CULTURE, MANAGEMENT STRATEGIES, AND POLICY ISSUES IN THE SUSTAINABLE BUILT ENVIRONMENT

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Summary

The concept of sustainable development in relation to the built environment is here presented. The term sustainability, as used in research and government policies, includes ecological, social, and cultural aspects. These aspects are expressed in terms of protection goals.

While there is an international agreement on the concepts that define sustainable development this is only the beginning in addressing the need of the different cultural systems. In fact local strategies must be identified to meet the regional needs. Since the 1987 Brundtland report, the approach to sustainability policies has grown considerably to include the notion of resource conservation and of long time frames. The anthropocentric and eco approaches have been clearly defined in their differences. Similarly, with the UN *World Commission on Culture and Development* (1997) a milestone was created in defining the aspects of the relationships culture-development.

This topic deals with the management of the built environment, in particular with the architectural heritage in a long-term perspective as the largest financial, physical and

cultural capital of industrial societies; the development of technical tools to maintain, refurbish and adapt existing buildings to new requirements and current standard of living; and the identification of adaptable structures and transferable models that build on experiences coming from other cultural realities.

This topic makes its points through the review of key cultural, managerial and policy aspects as follows:

- *A paradigm shift*.   The concept of culture is discussed in terms of players; expression of way of living including health, comfort and well being of inhabitants; public acceptance and new approaches to the preservation of the built environment. The anthropological approach, which constitutes the engine of the renewed interest toward historic buildings is summarized.

- *Managerial aspects*. This part defines a sustainable framework for those aspects that support the decision making process in preserving and managing the built environment.

- *Policy aspects*. The link on the means of connecting the international frameworks to local practices are presented as lessons learned using the economic and financial tools as example in identifying transferable models and key components of successful policies.

This topic introduces management strategies that identify more suitable functional use of the built environment being preserved and promote practices that have people' health as the primary target.

1. Introduction

The aim of this topic is to provide an overview of the role of culture in relation to the built environment within a sustainable framework. The discussion focuses on those points that are of primary relevance for the preservation and management of the built environment, with special attention for the architectural heritage including historic and historic-to-be buildings. It reviews how the valorization of this segment of the built environment, which is the one of the major capital asset of modern societies, is a sustainable action and it can be a valuable engine to foster economic development.

Buildings are a very large contributor to environmental deterioration. Buildings contribute from 15% to 45% of the total environmental burden for each of the eight major environmental stressor categories (e.g., energy use, land and atmospheric emissions).

Therefore, improved building environmental performance could substantially reduce harmful anthropogenic environmental impacts. Sustainable design and/or "green building" practices are becoming more adopted among professionals of the building industry in response to a direct interest or requirements of their clients; regulation; or their own intention to reduce human impacts on the local and global environment. This

environmental awareness has grown and gained momentum in recent times especially in Europe and North America.

There are differences of opinions relating to the term 'sustainability' which proves that is so broad an idea that a single definition cannot adequately capture all the nuances of the concept. It is probable that the diversity of the development/environment debate in the past few decades has been replaced by a sustainable development synthesis, in that there is a general agreement that uncontrolled exploitation of natural resources is not beneficial to humankind in the long term.

As globalization is making all distances much shorter it is essential that the different culture and historical experiences be retained to guarantee cultural continuity and foster diversity. Many organizations such as UNESCO, ICOMOS and the International Center for the Preservation and Restoration of Cultural Property have worked in the field of culture for years. The concept of culture can be defined in many ways. Here it is summarized in its fundamental aspects, which underlie development in health, management of buildings, education, economy and quality of life.

The theme of culture and development was largely explored during the 1990s. As the Bruntland Commission stimulated a new world agenda to bring together ecology and economy, the work of the UN World Commission on Culture and Development made the relationship between culture and development clearer and deeper. The role of cultural enterprises and cultural pluralism in development captured the attentions of key lenders, such as the World Bank, causing a shift in the development paradigm toward people –centered development.

