



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Problems and Outlet of County Economy Development in China

DU Li*

School of Business and Administration, Henan University, Kaifeng 475001, China

Abstract The basic attributes and characteristics of county economy in China were introduced, and the problems of county economy development were analyzed. The concrete ideas of county economy development were put forward.

Key words County economy; Sustainable development; Strategic approach; China

1 Basic attributes and characteristics of county economy

1.1 Basic attributes of county economy County is a basic geographic unit which is stable and integral, and it constitutes the basic political, economic and ecological entities in China. County economy is a type of administrative division economy, which takes county town as the center, villages and towns as the network, vast rural areas as the hinterland, resources and environment as the support. County economy, which has relative independence, autonomous activity and distinctive regional characteristics, regulates the behaviors of subjects and organizes people's economic activities reasonable with county regime.

Basic attributes of county economy can be concluded as spatial regionality, structural integrity, formal hierarchy and procedural openness. Regionality includes the aspects of county economy network, economic operation and advantages. Integrity mainly includes correlative characteristics of the constituent factors. It not only refers to the industrial sectors such as agriculture, industry, business, communication and construction, but also refers to functional departments such as planning, finance and tax, prices, education, culture and hygiene. County economy is a small network of national economy which consists of various industrial sectors and social units. County economy can be divided into basic level of rural economy, middle level of township economy and central level of urban economy according to hierarchy. It is a multi-level economic network with regionality in essence^[1-2]. The openness of county economy is determined by intrinsic attributes of its market. The different conditions of natural resources, economy and society have determined the differences and grads among counties. Development of county economy is realized by sufficient flow of productive elements.

1.2 Characteristics of county economy County economy is the product of development. Therefore, it shows five obvious characteristics of times^[3].

1.2.1 Marketization and openness. County economy under the condition of market economy should be market-oriented. The market is open without closeness. County economy is a market-oriented modern economy, not the "self-side economy", which should allocate resources in a bigger region, jump out of the county scope to develop economy and form competitive advantages instead of restricting development in a fixed area. Developed counties have a universal experience: developing county economy should combine the cultivation of mainstay industries and specialized market with the implementation of "going global" strategy, comply with the trends of economic marketization and internationalization, and develop block economy according to the principle of comparative advantages and open thoughts of economy.

1.2.2 Specialization and diversification. Specifically location space, humanity history and resources endowment of counties determine the specialization and diversification of the economy. In spite of the disequilibrium development of county economy in China, it has distinctive local characteristics. Successful development modes of county economy have their own significant characteristics: some counties have the distinctive products while some have various products; some develop characteristic agriculture while some develop characteristic industry, characteristic export trade, characteristic mineral resources industry or characteristic tourism. The experience showed that developing county economy should establish characteristic economy with industrial advantages based on the reality, and realize "I have what others don't have, I have the newer one while others have, others have few while I have many, and I have the special one while others have many".

1.2.3 Privatization. Private economy, which has the features such as competitiveness, flexibility, universality and diversity, is a new thing appeared in reform and opening-up. Privatization is the inevitable trend for establishing socialist market economy. The practice proved that the privatization of county economy is an economic development mode with flexible mechanism and giant potential, and a benign development strategy for activating productive factors, liberating and developing productive forces, and promoting county economy level. This privatization

is mainly reflected as diversification of ownership structure, element-based distribution of profits, socialization of production and management, and standardization of production.

1.2.4 Urban-rural integration. Making overall plans for the coordinated development of urban-rural economy based on scientific development view, is a significant strategy in new period. As the joint areas of cities and countryside, county is the base and objective of urban-rural planning with the integration of political, economic and social functions. Meanwhile, it is the direct operation platform of the planning and the breakthrough point for realizing coordinated development of regional economy and social stability. Economic development of a county is determined by economic growth, humanistic index, resources index and environmental index. It's not only determined by the development of rural economy, but also determined by the benign interaction and integrative development of urban-rural economy as well as the harmony of human and nature.

1.2.5 Modernization. The ultimate aim of county economy is to realize modern economy. With the development of county economy and social progress, counties will become the perfect bases for processing means of production and livelihood. Hence, the qualities of county economy, environment, population and life could be promoted. Creating optimum investment environment and human settlements will be one of the main points of economic and social development. It should take modern thoughts to plan development pattern in the round, strive for jointing with global economy and create new growth pattern of county economy. The aims of county economy are not only the overall growth and capital accumulation, but also the modernization of county economy and people's life.

2 Problems and limitations of county economy development

Since reform and opening-up, county economy has been unprecedentedly active and played an important role in meeting the living needs of urban-rural people. But with the deepening of reform and promotion of economic structure adjustment, some profound problems have become apparent^[4-5]. They are

mainly shown in the following six aspects.

