

Analysis of Countermeasures for Colleges and Universities to Assist in the Construction of Rural Ecological Civilization Under the Rural Revitalization Strategy

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Abstract: Currently, in the advancement of the Rural Revitalization Strategy, the construction of rural ecological civilization faces numerous challenges: shortage of professional talents, disconnect between the talent supply of relevant disciplines in colleges and universities and rural needs; insufficient scientific and technological support, lagging research and promotion of practical technologies for rural ecology by colleges and universities; low popularity of ecological concepts, and inadequate in-depth ecological and environmental education and guidance for villagers by colleges and universities. Based on this, this paper explores the significance and countermeasures of colleges and universities assisting in the construction of rural ecological civilization under the Rural Revitalization Strategy. It aims to provide comprehensive support for rural ecological civilization construction through various strategies, promote rural ecological revitalization, and realize the coordinated and sustainable development of rural economy and ecology.

Keywords: Rural Revitalization Strategy; Ecological civilization construction; Ecological development

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1. Introduction

The Action Plan for Scientific and Technological Innovation in Colleges and Universities for Rural Revitalization (2018—2022) clearly states that we should fully implement the fundamental task of fostering virtue through education, coordinate educational resources and forces, give play to the important role of scientific research and practical education in the connotative development and high-quality talent training of higher education, and enhance the ability to cultivate innovative talents for rural revitalization; deepen the reform of the scientific and technological system in colleges and universities, innovate organizational models, strengthen collaborative innovation, improve the evaluation system, focus on tackling key scientific issues and core technologies in the

Rural Revitalization Strategy, and give full play to the role of colleges and universities as a source of scientific and technological innovation in the implementation of the Rural Revitalization Strategy; focus on the major needs in the implementation of the Rural Revitalization Strategy, optimize the disciplinary and professional structure of colleges and universities, promote the integration of industry and education, accelerate the construction of first-class agricultural universities and first-class agricultural disciplines, and strive to form a new situation where the connotative development of higher education is closely combined with promoting economic and social development^[1]. Colleges and universities should adjust their talent training strategies in accordance with national policy documents and specific rural needs, so as to better cultivate more talents in line with social development.

2. Significance of Colleges and Universities Assisting in the Construction of Rural Ecological Civilization Under the Rural Revitalization Strategy

2.1. Improve Rural Ecology and Enhance Rural Livability Quality

Ecological livability is the key to rural revitalization. Colleges and universities assisting in the construction of rural ecological civilization can significantly improve the rural ecological environment. With professional research teams, colleges and universities can conduct research on rural problems such as water pollution, soil pollution, and garbage disposal, and develop low-cost and high-efficiency treatment technologies and equipment^[2]. For example, develop small-scale sewage treatment devices suitable for rural areas to solve the problem of random discharge of domestic sewage; study soil improvement technologies to improve land quality. At the same time, through activities such as conducting ecological and environmental protection knowledge lectures and distributing publicity materials in villages, colleges and universities can enhance farmers' environmental awareness, guide them to develop green lifestyles, and reduce damage to the ecological environment^[3].

2.2. Promote Industrial Transformation and Inject Vitality into Rural Economy

Industrial revitalization is the focus of rural revitalization. Colleges and universities assisting in the construction of rural ecological civilization provide technical and intellectual support for the green transformation of rural industries. In the agricultural field, colleges and universities can promote ecological planting and breeding technologies, guide farmers to reduce the use of chemical fertilizers and pesticides, develop organic agriculture, improve the quality and added value of agricultural products, and enhance market competitiveness^[4]. For example, guide farmers to adopt biological pest control methods to produce green and pollution-free agricultural products. In addition, colleges and universities can assist rural areas in developing emerging industries such as ecotourism and leisure agriculture, tap rural ecological and cultural resources, create characteristic tourism projects, attract tourists, and drive the development of related industries such as catering and accommodation^[5].

2.3. Cultivate Professional Talents and Strengthen Support for Rural Development

Talent is the primary resource for rural revitalization. As a cradle of talent training, colleges and universities assisting in the construction of rural ecological civilization can cultivate a large number of professional talents for rural areas^[6]. Colleges and universities can set up relevant majors and courses such as environmental science, ecology, and rural regional development to targetedly cultivate compound talents who understand both ecological and environmental protection knowledge and are familiar with rural realities. By organizing students to carry out internships, practices, and research activities in rural areas, they can deeply understand the needs and current situation of rural ecological civilization construction and enhance their awareness and ability to serve rural areas.

At the same time, colleges and universities can provide continuing education and training opportunities for rural in-service personnel, update their knowledge and skills, and improve the ecological and environmental literacy of rural cadres and the masses^[7].