In Europe the practice of preserving buildings has been known for centuries. In recent decades this practice has become more common also in other places with a more recent building stock such as in North America. In the US, in 1997, preservation of buildings accounted for 39% of all non-residential construction, a significant increase from 25% reported in 1980. Today, according to the US Department of Commerce interventions on existing buildings constitute 50% of the construction market. A number of reasons are related to this phenomenon, among those, the natural aging of the institutional buildings, such as courthouses and city halls, built 50-70 years ago.

Different drivers can be associated with this growth. These drivers range vary from an energy conservation perspective, such as in the case of the restoration of the *Thoreau Center for Sustainability* (CA), to an economic and commercial upgrading perspective such as in the case of the rehabilitation of the *Fez Medina* (Morocco). The first example, *Thoreau Center for Sustainability,* has been an engine to raise awareness on the need to preserve buildings among professional, politicians and the general public adopting energy saving as the key and effective theme to capture the needed attention. The latter, the *Fez Medina*, an opportunity for social and environmental development in a less developed world region using the unquestionable value of the architectural heritage as leverage to identify the necessary international and local capitals.

It is not within the scope of this topic to provide arguments for sustainable development. For the purpose of this topic it is assumed that sustainability is viewed as a desirable

direction for all building related activities. The focus is on client control of the technology and materials to be used in renovating, maintenance projects and operation of the built environment. Management of facilities operates on the premises that the efficiency of any organization is linked to the physical environment in which it operates and that the environment can be improved to increase its efficiency. The past decade has marked a shift from thinking of facilities as a way to house the workforce to thinking about the entire building portfolio of a company in strategic terms. Managers are beginning to think of their buildings as a way to achieve strategic corporate goals and sustainability is becoming a strategic asset.

Mainstream organization management literature provides evidence that sustainable design and operations associated with increased resource efficiency and pollution prevention can have far reaching impacts on an organization including such things as: reduced legal and insurance costs associated with reduced risks to current and future generations; enhanced community livability; continuous improvement as a means to become more efficient; improved ability to market to pro-environmental consumers; and reduced operation costs. These benefits are likely to be linked to such sustainable building factors as: reduced use of resources, especially water and energy; use of recycled materials in building construction and an in-house recycling program once the building is occupied; commissioning to assure the building operates as intended; re-commissioning following changes in building use; use of renewable resources, such as solar power and wind; pollution prevention and waste reduction; reduced use of fertilizers for landscape maintenance; habitat restoration and use of native plantings in landscape design; integration of the natural environment with the building environment; and locating buildings close to public transportation and other services to reduce commutes.

The chapter that follows discusses culture in terms of people health, comfort and quality of life in general, including the anthropological approach to the renewed interest toward healthy buildings.

2. Culture and its role in sustainable development

Today's cultures tend to be rooted in a complex weave of past civilizations. The failure to preserve and protect the records of the past, these being objects or buildings, blurs and distorts the knowledge that laid the foundation to the present. Trade realizes the benefits of diverse cultures, but at the same time tends to blur the distinctions that separate one culture from the next. Balancing these distinctions while and avoiding undermining their fundamental cultural values is highly desirable.

The preservation of an historic building serves as stimulus for everybody's memory. As a tangible resource, the preservation of a building can preserve aspects of the social structure, engineering technology, artistic values, craftsmanship abilities, and potentially the philosophical concepts of a culture. Historic and architectural preservation gives meaning to human experience by means of linking people with the history of place and society. Historic preservation is the way to sustain the increment of cultural homogeneity of globalization.

Attention to culture calls for scrutiny and analysis. This attention has brought a new perspective to development and enabled the identification of more effective and sustainable solutions: solutions that build on people strengths and values. Cultivating these diversities not only means exercising the human right of self determination but also promoting income generating activities such as tourism, crafts and other cultural enterprises. Both sides are vehicles for poverty reduction. Ignoring local people' way of living has proved to be a very unsuccessful approach which has wasted enormous resources without really helping the locals to improve their quality of life. For example, the traditional healers were preferred to the health clinics and the homes made of concrete, rather than local materials, were abandoned because too cold in the winter and too hot in the summer.

Culture is the way people live; the way people want to live. UNESCO has defined a key determinant of development as: "*the process that increases the effective freedom of the beneficiaries to undertake whatever they consider valuable*". There is a growing tendency among economists to get away from the pragmatic approach of looking at society as a set of economic pieces to appreciating that it is a global set of values, beliefs and traditions.

