

938. **Samraj, P., Sharda, V.N., Chinnamani, S., Lakshmanan, V. and Haldorai, B.** 1988. Hydrological behaviour of the Nilgiri sub-watersheds as affected by bluegum plantations, Part-1. The annual water balance. *J. Hydrology*, 103:335-345.

The Nilgiri Plateau in S.India receives an average annual rainfall of 1300 mm distributed over 190 to 220 rainy days. It is estimated that the Nilgiri District alone is responsible for about 50% hydro-electric power generation in Tamil Nadu State. In this paper, the effect of converting natural grasslands (grazed) in the catchments of hydel reservoirs to bluegum (*Eucalyptus globulus*) plantations on expected water and sediment yield has been discussed. It is estimated that bluegum, during a first rotation of ten years, brings about 16% reduction in the total expected water yield from natural grasslands