Threshold of Acanthus Harvesting to Sediment Produce

Dr. Iraj Jabbari  
Associate Professor of Geomorphology  
University of Kermanshah Razi

Behrooz Borna  
M.Sc of Geomorphology  
University of Kermanshah Razi

Introduction

Harvesting of self-growing plants, like acanthus; from the down slopes of mountainous regions often causes disturbances to the appearance of the slopes if it is mowed intensively. These soil disturbances often occur with spring showers that accelerate soil erosion. On the other hand, the harvesting is inevitable because of acanthus clinical and sustenance uses and earning a livelihood for many local people who make a living with such crop in the harvesting seasons. So, as the spring season starts, the harvest of self-growing plants becomes a usual phenomenon on the slopes in lower altitudes. The harvest of rooting plants as acanthus is in a way that makes pits on the ground and this may be agent of erosion when spring rain falls; specially, precipitation contact with plant germination in Iran. So, in this study, it has been tried to elucidate if the harvesting of acanthus makes erosion at every situation or reaching to erosion threshold needs to increase number of the harvesting in area unit as well as other location with more gradient and other characteristics.

Research Methodology

In this survey has been taken into consideration the sediment producing in 16 plots with and without acanthus in the Viece Mountain, near Kermanshah city. Whereas, gradients and orientation are factors that play roles on erosion, in this research too, others aims purpose to study roles of acanthus harvesting on the different gradients and orientations on erosion acceleration. In this reason, these plots established on the four different slopes and two different aspects. The amount of sediment has been measured from plots in 9 time precipitation when it falls on late winter and early spring in 2007. Factor analyze and two ways ANOVA were the techniques that used for data analyzing.

Discussion and Results

A Max. shower including 46.8 mm produced 5.8 L. runoff and 0.69 g/m² sediment on a slope with 40% gradient and a Min. rainfall with 1.4 mm precipitation set in motion only 0.15 L. runoff and 0.00153 g/m² sediment from control plots on 15% slope.
Two ways ANOVA on obtained data shows that there is a significant difference between rainfall, slopes, aspects and erosion, that is, erosion have been deference on variety of showers, slopes and aspects. So, these results show that data have correctly been collected.

Using Factor Analysis method show that despite of a significant difference in the sediment producing on the different rainfall, gradient and precipitation times, there aren't any significant difference of sediment producing between plots with and without acanthus plants\(F_{1,71}=0.944, P>0.05\). The statistical analysis continued and limited to only days when harvesting occur. It illustrated that erosion don't occur when acanthus harvesting become 2 - 4 per m\(^2\) as Kermanshah region, but erosion may be get a significant level on regions where more harvesting acanthus occur.

**Conclusion**

This study is carried out at a region where slopes were not acute and the number of acanthus at area unit were less, whereas, there are a lot of regions at Kermanshah province and even other neighbor provinces where slopes are more acute and acanthus grow up more per unit area. So, harvesting from these regions may increase probability of erosion occurrence as the results of this study show that the amount of significant level goes up when the study is limited to only harvesting times.

**Keywords:** Acanthus, Sediment yield, Erosion, Kermanshah.

**References**


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