

Green-Development Strategy for Agricultural Economy in Qinba Mountain Area

Liu Xu ^{1,2}, Mei Xurong ², Yang Shiqi ³, Yang Zhengli ³, Xing Lei ³, Liu Hongyuan ³

1. Chinese Academy of Engineering, Beijing 100088, China

2. Chinese Academy of Agricultural Sciences, Beijing 100081, China

3. Institute of Environment and Sustainable Development in Agriculture, CAAS, Beijing 100081, China

Abstract: Green development of agricultural economy is critical in promoting and coordinating ecological protection and economic development in the Qinba Mountain Area. To meet the research demand for green and circular development in this area, this study thoroughly analyzed the current situation of agricultural economy and summarized the guiding ideology and strategic targets for the green development of agricultural economy. Furthermore, some innovative paths were elaborated from the aspects of agricultural development policy, large-scale land management, directional flow of talents and capital, technological upgrading of rural industries, promotion of labor quality, industry integration, and establishment of the World-Famous Mountain brand. Specifically, some guarantee measures were proposed, including the promotion of common understanding and academic studies on regional development, implementing large-scale, branded, and specialized agricultural operation through demonstration, setting up a financial mechanism suitable for rural industries, transforming the functions of local governments, optimizing the role of rural-level organizations, and balancing the space for urban and rural development. Moreover, a specialized economic zone for green economy development should be established in the Qinba Mountain Area, and the ecological system should be innovated to guide the sustainable development of the society, economy, and ecology in this region.

Keywords: Qinba Mountain Area; agricultural economy; green development

1 Introduction

Clear waters and green mountains are as good as mountains of gold and silver. Great decisions for ecological civilization construction were made by nations to accelerate the establishment of “three red lines” (e.g., assurance baseline for ecological function, security bottom line of environment quality, up line for natural-resource utilization) and implementation of the all-round, all-region, and all-process ecological environment protection [1]. The Qinba Mountain Area (the Qinba) is located in the national inland geographic center in China, which includes the Henan, Hubei, Sichuan, Shaanxi, and Gansu provinces and the Chongqing municipality (five provinces and one municipality, FPOM). More than 3000 types of spermatophytes and more than 400 types of wild animals exist in this area, which have prominent ecological values. Two-thirds of the area belongs to the restricted and forbidden development zones in the ecological main-function area in China where the ecological environment is relatively sensitive. The Qinba is regarded as a national key ecological barrier, center reservoir, ecological basement, and security vital.

However, in terms of industrial and economic development, the Qinba is one of the 11 concentrated and contiguous typical poverty-stricken regions in China. In late 2015, it had a poverty-stricken population of 7.12

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Corresponding author: Liu xu, academician of Chinese Academy of Engineering. Major research field is crop germplasm resources; E-mail: liuxu01@caas.cn

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million, which accounted for 12.8% of the national poverty-stricken population. The incidence of poverty was 11.6%, which was 2.04 times the national average level. It also had 67 national-scale poverty-stricken counties, which was 11.3% of the national total [2]. The situation between prominent ecological value and backward economic conditions prompts the country to implement green and recycling development for the Qinba. According to the actual demand of ecological protection and economic development, Chinese Academy of Engineering launched the consulting project “Research on the Green and Circular Development Strategy of the Qinba Mountains (Phase II)” in 2017. The present study focuses on the Qinba agricultural economic situation, development goals, realization routes, and strategic measures and is expected to provide a reference for green development of the Qinba and even for other mountain regions.

2 Agricultural economic situation in the Qinba

2.1 Gross output value (GOV) of farming, animal husbandry, fishery, and agricultural service in the Qinba offers advantages to the FPOM and that of the FPOM is close to the national average level

The GOV of FPOM is 24.66% of the national total, and the GOV of the Qinba is 15.82% of the FPOM GOV (the reference indicators are cultivated land where the FPOM represents 24.2% of the national cultivated land and that of the Qinba is 13.3% of the FPOM) [3–10]. The Henan, Hubei, and Sichuan provinces have industrial advantages at the provincial scale. The Sichuan and Shaanxi provinces show obvious industrial advantages at the regional scale. The GOV of Qinba region within the Henan and Hubei provinces is slightly below the Qinba average level. Only the per capita GOV of Hubei province presents a certain advantage at the provincial scale, and the per capita GOV of the Qinba region within the Hubei and Shaanxi provinces shows advantages at the regional scale.

