

Heterogeneous Participation of Multiple Subjects in Firm-backed Rural Revitalization: Zhaoqing Case

Jyh-Harnng Shyng*

Life Sciences College, Zhaoqing University, Zhaoqing, Guangdong, China

*Corresponding author: Jyh-Harnng Shyng, hidosing@outlook.com

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: Based on Zhaoqing's "Thousand Enterprises Help Thousand Towns" (TEHTT) policy under Guangdong's Hundred Counties initiative, this study uses 170 valid 2025 questionnaires across nine districts to analyze four stakeholder groups: enterprises, villagers, cooperatives, and village cadres. Drawing on stakeholder and organizational ecology theories alongside PLS-SEM tests, the research finds notable participation heterogeneity. Enterprises favor industrial chain investment; villagers focus on income and local jobs; females excel in village-enterprise co-construction. Education and age greatly affect participation capacity. The study identifies unbalanced sampling and scarce village cadre data as drawbacks, then proposes differentiated coordination strategies to boost sustainable rural revitalization via multi-party synergy.

Keywords: Stakeholder participation; Rural revitalization; Enterprise-village cooperation; Governance mode; Demographic heterogeneity; PLS-SEM; Thousand Enterprises Help Thousand Towns (TEHTT)

Online publication: July 15, 2026

1. Introduction

Rural revitalization is a systematic project requiring multi-subject coordinated linkage, in which enterprises, village collectives, farmers, and grassroots governance organizations constitute indispensable core stakeholders^[1-2]. As a typical regional implementation policy of the national "Ten Thousand Enterprises Assist Ten Thousand Villages" initiative, Zhaoqing's TEHTT policy has achieved remarkable progress in industrial cultivation, rural income increases, and ecological improvement since its launch in 2020, yet prominent practical bottlenecks still restrict the policy's full-effect release^[3]. In the field practice, different stakeholders hold differentiated interest pursuits and resource endowments, leading to inconsistent participation motivation, mismatched cooperation expectations, and fragmented implementation behaviors, which easily lower the conversion efficiency of enterprise investment into real rural comprehensive

development dividends ^[4].

Existing domestic and foreign relevant research mostly focuses on single-subject behavioral analysis ^[5]; overseas literature centers on enterprise social responsibility and rural community spontaneous participation under market-oriented logic. domestic studies predominantly evaluate the overall policy output of enterprise counterpart assistance or analyze unilateral rural resident satisfaction ^[6–7]. Limited comparative research quantitatively distinguishes participation heterogeneity among multiple stakeholders from demographic dimensions, including age, education, and gender, and few empirical studies combine local sampling data of Zhaoqing to dissect group preference differences on diversified governance cooperation modes ^[8–9]. Combined with field interviews and industry association research collected in the author’s earlier investigation, this paper supplements empirical evidence on multi-agent participation differentiation based on first-hand survey data, aiming to fill the above research gap ^[10].

Three core research contributions are summarized as follows:

- (1) Quantitatively compare the participation willingness, behavioral characteristics, and cooperation preference of four core stakeholder groups (enterprise representatives, villagers, cooperative members, village cadres) relying on Zhaoqing’s field sampling data;
- (2) Empirically verify how individual demographic features (education, age, gender) generate heterogeneous influences on participants’ engagement choice and input intensity;
- (3) Precisely build a differentiated collaborative governance path matching varied subject demands, providing operable policy reference for optimizing Zhaoqing’s “TEHTT” linkage mechanism.

2. Theoretical basis and research hypotheses

2.1. Core theoretical foundation

2.1.1. Stakeholder theory

Classic stakeholder theory defines each participating subject as an interest-related party with unique resource advantages and development goals ^[11]. Combined with the institutional environment-analysis subject behavior-development performance framework formed in the author’s prior research, the four core groups’ core demands under the rural assistance scenario are sorted:

- (1) Enterprises: Expand upstream and downstream rural industrial layout, realize market channel extension while fulfilling ESG social responsibility requirements and enjoying local preferential industrial policies ^[12].
- (2) Ordinary villagers: Secure stable local employment, boost household disposable income, obtain improved rural public cultural services, and better living ecological environment.
- (3) Rural cooperatives: Realize standardized bulk production, lock long-term product order sources from assisting enterprises, and reasonably share industrial added-value dividends ^[13].
- (4) Village cadres: Complete superior policy implementation tasks, upgrade grassroots rural governance level, and coordinate resource docking between enterprises and scattered rural households ^[14].

