



Roles and Agricultural Support Mechanisms of University Foreign Language Volunteers: A Case of Maoming's Lychee Industry

Xianni Huang, Ziyang Tan, Lingjing Jin, Ying Zhou*

Foreign Languages School, Guangdong University of Petrochemical Technology, Maoming, China
Email: 2848622605@qq.com, *805365509@qq.com

How to cite this paper: Huang, X.N., Tan, Z.Y., Jin, L.J. and Zhou, Y. (2025) Roles and Agricultural Support Mechanisms of University Foreign Language Volunteers: A Case of Maoming's Lychee Industry. *Open Access Library Journal*, 12: e14607. <https://doi.org/10.4236/oalib.1114607>

Received: November 14, 2025

Accepted: December 9, 2025

Published: December 12, 2025

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Abstract

Against the rural revitalization backdrop, integrating university talents into local signature industries boosts industrial upgrading and internationalization. This study, focusing on Maoming's lychee industry, globally the largest lychee production base, explores university foreign language volunteers' roles in its internationalization, offering actionable university-industry collaboration models for agricultural development with significant theoretical and practical value. Despite its scale, the sector faces key challenges: insufficient international brand influence, cross-border marketing/multilingual talent shortages, and cultural barriers to overseas market entry. To address these issues, this study adopts a mixed-methods approach, combining qualitative and quantitative analyses. Primary data were collected through interviews and questionnaire with three stakeholder groups: 28 university foreign language volunteers (English majors from Maoming-based universities with experience in lychee industry support), 30 lychee growers/cooperative representatives from major production areas (Gaozhou, Dianbai, Genzi Town), and 15 managers from local lychee e-commerce and foreign trade enterprises. The findings reveal that foreign language volunteers play four roles in the entire industry chain (pre-production, production, post-production): international marketing facilitators, cross-cultural communication bridges, digital content creators, and agricultural knowledge dissemination intermediaries. Their practical supports include developing multilingual e-commerce platforms, conducting cross-border live-streamed sales and managing international social media accounts, translating and localizing product documentation/certification materials, and organizing cross-cultural agricultural tourism activities. Additionally, current practices exhibit limitations in sustainability, professionalism, and coordination mechanisms. To optimize these efforts, this study proposes a Triple Helix Model: establishing a long-term collaborative mechanism among universities,

local governments, and enterprises; enhancing the professionalism and sustainability of volunteer services; and refining the integration of foreign language expertise into agricultural industrial development. This research offers theoretical and practical insights for university participation in local industries under rural revitalization.

Subject Areas

Social Science, Rural and Regional Development

Keywords

University Foreign Language Volunteers, Maoming Lychee Industry, Agricultural Support Mechanisms, Role Identification, Industrial Internationalization, Rural Revitalization, University-Industry-Government Collaboration

1. Introduction

As a signature fruit of Southern China, lychee cultivation carries profound cultural significance spanning over 2000 years. Maoming City, Guangdong Province, hailed as China's Lychee Capital, is the world's largest lychee production base, accounting for roughly one-fifth of global output and one-quarter of China's total [1]. Yet, amid its transition from traditional agriculture to modernization and internationalization, the Maoming lychee industry confronts multiple development bottlenecks [2]. First, as Zhang Zhidong, a prominent statesman of the late Qing Dynasty, noted, "Even the finest wine fears an obscure alley." Despite the exceptional quality of its lychees, Maoming lacks robust international brand influence and value addition, with overseas market expansion remaining inadequate. Second, amid the growing prominence of cross-border e-commerce, local farmers and SMEs lack interdisciplinary talent proficient in foreign languages, versed in international norms, and skilled in digital marketing, hampering effective engagement with global markets. Furthermore, the lychee's rich cultural connotations, such as the historical allusion "a steed raising crimson dust to please the imperial consort" and time-honored cultivation techniques, have not been effectively communicated to overseas consumers through compelling cross-cultural narratives, leaving significant potential for cultural value enhancement untapped [3]. However, universities alone cannot sustain the full potential of this talent pool; establishing a collaborative mechanism integrating resources from multiple stakeholders is imperative. The current volunteer-supported agricultural model exhibits three prominent shortcomings that constrain its long-term effectiveness, undermining the sustainability and scalability of its contributions to the lychee industry's internationalization. First, service continuity remains insufficient due to the seasonal and project-based nature of volunteer engagement. Volunteer involvement is highly concentrated during the lychee harvest season (May-July), display-