2.2 The output value of farming in the FPOM is above the national average level, and the output value of farming in the Qinba is above the medium level in FPOM

The output value of farming in the FPOM is 26.42% of the national level [3–10], and that in the Qinba is 14.97% of the FPOM value [3–10]. The output value of farming in the Henan and Sichuan provinces enjoys significant advantages and that of the Hubei province has certain advantages at the provincial scale. At the regional scale, the Qinba region within the Henan, Sichuan, and Shaanxi provinces have distinct advantages, especially the Shaanxi region. The output value of farming per capita in the Hubei, Shaanxi, and Gansu provinces enjoys distinct advantages in the FPOM, and that of the Henan province is slightly below that of the FPOM and national average level. The output value of farming per capita in the Qinba region within the Henan, Hubei, and Shaanxi provinces displays distinct advantages in the Qinba, and that of Hubei and Shaanxi regions is higher than the average level of the FPOM.

2.3 The output value of animal husbandry in FPOM demonstrates certain advantages at the national level, and that in the Qinba displays disadvantages at the FPOM level

The output value of animal husbandry in the FPOM is 26.81% of the national value, and that in the Qinba is 16.21% of the FPOM value [3–10]. The output value of animal husbandry in the Henan, Hubei, and Sichuan provinces demonstrates distinct advantages in terms of abundance compared with that in the FPOM and that of the Henan and Sichuan provinces is more than 30% of the FPOM value. The output value of animal husbandry the Qinba region within Sichuan Province is 37.22% of that in the Qinba and that within the Hubei and Shaanxi provinces demonstrates advantages. The output value of animal husbandry per capita in the Henan, Hubei, and Sichuan provinces enjoys advantages over that in the FPOM (the output value of animal husbandry per capita in the FPOM is higher than that of the national average level), and that of the Qinba region within the Hubei, Sichuan, and Shaanxi provinces enjoys great advantages over the Qinba and that within the Hubei and Sichuan provinces enjoys advantages over that in the FPOM.

2.4 The output value of agricultural service in the FPOM shows certain advantages over that in the national level, and that in the Qinba shows some advantages over that in the FPOM

The output values of agricultural service in the Henan and Hubei provinces are advantageous among the FPOM, which are 29.0% and 32.76% of the GOV of the FPOM, respectively [3–10]. The output value of agricultural service in the FPOM is close to that of the national average level. The output values of agricultural service in the

Qinba region within the Hubei and Shaanxi provinces present major advantages in the Qinba, especially in the Shaanxi region, which is 46.03% of the Qinba total. The output values of agricultural service per capita in the Hubei, Shaanxi, and Gansu provinces are advantageous among the FPOM, particularly in Hubei and Gansu, which are both 1.92 and 1.89 times the FPOM average level, respectively. The output values of agricultural service per capita in the Qinba region within the Hubei and Shaanxi provinces have obvious advantages, which are 1.7 and 2.3 times the Qinba average level, respectively.

2.5 The output value of farming and animal husbandry constitutes the main part of the agricultural industrial structure in the FPOM

The GOV of farming and animal husbandry in each of the Henan, Sichuan, Shaanxi, and Gansu provinces and Chongqing goes beyond 90% of their respective GOV [3–10], and the output value of farming in each member of the FPOM accounts for over 50% of its respective GOV. That in the Henan, Shaanxi, and Gansu provinces and Chongqing accounts for over 60% of their respective GOV, and the proportion reaches 76% for Hubei province. The GOV of farming and animal husbandry in each province within the Qinba accounts for 90% of the respective region. The highest value is close to 95% in the Qinba region within the Henan and Sichuan provinces. The output value of farming in the Qinba region within the Henan, Shaanxi, and Gansu provinces and Chongqing accounts for over 60% of its respective GOV.

