

# Practice and Exploration of Agricultural Science Popularization in Central Hunan Against the Background of Rural Revitalization\*

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## ABSTRACT

Through agricultural science popularization, the public can deeply contact agriculture and know its connotation. At the same time, a grand high-quality innovation army will be established, the rapid transformation of scientific and technological achievements will be realized, and more talents who love agriculture will be attracted to help the implementation of rural revitalization strategy. This study summarizes the current situation of agricultural science popularization in central Hunan, and explores the construction of agricultural science popularization system in this area from the aspects of improving agricultural science popularization platform, developing agricultural science popularization resources and broadening agricultural science popularization ways, in order to promote the all-round development of agricultural science popularization in central Hunan and help rural revitalization.

**Keywords:** Central Hunan, Rural revitalization, Agricultural science popularization education, Current situation, Approach.

## 1. INTRODUCTION

Against the background of the in-depth promotion of the rural revitalization strategy, it is necessary to make the innovation and development in the rural industrial economy, infrastructure and other material conditions, as well as the improvement of farmers' ideological and political consciousness, moral quality and cultural cultivation [1]. Scientific and technological innovation and scientific popularization are necessary for the innovative development. With the help of agricultural science popularization, the public can deeply understand and contact agriculture and improve the scientific quality. And

then, a large high-quality innovation army will be established, the rapid transformation of scientific and technological achievements will be realized, and more talents who love agriculture will be attracted. Besides, the important support of innovation-driven development strategy will be obtained, and the implementation of rural revitalization strategy will be achieved [2]. There are many hills and mountains in central Hunan, which is one of the main producing areas of grain and oil crops. Although some farmers and entrepreneurs have emerged, there are still phenomena such as barren farmland, poor land transfer, slow development of rural secondary and tertiary industries and shortage of collective cooperation model, which affect the implementation of rural revitalization strategy in Hunan and the rural revitalization process of the whole country to a certain extent. And it is mainly

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because of the shortage of scientific and technological talents in rural areas, the inadequate ability of farmers to adapt to the development of productive forces and market competition, and the prominent problems of farmers' ages, knowledge structures, personal qualities and life styles. During the implementation of the rural revitalization strategy and the national action plan for scientific quality, the weakness lies in rural areas and farmers, with the focus on farmers and young people. Besides, the difficulty lies in the improvement of farmers' qualities, especially farmers' scientific qualities. In order to further improve the level of agricultural science popularization, it is suggested to clarify the connotation and extension of agricultural science popularization education and build a public agricultural science popularization education system. This study summarizes the current situation of agricultural science popularization in central Hunan and discusses the development ways of agricultural science popularization, in order to promote the development of agricultural science popularization in central Hunan and stimulate the endogenous driving force of the public to revitalize the countryside.

## **2. CURRENT SITUATION OF AGRICULTURAL SCIENCE POPULARIZATION IN CENTRAL HUNAN**

At present, the organization and implementation of agricultural science popularization activities in central Hunan are mainly carried out by government departments. The ability of agricultural science popularization is uneven, the strength of science popularization team is weak, and there is a lack of high-quality, high-level and stable education team of agricultural science and technology. Socialized groups have not yet played their main roles in agricultural science popularization, resulting in the lack of innovation in science popularization activities. The supply capacity of high-quality science popularization resources is insufficient, and the ability to serve the education of agricultural science and technology is not strong, so it is difficult to give full play to the role of science popularization base. In the mode of agricultural science popularization, the public can make choice in a small range, and there is a lack of corresponding learning channels and understanding methods. The construction of popular science base is mainly funded by the government. However, the funds, the development of popular science

resources and the number of activities are limited. The types and products of agricultural science popularization models are not rich enough, which leads to the fact that the agricultural science popularization required by the public can not meet the demand and the quality can not meet the requirements of the public.

