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Research on the Problems and Countermeasures of Empowering Smallholder Farmers through Regional Public Brands of Agricultural Products—A Case Study of Wuchang Rice

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Abstract: Regional public brands of agricultural products are important tools for promoting high-quality agricultural development and rural revitalization. As a nationally renowned regional public brand, Wuchang Rice serves as a typical case of "strengthening agriculture through branding." However, in practice, the benefits of the brand are often captured by intermediaries, leaving a large number of dispersed smallholder farmers with insufficient participation and limited gains. The issue of "marginalization of smallholder farmers" persists. Taking Wuchang Rice as a case study, this paper analyzes the mechanisms and challenges of empowering smallholder farmers through regional public brands of agricultural products. It identifies structural difficulties in the current empowerment process, including high participation thresholds, imbalanced benefit distribution, and unsustainable empowerment measures. Further, the paper proposes solutions such as optimizing access mechanisms, strengthening capacity building, innovating benefit linkage models, and improving governance structures. The aim is to ensure that smallholder farmers at the production end can obtain greater brand premiums, providing theoretical reference and practical guidance for the inclusive development of regional public brands.

Keywords: Regional public brands of agricultural products; Wuchang Rice; Smallholder farmers; Inclusive development; Empowerment

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1. Introduction

In recent years, the Chinese government has placed high priority on agricultural brand development, with the Central Document No.1 consistently outlining key strategies for the "brand-driven agricultural revitalization" initiative [1]. The report to the 20th National Congress of the Communist Party of China further emphasized the need to "develop distinctive rural industries and broaden channels for farmers' income growth," providing clear guidance for agricultural product branding [2]. Policy reviews reveal that over time, regulatory frameworks and farmer-oriented mechanisms for regional public agricultural brands have been continuously refined, evolving from a focus on quantity expansion to quality enhancement. Early policies primarily concentrated on brand establishment aspects such as geographical indication registration and standard setting, whereas recent policies have shifted emphasis toward brand management, benefit-sharing mechanisms, and supply-demand alignment, stressing that brand value should flow back to producers [1, 3–5]. As pivotal intermediaries connecting small-scale farmers with broader markets, regional public agricultural brands play a critical role in driving rural revitalization efforts through their direct impact on agricultural communities.

However, reality shows that certain regions still face challenges such as homogenized brand development and difficulties in increasing farmers' incomes. Meanwhile, negative effects like free-rider behavior stemming from the "public good" nature of regional agricultural product brands have become increasingly apparent over time. These issues create a disconnect between enhancing brand value and boosting farmers' incomes. Finding a balance between brand value enhancement and benefits for farmers has thus emerged as a central challenge in brand development. Existing research on regional agricultural product brands primarily focuses on aspects such as brand building, standardization systems, marketing strategies, and government governance [6–9]. Few studies examine the inclusivity of these brands from the perspective of small-scale farmers—specifically, how the benefits of regional agricultural product brands extend to ordinary farmers at the end of the supply chain.

Wuchang Rice, as a quintessential regional public brand in China's rice industry, boasts a long cultivation history and exceptional market recognition. However, in stark contrast to the rapid growth of its brand value, numerous small-scale farmers engaged in fragmented farming practices have failed to fully benefit from this brand development. Using Wuchang Rice as a case study, this paper identifies the practical challenges faced by small farmers in leveraging regional public brands while proposing optimization strategies, thereby providing theoretical insights and practical recommendations for inclusive development of such brands.

2. Overview of the development of Wuchang Rice as a regional public agricultural brand and the current status of small farmers' participation

2.1. History of brand establishment and development

The cultivation of Wuchang rice dates back to the early Tang Dynasty during the Bohai Kingdom period. In the 15th year of the Daoguang reign of the Qing Dynasty (1835), ancestors of Korean ethnic groups began cultivating rice on reclaimed land in Wuchang. After Wuchang was established as a prefecture in the first year of the Xuantong era (1909), its reputation as "a thousand-year-old rice crop and century-old tribute rice" gradually gained recognition. During the modern brand certification phase, the Wuchang Rice Association obtained approval from the former Trademark Office of the State Administration for Industry and Commerce in 2001 to register the certification mark "Wuchang and Eagle Symbol"; the "Wuchang Rice" trademark was registered in 2007; and it received geographical indication certification for agricultural products in 2008. Through over two decades of dedicated branding efforts, Wuchang rice has become a model regional public agricultural brand in China.

