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12. DSS FOR AGRICULTURE



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12.1 Introduction

- Agricultural decision support systems (AgriDSS) are information technology (IT) resources that are designed to help farmers tackle complex problems in crop production, utilizing the best available data and knowledge about scientifically-sound best practices.
- These technological systems, support precision agriculture or smart farming approach, which can reduce labour and fertilizer inputs, minimize negative environmental impacts, and also increase yields.



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12.1 Cont..

- Agricultural decision support systems can incorporate inputs on climate, water, genetic, energy, landscape, human, and economic resources, and ideally provide an analysis of how these factors work together in influencing productivity.
- There are a number of systems on the market today. Although the current acceptance of such products among farmers is low, it is expected to change in the future. As world population grows and the availability of arable land diminishes, there is an increasing need to make a smart use of each piece of land.



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12.2 spatial decision support system in agriculture

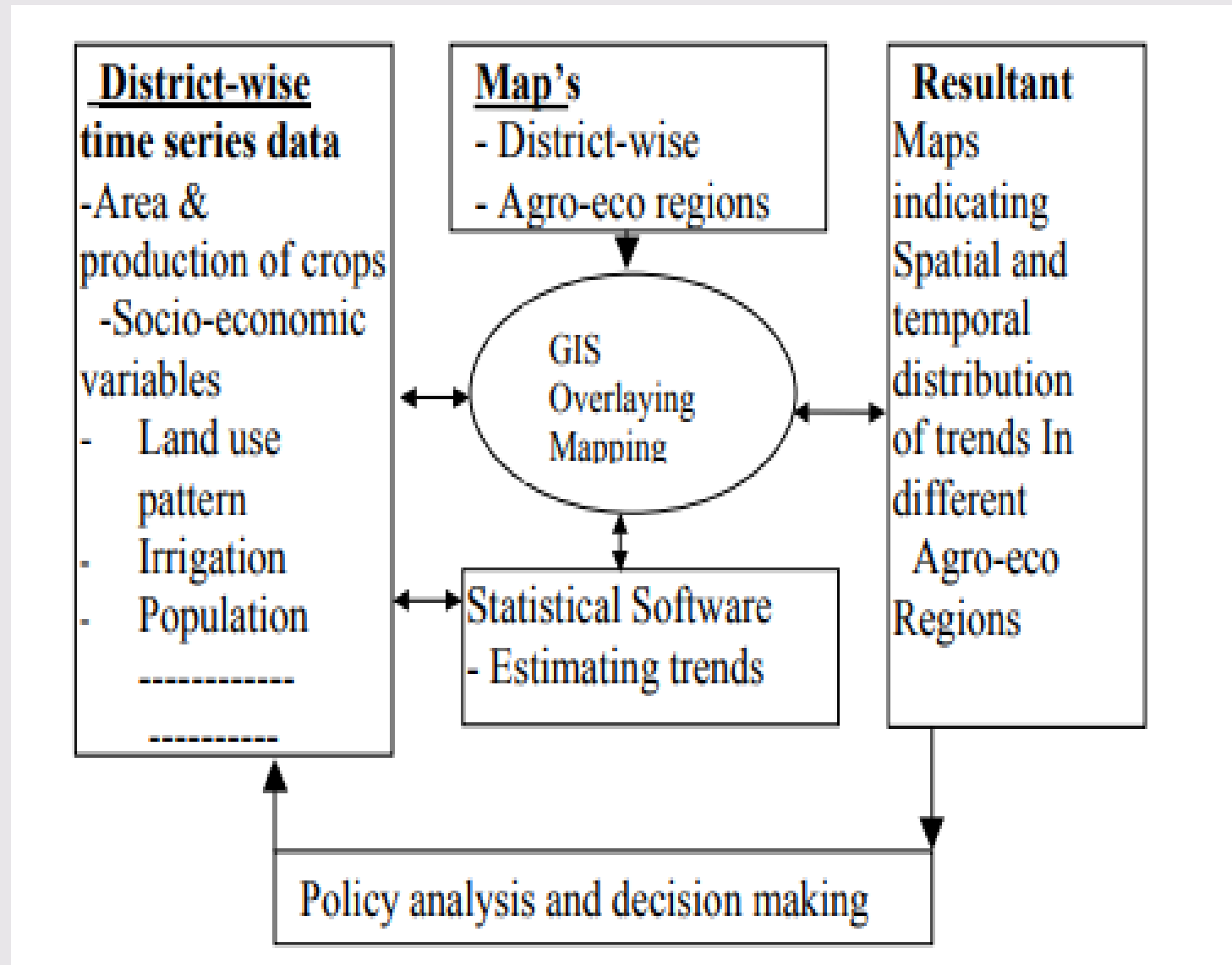
- on agricultural growth and assessing the dynamics of cropping pattern, land use, livestock, population, irrigation, fertiliser use etc., are common. Invariably the data are available at district level but the analysis is being performed on the aggregate data at national or regional or state level depending on the study. But analysis of aggregate data does not infer about location specific trends and spatial patterns which are very essential for agricultural policy, planning and management.



