Every activity a human or a group of people is connected with decision making. Decisions may relate to routine activities such as everyday shopping, but they may also have a fundamental character referring, for example, to the choice of the organization's strategy of operation. In addition, decisions may be conditioned by one or more factors (criteria) and based on data with varying degrees of certainty. Decisions related to sustainable development, usually characterised by a relatively high level of complexity of the decision-making problem, are of a particular nature.

Sustainable development is development that meets the needs of the present generation without compromising the ability to meet the needs of future generations. The way to ensure sustainable development is to strike a balance between economic, social and environmental needs and thus to keep sustainability among those needs. Sustainability assessment, on the other hand, is a process to measure the level of sustainable development and to identify actions/decisions that should be taken in order to increase the level of sustainability. A particular place in the sustainability assessment is occupied by one of the dynamically developing trends of operational research, i.e. multi-criteria decision aid.

Unfortunately, multi-criteria decision aid methods are not fully adapted to solving decision-making problems relating to sustainable development and sustainability assessment. They do not allow to directly determine the expected sustainability force of decisions recommended by the method. In addition, multi-criteria methods do not allow for simultaneous consideration of a descriptive approach and various types of uncertainty regarding the decision made. Meanwhile, a descriptive approach increases the decision-maker's knowledge of the recommended decision and facilitates its interpretation, and uncertainty is a fundamental feature of sustainability assessment for the future.

The aim of the proposed project is to develop a multi-criteria decision aid method to solve decision-making problems, which would take into account different types of uncertainties and enable direct determination of the desired sustainability force of the recommended action, while providing the decision-maker with a description of the recommended decision, facilitating its interpretation.

The project will carry out theoretical research on calculation procedures applied in multi-criteria methods. On this basis, the method constituting the aim of the project will be developed. This method will be tested experimentally in various sustainability decision making problems.

The reason for addressing the research topic is the large and constantly growing importance of sustainable development in the global economy and economic systems of individual countries. However, as mentioned above, there is no decision support tool specifically designed to assess activities related to sustainability.