ing distinct short-term characteristics. Upon the conclusion of service periods, ongoing tasks such as overseas account management and customer relationship maintenance are prone to disruption, which hinders the consolidation of early-stage market cultivation gains and conflicts with the long-term requirements for fostering international agricultural markets. Second, the professional competency structure of volunteers is imbalanced, limiting their ability to address complex industry needs. While volunteers' core strengths lie primarily in language translation and cultural communication, they generally lack systematic knowledge of agricultural science, international trade regulations, and cross-border logistics experience. This gap leads to insufficient capability in tackling specialized issues such as cross-border contract review and Sanitary and Phytosanitary (SPS) compliance, potentially introducing unforeseen risks into trade partnerships. Third, coordination mechanisms among relevant stakeholders are underdeveloped, resulting in fragmented and unsystematic support. Volunteer activities are predominantly coordinated on an ad-hoc basis by universities or local Youth League committees, with no formal integration of responsibilities and resources among the tripartite entities, universities, local government, and enterprises. Crucial components including volunteer rights protection, standardized service evaluation criteria, and systematic pre-service training remain underdeveloped, which adversely affects the consistency of service quality and the retention of volunteer talent. While existing research has acknowledged the general role of university student volunteers in rural revitalization, systematic studies focusing on the role positioning, practical pathways, and impact mechanisms of foreign language majors within a specific agricultural industry chain, such as Maoming's lychee sector, remain scarce. This study adopts the Triple Helix Model of university-government-enterprise collaboration to construct a foreign language volunteer service mechanism. Within this framework, universities, as core entities for talent cultivation and knowledge production, oversee volunteer recruitment, training, and academic credit recognition; the government acts as a coordinator by aligning with international industry needs and providing policy support; and enterprises contribute practical positions, mentorship, and funding for implementation, collectively forming a sustainable "university-local government-enterprise" collaborative operational structure [4]. Through this theoretical lens, the study aims to systematically analyze foreign language volunteers' role positioning, service pathways, and functional mechanisms in advancing the internationalization of Maoming lychees. It further seeks to explore the development of a "foreign language + industry" integrated training system and a standardized knowledge transfer framework, thereby enhancing the professionalism and sustainability of volunteer services.

2. Research Methodology

To achieve the research objectives, this study adopts a mixed approach that integrates qualitative and quantitative investigation. Qualitative interviews were conducted to capture participants' lived experiences and contextualized perceptions,

while a questionnaire was administered to identify macro-level statistical patterns and population distribution characteristics. The triangulation and complementary analysis of these datasets enable a systematic examination of the multi-layered impact mechanisms within the foreign language volunteer-assisted agricultural program, thereby ensuring both the richness of empirical data and the robustness of research conclusions.

2.1. Research Subjects

This study involved three participant groups: 1) 28 English major students from universities in Maoming, Guangdong Province, who had prior experience participating in agricultural support projects related to Maoming lychees (hereafter referred to as “university foreign language volunteers”); 2) 30 representatives of lychee growers and cooperative managers from major production areas including Gaozhou, Dianbai, and Genzi Town; and 3) 15 managers from local lychee e-commerce enterprises and foreign trade companies.

2.2. Data Collection and Analysis

This study adopted three methods for data collection: questionnaire survey, semi-structured interviews, and field observation. An electronic questionnaire was designed and distributed to the volunteer group, covering aspects such as participation motivation, specific service content, skill application, self-efficacy assessment, and challenges encountered. A total of 26 valid questionnaires were collected, with a valid response rate of 92.85%. In-depth interviews were conducted from the three groups mentioned above. Interview outlines were tailored to each specific group; for instance, volunteers were primarily asked about their role experiences, while farmers and business owners were focused on the practical benefits and shortcomings of the volunteer services. A total of 25 valid interviews were completed. The research team conducted field investigations at the Genzi Town Lychee Industrial Park and E-commerce Incubation Base in Maoming. They observed volunteer activities such as live-stream commerce and online negotiations with foreign clients and collected physical materials including multilingual promotional content and live-stream data records. Quantitative data from questionnaires were analyzed using descriptive statistical methods. Qualitative data (transcripts of interview recordings, observation notes, physical materials) were analyzed through repeated reading, coding, and categorization to identify core themes concerning volunteer roles, pathways, effectiveness, and challenges.

3. Results and Discussion



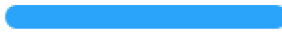
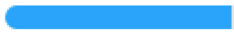














The findings of this study confirm that university foreign language volunteers serve as a significant and efficient driving force in promoting the global expansion of local specialty agricultural products, delivering value across both economic and socio-cultural dimensions. Economically, they directly contribute to sales growth and trade cooperation through channel development and brand upgrading. So-

cially and culturally, they generate soft benefits through the dissemination of agricultural heritage and the broadening of farmers' perspectives [5].

