

Abstract:

Human-elephant conflict (HEC) is a major challenge for local farmers, impacting livelihoods and conservation efforts (Fernando et al., 2005; Gunawansa et al., 2023). This study examines the movement patterns of Sri Lankan elephants (*Elephas maximus*) near Wasgamuwa National Park (WNP), focusing on their presence in agricultural areas. Key variables analyzed include dung distribution and composition, spatial classification, preferred vegetation types, and geographical relationships. This research provides valuable experience in managing large datasets and contributes to ecological management strategies aimed at mitigating HEC.