A SYSTEMIC APPROACH TO THE QUESTION OF VALUE IN DECISION-MAKING

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Models of systems involving human behaviour and needs must make proper allowance for subjective values as well as for economic or effectiveness criteria when such models are used as a basis for policy research and decision-making. A rigorous treatment of the General Value Problem is largely

missing from Systems Analysis: a decision model is hardly valid unless it fully reflects the value environment.

A structured approach to the representation of value formation and assessment is presented drawing from many sources in philosophy, axiology, operations research etc. The structure is in three parts:

i) the derivation of value hierarchies and preference orders,

ii) the synthesis of social preference orders using a "minimum annoyance" fit to individual preferences,

iii) the determination of the degree of value satisfaction in multiple objective problems.

The structure is amenable to quantification for use in computerized models, or for "on-line" committee decisions. Applications are discussed using Research and Education Policy, and World Models as cases.