## **3. EXPLORATION OF SPECIFIC WAYS TO IMPLEMENT RURAL REVITALIZATION STRATEGY WITH THE HELP OF AGRICULTURAL SCIENCE POPULARIZATION IN CENTRAL HUNAN**

### ***3.1 Establishing a Stable Agricultural Science and Education Team***

For a long time, full-time science popularization personnel have been scarce resources. Every county and city in central Hunan has agricultural technology stations, agricultural societies, local universities and related agricultural enterprises and institutions. It is suggested to give full play to the talent advantages of these units, establish science and education teams, establish professional management teams and make discussion together, promote the effective dissemination of professional scientific knowledge and technology, serve agricultural science popularization education, and assume the social responsibility of science popularization education by means of training agricultural science popularization education talents, participating in young people's agricultural science popularization education and farmers' training [3]. In addition, it is better to invite retired related agricultural scientific and technological personnel, especially old experts and professors, to join the science popularization team to give lectures. Also, it is required to encourage high-level scientists and technical experts to participate in voluntary services for science popularization. In local colleges and universities, students majoring in agriculture are mobilized to participate in activities as volunteers to stabilize and expand the multidisciplinary agricultural science popularization team in central Hunan. At the same time, it is suggested to take the lead of the association for science and technology or local universities to establish an expert service team, organize agricultural professionals and related professionals to carry out training on relevant theoretical knowledge and professional skills of science popularization in a planned way,

and enhance the ability of science and technology education and practical practice. Importantly, it is necessary to spread cutting-edge science and technology and implement precision service and consultation of science popularization. Moreover, it is required to objectively and fairly evaluate and select technical talents of agricultural science popularization each year and reward organizations and individuals who have made outstanding contributions to science popularization and provide the basis for promoting professional and technical titles or positions, so as to ensure the stability of agricultural science popularization team and the improvement of comprehensive quality.

### ***3.2 Establishing a Demonstration Base for Agricultural Science Popularization in Combination With Local Characteristic Industries***

Based on the existing characteristic industries, it is suggested to build a demonstration base for agricultural science popularization, so as to give full play to the guiding, promoting and demonstration role of high-quality characteristic base in rural economic development and promote the process of rural revitalization. Agricultural characteristic industry is a platform for experts of "soil" and "land" to display their talents. Central Hunan is a typical agricultural area with abundant water and heat resources, and is also widely planted with rice, vegetables, camellia oleifera and other fruits. In addition, there are many large-scale agricultural cooperatives, modern agricultural companies and farms that grow crops such as paddy rice, citrus and camellia oleifera [4][5]. Based on such platforms and relying on the technical advantages of various experts, new agricultural varieties, new technologies and new achievements can be introduced, demonstrated, studied, transformed and popularized, agricultural advanced and applicable technology training can be carried out, and new scientific and technological farmers can be trained. The scale of the base is expanded year by year, and the demonstration can be made. Driven by the demonstration base, it is necessary to change farmers' old-fashioned thinking concepts, adjust the agricultural structure year by year, drive the classic characteristics, promote science popularization education, and vigorously cultivate characteristic industries, promote pollution-free planting technology, create characteristic agricultural industries, or open up to the society in the form of sightseeing and youth labor education, and actively promote the socialization,

popularization and regularization of science popularization education activities. Besides, it is committed to popularizing agricultural scientific ideas to the whole society, improving farmers' scientific and cultural quality, advocating scientific development, driving farmers to become rich through production, realizing the radiation source of continuous income increase, and accelerating the pace of rural revitalization.

### ***3.3 Fully Excavating and Developing Agricultural Science Popularization Resources***

Importantly, it is required to clarify the connotation of agricultural science popularization, promote the development, integration and utilization of science popularization resources of science and education teams and science popularization bases, give full play to the advantages of science popularization, form a joint force and provide rich products and services. The integrated development of agricultural primary, secondary and tertiary industries is the essential feature of modern agriculture and brand agriculture and the inevitable trend of economic development [6]. The whole society is related to it. Under the modern social conditions of cultural diversity and networking, various agricultural concepts, agricultural knowledge and agricultural values are intertwined and spread, which makes people prone to knowledge confusion in the process of knowledge integration. Combined with different audiences of agricultural science popularization, it is suggested to deeply explore and develop agricultural science popularization education resources from the contents involved in various agricultural science popularization bases and the achievements and understanding of science and education teams in agriculture. In order to make great progress in agricultural science popularization, it is better to clarify the connotation of agriculture, develop a number of science popularization products and services with distinctive themes, diversification and multi-dimension based on local characteristic agricultural industries, improve the recognition and provide clear guidance for the objects of science popularization. The publicity resources of science popularization are displayed through various brochures, souvenir videos, audio, popular science broadcasting, film and television programs, popular science performances, public micro signals, websites, mini programs, experimental resource packages, science popularization courses and other forms. Also, it is

