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INFLUENCING FACTORS OF THE ACCEPTABLE AMOUNT OF COMPENSATION OF FARMERS FOR CONTROLLING FERTILIZER-INDUCED WATER POLLUTION

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Abstract

This paper aims to identify the influencing factors of the acceptable amount of compensation (AAC) of farmers for controlling fertilizer-induced water pollution, and build a valid ecological compensation mechanism to curb the said pollution. To this end, the ecological compensation for farmers is viewed as a good way to reduce fertilizer-induced pollution at drinking water sources, and the opportunity cost is introduced into the discussion of farmers' AAC. To make up for the gap of previous studies, the economic compositions of the AAC for fertilizer reduction were analysed in details, and then the IBG was adopted to estimate the respondents' AAC. Meanwhile, a quantile regression model was built for factor analysis on the intensity of the AAC (IAAC). For the two study places, the mean AAC fell between USD 636.51/ha and USD 2,172.51/ha, respectively. The results reveal that the young people demanded the highest IAAC; family income (INC) and rice for sale proportion (FSP) are negatively correlated to the IAAC; the expected production risk played a more important role than production efficiency (PDE) in decision-making; farmers aware of environmental protection requested more reasonable compensation; farmers living in relatively poor place demanded a higher IAAC, but those living in the same place experienced the convergence of the IAAC; the AAC has little to do with environmental or policy awareness. Based on these results, it is concluded that a valid compensation mechanism should guarantee the survival and development of farmers by improving their farmland management ability, lowering the cost of agricultural services and enhancing farmers' awareness of environment responsibility.

Key words: acceptable amount of compensation (AAC), ecological compensation, fertilizer, water pollution, drinking water sources

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