The aforementioned analysis shows that the FPOM demonstrates an ecological highland and agricultural and industrial tablelands. The Qinba demonstrates an ecological highland, an agricultural tableland, and an industrial tableland; its secondary and tertiary industries demonstrate lowlands; and its agriculture demonstrates a lowland in terms of agricultural industry, farmer income, and rural collective economy. To realize a green and circular development in the agricultural economy, revitalizing these three land resources is needed: farmland; woodland, grassland, and pond; and rural homestead. A green development special zone for the Qinba agricultural economy is highly recommended and a policy system that promotes the green development of the agriculture should be established so as to attract more social capital for deep involvement in agriculture and rural industry.

3 Green development strategies for agricultural economy in the Qinba

3.1 Guiding ideology

According to the general deployment of national ecological civilization construction, the Qinba agricultural economy green-development should focus on promoting the agricultural supply-side structural reforms, adhere to the basic routes of spatial distribution optimization, productive resource conservation, ecological protection, agricultural economic growth, and steady agricultural-product supply, strengthen the basic tasks of double security in ecology and food, double supply of green and organic foods, and double growth in the farmer income and rural economy, establish the basic driving force of institutional, mechanisms, policy, and sci-tech innovation, serve the main body of “farmers, agriculture, and rural areas,” build the domestic and international markets, and follow lawful supervisions of government and public. By transforming traditional agriculture development, optimizing the main industrial distribution, improving continuously agricultural habitat environment, protecting nature and agriculture resources, the ecosystem service functions would be promoted in the Qinba. The green development core ideas should be implemented into the process of agricultural production, a new harmonious intergrowth pattern should be constructed between human and nature in the Qinba, and the green production and green lifestyle should be propelled, to support national first-class green product brands and rural revitalization in the Qinba.

3.2 Strategic objectives

According to the green development demands in the agriculture industry, farmer economy, and rural revitalization in the Qinba, we set up the green development orientation and ideas, innovate a green development system, construct a green development mechanism, create a new model for green development, and establish test and demonstration zone for green development.

(1) For higher industrial chain benefits, the regional harmonious development between productive forces and relations of production must be further driven to accelerate farmland transfer and promote industrialized and scaled operation of agriculture as well as the convergence of the three main industries (i.e., the primary, secondary, and tertiary industries). To build some agricultural product brands with geographical references to the Qinba Mountain Areas and establish some competitive famous trademarks, environment-friendly agricultural techniques that

control the non-point resource pollutions should be promoted and measures for realizing “zero growth” and “double reduction” of fertilizers and pesticides should be implemented.

(2) New central villages and population community need to be established by village-to-village convergence and urbanization to allow population flow from the rural areas to the cities and towns to populate empty villages with only old people and to alleviate poverty. Efforts should focus on revitalizing the countryside and prospering the Qinba characteristic rural culture.

(3) To develop a new Qinba with beautiful settings, ecological security, highly effective industry, and rural prosperity, the national and local governments should increase funding investment and technical input, launch preferential policies, and encourage enterprise domination and participation to upgrade the traditional business model and industry system into a new model using modern science and technology as its core engine to accelerate the green development of the agricultural in the Qinba.

(4) To meet the national drinking water criterion in the main basins and their branches, projects for ecological environmental comprehensive control and protection in the Qinba should be implemented to ensure better quality and efficiency as well as ecological environment security. To build the national main ecological functional areas and the world-famous mountains, strategies for ecological highland must be seriously implemented for a long term to guarantee water quality in the South-to-North Water Diversion Project and to continuously perform the important role of ecosystem service function in the surrounding area and even all over the country.

4 Strategic routes of green development of the agricultural economy in the Qinba

To conduct the sustainable development of agricultural economy is the ultimate aim. In the Qinba, rural areas and agricultural industries are the foundations for the green development of agricultural economy. The agricultural economy will naturally transform to a green orbit once the agricultural industries are transformed into a green industry. The green development of the rural areas and the agricultural industries are neither traditional agricultural models nor high-input–high output intensive agriculture but are a modern organic agricultural model. Nevertheless, they apply environment-friendly techniques to realize coordinated development for economic, ecological, and social benefits.

