Abstract :

Steppes of arid Mediterranean zones are deeply threatened by desertification. To stop or alleviate ecological and economic problems associated with this desertification, management actions have been implemented since the last three decades. The struggle against desertification has become a national priority in some of these countries. In Algeria, several management techniques have been used to cope with desertification. This study aims to investigate the effect of two management techniques on vegetation, soil properties and pastoral value after four years of implementation. The two techniques were grazing exclosure which was widely set up in degraded steppes and plantations (consisting in plantation and grazing exclosure) in deeply degraded ones. 49 phytoecological and soil samples have been studied. Results showed that plant diversity, composition, vegetation cover and pastoral value were significantly higher in protected areas. Management techniques also affected soil surface elements (percentage of sand, coarse soil elements, bare silty crust, and bare ground), organic matter and soil nitrogen content. We also demonstrated that important differences between both techniques remain: plantation technique on heavily degraded soil results in a higher pastoral value of plant communities whereas grazing exclosure technique on lesser degraded soil favours plant diversity