3.1. University Foreign Language Volunteers

A questionnaire was designed targeting foreign language volunteer activities organized for the 2023 China International Tropical Crop Industry Conference and the China Lychee and Longan Industry Conference (see **Table 1**).

Table 1. What is your task in this translation volunteer work? [Multiple Choice]

option	quantity	proportion
Preliminary data collection	14	 53.85%
Preparatory Document Translation	21	 80.77%
On-site reconnaissance in the early stage	26	 100%
Preliminary Rally	21	 80.77%
Pre-event on-site rehearsal	14	 53.85%
Receiving and seeing off foreign guests	5	 19.23%
Onboard English Commentary	5	 19.23%
Onboard Chinese Commentary	5	 19.23%
Accompanying Translation at the Conference	6	 23.08%
Guangken accompanies the translator	6	 23.08%
Process shooting materials	0	 0%
News report writing	1	 3.85%
Thank you to the foreign guests in the later stage	0	 0%
Post production material organization	0	 0%
Post production summary writing	7	 26.92%
Post questionnaire design	2	 7.69%
Post attendance summary	1	 3.85%
Other work	1	 3.85%
	26	

Through systematic analysis of the research data, this study identifies four core roles undertaken by university foreign language volunteers in the internationalization of the Maoming lychee industry. These roles are interdependent and create synergistic effects, jointly promoting the cross-border communication, market expansion, and brand building of the local lychee sector. Specifically, they function as “international marketing facilitators”, “cross-cultural communication bridges”, “digital content creators”, and “agricultural knowledge dissemination intermediaries”, each contributing uniquely to addressing key challenges in industrial internationalization.

The central role for language volunteers is international marketing facilitator. Over 90% of volunteers participated in multilingual product translation and in-

troduction, accomplishing accurate, localized translations for cultivar names (e.g., Feizixiao, Baitangying), product characteristic descriptions, and quality inspection reports; 85% were deeply involved in cross-border e-commerce operations; approximately 60% directly engaged in overseas market promotion through methods like live-stream commerce and short video creation, enabling direct connection between products and overseas consumers.

Beyond marketing facilitation, volunteers also serve as vital cross-cultural communication bridges. In scenarios such as receiving international buyers or participating in online international trade fairs, volunteers undertook dual tasks of interpretation and cultural explanation. Their core value lies not only in language conversion but also in resolving cross-cultural cognitive biases by interpreting the lychee's symbolic meaning of auspiciousness in Chinese culture and explaining the evolution of preservation techniques, thereby building a foundation of trust for trade cooperation [4].

Complementing their communication roles, volunteers act as innovative digital content creators to expand international visibility. Leveraging international social media platforms like Instagram, Facebook, TikTok, and YouTube, the volunteer team built a diversified content matrix. For instance, they used vlogs to document the entire lychee production process from flowering management to harvesting and packaging. This presentation of traditional cultivation methods combined with modern technology effectively reached overseas younger consumer demographics and fostered brand recognition.

In addition to promoting the industry externally, volunteers fulfill the role of agricultural knowledge dissemination intermediaries to support internal development. Volunteers with outstanding foreign language skills undertook the translation of technical documents. They facilitated the conversion of international technical literature on topics such as precise orchard management, green pest and disease control, and post-harvest preservation, thereby creating channels for local farmers to access advanced agricultural knowledge.

However, the scopes of this role remain limited. Firstly, in terms of information transfer, effective dissemination requires not only accurate translation of specialized content but also its contextual localization. Secondly, regarding the volunteer workforce, structural limitations persist, including a scarcity of interdisciplinary talent (proficient in both foreign languages and agronomy) and high turnover rates, which undermine service continuity. Thirdly, on the end-user (farmer) side, barriers to adoption include reliance on traditional practices, low receptivity to unverified external technologies, and difficulties in comprehending theoretical technical documentation. Furthermore, organizational support is inadequate, characterized by unstable funding, lack of systematic training for volunteers, and insufficient inter-departmental collaboration. Finally, at the macro-systemic level, these services often operate at the periphery, lacking integration into formal agricultural extension systems, comprehensive top-level design for talent cultivation, and standardized, scalable service models. These collective challenges significantly

constrain the depth and long-term effectiveness of volunteer-based agricultural technology knowledge services.

