

## ABSTRACT

An ethnoecological assessment study was carried out during September 2010 to August 2011 in Kathar Game Reserve, a dry scrub type of vegetation and a semi arid region in District Rawalpindi, Punjab, Pakistan. In total 35 plant species belonging to one Gymnospermous and 02 Angiospermous families were recorded during the ethnoecological survey of the Game Reserve. Among Angiosperms, 03 were found monocotyledons while 19 dicotyledons. The area was found dominated by trees like, *Acacia modesta*, *Olea ferrugenia* and *Pinus roxburghii* while shrubs, like *Carissa opaca*, *Dodonaea viscosa*, *Justicia adhatoda* and *Nerium oleander*. Family Sapindaceae showed the highest FIVI, i.e. 15.37 while Asteraceae the lowest, i.e. 0.56. The soil texture was found loamy.

The Carbon sequestration of the Reserve was calculated by the evenness and commonness of plant species present in the area. The dominant trees and shrubs were selected on random basis and the highest carbon sequestration among trees was recorded in *Pinus roxburghii*, i.e. 83452 kg, while among shrubs in *Dodonaea viscosa* i.e. 485.71 kg of carbon.

Ethnobotanical inventorying showed the complete dependence of local people on indigenous plants, as 19 species were having single usage, 8 having two-usage while the remaining 8 were considered as multi-usage. The vegetation on steep slopes of the reserve had lesser biotic pressure and disturbance as compared to the plants growing in the plain area.