2.2. Brand scale and market impact

Wuchang City is located in southern Heilongjiang Province, covering a total area of 7,512 square kilometers with superior arable land resources. In terms of industry entities, there are over 2,000 rice processing enterprises and more than 4,000 various planting cooperatives locally, while the development of modern agricultural industrial parks and industrial demonstration zones is progressing steadily [10]. Regarding brand value, Wuchang rice achieved a brand value of 71.36 billion yuan in 2025, maintaining its position as the top-ranked rice product under geographical indication products nationwide for ten consecutive years. For brand promotion, the Wuchang municipal government allocates no less than 4 million yuan annually in special funds to organize enterprises with traceability certification to participate in various exhibitions and trade fairs, and to launch distinctive promotional initiatives such as the “Wuchang Rice Festival” and “Rice Auction,” continuously enhancing brand influence [11].

2.3. Brand governance structure

The brand governance framework for Wuchang Rice has established a four-tiered organizational structure comprising “government – association – enterprise – farmer.” Specifically, the government oversees strategic planning, policy support, and market supervision; the association manages certification trademarks, develops industry standards, and reviews brand authorization applications; over 2,000 rice processing enterprises form the core force in brand operation; while the actual cultivation entities across 157,000 hectares of paddy fields consist of numerous small-scale farmers operating independently.

Brand authorization implements a pre-review system. The Wuchang Rice Association, in accordance with the “Management Rules for the Use of the ‘Wuchang Rice’ Certification Trademark,” reviews the qualifications of applicants; those meeting the requirements must sign the “Certification Trademark Usage License Contract” and obtain the “Certification Trademark Usage Certificate” before being permitted to sell rice under the regional public brand name of Wuchang Rice. Regarding traceability system development, Wuchang City continues to advance the “dual-code” traceability mechanism, aiming to ensure brand authenticity through technical means.

2.4. Overview of smallholder participation

Although the brand value of Wuchang Rice has been rising steadily, this increase has not been accompanied by a corresponding growth in the income of smallholder farmers. Relevant surveys reveal that the production and operation entities of Wuchang Rice are plagued by conspicuous problems of “small scale, fragmentation, and disorder.” The cooperative mechanisms between leading enterprises and ordinary farming households are not close; most farmers are locked into the raw material supply segment at the bottom of the industrial chain, earning only meager returns from supplying raw materials. There is a huge gap between their earnings and the final retail prices, and they do not benefit from the brand premium. Even when farmers attempt to engage in processing, they are unable to meet the brand access standards due to a lack of standardized training and technical support [12].

The formation of this situation has deep structural causes. At the level of brand authorization mechanisms, the existing access criteria—based on production scale, processing capacity, and quality certification—objectively favor large-scale operators, while smallholder farmers operating in a dispersed manner are naturally excluded because they cannot independently bear the compliance costs. In terms of interest linkage, the relationship between leading enterprises and smallholders is mostly a loose raw material purchase-and-sale relationship, lacking a close benefit-sharing mechanism. As a result, the value-added benefits of the brand concentrate upstream along the industrial chain, and the profit margins in the cultivation segment continue to shrink.

This phenomenon is not unique to Wuchang; it has become a structural issue of considerable universality in the development of regional public brands for agricultural products. Namely, the higher the brand value and the more significant the market premium, the more intense the competition among various links of the industrial chain for value-added gains, and the more easily the vulnerable smallholder farmers become marginalized. An in-depth examination of the real situation of smallholder farmers in brand development is both the logical starting point for understanding the issue of brand inclusiveness and a necessary prerequisite for exploring solutions. Therefore, the subsequent sections of this paper analyze the dilemmas faced by smallholder farmers from three perspectives—participation mechanisms, benefit distribution, and long-term empowerment—and propose corresponding countermeasures.

3. Dilemmas in empowering smallholder farmers through the Wuchang Rice regional public brand

3.1. High participation thresholds: Impediments to smallholder access

The stringent standards governing Wuchang Rice brand authorization have effectively excluded a substantial number of smallholder farmers from the core cooperative network. An examination of the access mechanism reveals that the "Rules for the Administration of the 'Wuchang Rice' Certification Trademark" mandate that applicants possess commensurate production scale, quality testing capabilities, and market credibility. While such criteria appear reasonable for large-scale enterprises, they constitute a formidable barrier to entry for smallholder farmers operating on a dispersed basis.

Beneath this phenomenon lies a fundamental tension between the standardization logic inherent in brand governance and the fragmented reality of smallholder production. The access system of regional public brands is, in essence, a standardized screening apparatus whose design logic inherently tilts in favor of large-scale operators capable of absorbing compliance costs. For smallholder farmers, by contrast, fragmented landholdings, capital constraints, and limited access to technology are pervasive characteristics—factors that collectively generate a latent exclusionary effect at the institutional level. Corroborating data underscore this point: Wuchang City's annual legitimate production of authentic Wuchang Rice falls short of 1 million tons, whereas the volume of rice sold in the market under the Wuchang label exceeds 10 million tons. This staggering discrepancy reflects, on the one hand, the prevalence of counterfeit products from outside the Wuchang production area masquerading as genuine Wuchang Rice; on the other hand, it also indicates that the products of local smallholder farmers genuinely engaged in cultivation have failed to gain effective entry into the brand system. A considerable number of dispersed smallholder farmers and micro-enterprises remain outside the core cooperative network, lacking access to the support necessary for brand building, market development, and technological innovation.

