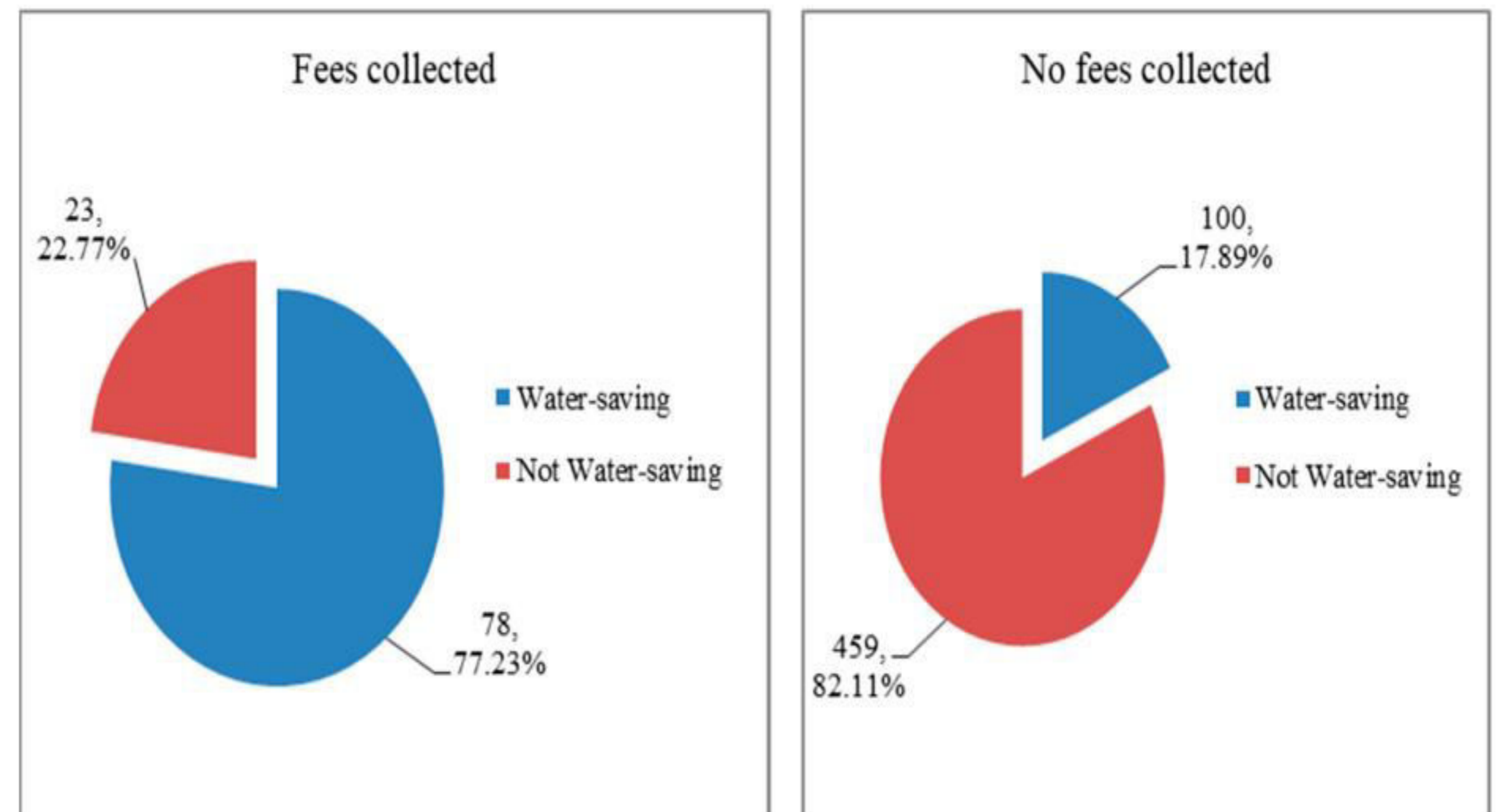


Promote agricultural water-saving in southern China by economic means.

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Objectives

Many studies have shown that economic means are an important way to promote agricultural water-saving, and collecting agricultural water fees is one of them. This study is mainly based on the actual agricultural water use in southern China, trying to verify whether collecting agricultural water fees significantly affects the water-saving behavior of farmers. And if the research conclusion is such that, the decision-making departments can improve agricultural water-saving policies and promote agricultural water-saving based on the research results.



Comparison of agricultural water-saving behavior between two groups

Methods

Based on a survey and empirical analysis, this study identifies the key determinants of farmers' agricultural water-saving behavior, particularly to verify whether collecting water fees helps to promote agricultural water-saving. A structured questionnaire was administered to a random sample of 660 farmers in South China with seasonal water shortage. A binary logistic regression model was used to examine the determinants.

Results

The results revealed that 15.30% (101) of farmers paid agricultural water fees, 26.97% (178) of farmers had agricultural water-saving behavior, and among these, 43.82% (78) of farmers paid agricultural water fees. The results indicated that water fee collecting, water resource dependence, agricultural water service satisfaction, and water-saving policy publicity positively and significantly influenced farmers' agricultural water-saving behavior, while farm size and age of household head showed a negative influence. Results also revealed that collecting water fees can indeed promote agricultural water-saving in seasonal water shortage areas of South China. This study recommends that policy makers take measures to improve agricultural water charges policies, strengthen irrigation services, and increase the publicity of agricultural water-saving policies.

Conclusions

Empirical results reveal that water fees collecting, water resource dependence, agricultural water service satisfaction, and water-saving policy publicity are factors that positively influence farmers' agricultural water-saving behavior, while farm size and age of household head negatively influence it. The results indicate that in these regions, the collecting of agricultural water fees is indeed conducive to promoting agricultural water-saving.

Factors that affect farmers' agricultural water-saving behavior are sorted by contribution. Of the six factors, water fees collecting is the most important, while water-saving policy publicity is relatively less important. This implies that the role of publicity in promoting agricultural water-saving is weaker than that of economic means. This also means that to promote agricultural water-saving, the role of economic means should be effectively emphasized.