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12.2 Cont..

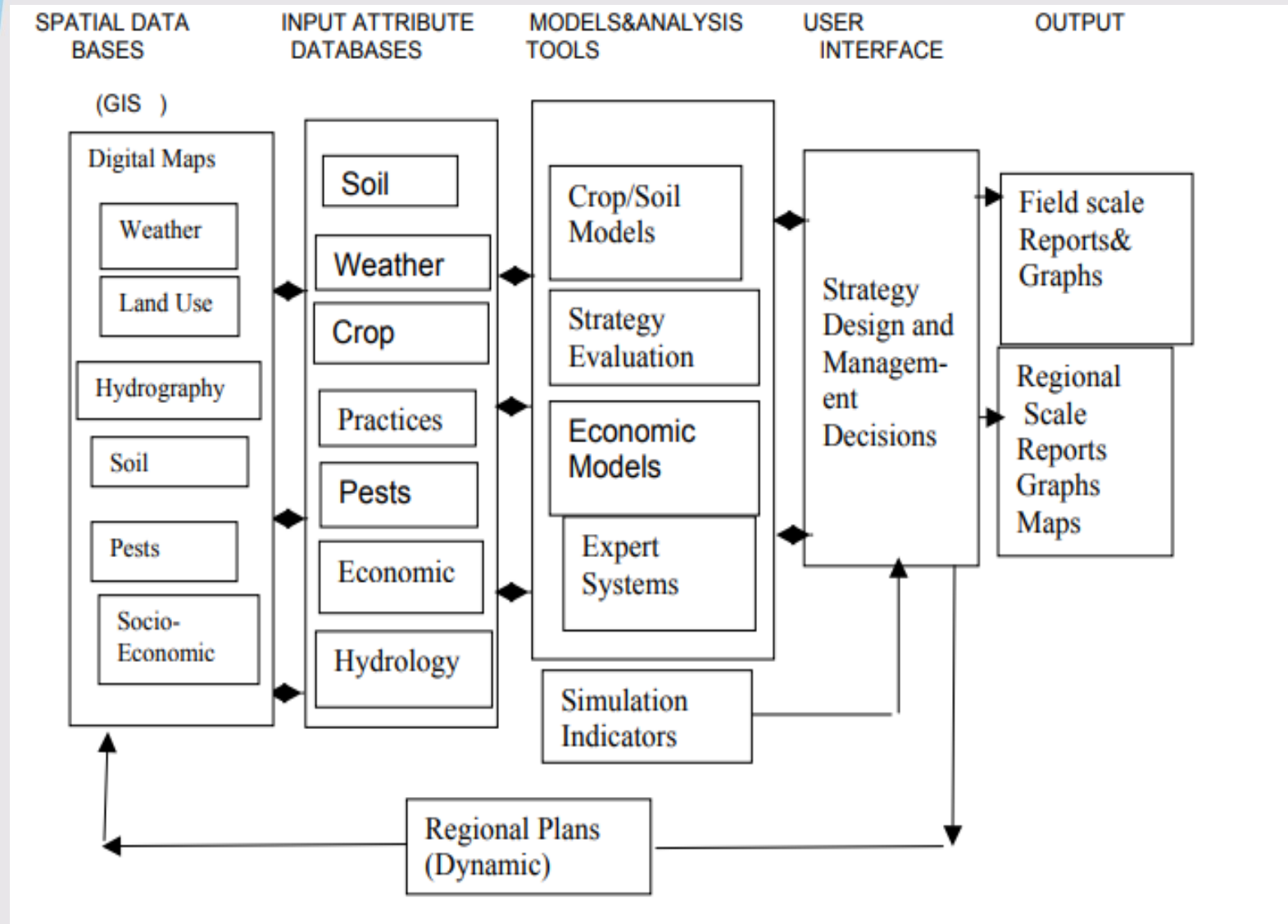




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12.3 Various components of SDS for Crop Productivity Management

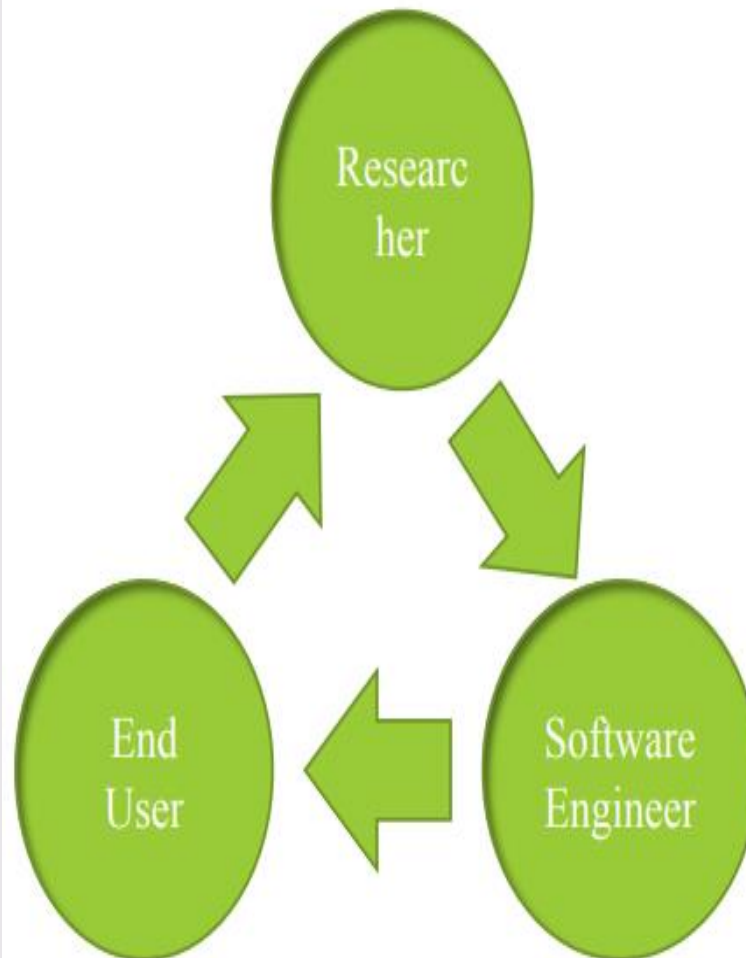




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12.4 Design of a Spatial Decision Support System



- Adaptive and integrative tools and strategies for natural resources management;
- The outcome of the project should be a tool-box for integrated **agriculture and natural resources**;
- The expected impact is a long-term **integrated management of natural resources**.