3.2. Imbalanced profit distribution: Smallholders receive minimal benefits

The uneven distribution of brand dividends constitutes the primary reason for smallholders' low sense of gain. An examination of the sharing mechanism reveals that while Wuchang Rice commands a substantial brand premium, with market prices far exceeding those of ordinary rice, the bulk of this premium is intercepted by circulation channels and processing enterprises. Farmers situated at the bottom of the industrial chain capture only comparatively meager returns on the raw materials they supply.

In other words, the R&D and brand marketing segments of the value chain appropriate the lion's share of value-added gains, whereas the production segment witnesses continuously shrinking profit margins. From the perspective of enterprise behavior, most firms are adept at leveraging the reputation of the Wuchang Rice public brand to reap benefits; yet, in the absence of a well-functioning regulatory environment for public brands, these same enterprises display reluctance to incur additional costs for brand operation and maintenance. Some enterprises even engage in adulteration and misrepresentation, thereby exacerbating the "tragedy of the commons" associated with public brands and further undermining farmers' interests. When brand reputation suffers from such free-riding behaviors, it is the smallholders at the lowest echelon of the industrial chain who bear the brunt of market price volatility and the erosion of consumer trust. Compounding this predicament is smallholders' lack of effective channels for interest articulation, which results in generally low perceptions of distributive fairness—despite their engagement in Wuchang Rice cultivation, they fail to perceive any tangible income improvement attributable to the brand.

3.3. Insufficient empowerment sustainability: Absence of long-term mechanisms

Current empowerment measures suffer from short-termism and fragmentation, failing to coalesce into a sustainable institutional framework. An examination of the empowerment mechanisms reveals that the "company + cooperative + farmer" model constitutes the predominant organizational pathway, yet its coverage remains limited, with a substantial number of unaffiliated farmers left outside the organizational system. Technical training content leans heavily toward standardized production protocols, inadequately addressing the differentiated needs of farming households. Moreover, training outreach is constrained in scope, with elderly farmers and other demographic groups displaying notably low participation rates.

The root cause of this predicament lies in the excessive reliance of existing empowerment models on external resource inputs, coupled with a neglect of endogenous development capacity cultivation among smallholders. Scholarly discourse on "empowerment" has undergone an evolutionary shift from "external empowerment" to "endogenous development," emphasizing that genuine empowerment should consist of activating the subject's self-development capabilities rather than merely delivering resource transfers [13–14]. Wuchang Rice's current practice remains ensnared in the "external empowerment" stage, wherein government special funds support brand promotion—an administrative input model that is inherently unsustainable. Once policy backing diminishes, brand promotion efforts may well encounter difficulties. From the organizational bottleneck perspective, the associative capacity of the rice association is constrained, and its cohesive and mobilizing influence over industry enterprises and organizations requires substantial strengthening to effectively integrate diverse stakeholders. At the institutional level, enforcement of brand usage management rules is lax, with phenomena such as "possessing standards without applying them" and "selective application" being widespread. This underscores the urgent need to enhance compliance management of public brand usage and to establish effective self-supervision and self-constraint mechanisms. Collectively, these issues indicate that smallholder empowerment confronts a dual dilemma: "insufficient institutional supply" and "inadequate endogenous motivation."

4. Countermeasures and suggestions for enhancing the inclusivity of empowerment via the Wuchang Rice regional public brand

4.1. Optimizing access design: Toward a categorized and tiered authorization mechanism

Refinement of the brand access mechanism entails a shift from a unitary standard toward a differentiated, category-based approach. First, categorized access should be implemented. Based on farmers' operational scale, production conditions, and quality control capacities, differentiated authorization criteria should be established. For dispersed smallholder farmers, participation thresholds can be lowered through mechanisms such as collective application via cooperatives or village collectives, simplified certification procedures, and pre-certification counseling—thereby enabling their entry into the brand system in an organized form rather than demanding individual compliance. Second, a gradient cultivation mechanism should be established. A three-tier growth ladder of "preliminary brand — formal brand — demonstration brand" may be instituted. Smallholders who meet basic production norms but have not yet fully attained standards can first be incorporated into the preliminary brand tier, receiving technical guidance and transitional support, and gradually achieving formal brand standards through sustained cultivation. This design expands the inclusive coverage of the brand without compromising the overall quality baseline. Third, application procedures should be streamlined. "Green channels" and agency services may be provided for smallholders, with village committees or cooperatives handling brand application formalities on their behalf, thereby reducing transaction costs arising from information asymmetry and procedural unfamiliarity.

