USE OF MATHEMATICAL MODELS IN AGRICULTURAL ECONOMICS ANALYSIS

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Dedicated to Prof. K. Srinivasa Rao on his 75th Birth Anniversary

Abstract: It has been clearly recognized that quantitative regularities play a vital role in economy. The adoption of mathematics in economics analysis brings a high level of precision to the analysis, assumptions are clearly stated, procedures are specified and the logical consistency of mathematically based models is easier to check than non-mathematical models. Therefore mathematical models represent the most appropriate methodological method of analysis. The model is based on the division of economic and technological processes in agriculture into four stages according to the agribusiness specificity. The mathematical description of four stages used in production functions is provided.

Keywords and Phrases: Model, quantitative regularities, logical consistency, agri-business.

1. Introduction

Theories when described in mathematical language gain not only notational simplicity, clarity and condensation but the more prominent virtue of mathematization is the manipulation of theories by taking advantage of well-established mathematical operations. The purpose behind such manipulations to obtain inferences that are unattainable without replacing verbal arguments by quantitative precision. It has been clearly recognized that quantitative regularities play a vital role in economics. It is hence possible that they can be well described on formalised mathematical parameters. Mathematical models are useful for description of economic processes for a number of reasons.

The first among these is the impossibility of constructing physical economic models, i.e., small physical copies of real processes which are widely used, for example, in the technical sciences. The second reason consists in the fact that all