Further, in development economics the traditional cultures are no longer perceived as a hindrance to modernization, development and economic growth. Traditional values and other are seen as leverage for development of policies is the key to the success of the work conducted in the development field, culture as an intrinsic part of development, linking social and environmental sustainable development.

According to UNESCO culture refers to the way people live together, interact, and co-operate together with how they justify such interactions through a system of beliefs, values and norms. Culture is, then, supposed to be a uniform set of habits, beliefs, customs, relationships and way of life in a group of people or a society.

In addition to the goals of conserving and repairing damaged and missing elements and materials, and the integration of improved utilities to support contemporary uses, improvements that aim at maximizing the quality of indoor environments are asking for a new approach to intervention into the historic fabric than previously considered. Advances in understanding the impact of building environments on the physical and psychological well-being of occupants and in the technological means to improve those environments, coupled with the concomitant rise in occupants' expectations of comfort and health, have introduced a new aspect in the rehabilitation and preservation of historic buildings: sustainability.

The English term "sustainability" was first used in the 1970s. The meaning of the word "sustainability" assumes different connotation upon the different language in which the term is used. From Italian "*sostenibilità*" to French "*développement durable*" of recent definition to the XIX century German word of "*nachhaltigkeit*" the term seems to carry a sense of equilibrium and continuity from past to future emphasizing the effects in the long run. Historically, the term "sustainability" seems to include the following components: long term - the effect has to be assured in the long term; social concern – individual rights in favor of community rights; economy – use of resources taking into

account economic principles; and responsibility –toward a larger community and future generation.

Today, sustainability has a more comprehensive connotation to include criteria that are ecological (e.g., resource conservation); economical (e.g., long term conservation and renewal of resources); social (e.g., social capital and intergenerational equity); and cultural (e.g., conservation of cultural diversity). A few milestones in this development are the Brundtland report (1987) and the Rio Earth Summit (1992), which initiated a broader and integrated approach to sustainability; Life Cycle Analysis and Mass Flow Analysis, which introduced the notion of long-term frames and conservation; and risk analysis and technology assessment that emphasized the social impact. This comprehensive analyses lead to the need of defining two distinct approaches: ecological and anthropocentric.

The Rio Summit introduced the capacity of the environment to support urbanization processes as well, which lead to the inclusion of assessment methods that comprise social structures as well as cultural heritage. This attracted the attention of Europe, were the majority of people live in urban setting with historical centers, and with the realization of projects such as the European Union sponsored project, *The city of tomorrow and Cultural Heritage*, (see Urban Renewal) sustainability started to be expressed in terms of protection objectives. Figure 1 provides a summary of the sustainable dimensions of a sustainable building with some associated goals. The protection objectives are: social (e.g., human health and comfort); cultural (e.g., heritage and legacy); ecological (e.g., energy impact and land use); and economic (e.g., life cycle costs and resource productivity). This way, the protection of cultural resources, especially all architectural heritage, historic district and sites have become a fully recognized goal.
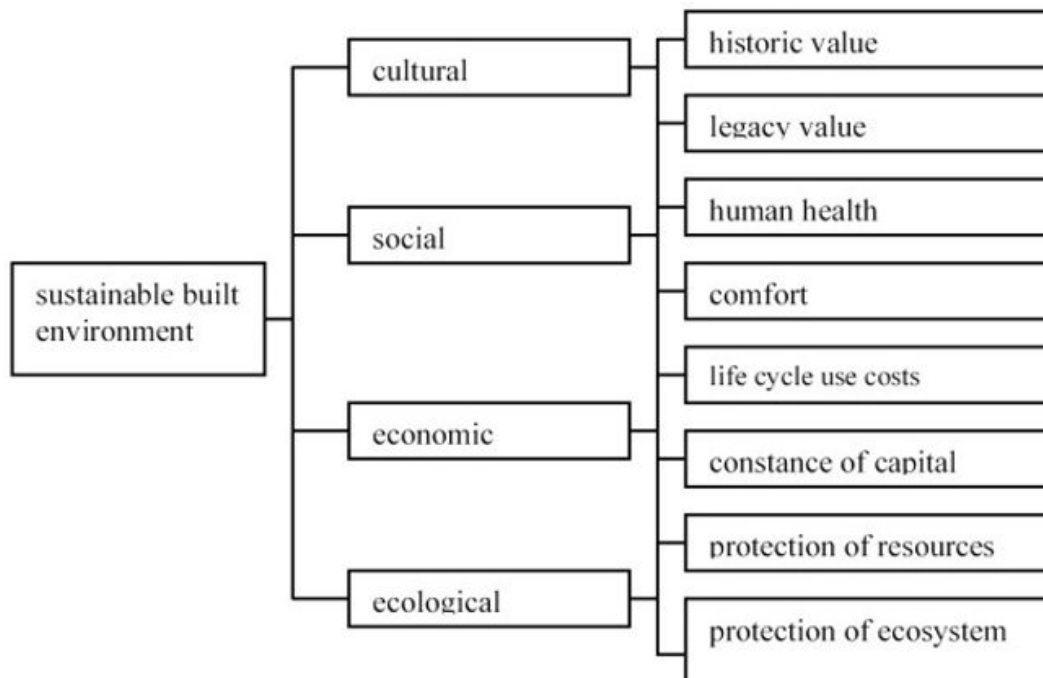