4.2. Strengthening capacity building: Crafting a precision-oriented training empowerment system

A demand-responsive, tiered training framework should be constructed. First, adherence to demand orientation entails a shift from supply-driven to demand-responsive approaches. Pre-training diagnostics should be conducted to identify competence gaps among different farmer cohorts in areas such as standardized cultivation, quality control, brand awareness, and e-commerce operations, with differentiated curricula designed accordingly to avoid a one-size-fits-all training provision. Second, tiered training should be implemented. The foundational tier targets all farmers, focusing on basic skills such as standardized cultivation protocols and safe use of inputs. The advancement tier addresses willing and capable farmers, emphasizing brand consciousness cultivation, short-video marketing, and live-streaming commerce. The elite tier targets cooperative leaders and large-scale growers, with emphasis on market connectivity, product innovation, and brand management capabilities. Third, training effectiveness translation should be emphasized. Post-training follow-up mentoring mechanisms should be established, with technical personnel conducting regular return visits to convert classroom knowledge into field operational competence. The overarching goal is to recalibrate the empowerment mechanism from "insufficient coverage and imprecise targeting" to "tiered instruction with integrated learning and application," thereby enhancing smallholders' foundational capacity for brand participation.

4.3. Innovating benefit linkages: Constructing farmer income guarantee mechanisms

A restructuring of benefit guarantee mechanisms is imperative. First, a floor-price purchase plus premium-sharing system should be established. Leading enterprises should be encouraged to sign long-term procurement contracts with farmers, specifying floor-price purchase guarantees while stipulating that a defined proportion of the brand premium be returned to farmers, thereby realizing "one transaction, two distributions." Second, shareholding cooperative models should be promoted. Farmers may be supported to contribute land use rights, labor, or capital as equity in cooperatives and processing enterprises, forming equity-based linkages rather than mere buyer–seller relationships. Third, a risk cushion mechanism should be established. A brand risk fund, financed through multiple channels including fiscal subsidies, enterprise contributions, and association coordination, should be designated specifically to cushion against severe market price fluctuations and major natural disasters, providing a safety net for farmers' basic incomes. Through these measures, the benefit-sharing mechanism is transformed into one of participation-based distribution, ensuring that the dividends of brand development genuinely reach the smallholder farmers at the downstream end of the chain.

4.4. Improving governance structures: Building a multi-stakeholder collaborative mechanism

A collaborative governance architecture should be constructed. First, governmental steering and regulatory functions should be reinforced. The government's role should progressively transition from direct capital provider to institutional supplier and market regulator, with intensified crackdowns on counterfeit and substandard products to safeguard brand reputation. Second, the association's organizational and coordinating capacity should be enhanced. The Wuchang Rice Association's functions in standard-setting and enforcement, technical training organization, and quality dispute mediation should be strengthened, with adequate professional staffing to augment its mobilizing and constraining power over member entities. Third, leading enterprises' driving responsibilities should be explicitly defined. The number of smallholders driven and the implementation of benefit-linkage arrangements should be incorporated into the assessment criteria for leading enterprise recognition and support policies, creating an institutionalized incentive–constraint mechanism. Fourth, regularized channels for farmer participation should be established. Farmer deliberation platforms should be created, with smallholder representatives selected to participate in major association decision-making, ensuring that smallholders possess voice and information access in brand governance. Ultimately, a multi-stakeholder collaborative governance framework—characterized by governmental guidance, association empowerment, enterprise driving, and farmer participation—should be constructed to provide institutional guarantees for the sustainable operation of brand-based smallholder empowerment.

5. Conclusion

Taking Wuchang Rice as a case study, this paper has systematically analyzed the practical dilemmas and optimized pathways pertaining to the empowerment of smallholder farmers through regional public brands of agricultural products. The findings reveal that current brand development is beset by structural predicaments—prohibitive participation thresholds, skewed benefit distribution, and insufficient empowerment sustainability—whose root cause lies in the neglect of inclusivity dimensions within institutional design. In the pursuit of brand value appreciation and market scale expansion, effective farmer-linking mechanisms have not been synchronously constructed, giving rise to a disconnect between brand development and farmer benefit realization. The study further proposes remedial pathways encompassing optimized access design, strengthened capacity building, innovated benefit linkages, and refined governance structures.

The research equally demonstrates that regional public brand development cannot afford to focus solely on scale and efficiency gains; rather, equal attention must be directed toward smallholders' genuine participation and sense of gain. Local governments are called upon to accentuate inclusivity orientation in institutional design, endeavoring to construct a brand governance system in which access, empowerment, and benefit-sharing develop in synergy. Only through such an integrated approach can the strategic aspiration of "strengthening agriculture through branding" be substantively fulfilled, enabling brand dividends to benefit the broadest farming population and thereby facilitating the deep integration of agricultural modernization with rural revitalization.

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