of place, incorporating access easy to use and suitable for the stadium, meeting areas for social events, plazas, courtyards, amenities, gardens and avenues;
- Advocate for a flexible approach to the design of the stadium, creating different spaces and multifunctionality, broadening its public appeal and explore its marketing;
- Encourage the use and enjoyment in public spaces to enhance social interaction.

The following guidelines describe some of the ways in which the stages can be made more friendly for people:

- a) Regardless of the size or length of life of the stadium, it should be possible to identity of the club / team be an integral part of the structure, for example, by embedding the team colours in the design and emblems;
- b) The local / regional context can also be emphasized in the design concept. A stadium should become a local icon that symbolizes the pride and unity of the community. The facade could incorporate designs that reflect the local geography, the traditions, designs, colours, etc. Measures such as these can help strengthen the emotional bond between users, the local community and the stadium.
- c) It is important to find ways to incorporate local traditions and cultural project within the stadium and its use. The traditional can often be interconnected with the contemporary with great results.
- d) A proper understanding of the environment and urban context will help ensure that the stadium is fully integrated in your neighbourhood. The design work must always be done with a sensitive and holistic approach to producing a building which melts and increases the surrounding urban fabric and not collide with it.
- e) Transportation or low ecological impact can be encouraged by ensuring that, in addition to good access to infrastructure, public transport, there are pedestrian and cycle routes within the appropriate stadium complex and the surrounding area as an incentive.
- f) It is desirable to create clear lines of sight and different points of view in perspective of the stadium, so far as closely as this will help promote a positive perception of the new building. Making use of existing visual axes, as an approach to the main avenue of the stadium or enjoying the views of the facades are highly exposed to the roads or busy highways, the stadium can help to make a positive mark on the urban landscape.
- g) Areas recreational / leisure, gyms and sports facilities, rest areas, etc, will add value to the stadium, promoting health and well-being and increasing opportunities for social interaction.
- h) The integration of activities and facilities that promote social interaction and encourage family participation will add real value to the global supply of stadium. These may include facilities such as a museum or visitor centred club, children's play area, a nursery, to families, restaurants, etc.
- i) The inclusion of cafes, restaurants and outdoor services, such as banks and travel agents not only provides additional revenue streams, which can strengthen the position of the stadium as a focal point for the local community.
- j) Stadiums have enormous potential to be used as educational and cultural spaces. Library or reading areas, spaces and multimedia exhibitions and gallery spaces are just some of the possibilities that can be explored in this area.

l) Outdoor spaces such as squares and patios, transition areas and landscape features such as water, will visually enhance the stadium complex which will also help produce a more friendly environment for people.

m) A stage is more than the sum of its physical parts. In order to make it more than just a building functional, but attractive and comfortable, need to satisfy certain psychological needs. Entry areas of large volumes of people should be spacious with high ceilings. Moreover, it is often desirable for such spaces and bars rest areas to be closer in terms of its size and design. The objective is to stimulate all human senses in order to create a feeling of wellbeing and to avoid the creation of spaces disposing the user.

n) Easy access, circulation and orientation (eg, visual lines and clear signage) are crucial components of any building "Friend of use." The macro scale down to the details, all features of the construction project must be designed with ergonomics and comfort taken into consideration.

o) A variety of design techniques - thermal, acoustic, visual, tactile and olfactory - can be used to enhance human senses and feeling of comfort, consciously or unconsciously. For example, different intensities of light - natural or artificial - can be used to stimulate the senses, as can the use of vegetation, colours and textures.

p) These are only some of many possibilities that can be incorporated into the design in order to produce a stadium that puts the user at the centred of the concept.

### 3. EXAMPLE OF EURO 2004 STADIUMS

Based on surveys carried out 6 of the stadiums built for Euro 2004 presents the results for the measures advocated by UEFA relating to the architecture to the people.

	<i>Luz Stadium</i>	<i>Alvalade Stadium</i>	<i>Dragão Stadium</i>	<i>Aveiro Stadium</i>	<i>Coimbra Stadium</i>	<i>Algarve Stadium</i>
<b>Architecture for People</b>						
1. Identity Club / Team	Y	Y	Y			
2. Identity Local / Regional				Y	Y	Y
3. Cultural and Traditional Values						
4. Neighbourhood Context					Y	
5. Transportation System	Y	Y	Y	Y		
6. Views and Perspectives	Y	Y	Y	Y	Y	Y
7. Leisure and Recreational Facilities	Y	Y				
8. Amenities and Social Facilities	Y	Y	Y		Y	
9. Commercial Facilities	Y	Y	Y		Y	
10. Use cultural and education				Y		

11. Garden spaces						
12. Health and Wellness	Y	Y				
13. Accessibility and Ergonomics	Y	Y	Y	Y	Y	Y
14. Sensory stimulation						

Table 1. Analysis of measures for Sustainability in six stadiums of Euro 2004 (Y-Yes, have)

#### 4. DISCUSSION OF DATA

The results can be systematized in order to be analysed in terms of percentage. In the following table are well systematized.

	<i>Luz Stadium</i>	<i>Alvalade Stadium</i>	<i>Dragão Stadium</i>	<i>Aveiro Stadium</i>	<i>Coimbra Stadium</i>	<i>Algarve Stadium</i>
Y	57%	57%	43%	29%	43%	21%
N	43%	43%	57%	71%	57%	79%

Table 2 – Systematization of the results of the measures for Sustainability in six stadiums for Euro 2004

There are the more positively highlight two stadiums, *Luz Stadium* and *Alvalade Stadium*, yet present with a percentage of implemented measures just over 50%. There continues to be reduced link promotion space to the community and users. Aspects that are only recently being taken into account, since it is becoming applicant destruction of the stadium areas for the users.

#### 5. CONCLUSIONS AND OUTLOOK

In Sustainable architecture for People finds that outdoor spaces have few measures implemented, and can be set up during the lifetime of the structures, especially for having a better connection and community involvement with the space of the stadium.

It also appears that this type of analysis should have a better quantification and categorization so as to carry out a more effective evaluation of such structures. In addition to the above is also to take into consideration that sport is a vehicle to capture the attention of audiences and therefore may be important to help change public attitudes and personal. Should also be taken into consideration that it is a place where you add different types of users, occasionally in large numbers, but in a very emotional and so may be a space of awareness for Sustainability.

#### REFERENCES

[1] UEFA. *Guide to Quality Stadiums*. UEFA. (2011).