4.1 Formulating policies for green development of agricultural economy

The main policies for green development of agricultural economy in the Qinba are listed as follows.

(1) Application of ecological compensation. For example, the National Development and Reform Commission (NDRC) issued the *Price of Water Supply from the South-to-North Water Transfer Mid-line First Stage Project*, the more downstream the water goes, the higher the integrated water price becomes (the benchmark water price is RMB 0.13 per cubic meter, the highest water price is RMB 2.33 per cubic meter). The effects on restoration of grain plots into forest and grass, restrictions on the use of fertilizer and pesticides, and limitations on industry development (e.g., yellow ginger industry) are related to appropriate compensation. The compensation may be included in the water price or an independent compensation price may be constructed. In addition, to develop organic agriculture, policies regarding marketing and (or) governmental compensation should be first clarified.

(2) Implementation of intelligent importation. In the Qinba, 14.05 million migrants live in the rural and urban areas, which account for 21.63% of the population, 29.48% of the rural population, and 48.89% of the rural labor force. The migrants are mostly young adults, and the country caretakers are mostly the old, women, and children. Few college graduates return home; thus, the intellect level in the rural area is low. Preferential policies for educational intelligence import are very much needed to solve the problem of “low rural intellect” and support the green development of agricultural economy through point-to-point poverty alleviation, sci-tech assistant, preferential treatment, and training programs.

(3) Making the regional funding policies for agriculture, farmers, and rural areas. “Funding lowland” operates in a one-way capital outflow because of the immigration of rural people to the urban areas, thus blocking backflow of the techniques and talents and leading to worse industrial conditions such as abandoned farmland, extensive cultivation, shrinking traditional processing industry, empty villages, and villages populated only by old people. Hence, national projects and private capital should be introduced in the agricultural and rural secondary and tertiary industries.

4.2 Accelerating farmland large-scale management

As the cultivated area per person is less than 1 mu (666.7 m²), more people and lesser and low quality land

simultaneously coexists in the Qinba, which result in increasing land conflict. People have difficulty living a decent and respectable life by depending only on limited land, further resulting in land-caused poverty and uncertain future. Moreover, making a living sacrifices the environment. Not only the use of advanced agriculture techniques and financial services but also the improvement in the quality of agricultural products, benefits, and market competitiveness has come across great challenges because of a small farmhouse model. Farmland transfer and moderate-scale management are the methods for satisfying the demands of agriculture structure adjustment and supporting the agricultural industrialization to improve the industry quality and efficiency. Opportunities and conditions for industry development and rural revitalization must be created by breaking the limitation of small farmhouses to promote labor efficiency and economic benefits.

4.3 Accelerating talent inflow to agricultural and rural industries

Rural development is above all agricultural development and rural revitalization is above all agricultural revitalization. The villages in Qinba need people with visions and talents who are willing to make career out of agriculture and to promote development in the agricultural industry. They also need investors and managers who highly regard rural areas. They could be born in rural areas, have rural life experiences, and have engaged in agricultural production, which would aid their understanding of the rural areas and effective coordination of resources, techniques, and funds for agricultural development. They also need professionals from new emerging industries and fields. The rural areas in Qinba have valuable assets that are not available in the urban areas, including fresh air, traditional folk costume, and a distinct ecological environment represented by rivulets, waterfalls, and dams. With this background, rural tourism, health care, and village entertainment could emerge as new focal points for rural re-development. In addition, the “country gentlemen system” should be promoted and practiced to enable retirees to contribute to their homelands from their intelligence and wisdom.

