

MAPPING OF POTENTIAL GROWING AREAS OF PRIORITY FRUIT CROPS IN SRI LANKA BY USING GEOGRAPHICAL INFORMATION SYSTEM

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A study was carried out with the objective of mapping of potential areas of three selected priority fruit crops in entire island of Sri Lanka. Three selected fruit crops were Pineapple, Rambutan and Durian. The land evaluation by suitability classes was based on FAO guideline (1981) and was carried out using Geographical Information Systems (GIS).

The land suitability evaluation compares the requirements of potential suitability for fruit crops. Land unit is obtained by overlaying of selected theme layers. The selected theme layers include great soil group, landform, elevation and agro ecological data from the existing maps and information. Spatial and attribute data of layers were encoded in a GIS database to create thematic layers and by overlaying, a polygonal layer for each fruit crop was produced. Land suitability classes were identified by matching the crop requirements using Simple Limitation Approach (SLA) to produce a tentative land suitability maps.

Tentative suitability maps were field checked and compared with actual boundaries using GPS readings. The predicted boundaries are falling in line with actual boundaries, but at few occasions the predicted ones were not in agreement. The study revealed that prediction of suitable areas for fruit crops can be performed using data layers such as soils, rainfall, elevation and agro-ecological zone, but additional inputs were necessary to improve the accuracy.

Key words: Geographic Information System (GIS), Suitability classes, Soil series, Geographic Positioning System (GPS), Digitized layer, Simple Limitation Approach (SLA)