World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:14, No:11, 2020

Strategies for Conserving Ecosystem Functions of the Aravalli Range to Combat Land Degradation: Case of Kishangarh and Tijara Tehsil in Rajasthan, India

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Abstract : The Aravalli hills are one of the oldest and most distinctive mountain chains of peninsular India spanning in around 692 Km. More than 60% of it falls in the state of Rajasthan and influences ecological equilibrium in about 30% of the state. Because of natural and human-induced activities, physical gaps in the Aravallis are increasing, new gaps are coming up, and its physical structure is changing. There are no strict regulations to protect and monitor the Aravallis and no comprehensive research and study has been done for the enhancement of ecosystem functions of these ranges. Through this study, various factors leading to Aravalli's degradation are identified and its impacts on selected areas are analyzed. A literature study is done to identify factors responsible for the degradation. To understand the severity of the problem at the lowest level, two tehsils from different districts in Rajasthan, which are the most affected due to illegal mining and increasing physical gaps are selected for the study. Case-1 of three-gram panchayats in Kishangarh Tehsil of Ajmer district focuses on the expanding physical gaps in the Aravalli range, and case-2 of three-gram panchayats in Tijara Tehsil of Alwar district focuses on increasing illegal mining in the Aravalli range. For measuring the degradation, physical, biological and social indicators are identified through literature review and for both the cases analysis is done on the basis of these indicators. Primary survey and focus group discussions are done with villagers, mining owners, illegal miners, and various government officials to understand dependency of people on the Aravalli and its importance to them along with the impact of degradation on their livelihood and environment. From the analysis, it has been found that green cover is continuously decreasing in both cases, dense forest areas do not exist now, the groundwater table is depleting at a very fast rate, soil is losing its moisture resulting in low yield and shift in agriculture. Wild animals which were easily seen earlier are now extinct. Cattles of villagers are dependent on the forest area in the Aravalli range for food, but with a decrease in fodder, their cattle numbers are decreasing. There is a decrease in agricultural land and an increase in scrub and salt-affected land. Analysis of various national and state programmes, acts which were passed to conserve biodiversity has been done showing that none of them is helping much to protect the Aravalli. For conserving the Aravalli and its forest areas, regional level and local level initiatives are required and are proposed in this study. This study is an attempt to formulate conservation and management strategies for the Aravalli range. These strategies will help in improving biodiversity which can lead to the revival of its ecosystem functions. It will also help in curbing the pollution at the regional and local level. All this will lead to the sustainable development of the region.

Keywords : Aravalli, ecosystem, LULC, Rajasthan
Conference Title : ICLMED 2020 : International Conference on Land Management and Economic Development
Conference Location : Singapore, Singapore
Conference Dates : November 19-20, 2020