4.4 Encouraging capital inflow to agricultural and rural industries

Agriculture and rural development need capital support in the Qinba. Agriculture and rural-development platforms should be established in the Qinba to integrate all types of resource elements, funding, techniques, and talents to enhance agriculture and rural-industry infrastructure. The local government can encourage the inflow of private capital for agriculture and rural industries according to a preferential policy so that the professionals, advanced techniques, market channels and interfaces, ideas of industrial development, and valuable experiences can be initiated. Private capital has a higher efficiency and strong investment demand, and by encouraging these rich people to go to the countryside, the capital flow can fluidly infuse the countryside. The government should provide some preferential policies to create better business environment to support individual and private enterprises, to help non-public capital to make a great contribution to develop agriculture and rural economy in the Qinba. In addition, other funding that includes availing of loans from national government, World Bank, and Belt and Road projects should be well implemented to promote the green development of agricultural economy.

4.5 Upgrading agriculture and rural techniques

The “technique hollow” of agricultural industry is very obviously in the Qinba, so agricultural techniques should be made great efforts to upgrade and apply. The main focus for technical upgrade comprises greening, organification, ecology concern, specialization, diversification, precision, mechanization, intelligentization, quality optimization, improvement of functions, commercialization, introduction of agricultural products with a famous brand, promotion of highly efficient resources, and industrialization. The techniques requiring upgrade include water- and soil-loss control, non-point source pollution control, precision farming, green agriculture, organic agriculture, agricultural product processing, and regional agriculture management.

4.6 Optimizing rural labor structure and improving quality

The advantage of labor quantity is non-existent in the Qinba under the influence of national work flow, resulting in the disadvantage in terms of labor structure and number. Labor shortage has become the bottleneck of agriculture and rural industries development. Hence, supplemental labor is very important and necessary in the Qinba, which includes general and high-quality laborers. To attract laborers, farmland transfer should be implemented first. Second, urban residents must be stimulated to live and work in rural areas by implementing homestead transfer. Third, graduates, young, people, and enterprises must be encouraged to start business in the

rural areas. The local government should make relevant policies to encourage the high-quality labor force with techniques and capitals to serve agricultural and rural industry development.

4.7 Accelerating the convergence of the three main industries

Convergence of the three industries is the integrated development of quality, green, and efficiency, and the nature of the convergence is the integration of agricultural production (planting and breeding), agricultural product processing, and marketing services. The goal of the convergence is to solve the low benefits (low price of agricultural products and low farmer income) in the whole agricultural industry chain. The total income of the secondary and tertiary industries is usually several or even dozens times bigger than that of the first industry, which therefore have the capacity and obligation to contribute to the farmer benefits to promote sustainable development of the agricultural industry. By increasing income of the primary industry, the entire industrial chain of agriculture can be improved, thus promote agricultural industry sustainable development. First, moderate-scale business should be promoted to build up the strengths of the first industry and farmers to solve the disadvantage that many small stakeholders directly connect to the market. Second, the establishment of cooperatives will further strengthen the primary industry and provide guarantee for improving the quality and efficiency of agricultural products. Third, the convergence of enterprise and households should be encouraged by contract farming to increase farmers' income. Fourth, farmers should be encouraged to enter into the secondary and tertiary industries to take part in the business, particularly during the slack season, to promote convergence of the three industries in rural area by cross-industry labors.

4.8 Establishing an “agricultural economy green development +” model

The most advantageous resource for the green development of rural and agricultural industries is the ecological environment in the Qinba so the model of “agricultural economy green development +” should be always persisted to protect the “central reservoir” and “ecological green lung”. The exceptional ecological value would be grafted in the agricultural products to create high-quality, organic, and healthy food to obtain better industrial benefits, support the green development of agriculture and rural industries, and solve the contradiction between ecological highland and agricultural economy lowland in the Qinba. By reasonable ecological compensation mechanism, the model of “agricultural economy green development +” should be established to avoid the expense of the environment and to achieve ecological environment protection and sustainable utilization (Fig. 1). The core of “agricultural economy green development +” is the center reservoir and ecologically green lung that are the key content of green development. In contrast, if the ecological environment was destroyed, the goal of the green development of the agricultural economy would be impossible to achieve and regional ecological security damages might be caused.

