Abstract
Farmers take daily decisions with direct impact on farm performance and also on the environment. Negative environmental consequences are visible in the long term, imposing measures to prevent pollution, and in the same time, do not affect the economic viability of the farm. The project aims to develop a computerized decision support system, to assist farmers, in taking decisions regarding replacing old machineries with new ones, in cereal farms. The research methodology involved: intelligence phase (data collection, problem identification), design phase (formulate a model, set criteria for choice, search for alternative, predict and measure outcome) and choice phase (solution to the model, selection of best alternatives, and plan for implementation). The decision support system can further be used to simulate different scenarios as well as to estimate the economic and environmental impacts.

Key words: efficiency, agriculture, pollution, environment