The soils of upper Mat river catchment located in Mizoram State are broadly classified into three categories viz. lowlands (valleylands), middle hill and upper hill sloping lands. Lowlands are sandy clay loam to sandy loam in texture, acidic, well-drained and stable, whereas, soils of middle and upper hill slopes were found highly acidic (pH 4.0-5.5), shallow, clay loam to loamy in texture and moderate to highly erodible. Valleylands are low in organic carbon content whereas, middle and upper hilly terrains were found high in organic carbon and low in soil pH. Soil pH in all the watersheds, generally, increased with depth and inverse relationship between pH and organic carbon content existed. Based on soil characteristics, external land features and environmental factors, watersheds of the upper Mat river catchment were grouped into various land capability classes. Majority of the area of watersheds (89%) was found in class VI to VII categories, whereas only 10.6 per cent of the area fell into class II to IV capability classes. This information was used in preparing watershed management plan of Rs. 39.82 crore of Mat River Valley on consultancy basis.