

STUDYING BIO-ENVIRONMENTAL POTENTIALS OF KUSALAN AREA, BASED ON IUCN CRITERIONS, USING RS AND GIS TECHNOLOGIES

D. Oladi^{*a} N. Ahsani

^a university, forestry, Iran, Mazandaran, Sari, sari-neka road, university of agricultural science and natural resource, 737, sari, Islamic Republic of Iran

Technical Commission VII Symposium 2010

KEY WORDS: Kusalan, Remote Sensing, Bioenvironmental Potentials, Protected Area, GIS and Zoning

ABSTRACT:

Kusalan habitat is located on a northwest-southeast mountain with an intensive topography near the Sarvabad town in the west of Kurdistan. This habitat encompasses a set of unique bioenvironmental phenomenon (such as Quercus forests and dense ranges) as well as three permanent rivers and numerous springs. So far, there was no study on the bioenvironmental habitat potentials. This persuaded us to conduct a research on the bioenvironmental potentials of the region, to protect the area, according to IUCN criterions. Field surveys, remote sensing and geographic Information System (GIS) were used to identify and analyze the ecological, social and economical resources of the study area. Hybrid method was also employed using digital classification of 10m SPOT5 image of 2005 and field data as visual interpretation. Applying this method, the potential resources were identified. Then the maps of land forms, Hydrology, soil, vegetation, wildlife habitat, ecological potentials, current applications and the conventional boundaries were provided. In the next stage, bioenvironmental units were determined through applying GIS analysis along with gathering the maps and overlaying them. Zoning of the bioenvironmental resources was performed on the basis of IUCN definitions. The results of this study demonstrated that the study area involves 224 of flora species and 195 of fauna species as well as 5 main zones including: 29# secure zone, 40.75# protection zone, 13.7# alternative recreation zone, 3.21# mass recreation zone and 0.14# cultural and historical zone and 13.2# reconstructing zone along with the many scientific and training values and a unique wild natural landscape. Thus, Kusalan habitat is worth to be introduced as a national park (II) and to be considered as one of the four national protected areas in Iran. According to the results of this research, the GIS and RS can be used for identifying inaccessible bioenvironmental resources with an intensive topography and providing their maps with the aim of protecting the area, based on IUCN criterions.

TOPIC: Remote sensing applications

ALTERNATIVE TOPIC: Multi-spectral and hyperspectral remote sensing