Genesis and evolution of *voçorocas* on Botucatu Formation rocks (Upper Araguaia river, Goiás and Mato Grosso states, Brazil)

H.F. FILIZOLA[(1)]*, M.A.F. GOMES [(1)], R.A. MOREIRA [(2)] and R. BOULET [(3)]
[(1)] Laboratório de Qualidade do Solo, Embrapa Meio Ambiente, Jaguariúna, SP Brazil
[(2)] Fundação Emas, Mineiros, GO, Brazil
[(3)] Nupegel, ESALQ, USP, Piracicaba, SP Brazil
*corresponding author e-mail: filizola@cnpma.embrapa.br

Gullies (locally termed *ravinas* or *voçorocas*) are common features in Brazil mainly in the southern, southeastern, and central-western regions associated to misled land use and geological substratum properties. Detailed survey of regional landforms, soils, hydrodynamics, and land use history together with studies in a *voçoroca* in the Araguaia headwaters (Goiás) showed that land use changes can provoke catastrophic erosion as in the *voçoroca* under study. Along 20 years sediments eroded from the *voçoroca* amounted approximately to 229,906m^3. Low clay content in the substratum and in soil texture (< 9%) and heavy rains overcharging the water table apparently unchained the ruinous episodes recurrent in the area since the 1980 when intensive agriculture was adopted. Aerial photographs taken before the change in land use where no evidences of linear erosion can be identified sustain this hypothesis. On the other hand a survey performed in 1999 showed that the number of *voçorocas* (gullies where the floor levels with the water table) is small but the number of deep and long *ravinas* (gully floor above the water table) is high (196 *ravinas* in a 100x90 km area).

Keywords: *Gullies (voçorocas); Tropical environments; Land use; Linear erosion*