A Model for a Mobile Application to Support Agro-ecological Zones based Crop Selection in Sri Lanka

M.S. A. Mohamed[1,2*], D.L. Wathugala[1], W.A. Indika[2], M.K.S. Madushika[2], M.K.D.K. Piyaratne[3] and G.C. Samaraweera[4]

[1]Department of Crop Science, [3]Computer Unit, [4]Department of Agricultural Economics, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka
[2]Department of Computer Science, Faculty of Science, University of Ruhuna, Matara, Sri Lanka

Agriculture is the key source of livelihood and economic support for the Sri Lankan population. The farmer is the salient stakeholder in agriculture and he has to decide the appropriate crops for cultivation in every season. This decision should be primarily based on market conditions including pricing but several other factors such as climatic conditions of the area, land suitability, irrigation facilities, etc. should also take into consideration. Thus, crop selection is a vital and critical decision that farmer has to get in the farming lifecycle and many farmers face problems in selecting the right crops at the right time to grow. Therefore, in this study, a digital platform has been created to provide crop suitability information based on the agro-ecological zones in Sri Lanka. Providing information regarding suitable crops according to agro-ecological zones in Sri Lanka is the correct intervention to facilitate farmers during the crop selection stage. Contextual data for crop selection were mainly gathered through primary and secondary sources. The study learned that the agro-ecological zones have been classified based on different climatic zones, annual rainfall, terrain characteristics, available major soil groups, and recommended crops for all agro-ecological zones. A crop selection model was designed and listed out suitable crops based on 46 agro-ecological zones in Sri Lanka. Further, this decision is depended on the influence factors such as major cultivation seasons, irrigation types, and farmer preferences, etc. The designed model has been provided through a mobile-based platform to the farmers. Then, they could easily find recommended crops and varieties suitable to their farms by asking users to add their Province, District, Divisional Secretariat, and Grama Niladhari, division. Thus, the model will be promised in supporting farmers to increase the profit and social status of the farmers in Sri Lanka.

Keywords: Agriculture, Agro-ecological zones, Crop selection, Farmers, Mobile application

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