Figure 1: The social, cultural, economic and ecological dimension of sustainability

In research as well as government policies, for example in the US National Park Service's *Guiding Principles of Sustainable Design*, sustainable frameworks are described as using durable material from natural, renewable or recyclable sources, using lowered energy consumption and resource demands and as having an operational mandate and direction. Sustainable design concerns promote lower operational costs, higher user satisfaction, reduced maintenance staff with higher morale and a decreased amount of redesign or rehabilitation. This is in contrast to non-sustainable design, which uses high-energy/high-resource impact material selection with short life expectancy, high utility costs with a lack of operational manuals and direction.

A sustainable approach to the built environment seeks to reduce the environmental impacts of normal buildings. It includes an overall protection approach to land-use, to the design and construction strategies as well as the type of resources needed during the operation and maintenance phase. All the materials that go into a building need should be assessed using a life cycle framework. A sustainable building places a high priority on health, comfort and well being of its occupants, environmental and resource conservation performance over its life.

Areas that have successfully been targeted to influence indoor environmental quality include: advanced ventilating and mechanical systems to increase air flow and reduce occupant contact with air borne microbial agents; selection of building materials and furnishings that have low toxicity; increased use of day lighting to reduce energy demands and enhance interior lighting quality; inclusion of high quality, energy efficient lighting to reduce computer glare and increase visual comfort; increased contact with the natural environment through more open views to the outdoors and through the inclusion of plants indoors for psychological reasons and for air quality enhancement; and greater attention to construction, maintenance and operation of buildings to reduce build up of microbial agents, especially in ventilating and conditioning systems and construction materials.

Sustainable buildings are high quality buildings that tend to last longer, cost less to operate and maintain, and provide greater occupant satisfaction than standard developments. Inevitably, development means change. However, there are many parts of the old that must be preserved and/or can be adaptively reused to suit the present quality of life and current standard of healthy and comfortable living.

Buildings that have a high cultural and social quality do not become obsolete. In fact architectural heritage is among the largest financial, physical and cultural capital of industrial societies. The rationale for including architectural heritage preservation in regular development programs holds that development as a goal can and must be pursued through cultural endowments means as well, in addition to other means. Conversely, the goal of patrimony preservation must be pursued with the means offered by development and modern management, rather than through traditional conservation only. While regional strategies vary an overall sustainable framework for the built environment includes:

- Effective management of the built environment with a long term perspective

- Development of techniques to maintain refurbish and adapt buildings to new requirements and way of living
- Adopt flexible and reversible solution to satisfy both the short-term needs as well as the   intergenerational need to preserve the historical integrity of the building.

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. It is in this context, therefore, that preserving the past--or at least parts of it--is a form of cultural continuity. Continuity which also implies renewal, and change, but change with the new rooted in a certain authenticity.

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Biographical Sketch

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