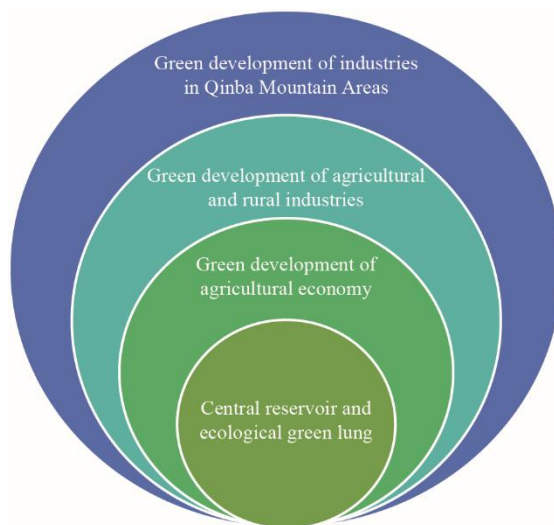


Fig. 1. Model of the “agricultural-economy green development +”.

4.9 Focusing on key measures of the green development of rural and agricultural industries

The green development of the rural and agricultural industries involves agricultural industry, rural industry, and

rural life in the Qinba. The key measures for the green development of the agricultural industries are the following: (1) the key measures for rural green industries are “clean vegetables leave villages” and “zero” wastes. The former refers to no dead leaves and mud-free vegetables, while the latter emphasizes that the agricultural products processing wastes should be used as feed or organic fertilizers, degradable packaging paper materials be used for agricultural products transportation, plastic packaging materials be recycled, disposable tableware be prohibited for agritainment and rural tourism, production water be conserved, and all tail water be treated without pollution discharge. (2) the key measures for agricultural green industries are green products and environment friendly techniques, including reduction of fertilizers and pesticides, straw application, water-saving irrigation, biological control of diseases and insect pests, healthy breeding, scientific epidemic prevention, fermentation bed breeding, and “zero” wastes of livestock and poultry breeding. (3) the key measures for rural life green development are collection of sorted household waste and toilet revolution. The former refers to household waster collection and sorting (such as inorganic waste collection and transportation, organic waster compost), and the latter refers to apply hygienic toilets, improve home conditions, and combine domestic wastewater with toilet renovation/garden planting/village drainage.

4.10 Integrating ecological and economic development to create a double highland (i.e., ecological and economical highland)

The strategic positioning of the Qinba is above all ecological highland, of which the ecological status is the most important and ecological value is increasing. Moreover, the Qinba should be economical highland, which needs to achieve depending on the ecological highland. The Qinba agricultural and rural industries development currently lag behind other regions in China, and existing industries have not been integrated with the “ecology” and “famous mountains”. Therefore, with its industrial economy being still depressed, the Qinba has become a region with rural decline. Lucid waters and lush mountains can become invaluable assets only by adjusting development ideas and deeply exploring the ecological value of the Qinba. To promote the green and sustainable development of the ecology, economy, and society, a “three mountains” strategy should be established in the Qinba, i.e., setting up of ecological, famous, and economically-competitive mountains (Fig. 2), by exploring the values of the Qinba in world’s ecological and cultural evolution and establishing the ideology of world famous mountains.



Fig. 2. Strategy frame of the integration of the ecological and economic developments to create a double highland in the Qinba.

5 Supporting measures for green development of the agricultural economy in the Qinba

5.1 Advocating the Qinba Green Development Manifesto (QGDM)

QGDM was announced in September, 2016, which created the consensus in infrastructure, natural conservation, ecological civilization, and cultural resources in FPOM. This consensus is significant for guiding ecological security and sustainable development in the Qinba, especially in regional agricultural economy green development. It is suggested that all parties make joint efforts to carry forward the development idea of “the Qinba not only for the Qinba people but also for Chinese and the world” so as to further understand, cherish, and develop Qinba and to promote the green and circular development of the region.

5.2 Continuing better performance of the high-class Qinba Forum

The first Qinba Forum of the China Engineering Science and Technology Forum was held in Xi’an, China, in September 2016. This Forum focused on the theme of regional green and circular development, indicated the orientations for sustainable development, and reached the consensus that the Qinba is China’s “central reservoir” and “ecologically green lung” as well as the lifeline of national ecological security. The second Qinba Forum was held in Nanyang, China, in October 2018. It deepened the theme of the regional green and circular development. It is suggested that under the general theme of the Qinba Forum, small and professional forums should be held irregularly to discuss academic, industrial, cultural, and economic topics or comprehensive topics relating to small regions so as to promote the in-depth development of the Qinba Forum and make better use of academic influences to serve regional green development.

