Chapter 9
Environmental Considerations of Green School Grounds

W. Cory Gallo
Mississippi State University, USA

Michael W. Seymour
Mississippi State University, USA

ABSTRACT
This chapter explores environmental issues related to the school grounds, provides background information regarding critical terms, site sustainability theories, and the concept of ecosystem services, and includes a review of current sustainable site rating systems such as Leadership in Energy and Environmental Design (LEED) and the Sustainable Sites Initiative (SITES). The chapter also provides an overview of the issues related to site selection and discussion of the most useful and relevant sustainable programming and practices for both new and existing schools. Site program and amenities are discussed in the six categories of process, play, gardens, water, habitat, and energy; examples of schools where such programs have been implemented are provided. The chapter concludes with recommendations for educational leaders who are tasked with conceiving, renovating, or managing a school campus.

INTRODUCTION
While all construction focuses on meeting our needs, nothing we build is as forward thinking or built with as much optimism as a school. For this reason, schools are the most appropriate place to address the environmental issues that face current and future generations. School campuses provide an unprecedented opportunity to educate students, parents and the community about the long-term consequences of site-related decisions as well as specific sustainable practices. On the other hand, schools can also have a negative impact on the environment. This can occur locally as a result of extensive buildings, large parking lots and maintenance-intensive sports fields but also at great distances from the school as a result of the vast amount of resources necessary to feed, shelter and educate students. Developing and managing a school site is a considerable challenge that educational leaders may feel they are unprepared to address. From site selection to stormwater management, there are many difficult choices to make and each one has environmental, economic

DOI: 10.4018/978-1-4666-6312-1.ch009
and even educational consequences. This chapter provides general guidance for educational leaders regarding the most critical decisions to be made for school grounds.

BACKGROUND

A number of concepts and terms are critical to understand as we consider environmental issues relevant to the school grounds. Most important is the term “sustainable” which is frequently misused; understanding the background and implications of the term is a prerequisite for appropriately addressing any contemporary site design. Sustainable development as a concept first gained notoriety after the release of the United Nation’s publication, “Our Common Future” (1987). The report defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 81). Although this definition is frequently quoted, the explanation of the two main concepts associated with the term is not often mentioned. The report explains that the definition includes, “the concept of ‘needs’, in particular the needs of the world’s poor, to which overriding priority must be given” (p. 81) and also “the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs” (p. 81). Sustainability, as explained by the United Nation’s report, involves global, intergenerational resource equity and challenges associated with poverty, social issues and politics. These are ideas that can be difficult to grasp and challenging to apply at the scale of an individual community, much less an individual site.

As there is no simple way to measure sustainability, it has been an easy term to co-opt. There has also been considerable concern about the practice of “greenwashing” or calling products or practices “sustainable” or “green” without cause or evidence. The concept of “ecosystem services” has advanced the dialogue on sustainability and provided direction and justification for the practices that most landscape architects or environmentalists consider appropriate for conserving and regenerating critical resources. Ecosystems services originated from another United Nation’s publication, the Millennium Ecosystem Assessment, completed in 2005. This global report involved over 1360 experts from 95 countries and defined ecosystems services as “the benefits people obtain from ecosystems” (p. v) and also put forth the idea that development must address social, economic and environmental considerations. Subsequent efforts to account for the costs of ecosystem services by economists have helped to convince many that a change from conventional methods of development is necessary. One estimate of the value of the world’s ecosystem services placed the value at $33 trillion annually (Sustainable Sites Initiative, 2009b, p. 6).

Sustainable development and ecosystem services can be difficult concepts to grasp and apply at the scale of a school site as they deal with worldwide needs of multiple generations. Much of the subsequent discussion regarding sustainability has attempted to address this issue. Several environmental rating systems make use of these global theories while addressing the issues at a building or site scale. Rating systems can assist educational leaders, designers, administrators and the public to better understand the purpose and value of various landscape practices relevant to school grounds. Yet it is still important to keep in mind the larger goals related to sustainability and ecosystem services. After all, there is no better place to deal with global, and intergenerational issues than a school site.

ENVIROMENTAL RATINGS SYSTEMS

The most well-known environmental rating system in United States is the U.S. Green Building Council’s (USGBC) Leadership in Energy and
Related Content

Viral Marketing: A Brief Study of Pre-Established Methods and Models for Understanding the Various Implications on the Corporate Sector
[www.igi-global.com/article/viral-marketing/110175?camid=4v1a](www.igi-global.com/article/viral-marketing/110175?camid=4v1a)

Consumers Perception towards Online Shopping With Special Reference to Dakshina Kannada(D)
[www.igi-global.com/article/consumers-perception-towards-online-shopping-with-special-reference-to-dakshina-kannadad/141484?camid=4v1a](www.igi-global.com/article/consumers-perception-towards-online-shopping-with-special-reference-to-dakshina-kannadad/141484?camid=4v1a)

Evaluating the Performance of e-Government in Egypt: A Public-Value Approach

Assessing Learning via Web 2.0 Technologies: A Dichotomy
[www.igi-global.com/article/assessing-learning-via-web-technologies/58331?camid=4v1a](www.igi-global.com/article/assessing-learning-via-web-technologies/58331?camid=4v1a)