

## A-17 Linking landscape, forests and people: The historical roots of biocultural diversity

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**The Italian national register of historical rural landscapes.** Agnoletti, M. (University of Florence, Italy; [mauro.agnoletti@unifi.it](mailto:mauro.agnoletti@unifi.it)).

Sustainable development, as well as environmental policies in the last decades, has developed strategies and actions considering farming and forestry mostly as a factor of disturbing or degrading the ecosystem. Taking into account the present economic, social and environmental problems of the earth, is probably necessary to develop a different approach, looking for examples of a positive integration between human society and nature, studying them and applying the lesson learned. The research for the national register of historical rural landscapes presents more than a hundred areas where the historical relationships between man and nature have generated cultural, environmental, social and economic values. It has involved 14 universities and more than 80 researchers for three years. The results show that is not only the economic face of globalization negatively affecting landscapes, but also inappropriate environmental policies denying the importance of cultural values. The recent CBD-UNESCO joint program on biocultural diversity finally recognizes these values, as well as UNESCO World Heritage List and the FAO Globally Important Agricultural Heritage Systems, which now also includes forest landscapes. This research has produced new laws establishing the National Register of Historical Rural Landscapes and Traditional Practices, which includes forests, pastures and farmed land and the National Observatory for Rural Landscapes.

**Impact of ancient Maya land use on present-day forests.** Brokaw, N. (University of Puerto Rico-Rio Piedras, USA; [nvbrokaw@ites.upr.edu](mailto:nvbrokaw@ites.upr.edu)), Ward, S. (Mahogany for the Future, Inc., USA; [seward@hpcf.upr.edu](mailto:seward@hpcf.upr.edu)), Beach, T. (Georgetown University, USA; [beacht@georgetown.edu](mailto:beacht@georgetown.edu)), Cortes-Rincon, M. (Humboldt State University, USA; [marisol.cortes-rincon@humboldt.edu](mailto:marisol.cortes-rincon@humboldt.edu)), Luzzader-Beach, S. (George Mason University, USA; [sluzzadderbeach@gmail.com](mailto:sluzzadderbeach@gmail.com)), Walling, S. (Community College of Philadelphia, USA; [swalling@ccp.edu](mailto:swalling@ccp.edu)).

We study how ancient Maya land use has affected present-day forests in Belize. The population of the ancient Maya peaked in about 900 AD, coinciding with widespread deforestation and soil erosion. The Maya then declined abruptly, permitting forest recovery that has been uninterrupted in our study area, where there are also abundant ancient remains. Our interdisciplinary research includes archaeology, geo-archaeology, and ecology. We study spatial patterns of ancient remains and land use, evidence of crops on ancient pot shards, soil history and present quality, ancient and present hydrological patterns, and present-day tree species composition, abundance, and diversity across the landscape. Contrary to expectation, our studies to date indicate that forests in our study area do not contain a disproportionate abundance of tree species reportedly used and promoted by the ancient Maya. However, these forests do vary according to topographic and soil conditions that were created or strongly influenced by the ancient Maya. We discuss the implications of our work for understanding the consequences of modern deforestation and for improved land use and forest management.

**Disturbance history of the Medicine Bow Range, Wyoming, using historical documents, contemporary forest inventory, and lake sediment cores.** Carter, V., Brunelle, A. (University of Utah, USA; [vachel.carter@gmail.com](mailto:vachel.carter@gmail.com); [andrea.brunelle@geog.utah.edu](mailto:andrea.brunelle@geog.utah.edu)), Shaw, J. (U.S. Forest Service, USA; [jdshaw@fs.fed.us](mailto:jdshaw@fs.fed.us)).

In the late 1860s, Euro-American settlement and related activities, including logging, began affecting the composition and structure of forests of the western United States. These impacts were likely to be most substantial along the corridor of the trans-continental railroad. Construction and maintenance of the railroad created a high dependence for wood, especially the cutting of lodgepole pine forests for railroad ties (known as tie hacking). Although some of the impact has been documented, the amount of ecosystem change in lodgepole pine forests is not well known. In this study we attempt to reconcile and interpret three different accounts of forest history data; (1) a moderately detailed written historical record, (2) a contemporary plot-based forest inventory, and (3) a sedimentary record of pollen and charcoal. The goal of this study is to characterize recent changes to lodgepole pine forest in the Medicine Bow Range of southeastern Wyoming, in the context of the pre-settlement forests. In addition to landscape-level patterns of stand age and distribution, we found distinct patterns in charcoal and pollen deposition corresponding to three distinct periods of forest history: the pre-settlement period, the railroad tie-hacking period, and the modern forest management period.

**Influence of culture on greening the environment in Ido local government area of Ibadan, Nigeria.** Julius, A., Akinyemi, O., Onilude, Q., Oniroko, N., Eyinfunjuw, L., Solanke, I. (Forestry Research Institute of Nigeria, Nigeria; [talktobayo247@yahoo.com](mailto:talktobayo247@yahoo.com); [akinyemi77@yahoo.com](mailto:akinyemi77@yahoo.com); [omoonilu@yahoo.com](mailto:omoonilu@yahoo.com); [chopperflows@yahoo.com](mailto:chopperflows@yahoo.com); [tessyplace101@yahoo.com](mailto:tessyplace101@yahoo.com); [solancy1983@hotmail.com](mailto:solancy1983@hotmail.com)), Ajisebiolola, B. (National Institute for Cultural Orientation (NICO), Nigeria; [omobolanle83@yahoo.com](mailto:omobolanle83@yahoo.com)).

This study examined the beliefs, customs, practices, and social behavior of Ido local government area (LGA) populace in relation to tree planting, tree conservation and forest management within their locality. 250 households were randomly selected among the houses with trees around, while structured questionnaires were administered among the selected household heads. The majority of the households (71.1%) indicated the reasons for conserving trees within their domain which are inculcated in their cultures, while others plants trees to landscape their environments. The tree species planted in the area included *Azadiracta indica*, *Theobroma cacao*, *Pinus radiata*, *Mangifera indica*, *Terminalia catappa* and various medicinal plants. Study further revealed that the households use these trees to protect their environment from degradation and loss of soil biodiversity; also the households always converge under the shade of these trees to solve their problems in their cultural ways. Sacred groves used for spiritual, rituals and initiation purposes were also sighted in the area. It is suggested that people should not undermine their culture and that culture should be transmitted from generation-to-generation for it may help in achieving a greener future at local and national levels.