

Abstract

Potential Impacts of Agroforestry on Controlling Soil Degradation by Water Erosion in the Agricultural Lands of Foothills North-West of Dahra (Mostaganem, Algeria) [†]

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Abstract: Located in the North-West of Algeria, the foothills of Dahra are affected by the problems of water erosion where agricultural soils are under severe degradation due to the mismatch influence between a semi-arid climate and the prevailing cropping systems presenting a threat to sustainable rural development in the region. After a survey on the field, a localization and prioritization of different agroforestry systems (AFS) practiced, an overview bioclimatic and physico-chemical analyzes of soil has been made for comparison between systems. The results show that in the absence of systems with consistent vegetation cover, the foothills soils located on slopes even weak undergoing a harmful human activities have become the prey of rainwater. Given that it doesn't exist at agricultural exploitations level a miracle system for the development and the soils and water management, the association of trees with crops (AFS) allowed in certain situations to improve soils protection, their humidity, their fertility and the socioeconomic situation of farmers. As well, the analysis of statements on the tree resource of agricultural exploitations we has allowed to assess the agroforestry systems efficiency awaited, considering their inappropriate management. As the fight against water erosion is only an aspect of soils and water conservation, the agroforestry considered in its largest sense must contain at the same time, the control of water erosion by a permanent plant cover, the maintaining soils fertility and the biodiversity to ensure a sustainable foothills agriculture which depends on the maintenance of rural populations.

Keywords: Agroforestry; foothills; water Erosion; semi-arid; Dahra



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