

SUITABILITY OF LANDS UNDER IMMATURE BROWN LOAM SOILS IN KUNDASALE DIVISIONAL SECRETARIAT DIVISION FOR EXPORT AGRICULTURAL CROPS

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This study was aimed to analyze and evaluate the suitability of lands used for selected Export Agricultural Crops (EACs) namely; Clove, Pepper, Nutmeg, Cocoa and Coffee (Arabica and Robusta) in Kundasale Divisional Secretariat under Immature Brown Loam (IBL) soils. A detailed medium intensity soil and land use survey was conducted using 1:10,000 survey sheets as base material in the study area. Climate, landform, soils, land use and vegetation of the area were studied and a land classification map was prepared. Moreover, three land mapping units were identified and soil physical, chemical properties were determined using soil profiles and laboratory analysis. Land characteristic data tables for each land unit (IBL) were prepared and GIS software (ILWIS) was used in preparing the soil map. Created land suitability maps were used to demarcate suitable EACs. Clove and Pepper were identified as most suitable crops, which can be grown in IBL soils in this area, while Cocoa and *Coffea robusta* were partially suitable. Other crops were identified as marginally performing crops in IBL soils in the study area. Mean annual rainfall, elevation and underneath calcarious rock were identified as problems associated with low EACs production. Elevation was identified as the major limitation for growing *Coffea arabica*. Additionally, soil depth and slope were identified as limiting factors for growing the selected EACs. Proper soil and land conservation practices must be carried out to reduce soil erosion and degradation when growing these crops in steepy lands or shallow soils. Land use evaluation and classification helps to increase of EACs production and it is a solution for upgrading the rural economy of Sri Lanka.

Key words: Export agriculture crops, Immature brown loam soil, Land suitability classification