3. Countermeasures for Colleges and Universities to Assist in the Construction of Rural Ecological Civilization Under the Rural Revitalization Strategy

3.1. Strengthen the R&D of Environmental Protection Technologies and Provide Technical Support

3.1.1. Focus on Rural Environmental Pain Points to Develop Technologies

Targeting prominent rural problems such as water pollution, soil pollution, and garbage disposal, colleges and universities can organize research teams to conduct special research to better find environmental protection technologies and equipment suitable for rural development, thereby further promoting the construction of rural ecological civilization^[8].

3.1.2. Promote the Transformation of Environmental Protection Technology Achievements

Establish and improve the transformation mechanism of scientific research achievements, strengthen cooperation with enterprises, quickly transform the environmental protection scientific research achievements of colleges and universities into actual productivity, promote the wide application of environmental protection technologies in rural areas, and effectively improve the quality of the rural ecological environment^[9].

3.1.3. Conduct Environmental Protection Technology Training and Guidance

Organize expert teams to go deep into rural areas, carry out environmental protection technology training and on-site guidance for farmers, teach environmental protection technology operation methods and maintenance skills, improve farmers' environmental protection technology level and application ability, and ensure the effective implementation of environmental protection technologies in rural areas.

3.1.4. Establish Environmental Protection Technology Demonstration Bases

Select appropriate areas in rural areas to establish environmental protection technology demonstration bases, display advanced environmental protection technologies and equipment, allow farmers to intuitively feel the effects and advantages of environmental protection technologies, stimulate their enthusiasm and initiative in applying environmental protection technologies, and promote the popularization of environmental protection technologies in rural areas^[10].

3.2. Promote Ecological Agricultural Technologies and Facilitate Green Development

3.2.1. Develop and Promote Ecological Planting Technologies

Colleges and universities can promote technologies such as organic planting and green prevention and control to help farmers better understand the hazards of chemical fertilizers and pesticides to agricultural development, thereby further improving the quality of agricultural products.

3.2.2. Develop Ecological Breeding Technologies

Targeting the pollution problem of rural breeding industry, develop and promote ecological breeding models

and technologies, such as recirculating aquaculture and fermented bed breeding, realize the resource utilization of breeding waste, reduce breeding pollution emissions, and promote the green transformation of the breeding industry^[11].

3.2.3. Conduct Ecological Agricultural Technology Training

Through training courses, on-site demonstrations and other methods, teach farmers ecological agricultural technology knowledge and operational skills, enhance their ecological agricultural awareness and production technology level, guide farmers to actively participate in ecological agricultural construction, and increase their income^[12].

3.2.4. Establish Ecological Agricultural Demonstration Parks

Build ecological agricultural demonstration parks in rural areas to integrate and display technologies such as ecological planting, breeding, and processing, play a demonstration and leading role, drive the development of ecological agriculture in surrounding areas, form ecological agricultural industrial clusters, and promote the green upgrading of rural industries.

3.3. Optimize Professional Settings and Cultivate Professional Talents

3.3.1. Set Up Majors Related to Rural Ecological Civilization

After investigating the needs of rural ecological construction, colleges and universities can set up related majors such as environmental science, ecology, and agricultural resources and environment to cultivate more professionals with relevant expertise.

3.3.2. Adjust Professional Curriculum Systems

Optimize professional curriculum systems, add courses on rural ecological environmental protection, ecological agriculture, and rural environmental governance, focus on the combination of theory and practice, and improve students' comprehensive quality and ability to solve practical problems.

3.3.3. Strengthen Practical Teaching Links

Establish off-campus practical teaching bases, organize students to carry out internships, training, and graduation design activities in rural areas, allow students to deeply understand the current situation and problems of the rural ecological environment, and enhance their practical operation ability and social responsibility^[13].

3.3.4. Conduct Innovation and Entrepreneurship Education

Encourage students to carry out innovation and entrepreneurship activities in the field of rural ecological civilization construction, cultivate their innovative spirit and entrepreneurial ability, and inject new vitality and motivation into rural ecological civilization construction.

3.4. Transport Outstanding Talents and Supplement Grassroots Forces

3.4.1. Guide Graduates to Work in Rural Areas

Introduce relevant policies and measures to encourage college graduates to work in rural grassroots engaged in ecological civilization construction-related work, such as environmental law enforcement, environmental monitoring, and ecological restoration, to provide talent support for rural ecological civilization construction.

3.4.2. Carry Out Targeted Talent Training

Cooperate with local governments to carry out targeted talent training projects, train professional talents in rural ecological environmental protection and ecological agriculture for rural areas, who will work directly in rural grassroots after graduation to solve the problem of rural talent shortage^[14].

