



Mapping of Natural Hazards and Expected Incidences in Great Himalayan National Park Conservation Area, Himachal Pradesh

Suneet Naithani, Ashutosh Singh and Akshaya Verma¹

School of Environmental Studies and Natural Resources, Doon University, Dehradun-248 001, India

¹*Centre of Glaciology, Wadia Institute of Himalayan Geology, Dehradun-248 001, India*

E-mail: suneetnaithani@gmail.com

Abstract: The Great Himalayan National Park Conservation Area (GHNP) has been declared as world heritage site by UNESCO in June, 2014 which depicts its faunal and floral diversity. One of the main threats to the conservation area includes habitat alteration. So the major cause; landslide is equally responsible for disturbed ecosystem. The objectives were to assess the impact of landslides on habitat of avi-faunal species and biodiversity. Landslides were identified through multispectral data of IRS IB (LISS-II), 1993 and LANDSAT 8(OLI), 2013 of October, on 1:50,000 scales, correlated with temporal NDVI difference, while slope information was used to further confirm land cover change caused by a landslide and validated with high resolution imagery of Google Earth. The extracted incidences increase from year 1993 (14 landslides) to 2013 (30 landslides), indicating alarming damage by the landslides. Most of the landslides took place in the north western part of the study area. Majority of the landslide polygons lies within the areas of negative change in NDVI values and at the areas where there are conjunction cliffs, and escarpments. The increasing frequencies of landslides correlated with the increased frequencies of earthquake data from 1885 to 2005 and witnessed that the area is also pressurized by tectonics. A continuous monitoring on temporal changes and alterations of habitat is imperative for better planning and implementation of wildlife and forest management plan.

Keywords GHNP, NDVI, Conservation Area, RS and GIS, Landslide, Earthquake