required to adhere to the principles of practicality, function, effectiveness, interaction, participatory, interesting and knowledgeable. The agricultural association can organize regular selection and promotion of high-quality science popularization resources and typical cases of after-school services of science popularization, actively promote experience and create a good educational environment.

### ***3.4 Improving the Communication Ability of Agricultural Science Popularization***

Further, it is suggested to optimize the allocation of science popularization resources, improve the level of science popularization activities, build a platform for the co-construction and sharing of science popularization resources, and improve the ability of agricultural science popularization. Agricultural science and technology training and agricultural science popularization activities on campus are one of the traditional main ways of agricultural science popularization. Through cooperation with Provincial Academy of Agricultural Sciences, Municipal Institute of Agricultural Sciences and agricultural colleges and universities, agricultural science lectures, agricultural technology training, distribution of science popularization books, manuals and scientific and technological materials are carried out by means of agricultural technology to the countryside and technicians to the grass-roots level, and the contents of billboards are updated from time to time. Rural party members, grassroots cadres, members of industry associations, science and technology demonstration households, science and technology coordinators and farmers carry out technical training focusing on practical technology, teach farmers the latest and most practical front-line technology to the greatest extent, bring information and knowledge in line with the market development direction to the grass-roots level, and bring new varieties and new ideas suitable for local to front-line agricultural enterprises, so as to solve the problem that the theoretical knowledge of the broad masses of farmers is divorced from reality. Now entering the era of information fragmentation, emerging media have begun to integrate into people's lives like traditional media. The public generally likes to choose convenient and effective ways to obtain information [7]. Combined with the openness, interactivity and socialized characteristics of new media and online communication methods, the communication of agricultural science popularization can also be

richer and more effective. The offline science popularization activities will be broadcast live or recorded, or the science and education team will establish a new development process of science popularization resource. When defining a popular science theme, it is suggested to develop digital science resources such as micro video production and audio recording, and use WeChat, Tik Tok and other new media to spread the news besides traditional newspapers and brochures. Based on the new round of scientific and technological revolution, it is suggested to integrate the advantages of various communication modes of science popularization, give full play to the linkage and complementary advantages of various science popularization bases, create high-quality science popularization routes with theme characteristics and enhance the multiplier effect of science popularization. At the same time, it is required to make full use of new media and big data to push agricultural scientific knowledge to the public, and provide an exchange platform for the public. In addition, it is necessary to constantly broaden the publicity channels of agricultural scientific knowledge and strengthen the publicity of agricultural scientific knowledge and theory.

## **4. CONCLUSION**

As an important part of natural science, agriculture is closely related to human daily life. With the smooth implementation of agricultural science popularization education, the important mission of educating and popularizing science and technology and realizing the goal of strengthening the country with science and technology will be achieved. Agricultural science popularization is a grand social system project with a wide range and arduous task. The concept of science popularization should gradually evolve from the focus on imparting knowledge and teaching methods in the past to establishing scientific concepts, cultivating scientific spirit, innovative spirit and social atmosphere, which is the fundamental requirement for the reform of concept and supply side of science popularization. To sum up, it is suggested to face the task of constructing a scientific and technological power, cultivate innovative talents that meet the requirements of the new era, focus on improving the scientific quality of the whole people, establish a stable agricultural science and education team, fully excavate and integrate agricultural science popularization resources, improve the communication ability of science popularization, improve the accurate service level of high-quality

science and education resources, and help the rural revitalization of central Hunan.

## **AUTHORS' CONTRIBUTIONS**

Yunyun Zhou, Chenzhong Jin and Kaifa Guo is responsible for experimental design and writing the manuscript. Xiu Liu, Min Guo and Yicheng Li analysed data, Xiu Liu and Rongbo Zhou contributed to revising and editing.

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