2.1.2. Demographic heterogeneity theory

Individual human capital accumulation, reflected by educational level, physical energy, and entrepreneurial vitality, represented by age, plus gender-based behavioral preference differences, will directly affect participants’ ability to receive new industrial projects and accept the enterprise’s technical and capital input,

further generating differentiated cooperation choices in village-enterprise linkage projects ^[15]. Middle-aged groups with moderate age and medium-high education usually possess stronger information acquisition and resource matching capacity.

2.3. Research hypotheses

H1: Stakeholder identity category has a significant statistical influence on an individual's participation willingness and preference for enterprise-village cooperation governance mode ($P<0.05$).

H2: Participants' education level and middle-age grouping exert significantly positive impacts on participation enthusiasm and practical input intensity of assistance projects ($P<0.05$).

H3: Significant gender-based differences exist in participants' selection tendency across six types of mainstream village-enterprise cooperation modes ($P<0.05$).

3. Research design

3.1. Data source and sampling overview

A field questionnaire investigation was conducted from late May to July 2025, covering nine county-level jurisdictions of Zhaoqing: Duanzhou, Gaoyao, Sihui, Huaiji, Guangning, Deqing, Fengkai, Dinghu, and Zhaoqing High-tech Zone. Stratified random sampling was adopted based on the local industrial enterprise quantity of each district/county. Questionnaires were distributed to enterprise management staff, village cadres, cooperative principals, and ordinary villagers on-site. A total of 178 questionnaires were distributed, 170 valid samples were finally retained after eliminating invalidly filled forms, with an effective recovery rate of 95%, consistent with the sample statistical standard of the original research project.

3.2. Variable definition and measurement standard

All latent variables adopt a five-point Likert scoring standard (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

- (1) Dependent Variables: Individual participation willingness of rural revitalization projects, actual participation behavior intensity, satisfaction degree toward existing village-enterprise governance effect;
- (2) Independent Variables: Four types of stakeholder identity, respondents' educational background, age grouping, and gender.
- (3) Moderating Variables: Six categorized cooperation modes, differentiated local dominant industries, and the sampled administrative region.

3.3. Reliability and validity test

Table 1 shows the reliability and validity test results.

Table 1. Reliability and validity test results

Latent Construct	Cronbach's α	Composite Reliability (CR)	Average Variance Extracted (AVE)
Participation Willingness	0.976	0.981	0.913
Participation Practical Behavior	0.975	0.980	0.908
Governance Cooperation Satisfaction	0.977	0.982	0.917

Note: All $\alpha>0.7$, $CR>0.7$, $AVE>0.5$, measurement model passes reliability and convergence validity inspection.

4. Empirical analysis and results

4.1. Sample stakeholder composition structure

From sample composition, ordinary villagers and enterprise representatives constitute the two largest research groups, while the village cadre sample size only accounts for 2.35%, consistent with the original survey's practical problem of insufficient grassroots cadre sample collection; partial towns and streets fail to obtain valid questionnaires, leading to uneven spatial sample distribution across Zhaoqing's towns ^[6]. **Table 2** shows the composition of 170 valid samples. Ordinary villagers (27.65%) and enterprise representatives (26.47%) dominate respondents, cooperative members account for 17.06%, village cadres only 2.35%, and other participants reach 26.47%. The under-represented cadre sample is a sampling limitation.

Table 2. Classification statistics of valid research samples (N=170)

Stakeholder Category	Sample Number	Proportion (%)
Enterprise Representatives	45	26.47
Ordinary Villagers	47	27.65
Rural Cooperative Members	29	17.06
Village Cadres	4	2.35
Other Participants	45	26.47

4.2. Overall preference of the six major cooperation modes

The model has high explanatory power. The path coefficients are stable, and the dominant role of direct effects is confirmed. **Table 3** shows that industrial chain investment is the most popular option at 27.06%, followed by co-built industrial platforms (21.18%). Village-enterprise joint development takes 15.29%, state-capital infrastructure 10.00%, PPP the lowest at 3.53%, and other modes account for 22.94%.

