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# Sociological Consideration on the Development of Ecological Agriculture in Western China

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**Abstract** Development of ecological agriculture is the mainstream of the world's agricultural development, as well as the only way to change from traditional agriculture to modern agriculture. This paper expatiates the connotation of ecological agriculture and its significance to the development of western China. There are problems in the development of ecological agriculture in western China, manifested mainly in insufficient subsequent supply, overextension of resources, lack of capital and technology input in the development of ecological agriculture, and imperfect supporting policies. From the new perspective of sociology, countermeasures for developing western ecological agriculture are put forward, including improving the scientific and cultural quality of workers, increasing the input in ecological agriculture and the strength of science and technology promotion, perfecting the policy and regulation system of ecological agriculture, and enhancing the level of information services for ecological agriculture. Finally, it is concluded that development of ecological agriculture in western China should be carried out step by step according to local situation.

**Key words** Western China; Ecological agriculture; Problem of development; Sociological consideration

Development of ecological agriculture is the mainstream of the world's agricultural development. It is a new type of production system during the development of modern agriculture, as well as an agricultural development mode integrating sustainable development, agricultural industrialization and agricultural modernization. Western China has a vast territory of about 5 400 thousand square kilometers, occupying 56 percent of the total land area of China. But total arable land in western area is relatively less due to the wide distribution of mountains, hills, gobi and desert. Until October 31, 1996, arable land in western area is about 36 964.5 thousand hectares, accounting for 28.4 percent of the total arable land in China. Land types in western region are complex with significant regional differences. Due to the impact of natural, historical, economic and social factors, land use in western region is extensive and long in the state of " poor quality and low efficiency" with high consumption and low output and land use efficiency. Therefore, resources and ecological environment can not be effectively protected. In order to meet the needs of economic and social development in western region, ecological agriculture of high yield, high quality, and high efficiency needs to be developed. Development of ecological agriculture is the only way to develop agriculture in western China, as well as the inevitable choice to realize the transformation from traditional agriculture to modern agriculture.

## 1 Connotation and importance of ecological agriculture

**1.1 Basic connotation of ecological agriculture** Ecological agriculture is a concept of agricultural development put forward by W. Albreche, a pedologist in the United States, in the year 1970. At present, countries all over the world have not yet consensus on the formation of ecological agriculture, and it is still under discussion. China has also defined the concept of ecological agriculture, and an unanimous view is basically formed. The connotation of ecological agriculture is that based on the ecological theories of symbiotic species, material recycling, and energy multiple utilization, modern science and technology and traditional agricultural technology should be combined together according to the regional situation under the guidance of the coordinated development of environment and society and economy. Advantage of land resources should be made full use of by the method of system engineering based on the level of social and economic development and the principle of " integrality, coordination, recycling, and regeneration", in order to carry out the comprehensive planning and rational organization of agricultural production, to achieve high yield, good quality, high efficient and sustainable development, and to realize a unification of ecological benefits, social benefits and economic benefits, as well as a virtuous circle of economic, ecological and social systems[1].

**1.2 Importance for the development of western ecological agriculture** China has attached great importance to the construction of ecological agriculture. Comrade Jiang Zemin has emphasized the " developing afforestation, greening desert, and constructing ecological agriculture". At present, with the dramatic increase in population and the rapid development of rural economy and western agriculture, agro-ecological environment is deteriorated, which severely restricts the sustainable development of rural economy and western agriculture. Facing with the serious challenge, traditional agriculture should be transformed into modern agriculture, so as to achieve high yield, high quality, high efficiency and sustainable development, and to achieve a unification of ecological benefits, social benefits and economic benefits and a virtuous circle of econom-

Received: June 4, 2009 Accepted: June 26, 2009

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ic, ecological and social systems.

**1.2.1** Developing ecological agriculture can help to improve the ecological environment in western region. At present, with the growth of population and the rapid development of western agriculture and rural economy, over-exploitation of natural resources leads to the deterioration of agro-ecological environment. Concepts should be changed and efficient ecological agriculture should be developed in order to realize the sustainable development of rural economy and western agriculture. Only in this way can we rationally use natural resources, achieve the sustainable development of agriculture and improve the ecological environment in western region.

**1.2.2** Developing ecological agriculture can help to improve the use efficiency of resources and the transformation of economic growth pattern. In order to achieve sustainable development and agricultural modernization in western region, we should follow the road of ecological agriculture based on the resource advantages of western region, so as to realize the transformation from extensive management mode with resources waste into the intensive management mode with resources saving, and from robbed mode of resources development and utilization into resources utilization mode integrating development and protection.

