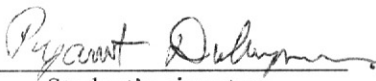


Piyawat Diloksumpun 2008: Decision Support System for Eucalypt Plantation Investment in Chachoengsao Province. Doctor of Philosophy (Forestry), Major Field: Forestry, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Wanchai Arunpraparut, D.Agr. 198 pages.

The main objective of the study was to develop an integrated decision support system (DSS) for eucalypt plantation investment in Chachoengsao province that could be able to determine site suitability, plantation yield, financial returns, and appropriate plantation management.

The DSS development in the present study can be separated into four main parts, namely database design and analysis, DSS procedure, user interface design, and system output. Firstly, a system database was designed and developed to provide critical requirements for decision-making based on the DSS objectives. Secondly, decision hierarchy was constructed to clarify the choice situation of lands accordingly. Based on the 3-year-old eucalypt production, site suitability was categorized into four classes, i.e. very good site quality, good site quality, moderate site quality, and unsuitable site. Eucalypt production was then predicted by respective growth model to provide information for financial analysis procedure. Thirdly, management system of the user interface was designed according to the user-friendly interactive concept for simplicity and high information content. The welcome homepage, input data pages, interactive pages, and output pages were specially designed to communicate with users gradually. Lastly, various report output pages were designed to provide all conclusive information needed for decision-making of eucalypt plantation investment.

Furthermore, the DSS developed in the present study was designed to be flexible and able to update some system database for future uses and development. Development of a growth model that integrated site potential, climatic data, and physiological characteristics as well as management practices is, therefore, essential to improve the accuracy and reliability of the growth/yield prediction in decision-making.


Student's signature


Thesis Advisor's signature

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