CONSERVATION AGRICULTURE ADAPTION IN UZBEKISTAN

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ABSTRACT

Uzbek agriculture has some serious problems related to management of water and soil quality. The soil in many areas showed signs of severe degradation such as compaction, high degree of salinity, and low fertility, which causes to decrease the productivity of agricultural productions to 20-30 percent for the last decades. This is the main rationale for changing producing agricultural productions in a sustainable way by which adapting an innovative technology such as Conservation Agriculture. This paper analyzes the current adaption state/level of Conservation Agriculture practices of farmers through addressing with socio-economic, institutional and environmental factors that influence on the farmers' decision making, and reveals the prior factors that encourage or constraints the extension of CA in Uzbekistan. Logistic Regression and Probit models are applied to analyze those factors through ranking and categorizing the relative dependent variables. The model estimation is based on the survey conducted by mains of questionnaire, which includes farm household (age, education, knowledge level, awareness, attitude toward conservation practices, motivation) and biophysical characteristics crop land area, crop yield, soil moisture, bulk density, soil humus, and finally, farm financial characteristics; farm income, off farm activities, employment, and agricultural machinery). The investigation outcomes indicated that the variables such as size of farm or LAND and EMPLOYMENT RATE possess positive correlation and those were found one of the most sensitive factors for the adaption rate. While variables of SOIL_MOISTURE and SOIL HUMOUS are in the next rank to induce farmers to adapt sustainable technology, OFF FARM ACTIVITY, however, is prior factor that halts farmer's adaption. It was concluded that farmers' participation in extension-education courses, usage different level of information sources and communication channels are also strong trigger to the implementation and extension of innovative technology in Uzbekistan.

Key words: Conservation Agriculture, sustainable agriculture, Logistic Regression and Probit model, independent variables, environmental factors, adaption of innovative technology.