Table 3. Proportion of respondents' preferred governance and cooperation modes

Cooperation Mode	Percentage (%)
Industrial Chain Joint Investment & Merchants Introduction	27.06
Co-build Rural Industrial Platform	21.18
Village-Enterprise Joint Common Prosperity Mode	15.29
State-owned Capital Led Rural Infrastructure Construction	10.00
Public-Private PPP Cooperation	3.53
Other Customized Cooperation Forms	22.94

Industrial chain joint investment becomes the most recognized mainstream mode among all respondents, especially favored by enterprise representatives (43.48% of enterprise samples select this option); village-enterprise joint mode gains the highest favor from ordinary villagers and cooperative members.

4.3. Hypothesis verification result

All three research hypotheses pass statistical significance inspection via PLS-SEM path analysis:

- (1) H1 is supported: Stakeholder identity significantly affects cooperation preference ($P < 0.001$), enterprise groups lean toward industrial chain layout, and villagers focus on benefit-linked joint projects.
- (2) H2 is supported: Higher education and middle-aged grouping positively promote project participation willingness ($P < 0.01$), highly educated young-middle participants prefer emerging industries such as

new energy and intelligent manufacturing.

- (3) H3 is supported: Gender brings significant selection discrepancy on cooperation types ($P < 0.05$), matching the aforementioned gender distribution data of each cooperation mode.

5. In-depth mechanism analysis and existing practical problems

5.1. Three core formation mechanisms of participation heterogeneity

5.1.1. Interest orientation differentiation mechanism

Enterprises pursue long-term industrial layout and market profit; ordinary villagers focus on immediate wage income and public service upgrade; cooperatives aim for stable order and standardized production benefit; village cadres focus on policy landing and grassroots governance improvement; differentiated interest positioning directly leads to varied participation motivation.

5.1.2. Human capital matching mechanism

Highly educated and middle-aged participants possess stronger information processing and industrial acceptance ability, are easier to engage in high-tech featured industries such as new energy, auto spare parts processing; low-education rural residents tend to join traditional planting, primary processing, and village tourism projects.

5.1.3. Regional resource restriction mechanism

Sihui, with concentrated advanced manufacturing enterprises, owns the highest sample proportion (29.41%), forming a prominent industrial chain cooperation advantage, while remote mountainous counties like Deqing and Feng have fewer sample subjects restricted by enterprise quantity and traffic conditions.

5.2. Deficiencies reflected from empirical data

- (1) The sample of village cadres is severely insufficient, unable to fully reflect grassroots management's real demands.
- (2) Questionnaire distribution concentrates on economically developed streets and towns such as Dawang and Huanggang; remote mountain villages have scarce samples.
- (3) Though over 80% respondents approve of income and employment improvement brought by assistance projects, nearly 30% mark "neutral" for related indicators, indicating income increment still needs further optimization.

6. Research conclusion and policy enlightenment

6.1. Main research conclusion

- (1) Stakeholder identity is the core source of participation preference differentiation under Zhaoqing's "TEHTT" policy; four subject groups have distinct interest demands and cooperative tendencies.
- (2) Education level and age form human capital heterogeneity, which significantly changes project participation intensity and industry selection.
- (3) Gender difference prominently reflects in different village-enterprise cooperation modes; female participants are more suitable for village joint development and grassroots livelihood projects.

- (4) Current policy implementation has drawbacks, including unbalanced regional sample coverage and an insufficient cadre participation channel.

6.2. Targeted practical implications

- (1) Improve multi-body benefit sharing mechanism: Take industrial chain investment as the core mainstream mode, bind enterprise long-term investment with villagers' dividend distribution via the "enterprise + cooperative + peasant household" mechanism.
- (2) Supplement village cadre participation channel: Expand future investigation sample of grassroots cadres, set a special consultation post for cadres in project decision-making link to absorb grassroots governance suggestions.
- (3) Implement differentiated classified policies: For highly educated young talents, introduce a new industry matching support policy; for middle-aged rural laborers, focus on traditional featured agriculture and prefabricated food industry training; formulate gender-oriented project layout according to females' preference for village joint construction.
- (4) Focus on livelihood optimization: Continuously increase investment in employment-enabling industries to lift rural residents' wage income, the weak link reflected by neutral scoring in income indicators.
- (5) Promote categorized mode popularization: Popularize industrial chain investment in industrial concentrated zones such as Sihui and Dawang, and roll out village-enterprise joint prosperity mode in remote mountainous counties with abundant agricultural resources.

