Appendix 4. The principle of mediation effect model

We hypothesize that labor out-migration affects rural collective action through five mediating mechanisms: leadership, social capital, sense of community, resource dependence, and economic heterogeneity. Following Baron and Kenny (1986), we use the following econometric model:

$$ICA = \beta_0 + \beta_1 MIGRATION + \sum_k \theta_k X_k + \varepsilon \tag{1}$$

$$M = a_0 + a_1 MIGRATION + \mu \tag{2}$$

$$ICA = c_0 + c_1 MIGRATION + b_1 M + \sum_k \lambda_k X_k + \eta \tag{3}$$

$$ICA = c_0 + b_1 a_0 + c_1 MIGRATION + \left(a_1 b_1\right) MIGRATION + \sum_k \lambda_k X_k + b_1 \mu + \eta \tag{4}$$

In Equations (1), (3), and (4), ICA is the propensity for rural collective action; MIGRATION is the proportion of migrant workers in the village's population; M_i is the set of mediating variables (leadership, social capital, sense of community, resource dependence, and economic heterogeneity); and X_i are the control variables. Equation (1) gives the total effect of labor out-migration on rural collective action, with magnitude β_1. Equations (2) and (3) show how the effect of labor out-migration is mediated by other variables; the coefficient a_1 measures the effect of labor out-migration on the mediator, and b_1 measures the effect of the mediator on rural collective action. Substituting Equation (2) into Equation (3) gives Equation (4), where c_1 measures the direct effect of labor out-migration on rural collective action, and $a_1 b_1$ measures how much labor out-migration affects rural collective action through the mediating mechanisms.