**1.2.3** Developing ecological agriculture can help to ensure the sustainable and stable growth of western farmers' income, and to enhance the living level and quality of farmers in western China. Ecological agriculture can effectively and organically combine the labor-intensive and technology-intensive production modes together, realize the transformation from traditional agriculture to modern agriculture, effectively promote the industrial structure adjustment and optimization in western rural areas, improve the efficiency of agricultural production in western region, increase peasants' income in western region, ensure the improvement of living standard and quality of western farmers, and achieve a well-off standard in western rural areas.

## 2 Main problems in the development of ecological agriculture in western China

**2.1 Insufficient subsequent supply of human resources** In recent years, agronomy, plant protection and edible fungi specialties in agricultural universities in the western region have shrunk; and the number of agricultural specialists shows a downward trend. At the same time, phenomenon of outflow of eastern coastal developed regions among middle-level and senior specialists in agriculture also exists, which results in the talents shortage in the development of ecological agriculture.

Affected by the natural, historical and social factors, there is a big gap between the economic development of the east and west. Developed economy in eastern coastal areas has attracted a large number of young adults. Thus, women and old people become the main force of ecological agriculture, which severely restricts the further development of ecological agriculture. Development of ecological agriculture needs the experts of agricultural science and technology, but these women and old people grasp relatively low level of scientific and technical knowledge, and have poor ability to accept new concept of professional knowledge and skills of agriculture and ecological agriculture. What's more, agricultural knowledge structure of agricultural talents is out of date. All these have severely restricted the further development of ecological agriculture in western areas.

**2.2 Over-exploitation of resources** Most of the western regions have paid too much attention to economic efficiency during the development of agriculture. Their undue pursuit of high output neglects the ecological and social benefits of agricultural development. During the process of development, unchecked reclamation and excess deforestation lead to the strengthened desertification, severe waste of resources, loss of water and soil, frequent natural disasters and serious ecological problems. Self-recovery ability of ecology is reduced; and its speed of recovery becomes more and more slow. This traditional mode of " high input, high yield, and high energy" has severely restricted the sustainable development of ecological agriculture in western China.

**2.3 Insufficient capital and technological inputs in the development of ecological agriculture** Development of ecological agriculture in the western region requires a large amount of financial funds. And financial capital investment is one of the main driving forces for the development of ecological agriculture. However, limited financial resources in many parts of the western region can hardly input more financial funds in ecological agriculture. Thus, this requires the support of the state's financial capital, which is also limited. Slow or stagnant development of ecological agriculture in the western region has affected the peasants' enthusiasm for ecological agriculture, as well as the further development of ecological agriculture in western regions.

At the same time, investment in science and technology of ecological agriculture has a low proportion, and the research on ecological agriculture is at low level, which have caused the lack of high-tech matching technology with promotion value during the development of ecological agriculture in western areas[2]. For instance, in the field of pollution-free fruits and vegetables, ecological agriculture only emphasizes how to reduce the usage of fertilizer and pesticide, without improving the quality of the products fundamentally by technology.

**2.4 Incomplete supporting policies of the development of ecological agriculture** Laws and regulations are the criterion to regulate and restrict people's behavior. Development of ecological agriculture also should follow the rules of laws. However, there is a lack of relevant laws and regulations about ecological agriculture, as well as the supporting policies for the development of ecological agriculture. Therefore, it will be difficult to provide effective protection; and the development of ecological agriculture can hardly turn on the path of standardization and systematization. And ecological agriculture has a slow pace of development, which is not only a waste of funds and manpower, but also seriously affects the enthusiasm of western peasants and restricts the sustainable development of ecological agriculture.

## 3 Countermeasures for the development of ecological agriculture in western regions

According to the main problems that exists in the development of ecological agriculture in western regions, effective measures should be taken and the construction of ecological agriculture in the western region should be strengthened, which can effectively solve the problems of ecological environment and efficient use of resources during the economic development of western China, and help the construction and development of new socialist countryside construction in western region.

