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Evaluation of soil constraints and soil-site suitability of wheat in different landforms of coastal belt in Meghal Irrigation Command area of Southern Saurashtra region of Gujarat

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ABSTRACT : The five representative soil pedons were studied for characterization and evaluate for soil-site suitability for wheat in the soils of Meghal Irrigation Command area of Southern Saurashtra region in Gujarat. The soils were moderately alkaline in reaction and high $CaCO_3$ content. The pH, EC, CEC and ESP increased with decrease in elevation. The major soil constraints identified were shallow soil depth, poor soil fertility (Low O.C.), high pH as well as B.D., texture and low Sat. hydraulic conductivity. The limitation levels of the land characteristics varied from crop to crop. The suitability classes can be improved if the correctable limitations (soil fertility characteristics) are altered through soil amelioration measures. The soils belong to undulating upper pediment (Typic Ustorthents) and coastal plain (Fluventic Haplustepts) were placed in sustainable class (S_2), whereas soils associated with upper pediment (Typic Ustothrents), lower pediment (Vertic Haplustepts) and alluvial plain (Calcic Haplustepts) were placed in sustainable with high input class (S_3). The soils over undulating upper pediment (P_1) were permanently not suitable (N_2) for wheat crop. All the soils (P_2, P_3, P_5) associated with upper pediment, lower pediment as well as coastal plain were moderate suitable (S_2) for wheat cultivation while the soils over alluvial plain (P_4) were marginally suitable (S_3) for wheat cultivation.

Key Words : Wheat cultivation, soil pedons, soil constraints, soil characteristics.