

Editorial

Planning And Management Of Sustainable Landscapes.

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Abstract

The distribution and abundance of organisms are impacted by dynamic changes in the landscape's structure. One of the main factors influencing ecosystem services in landscapes around the world at the moment is changing land use. More quickly and extensively than at any other point in history, human activity is changing the land. Research in the area of developing sustainability science faces this perspective difficulty. Land use change and the destruction of natural habitats by humans are not just local or regional issues; they are also significant contributors to global change. Only at the landscape scale can some of the effects of global change on biodiversity be examined, such as the shifting vegetation zones brought on by climate change. A multi-scale approach to sustainable landscape management is encouraged by a landscape perspective. Furthermore, the creative application of the common management paradigm to many applications in forestry, agriculture, and water resource management benefits greatly from a landscape scale. It is now clear that sustainable landscape planning and management are required. It appears that a new paradigm for biodiversity conservation is landscape conservation. The goal of this Special Issue (SI) of the Sustainability magazine is to apply sustainability as a fundamental conceptual framework to bridge the gap between scientific theory and landscape management and planning practice. Included are papers discussing a range of theoretical research as well as case studies on the best practices for sustainable landscape planning and management in various global landscapes.

Keywords : *multidisciplinary approach to landscape research, land-use changes, decision support tools, ecosystem services from a landscape viewpoint, sustainable agriculture practices, sustainable forest management, and sustainable landscape management.*

INTRODUCTION

The world's landscapes are varied and essential to human existence. The distribution and richness of biota at the landscape scale have been greatly impacted by past land-use changes [1]. One of the main factors influencing ecosystem services globally at the moment is shifting landscape patterns and processes linked to global climate change [2]. More quickly and extensively than ever before, human activity is changing the land; for instance, the global network of protected areas is heavily impacted by human activity [3], which is mirrored at the regional level by the decline in the efficacy of conservation initiatives meant to preserve natural habitats [4]. Therefore, one area of inquiry in the realm of developing sustainability science is sustainable landscape management and planning. Land use change and the destruction of natural habitats by humans are not just local or regional issues; they are also significant contributors to global change. Only at the landscape scale can some of the effects of global change on biodiversity be examined, such as the shifting vegetation zones brought on by climate

change [5]. A multi-scale approach to adaptive landscape management and landscape/conservation planning is encouraged by a landscape perspective [6]. A landscape scale is also highly helpful for the creative application of a common management paradigm for a variety of applications in forestry, agriculture, and water resource management. Another emerging paradigm for biodiversity protection appears to be landscape conservation. It is now clear that sustainable landscape planning and management are required. Building a bridge between scientific theory and the practice of landscape management and planning through the use of sustainability as a fundamental conceptual framework is the main goal of this Special Issue (SI) of the Sustainability magazine. Through papers addressing numerous theoretical research and case studies on the best practices of sustainable landscape management and planning across diverse landscapes worldwide, the SI synthesizes our understanding of the sustainability of landscapes. The effects of both local tax income and a fiscal self-financing rate to close the gap between land urbanization and population urbanization were highlighted in an intriguing economic study from China [7].

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Received: 01-Feb-2025, ; **Editor Assigned:** 02-Feb-2025 ; **Reviewed:** 20-Feb-2025, ; **Published:** 28-Feb-2025,

Citation: Ivo Mhar. Planning and Management of Sustainable Landscapes. Journal of Climate Research. 2025 February; 1(1).

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From the standpoint of financial incentives, these findings clarified why local government entities in China opt for land urbanization over population urbanization. Numerous landforms are altered by human activity in landscapes, which is crucial for sustainable landscape management. The authors of [8] discussed the significance of geomorphological legacy in urban landscapes for the growth of tourism, with an emphasis on anthropogenic landforms. Visitors to protected landscape regions choose attractive geological formations like the karst phenomenon, which is why geology heritage conservation at the landscape scale focuses on these features [9].

Large portions of cultural landscapes have been impacted by human mining activities, but in emerging nations, the effects of mining on the landscape structure are much more pronounced. Small-scale and artisanal mining in particular has the potential to alter naturally present geomorphological phenomena or start new geomorphological processes, as some authors have pointed out in this SI. The geography, characteristics of the soil, and composition of the rocks locally limit these dynamic landscape processes. Generally speaking, anthropogenic activities cause soils to erode or degrade more quickly. This is why a deeper comprehension of the environmental effects of mining operations on landscapes is becoming more and more necessary. In the study of restorative ecology, lands immediately impacted by mining and post-mining have gained significance.

The monetary evaluation of habitats using specialized expert methods was contrasted with the costs of landscape restoration for three distinct research locations [11]. Unexpectedly, the findings demonstrated that post-mining restoration of natural habitats will create new natural habitats with a higher monetary value of biodiversity than pre-mining. This highlighted how important effective practices are to managing a sustainable landscape.

For millennia, traditional regional farming practices in Europe have produced a wide range of agricultural landscape patterns. However, in many areas, the old rural way of life has been lost due to the rapid socioeconomic changes that occurred during the 20th century. One factor contributing to the decline in biodiversity at the landscape level is the loss of traditional agricultural landscapes throughout Europe, which is occurring in tandem with the growing intensity of agricultural management. The literature provided the best examples of sustainable agriculture management practices, and traditional European agricultural landscape types were examined. Nonetheless, SI case studies demonstrated how farms have a beneficial external impact on preserving traditional agricultural landscapes. Agricultural landscape management necessitates an integrated strategy, Unique instances of the ecological shift from open agricultural land to wooded landscapes with a steadily shrinking tree canopy can be seen on former military training grounds

in Central and Eastern Europe. Large herbivore browsing pressure frequently limits the natural succession of forest ecosystems on defunct agricultural land. Thorny shrubs, which were developed in deserted open landscapes during the early stages of forest succession, shield tree seedlings from browsing by large animals, according to the authors of various publications in this SI. However, different shrub species had differing protective effects on tree seedlings against prickly shrubs. These findings provide a theory as to why deciduous tree species can regenerate when subjected to high herbivore pressure.

significant herbivore concentrations in forested environments, which typically do not have major carnivores. Similarly, a case study from Socotra Island (Yemen) in this SI found that inappropriate overgrazing by domestic cattle is one of the biggest risks to the rare and endangered species of *Dracaena cinnabari*. On Socotra Island, community forestry governed by a local certification system is recommended as a sustainable land management strategy that offers both new and traditional advantages and permits the reforestation of endemic tree species.

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