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Research on the income of water conservancy project resettlement from the perspective of social capital

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Abstract: From the perspective of social capital, this paper studies the income acquisition mechanism of water conservancy project resettlement.. According to 328 forced immigration data of L village in Danjiangkou Reservoir, the ordinary least squares model is used for empirical analysis in this paper. The results show that the scale of support network has a significant negative correlation with income; the frequency of neighborhood communication is not significant; and the frequency of communication and income of residents outside the community is obvious.

1. Introduction

Since the People' Republic of China was founded in 1949, China has constructed numerous infrastructure projects for the purpose of developing the economy and altering resource allocations. The number, size, and locations of these projects have resulted in more than 70 million forced immigrants. Involuntary resettlement due to construction projects has led to large-scale organized population migration and community reconstruction activities. Reservoir resettlement is a complicated engineering process that involves politics, economics, population, various resources, the environment, and engineering technology. Rural housing has also been rebuilt. Housing is the most important material resource for resettlement, and is the foundation of resettlement stability. No scholars have studied the income mechanism of water conservancy project resettlement. From the perspective of social capital, this paper is of great significance to study the income acquisition mechanism of water project resettlement.

2. Literature review

Social capital is regarded as a multidimensional concept [1], with the nature of public goods [2], which refers to structural or cognitive social relations [3]. This paper sets the index of social capital of rural reservoir resettlement as follows: Structural indicators: Support network scale; Cognitive index (trust): The frequency of resettlement interaction and the frequency of interaction between resettlement and local people.

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3. Data and methods

3.1 Data Sources

In this paper, a overall sample survey was conducted on all 15-64 year old resettlement which had agricultural account in the L village. The effective sample of resettlement was 328 households.

3.2 Variables

3.2.1 Dependent Variable

The comprehensive housing level is set to three indicators: (1) The number of property rights housing. (2) The housing area of the settlements. (3) Housing quality. Summing up the standard values and calculating the comprehensive score of individual housing.

3.2.2 Independent Variables

The personal support network scale includes the number of persons who give the financial support, mutual support and emotional support. The three sub indicators are weighted by analytic hierarchy process. The weights of the three are 0.37, 0.42 and 0.31. Finally, the three sub indicators are calculated according to the weight, and the total support network scale is obtained. The higher the score is, the larger the network scale is. The trust dimension is measured by the frequency of the internal and external contacts of the resettlement. The frequency of communication is divided into 5 levels: a very large number=5, more=4, a general=3, less=2, and very little=1.

Table 1. Independent variables description

Variables	Indicators	2015 Mean	2015 Standard deviation
Support network scale		7.08	4.134
Frequency of communication with community residents		3.48	0.933
Frequency of communication with residents outside community		1.80	0.649
Government resettlement policy			
Resettlement compensation	The logarithm of the equivalent per capita compensation of the family	10.27	0.269
Government subsidy	The logarithm of the equivalent per capita capital of the family (post direct subsidy and agricultural subsidy)	6.91	0.143
post support project	Participate in the post support project	0.19	0.390
Employment support	Access to training or employment information	0.04	0.212

3.3 Analysis model

Because the dependent variable is continuous, the ordinary least squares model is used.

$$\mathbf{Y = \alpha + \beta_k X_k + \varepsilon} \quad (1)$$

Y is dependent variable. X_k is independent variable. B_k is the parameter of the undetermined

model. The α is intercept, and the ε is unobservable random error.

4. Results

In table 2, the standard coefficients of independent variables and model goodness of fit statistics are listed. In model 1, the control variables explain about 5.4% of the income variance (adjusted R^2=0.054). From the model, and the explanatory power is strong (adjusted R^2=0.423). The number of years of laborers' education has no significant impact on income. The negative effect of family dependency ratio is significant, that is, the more the number of non-laborers in family and the lower the family income. The average age of laborers in family presents a "V curve". This indicates that the younger the family laborers' age is, the higher the family income is. However, a small number of middle-aged and elderly people have higher income because of their abundant economic capital. The government support fund has a significant negative effect on family income. Government compensation, post support program and resettlement training have no significant effect.

Table 2. Analysis of L village resettlement income OLS model

Independent variables	Standardized coefficient
Support network scale	-0.190*
Frequency of communication with community residents	-0.053
Frequency of communication with residents outside community	0.144***
Adjusted R^2	0.293

Note: significant levels: *p≤0.05，**p≤0.01，***p≤0.005，****p≤0.000.

5. Conclusion

This paper use the data of 328 rural resettlement householders obtained from the LRC village impacted by the Danjiangkou reservoir. The concrete conclusions are as follows: The scale of support network has a significant negative effect on income. The frequency of resettlement's communication has no significant influence on income. However, the frequency of resettlement and residents outside the L village has a significant positive impact on income. This shows that strengthening the communication of resettlement with local residents can effectively improve the income.

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