5.3 Establishing demonstration villages for large-scale management of farmlands

A large number of high-quality labor forces are transferred from villages to towns in the Qinba, and the development trend of agricultural and rural industries has changed from “the limited cultivated land cannot support the dreams of rural residents” to “the land system cannot support the dreams of rural entrepreneurship”. Therefore large-scale management of the farmland is the key to promote rural and agricultural production development. Small-scale farming system is only for “survival” model and is not suitable for industry implementation, which will ultimately result in complete abandonment, half abandonment, or gloomy maintenance of the farmland by the farmers. Complete abandonment of the land leads to a waste of the limited farmland resources and even threatens national food security. Half abandonment leads to marked decrease in the management level and extensive operation of seed, fertilizers, irrigation, tillage, and harvest, which poses challenges for agricultural technique upgrade. Therefore, the agriculture industry is forced to transform from a “main job” to a “sideline job” or even a “discarded job” for farmers. Moreover, gloomy maintenance degrades farms to become an impoverished group. Only a large-scale farmland management model can attract labors, professions, techniques, and capitals to flow into rural and agricultural industries, which makes agricultural economy green development possible. We suggest promoting family farms in the Qinba Area to collate the small land plots into large farmlands. The agricultural industry should be developed to form a certain scale while developing the agricultural processing and service industries. The management of large-scale farmlands should be demonstrated, and the demonstration villages should be built to drive the transformation of other villages.

5.4 Registering agricultural product trademarks with a geographic indicator

The Qinba Area is a relatively independent geographic unit with a unique ecosystem quality in China, and it integrates diverse agricultural and forestry products, biodiversity and natural landscapes, and regional histories and cultures. We suggest registering a group of agricultural product trademarks with the geographical indicator of “the Qinba Mountain” to significantly promote the value of agricultural products with regional characteristics and ultimately form a group of geographical trademarks covering wide regions and with great market influences. These measures have potential market values and can promote both the sales of regional agricultural products and the income of agricultural producers, which is significant for regional rural and agricultural industry development. Furthermore, once rural and agricultural industrial economy benefits from lucid waters and lush mountains, a feedback mechanism of “ecological environment protection–green agricultural products–green economy–ecological environment protection” will be created.

5.5 Establishing farmer professional cooperatives in the Qinba

To protect the development of agricultural and rural industries as well as farmers' interests and to promote agriculture and rural modernization, we suggest establishing farmer professional cooperatives in the Qinba. Farmer professional cooperatives provide service such as purchases of agricultural means of production; sales, processing, transportation, and storage of agricultural products; agricultural technique and information services related to agricultural production and operation, thus to effectively protect the enthusiasm and interests of producers. Meanwhile, the convergence of the three main industries should be promoted to elevate the role of the first industry with respect to the second and tertiary industries for a better income of the farmers. The increasing development of the agricultural and rural industries will foster more farmer cooperatives with varied models and types such as grain cooperatives, vegetable cooperatives, fruit cooperatives, and agricultural machine cooperatives and they will play an important role in agricultural economy green development.

5.6 Establishing a financial service system for rural and agricultural industries in the Qinba

A suitable financial service system and innovative services are strongly suggested in the Qinba Area to introduce diversified financial products for helping agricultural and rural industries development. The scale and coverage of rural and agricultural financial services should be expanded to promote the process of agricultural industrialization. The local governments should encourage financial resources such as bank, insurance, capital funds, and futures to participate in region rural and agricultural industries development program, project constructions and implementation, for example, to apply forest right mortgage loans, explore farmland management rights and homestead mortgage loans, develop policy-oriented agricultural credit guarantee, construct novel agricultural insurance system, and expand the coverage of agricultural insurance. To promote regional industry, tourism, ecology, and infrastructure construction, the financial poverty alleviation and targeted poverty alleviation should be effectively and accurately matched to promote the efficiency and benefits of the poverty alleviation funds. To create a risk-sharing and compensation mechanism, a joint guarantee model should be established that involves the farmers, economical organizations, local government finance, and social guarantee institutions, thus to reduce the financial risks. Information collection, processing, and evaluation of rural low-income groups and small and micro enterprises should be conducted to lay a foundation for rural inclusive financial services.