**3.1 Improving the scientific and cultural quality of workers** Agricultural science and technology is the key to develop ecological agriculture. Level of scientific and cultural quality is the key to exert the scientific and technological strength. At present, China should increase investment in agricultural education in western region, consult properly to the agricultural education in the United States, Japan and EU member states, so as to promote the development of agricultural education in China, to cultivate a number of experts in ecology, agronomy, forestry, horticulture, ecological economics, animal husbandry and veterinary medicine, and to support professionals for the development of ecological agriculture.

When cultivating agricultural experts, a multi-channel, multi-level and multi-form technical training system of ecological agriculture should be promoted, in order to achieve a combination of technical staff and peasants. Cultivate ecological agrotechnician among peasants; guide peasants to master the technology of ecological agriculture; and learn to deal with the various problems in the process of production[3]. Through these technical training, knowledge-type peasants are cultivated and they truly become the main force in the development of ecological agriculture. Besides, young peasants with a certain base of foreign language and knowledge should be sent to agricultural developed countries to increase their knowledge and improve their quality[4].

**3.2 Increasing capital investment in ecological agriculture and the promotion of science and technology** Western region has relatively low level of economic development. Local finance invests little money on ecological agriculture with huge financing gap. Based on this situation, the state should establish special funds, offer more support on the development of ecological agriculture in western region, and provide sufficient funds. At the same time, the state should also increase investment in science and technology. Starting from the characteristics of wild field and multidiscipline of ecological agriculture, it is necessary to attach importance to the technical research of ecological agriculture, to strengthen the forward-looking research, to improve the skill level of ecological agriculture, to enforce the application of new technology and its practical technique, to solve the problems in pollution-free agricultural technology, green farming techniques, water-saving irrigation technique, recommended fertilization technology, comprehensive pest control technology, genetic improvement technology of agriculture, forestry and animal husbandry, so as to provide technical support for the development of ecological agriculture.

During enhancing the technological progress of ecological agriculture, we should accelerate the promotion of ecological agricultural technology, and establish sustainable promotion system. Reference experience of Australia, New Zealand and other countries is provided for western region of China. According to the actual situation of western region, the general applied research should be promoted to the society and a diversified research and extension system should be formed based on ensuring the support of government for the theoretical research on agriculture. Under the premise of establishing and improving relevant laws and regulations, private enterprises should be encouraged to invest in the field of agricultural science and technology, to participate in the development and utilization of agricultural scientific research, and to do everything possible to improve the conversion rate and application rate of scientific research[4].

**3.3 Perfecting the security system of laws and regulations for ecological agriculture** In order to ensure the sustainable development of ecological agriculture in western region, government should develop appropriate policies of ecological agriculture, and further make it perfect. Special taxation and credit policy should be implemented to help ecological agriculture with environmental protection, so as to encourage the development, utilization and promotion of pesticides with low toxicity, high efficiency and low residue, to embody the concept of water saving, and to invest on irrigation and water conservancy facilities favorable for environmental protection and resource utilization. Besides, the state shall afford preferential treatments in respect of credit and loan[5].

A perfect system of law and regulation is the foundation of the rapid development of ecological agriculture. China can learn from the laws and regulations protecting the healthy development of ecological agriculture in the United States, Japan, EU member states and other developed countries. At the same time, China can improve the imperfect laws and regulations combining with the reality. For instance, the government has constituted the *Production Law of Organic Food*, the *Fertilizer Utilization Act*, the *Law on Farmland Pollution Control*, the *Ecological Environmental Protection Act of Agriculture* and so on. Based on these laws, western region can develop laws and regulations with local characteristics according to the actual situation. Through perfecting relevant legal system, construction of ecological agriculture can be standardized and legalized, and many problems in ecological agriculture, including environmental problems, can be fundamentally solved, so that ecological protection of agriculture can be achieved and sustainable development of ecological agriculture can be promoted.

**3.4 Improving the information service level of ecological agriculture** Ecological agriculture is a market-oriented agriculture. Thus, grasp of market information is critical. Information service is an important aspect in restricting the development of ecological agriculture. This is because effective information services would be beneficial to the structure adjustment of peasants' production, so as to meet the needs of market and to obtain a higher economic return[6]. At present, peasants in

western region should strengthen the linkages between cities and markets (including international market), in order to obtain the latest scientific and technological knowledge and market information of ecological agriculture at the highest speed, to keep abreast of the latest development of ecological agriculture all over the world. Meanwhile, peasants in western region should establish their own professional associations, intermediary organizations, and other self-service system, build a relatively integrated service network of ecological agriculture, and improve the information service level of ecological agriculture.