Based on questionnaire survey data (with a valid response rate of 92.85%), volunteers' participation motivations demonstrate a pattern of diversity with clear focus. The primary motivation is professional practice empowerment (80.77%), with most volunteers aiming to hone their core skills in foreign language interpretation and translation through real-service scenarios such as pre-event document translation and conference accompanying interpretation. The second motivation is social value identification (53.85%), where volunteers seek to contribute to the internationalization of local specialized industries and fulfill the mission of rural revitalization by participating in preliminary data collection and on-site surveys. Additionally, the accumulation of practical experience (26.92%) and the desire for cross-cultural engagement (23.08%) also serve as significant driving factors. The former reflects volunteers' expectations to master cross-border service procedures through the activities, while the latter indicates their aspiration to enhance intercultural communication competence in contexts such as hosting foreign guests and conducting cross-cultural negotiations.

3.2. Agricultural Support Mechanisms

To address key bottlenecks in the Maoming lychee industry chain, the volunteer team implemented four targeted and synergistic support interventions, focused on promotion, branding, cross-border trade, and international mindset cultivation, that collectively yielded quantifiable practical outcomes. These interventions encompassed the development and optimization of overseas online channels to expand market reach, the international rebranding of Maoming lychees to enhance brand value and narrative depth, facilitation of cross-border trade cooperation through specialized linguistic and operational support, and the cultivation of an international market mindset among local farmers to lay the foundation for long-term industrial internationalization. To break through the bottleneck of limited overseas exposure, the first pathway focuses on online channel development and optimization. The team assisted three core cooperatives in establishing their first overseas social media accounts; after three months of refined operation, these accounts achieved an average follower growth rate of 200%, with monthly inquiry volume increasing by over 40% compared to the initial stage. Additionally, cooperative stores participating in volunteer-led live-streaming campaigns recorded an average 30-50% surge in overseas sales during the event periods. Building on expanded online reach, the second pathway centers on the international rebranding of Maoming lychees. Volunteers led the development of a multilingual promotional materials system, including electronic brochures and thematic videos [6], which repositioned Maoming lychees from a regional fruit to a premium gift embodying millennium of agricultural culture. This strategic rebranding significantly enhanced the brand's narrative depth and added value, driving an average 15% increase in end-consumer prices. With brand influence and online channels

established, the third pathway serves as a direct facilitator of cross-border trade cooperation. During the 2023 lychee harvest season, volunteers provided full-cycle translation support for a transnational online negotiation session, achieving a critical breakthrough in enabling direct supply of regional lychees to overseas markets, filling the gap in direct cross-border trade for local cooperatives. Beyond industrial and economic gains, the fourth pathway focuses on cultivating an international mindset among local farmers. Farmer interview results indicated that over 80% of respondents reported “broadening their horizons” through interactions with volunteers, developing the market awareness that lychees can be sold globally. Notably, 30% of farmers proactively learned basic English greetings and core product vocabulary, laying a foundational mindset and skill base for future independent engagement in international markets. This study confirmed that university foreign language volunteers serve as a significant and efficient catalyst for promoting the global expansion of local specialty agricultural products. Their value manifests in dual dimensions: economically, by directly boosting sales and trade partnerships through channel development and brand enhancement; and socio-culturally, by generating intangible benefits through the dissemination of agricultural heritage and the broadening of farmers’ perspectives.

3.3. The Triple Helix Model

To address the aforementioned limitations and grounded in the core logic of collaborative innovation among universities, government, and industry as posited by the Triple Helix model, the following optimization strategies are proposed to enhance the sustainability, professionalism, and systematicity of the volunteer support model:

First, establishing a “University-Local Government-Enterprise” collaborative long-term mechanism serves as the foundational guarantee for resolving service continuity challenges. Leveraging local government leadership, a permanent “Maoming Lychee Internationalization Development Volunteer Service Base” should be established, with a clear delineation of tripartite responsibilities: the government coordinates international industry needs and provides policy support; enterprises offer practical positions, mentor resources, and funding; universities oversee volunteer selection, training, and academic credit recognition. To ensure uninterrupted service, a “year-round demand mapping and rotational service” model should be implemented, aligning volunteer deployment with the entire industry chain rather than limiting it to the harvest season.

Second, developing a foreign language-industry interdisciplinary training system may address the imbalance in volunteers’ professional competencies. Collaborating with agricultural technology extension centers and cross-border e-commerce enterprises, modular training curricula should be designed to cover core areas such as lychee cultivation fundamentals, international trade practices, cross-border logistics processes, and Sanitary and Phytosanitary (SPS) compliance standards. A pre-service empowerment model integrating “theoretical instruction

+ enterprise practicum” should be adopted, enabling volunteers to bridge the gap between linguistic proficiency and industry-specific expertise.