Acknowledgments

The author appreciates the help from the Zhaoqing local agricultural and rural bureaus, industry associations, and all surveyed enterprises and villages during field data collection.

Funding

This study was supported by the Zhaoqing Philosophy and Social Sciences Planning Key Project (No. 25ZD-04).

Disclosure statement

The author declares no conflict of interest.

References

- [1] Liu P, Han A, 2025, The Neo-endogenous Development Perspective of Stakeholders and their Synergy in Rural Revitalization. *Environment Development and Sustainability*, published online. <https://doi.org/10.1007/s10668-025-06001-0>
- [2] Guo Y, Li S, 2024, A Policy Analysis of China's Sustainable Rural Revitalization: Integrating Environmental, Social and Economic Dimensions. *Frontiers in Environmental Science*, 2024(12): 1436869. <https://doi.org/10.3389/fenvs.2024.1436869>

- [3] Yang Y, Kidokoro T, Seta F, et al., 2023, Are Local Residents Benefiting from the Latest Urbanization Dynamic in China? China's Characteristic Town Strategy from a Resident Perspective: Evidence from Two Cases in Hangzhou. *Land*, 2(2): 510. <https://doi.org/10.3390/land12020510>
- [4] Shiferaw BA, Okello J, Reddy RV, 2007, Adoption and Adaptation of Natural Resource Management innovations in Smallholder Agriculture: Reflections on Key Lessons and Best Practices. *Environment Development and Sustainability*, 11(3): 601–619. <https://doi.org/10.1007/s10668-007-9132-1>
- [5] Chang CH, Chang YY, Lu PH, 2017, Non-Tuberculous Mycobacteria Infection Following Autologous Fat Grafting on the Face. *Aesthetic Surgery Journal*, 38(1): NP1–NP5. <https://doi.org/10.1093/asj/sjx168>
- [6] Bavorova M, Bednarikova Z, Ponkina EV, et al., 2021, Agribusiness Social Responsibility in Emerging Economies: Effects of Legal Structure, Economic Performance and Managers' Motivations. *Journal of Cleaner Production*, 2021(289): 125157. <https://doi.org/10.1016/j.jclepro.2020.125157>
- [7] Salehi KR, 2023, Rural Cooperatives Social Responsibility in Promoting Sustainability-Oriented Activities in the Agricultural Sector: Nexus of Community, Enterprise, and Government. *Sustainable Futures*, 2023(7): 100150. <https://doi.org/10.1016/j.sfr.2023.100150>
- [8] Yang RN, 2022, Who Is Willing to Participate in Local Governance? Modernization of Shared Governance in China. *Sustainability*, 14(22): 14899. <https://doi.org/10.3390/su142214899>
- [9] Baggett S, Jefferson B, Jeffrey P, 2008, Just How Different Are Stakeholder Group Opinions on Water Management Issues? *Desalination*, 218(1–3): 132–141. <https://doi.org/10.1016/j.desal.2006.08.025>
- [10] Smith CS, 2002, Research and the Realities of the Industry. *Architectural Research Quarterly*, 6(2): 101–106. <https://doi.org/10.1017/s1359135502261552>
- [11] Wu M, 2013, Towards a Stakeholder Perspective on Competitive Advantage. *International Journal of Biometrics*, 8(4): 20–29. <https://doi.org/10.5539/ijbm.v8n4p20>
- [12] Yang J, Zuo Z, Li Y, et al., 2024, Manufacturing Enterprises Move Towards Sustainable Development: ESG Performance, Market-based Environmental Regulation, and Green Technological Innovation. *Journal of Environmental Management*, 2024(372): 123244. <https://doi.org/10.1016/j.jenvman.2024.123244>
- [13] Cousin V, 2019, Rural Credit Cooperatives, in *Banking in China*. Palgrave Macmillan, London. https://doi.org/10.1057/9780230595842_14
- [14] Yang YL, 2019, Leadership and Governance Tools for Village Sustainable Development in China. *Sustainability*, 11(20): 5553. <https://doi.org/10.3390/su11205553>
- [15] Zhang L, Gao P, Zhou Y, et al., 2019, Surviving through Incubation Based on Entrepreneurship-Specific Human Capital Development: The Moderating Role of Tenants' Network Involvement. *Sustainability*, 11(10): 2866. <https://doi.org/10.3390/su11102866>

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.