

The project is aimed at acquiring new knowledge about the behaviours of farmers in the context of the issues of climate change that relate to water management in agriculture. In view of the anticipated climate change, the entire agricultural production system in Poland will have to be transformed and become more resource-efficient. The results of the research can make a significant contribution to the development of economic sciences, especially in the area of economic and organizational aspects of conducting agricultural activity in the conditions of water scarcity. The issues presented in the application focus on problems of the sustainable development economics and the agricultural economics. The research is not geared towards practical application, but is intended to provide knowledge that will contribute to the development of agriculture, taking into account the climate change. In the literature, there is little research concerning the relationship between attitudes, agricultural economy systems and agricultural practices in the area of water management. In turn, in the literature of the subject it is more and more often emphasized that water supply is a factor limiting the volume of the agricultural production.

The main goal of the project is to identify the type and strength of the relationships between natural, agrotechnical and economic determinants of the efficiency of the use of water resources in agriculture. The main research hypothesis was formulated as follows: "Strategies and plans at the level of agricultural holdings cover the problem of field water use for the needs of cultivated crops, evapotranspiration and grassland yielding only to a small extent".

Results of the empirical research conducted among farmers will provide a basis for the study. The spatial scope of the research will cover the catchment areas of two of the three largest rivers in Poland (random selection). It is planned to carry out questionnaire surveys among 480 farmers in total. The research methodology also includes other techniques and tools, including interviews with experts. Methods of descriptive and qualitative analysis, comparative analysis and statistical analysis will be used in this project.

Implementation of the project will contribute to enhancing the current state of knowledge in the investigated scope, including its expansion by economic, environmental and social determinants of the theoretical bases in the area of water management in the Polish agriculture. The results of the research will allow verifying the existing views on the research area in question and determining the basis and reference point for further analyses of the problem in the future and in other geographical areas and/or in the context of water cadastre. The results of the research conducted under this project will bring new values to the theory of economics, especially the economics of agriculture. The theoretical context of the considerations is also within the area of the water management economics and the environmental management in rural areas.