



University of Kentucky  
UKnowledge

---

International Grassland Congress Proceedings

21st International Grassland Congress / 8th  
International Rangeland Congress

---

## Impacts of Human Interference and Climate Variability on the Grasslands of Kerala

K. Shadananan Nair

*Centre for Earth Research & Environment Management, India*

Follow this and additional works at: <https://uknowledge.uky.edu/igc>



Part of the [Plant Sciences Commons](#), and the [Soil Science Commons](#)

This document is available at <https://uknowledge.uky.edu/igc/21/8-1/28>

The 21st International Grassland Congress / 8th International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

---

This Event is brought to you for free and open access by the Plant and Soil Sciences at UKnowledge. It has been accepted for inclusion in International Grassland Congress Proceedings by an authorized administrator of UKnowledge. For more information, please contact [UKnowledge@lsv.uky.edu](mailto:UKnowledge@lsv.uky.edu).

## **Impacts of human interference and climate variability on the grasslands of Kerala**

*K . Shadananan Nair*

*Centre for Earth Research & Environment Management ,Vallayil House , North Gate , Vaikom-686 141 , Kottayam Dt . , Kerala , India . E-mail : nair59@yahoo .com*

**Key words :** shoal grasslands , Kerala , Western Ghats , human interference , climate change

Human interference on the environment and anomalies in climate pose a serious threat to the existence of grasslands in the Western Ghats Mountain in Kerala , southwest part of Peninsular India . In Kerala , shola evergreen grasslands constitute nearly 0.75 per cent of the total natural forest cover of the state . Protection of the shola grasslands is important in maintaining food and water securities in Kerala and the adjoining state Tamil Nadu . These grasslands find at 1800 metres above the sea level and store large quantities of water on the mountain ranges . Nine months of rainfall , round the year mist and dew makes the grassland area always wet . The grasslands have a very high capacity to retain water and release them gradually . Covered most of the time with mist , 20 per cent of the water they receive is precipitated as dew throughout the year . The stream originating from the grasslands are perennial but with the destruction of the grasslands , they are beginning to dry up . Many of the rivers in Kerala and Tamil Nadu originate from the shola grasslands and were perennial . Introduction of agriculture widely spoilt the sholas during the past two centuries . Almost 75% of the 350 km<sup>2</sup> of shola grasslands were lost between 1949 and 1992 in the Nilgiri Biosphere Reserve area alone . Situation is worse in other parts of the Ghats . Newly introduced plantations such as eucalyptus consume excess water and cause severe damage to biodiversity and sustainability of the ecosystem . About a third of the rare species are estimated to be endemic . Several dams in the Ghats also contributed to the destruction of the grasslands . Grasslands face serious challenges from the promotion of hill tourism , increasing trends in population and urbanization and overgrazing . Changes in climate also are a threat to the remaining grasslands . Increase in temperature in certain locations affects the soil moisture condition . It also affects the formation of mist and dew . Increasing seasonality and intensity in rainfall promotes erosion and reduces water availability in non-rainy months . Current conservation and protection measures are inadequate and the implementation mechanism often fails because of the slow government reaction , fragmented organizational structure , misappropriation of funds and so on . This paper is a comprehensive study of the factors affecting the existence of grasslands in the Western Ghats Mountain region of Kerala in changing climate and environments . Suggestions for the efficient control of degradation of the grasslands have been provided , taking into consideration the environmental , social , economic and political situations .