## 4 Conclusion

Development of ecological agriculture in the western region is a step-by-step process. A virtuous circle of ecological agriculture can be established only by consulting to the actual situation, so that the sustainable development of ecological agriculture can be realized in western region of China. Development direction of agricultural modernization in China is high yield, high quality, efficient and sustainable development of ecological agriculture, which are also the objective requirements of the development and construction of new socialist countryside in western region in China.

## References

[1] HU LH. A new model of modern agriculture facing sustainable development[J]. Economy and Management, 2004, 18(1):21. (in Chinese).

[2] SHAO XY. Tentative suggestions on the fiscal expenditure policies to develop ecological agriculture[J]. Journal of Harbin University of Commerce:Social Science Edition, 2009(1):98. (in Chinese).

[3] GAO XL, ZHANG X. The factors influencing eco-agriculture in Western China and the countermeasures[J]. Science & Technology Progress and Policy, 2001(11):33. (in Chinese).

[4] ZHANG Z. Investigation report of modern agriculture and sustainable development in Australia and New Zealand[J]. Mechanical & Electrical Technology, 2003(2):6-7. (in Chinese).

[5] WANG ZB, HE AP. Study on the construction of ecological agriculture in West China[J]. China Soft Science, 2002(10):20. (in Chinese).

[6] ZHAO XR. The factors influencing eco-agriculture[J]. Anhui Agriculture, 2008(17):329. (in Chinese).

[7] LI YC. Stainability of cultivated land in Henan Province based on ecological footprint[J]. Asian Agricultural Research, 2009, 1(5):32-34, 46.

[8] YANG M. Feasibility study on the development of ecological agriculture in western China[J]. Journal of Anhui Agricultural Sciences, 2009, 37(27):418-420,446. (in Chinese).

# 西部生态农业发展问题的社会学思考

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**摘要** 生态农业的发展是当今世界农业发展的主流,是实现从传统农业向现代农业转变的必由之路。先阐述生态农业的内涵以及对中国西部地区发展的重要意义,指出发展生态农业有利于改善西部地区的生态环境,有利于提高资源的利用效率和经济增长方式的转变,有利于确保西部农民收入的持续稳定增长和西部农民生活水平和质量的提高,是西部大开发的重大措施之一。接着指出在中国西部地区发展生态农业也存在以下几方面的问题,主要表现在人力资源的后续供给不足、资源的开发和利用过度、生态农业发展的资金和科技投入缺乏、生态农业发展的配套政策不完善等。笔者从社会学的新视角,针对解决这些存在的主要问题,提出发展西部生态农业的对策:①提高劳动者的科技文化素质;②加大生态农业资金投入和科技推广的力度;③制定和完善生态农业的政策和法律法规体系;④提高生态农业发展的信息服务水平。最后得出,中国西部生态农业的发展是一个循序渐进的过程,只有根据中国西部各地区的具体实际情况,因地制宜,才能建设好良性循环的生态农业,实现中国西部生态农业的可持续发展。

**关键词** 西部;生态农业;发展问题;社会学思考

(From page 7)

# 热区农民专业合作经济组织调查与思考

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**摘要** 农民专业合作经济组织是市场经济发展的必然产物,是农民在坚持家庭承包经营和自愿的基础上,为解决农产品生产经营中的信息、技术、资金、销售等问题组建而成的新型合作经济组织。笔者强调了农民专业合作经济组织的积极功能,有利于促进农民增收、促进农业产业化经营、优化农业结构、提高农业标准化生产、有利于改善政府对农业的服务方式,并且调查了热区农民专业合作经济组织现状,结果显示,热区农民在政府的正确引导下,各种农民专业合作组织由自发组织、或者由政府牵头、企业牵头的不同形式组织起来,以增强自身的竞争实力。在对热区的基本情况介绍与热区农民专业合作经济组织现状调查的基础上,分析了当前热区农民专业合作经济组织发展进程中存在的问题,主要表现在:①覆盖面太窄;②运行机制不规范也不健全;③有效的政策扶持力度不足。因此,针对当前热区农民专业合作经济组织发展进程中存在的主要问题,提出了今后发展热区农民专业合作经济组织的思路与对策。首先,加大政府扶持力度;其次,积极做好引导工作;第三,充分发挥示范推广作用;最后,高度重视和大力加强热区农民的教育和培训,对推进热区农业现代化具有重要作用。

**关键词** 热区;农民专业合作经济组织;思路与对策