3.4.3. Establish Talent Exchange Mechanisms

Establish talent exchange mechanisms between colleges and universities and rural grassroots, regularly select college teachers to take temporary posts in rural areas, and invite rural grassroots cadres and technical personnel to further their studies in colleges and universities to promote two-way talent flow and exchange.

3.4.4. Provide Continuing Education Services for Talents

Provide continuing education services for rural in-service personnel, update the knowledge structure of rural talents through training courses and online learning, improve their professional level and comprehensive quality, and adapt to the new requirements of rural ecological civilization construction.

3.5. Tap Rural Ecological Culture and Inherit Fine Traditions

3.5.1. Conduct Rural Ecological Culture Research

Organize teachers and students to go deep into rural areas, carry out rural ecological culture research activities, tap traditional rural ecological cultural resources, such as ecological folk customs, ecological architecture, and ecological diet, and sort out and protect rural ecological cultural heritage^[15].

3.5.2. Establish Rural Ecological Culture Databases

Sort out and digitize the rural ecological culture data collected through research, establish rural ecological culture databases, and provide basic data support for the research, inheritance, and utilization of rural ecological culture.

3.5.3. Hold Rural Ecological Culture Exhibitions

Hold rural ecological culture exhibitions in colleges and universities or rural areas, display traditional rural ecological cultural achievements, let more people understand the connotation and value of rural ecological culture, and enhance social awareness of the protection of rural ecological culture.

3.5.4. Promote the Innovative Development of Rural Ecological Culture

Combine the needs of the times to innovate and transform traditional rural ecological culture, develop rural ecological cultural products and services with modern characteristics, and promote the inheritance and development of rural ecological culture.

3.6. Carry Out Ecological Education and Improve Farmers' Ecological Awareness

3.6.1. Compile Rural Ecological Education Textbooks

Organize experts to compile ecological education textbooks suitable for rural characteristics and farmers' needs, covering ecological environmental protection, ecological agriculture, green life, etc., to provide systematic textbook support for rural ecological education.

3.6.2. Conduct Rural Ecological Education Training

Carry out ecological education training for farmers through lectures, training courses, etc., popularize ecological knowledge and environmental protection concepts, improve farmers' ecological awareness and environmental protection responsibility, and guide farmers to consciously participate in rural ecological civilization construction.

3.6.3. Establish Rural Ecological Education Bases

Establish ecological education bases in rural areas, such as ecological parks and ecological farms, as practical venues for ecological education, allowing farmers to learn ecological knowledge through personal experience and enhance their ecological protection awareness.

3.6.4. Use New Media to Carry Out Ecological Education

Use new media platforms such as the Internet and mobile phones to carry out rural ecological education publicity activities, produce ecological education short videos, WeChat official account articles, etc., expand the coverage and influence of ecological education, and improve farmers' ecological literacy.

3.7. Strengthen University-Local Cooperation and Form Joint Construction Forces

3.7.1. Establish a Long-Term Mechanism for University-Local Cooperation

Colleges and universities and local governments should establish a long-term and stable cooperation mechanism, sign cooperation agreements, clarify the rights and obligations of both parties, jointly formulate rural ecological civilization construction plans and implementation plans, and ensure the smooth development of cooperation work.

3.7.2. Co-Construct Rural Ecological Civilization Construction Platforms

University and local parties jointly build rural ecological civilization construction research platforms, technology promotion platforms, talent training platforms, etc., integrate resources of both parties, realize complementary advantages, and improve the efficiency and level of rural ecological civilization construction.

3.7.3. Carry Out Joint Research Project Tackling

Targeting major issues and key technologies in rural ecological civilization construction, university and local parties jointly carry out research project tackling, jointly apply for research projects, share research results, and provide scientific and technological support for rural ecological civilization construction.

3.7.4. Establish a Cooperation Evaluation and Feedback Mechanism

Regularly evaluate and summarize university-local cooperation work, timely discover problems and adjust cooperation strategies, establish a feedback mechanism, and continuously optimize cooperation content and methods according to the actual needs of rural ecological civilization construction to improve cooperation effects.

4. Conclusion

The Rural Revitalization Strategy has brought new opportunities for rural ecological civilization construction. As a key force, colleges and universities shoulder important missions. Through countermeasures such as optimizing talent training, strengthening scientific research innovation, deepening practical services, and enhancing publicity and guidance, colleges and universities can effectively assist in rural ecological civilization construction. In the

future, colleges and universities need to continue their efforts, work closely with rural areas, continuously explore new paths, and inject a steady stream of wisdom and motivation for building ecologically livable beautiful villages and realizing comprehensive rural revitalization.

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