Third, creating a standardized knowledge transfer system safeguards service professionalism and reduces operational risks. Volunteer achievements and best practices should be systematically documented to build a Digital Asset Repository for Maoming Lychee Overseas Promotion, which includes multilingual translation templates, live-streaming scripts, successful promotional videos, and customer databases. This repository forms reusable, operational guidelines that lower the entry barrier for new volunteers and ensure consistent service quality across batches.

This study lies in its precise delineation of the role spectrum and operational mechanisms of foreign language volunteers within the context of a specialty agricultural product, providing a targeted service framework for industrial internationalization. A primary limitation is the concentration of the research sample within the Maoming region, which necessitates further validation of the findings’ generalizability. Future research should expand to other specialty agricultural sectors to explore the alignment between volunteer service models and specific industry characteristics. Concurrently, longitudinal tracking is recommended to evaluate the practical effectiveness of the proposed long-term mechanisms and refine the optimization strategies dynamically.

4. Conclusion

Against the backdrop of deepening integration between rural revitalization and the digital economy, university foreign language volunteers, leveraging their unique linguistic skills and cross-cultural competencies, have played a dual role as strategic catalysts and systemic connectors in the internationalization of Maoming’s lychee industry. Through empirical research, this study systematically identifies four key roles undertaken by volunteers in promoting Maoming lychees on the global stage: facilitators of international marketing, bridges for cross-cultural communication, creators of digital content, and mediators of local knowledge dissemination [7]. It further elaborates on the specific pathways through which these volunteers, equipped with digital tools and cross-cultural strategies, empower the transformation of regional agriculture. Practice has shown that this model not only alleviates the talent shortage hindering the international expansion of Maoming lychees but also expands training opportunities for foreign language students, initially achieving positive interplay between professional development and industrial revitalization. By engaging in cross-border e-commerce and international trade, volunteers help distinctive agricultural products “go global”, while assisting rural enterprises in aligning with international standards and market demands, thereby enhancing product value-added. Governments and academic institutions can establish multilingual service teams to deeply engage in the development of cross-border agricultural platforms, offering end-to-end linguistic support, from multilingual adaptation of product detail pages to the formulation of

international marketing strategies [8]. Furthermore, the rich traditional cultural resources, unique ecological environment, and authentic humanistic spirit of rural areas can provide vivid materials and practical scenarios for teaching, research, cultural inheritance, innovation, and ideological education in foreign language universities, thereby promoting their connotative development [9]. However, for this volunteer-assisted agriculture model to evolve from a periodic supplement into a systematic support, structural challenges related to service sustainability, skill specialization, and institutional coordination must be addressed. Looking ahead, efforts should focus on building a more robust tripartite collaborative ecosystem involving universities, local governments, and enterprises. This entails upgrading volunteers' competency structures from monolingual expertise to interdisciplinary applicability and enhancing the replicability and sustainability of agricultural support projects through service standardization and operational digitalization. Building on this foundation, the experience gained from university foreign language volunteer services can be extended to other regionally distinctive agricultural sectors, such as "five trees, one fish, one feast", infusing rural revitalization with international, digital, and human-centered youthful energy on a broader scale and helping more Chinese agricultural products step into the global spotlight [10].

Acknowledgements

Upon the completion of this paper, we would like to express our sincerest gratitude to all who have supported this research. First and foremost, we extend our thanks to the relevant leaders and staff in Maoming City for providing valuable research opportunities and data support. We are profoundly grateful to the lychee growers, business managers, and university volunteers who participated in our interviews and questionnaire surveys. Your candid sharing formed the cornerstone of this study. Furthermore, we extend our heartfelt appreciation to our supervising teachers for their dedicated guidance and invaluable insights throughout the research design, implementation, and writing processes. Finally, we acknowledge all the scholars whose works are referenced in this study.

Funding Projects

Innovation and Entrepreneurship Training Program for College Students of Guangdong University of Petrochemical Technology 2024 (24C254).

And as supporting materials for the subsequent projects:

Linguistic Bridges, Rural Charms: Empowering Beautiful Villages to Connect with the World.

Decoding the Spiritual Genealogy of Studying Abroad to Serve the Motherland in the New Era: A Survey of Chinese Overseas Students.

"Lychee" Legacy Class: Immersive Storytelling Unlocks a New Realm of Cultural Inheritance.

Conflicts of Interest

The authors declare no conflicts of interest.

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