5.7 Promoting the transformation of government functions and creating a good environment for development

The green development of the agricultural economy in the Qinba Area requires great courage and intelligence to push forward the transformation of government functions and the reforms of "delegate power and optimize services". This should adhere to the goal- and problem-oriented principles, execute classified guidance, and take adapted measures. The Qinba government should deepen the reform of "delegate power and optimize services" and modernize their governance systems and capabilities to create a conducive environment for the development of the rural areas and the agricultural industries. The government should also give a full scope of its macro-control functions while respecting the market laws to promote social creativity and create a standard, healthy, and sustainable business environment. The aims and key tasks of agricultural and rural industries should be clarified while considering people's feelings as an important determining factor, and the expected effects can be realized after solving the main problems. The local departments should improve the supervision standards and perfect the regulatory rules to promote comprehensive law enforcement. They may also use the Internet, big data, and other modern information technologies to improve the pertinence and effectiveness of supervision and support in-process and post-event supervision.

5.8 Playing the role of rural grassroots organizations in the Qinba

The agricultural and rural industry development cannot separate from the rural grassroots organizations in the Qinba, and improving their management capabilities is the important for the green development of agricultural economy. A group of rural grassroots organizations and first-line managers should be cultivated in villages and teams of first-line rural managers should be built who are responsible and initiative and love rural affairs; they practice an efficient and dynamic development mechanism and play a vital force in the green development of agricultural economy. Regarding the present situation in rural areas, the democracy and legal construction should

be effectively promoted in villages, autonomy as well as rule of law and virtue should be integrated, thus to create a better environment for the development of rural and agricultural industries.

5.9 Strengthening urban–rural integration to expand space for rural and agricultural development

The pattern of agricultural and rural industry development is not only confined in the rural areas but also around cities and towns to create some urban–rural integration models in the Qinba. The urban–rural integration model is as follows: (1) to establish coordinated development of urban–rural spatial pattern, change the binary pattern of “industries for urban areas, agriculture for rural areas,” and build the economic development model of integration for industries and agriculture; (2) to optimize the rural development pattern, balance the population, resources, and environment form the harmony of economic, social, and ecological benefits, construct a new rural area with organic integration of man and nature, and avoid new imbalance and waste of resources; (3) to improve the policy system of urban and rural integration and development, promote free flow, equal exchange, and resource complement of the productive elements between urban and rural areas, and satisfy the demands for such resources as education, market, finance, technology, talent, and information during the rural and agricultural industry development; (4) to strictly abide by the redlines for ecologic protection and basic farmland conservation as well as the boundaries of protected areas, scientifically plan the agriculture and urban spatial pattern and the space for natural resources exploitation, utilization, protection, and restoration; (5) to implement the overall urban and rural planning with regard to the industrial development, infrastructure construction, public services system, resources and energy and ecological environmental protection, scientifically practice rural layout and facility allocation, integrate villages, and construct an urban–rural development model where the countryside and modern towns have their distinct characteristics and are well-arranged.

5.10 Establishing a Special Green Economic Zone in the Qinba

The Qinba Area belongs to five provinces and one municipality in the administrative division; however, it should be regarded as a complete ecology and geography unit. There are significant differences in social and economic development in the Qinba Area owing to the influence of administrative and geographical location factors. Therefore, the overall improvement in quality and efficiency has become key to the green development of the regional economy. We propose the construction of a Special Green Economic Zone in Qinba that highlights the special characteristics of green development and emphasizes both ecological protection and economical revitalization. By innovating the ecological system, the first Special Green Economic Zone can be built, which would play a demonstrative and leading role in regional development.

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