2.1 Slow development of urbanization and imperfect infrastructure For a long time, "dualistic structure" system for partition of urban and rural policy has been carried out in rural areas of China. Hence, independence and space for development are narrow, which leads to the laggard development of infrastructure and low-level urbanization as well as weak attraction and cohesion of small town. In practice, the conditions of traffic and communication are poor in most counties of China. Besides county town, infrastructure construction is slow and its function is insufficient in many small towns which lacked attraction and cohesion of agglomeration industry and population. Due to poor infrastructure, natural and human resources can't be fully developed and effectively utilized.

2.2 Deficient higher resources elements and weak matching ability of production technology Comparing with cities, county economy has various resources elements, among which basic productive resource elements are the dominant ones, such as natural resources, locations, climate conditions and primary labors. Meanwhile, the high productive elements such as high-tech talents, scientific and educational institutes, leading subjects, modern telecommunication and network are deficient. Higher education resources in China are highly centralized. The amounts of ordinary colleges are 1 867 in 2006, which are almost located in cities above county level. The distributions of basic education resources are unbalanced between cities and counties (Table 1). Therefore, low education level and quality of people in counties influence the popularization and application of advanced technologies, productive modes and methods, and the transfer of rural surplus labors. Due to deficient matching support of related productive technology, new products and technologies can't be transformed into productivity after successful development. Most enterprises in counties were founded in recent years with poor technical basis and lower relevancy. "Small and all inclusive" phenomenon is serious without forming cooperative ability, which restrains the overall development of county economy to a certain extent.

Table 1 Distribution comparison of Chinese basic education resources between counties and cities in 2006

Index	Rural areas	County	City	Whole country
Amount of students in primary and middle schools// $\times 10^4$	9 484	6 334	3 366	19 184
Amount of faculty in primary and middle schools// $\times 10^4$	715	531	292	1 538
Amount of full-time teachers with bachelor and above degree	72	135	107	314
Value of fixed assets// $\times 10^4$ yuan	30 668 875	34 082 784	28 759 567	35 431 289
Fixed assets occupied by students//yuan per capita	3 234	5 381	8 543	1 847
Proportion of full-time teachers with bachelor and above degree//%	10	25	27	20
Ratio of students to teachers in primary and middle schools	13.3:1	11.9:1	11.5:1	12.5:1

Note: Data come from *Educational Statistics Yearbook of China* in 2006; "Basic education" includes senior high school, junior high school, vocational middle school and primary school.

2.3 Unreasonable industrial structure and serious convergence Long-run planned economy system leads to single structure of county economy and self-sufficient peasant economy. Since reform and opening-up, the economic structure has been improved greatly by founding township enterprises and developing profitable agriculture. But it is still unreasonable to

some extent. Raw materials and semi-finished goods are the dominant products which has lower technical content and added value of industry in many regions. The industrial level and risk resistance capacity of enterprises are lower. What's more, the convergence of products among regions is serious, which leads to the deficiency of brand consciousness and market competi-

tiveness. Besides, due to the shortage of funds, popularization system of new agricultural technologies and products isn't formed yet and low-quality agricultural products are often overstocked. The ratio of tertiary industry to county economy is lower, which can't meet the needs of the society. Industrial structure that needs to be optimized and upgraded, low relevancies among primary, secondary and tertiary industries, and convergent industrial structure are the prominent problems of industrial structure in Chinese counties.

2.4 Greater influences of policy and system with prominent dualistic phenomenon Most people in China are still living in rural areas and urban population only accounts for 29.12%. According to statistics, since the 1980s, although absolute number of Chinese finance, which is used for agriculture, has been increasing, it accounts for 10% below of the whole financial expenditure in the long run. The part of expenditure can't meet the needs of rural population that accounts for 70% of the total population. Under the influences of locations, humanity, technologies and so on, some large project and industries are located in large and middle cities. Comparatively speaking, due to the deficient support of large projects and industries, counties lack developmental potential. The inputs in urban infrastructure are more than that in rural infrastructure, so some one said: "Chinese cities seem like Europe and rural areas seem like Africa".

2.5 Lower level of agricultural industrialization and difficulties in increasing income of farmers Due to the increas-

ing difficulties in attracting investment, project implementation is difficult. Most counties and cities lack leading enterprises with large scale and strong driving ability, and agricultural brands without forming "competitive products". Management chain of industrialization is short and the added value of product is low. Benefit coupling mechanism between leading enterprises and farmers isn't formed, which restrains the promotion of farmers' organization degree and the expansion of channels for increasing income, and affects the benefits of farmers. Due to the slow increase of farmers' income in counties, some farmers are still living in a miserable condition, and the problems on depressed consumption of rural market are prominent.

2.6 Disequilibrium development among counties and significant regional differences Besides the differences between cities and countryside, the regional disequilibrium development within county economy is prominent. According to the evaluation results of comprehensive development indices of society and economy for 2008 counties of China in 2006, most of the top 100 counties (cities) were located in eastern areas (Table 2), they accounted for 85%. Per capita gross regional product of the counties amounted to 9 470 yuan, accounting for 67.5% of the average national level; the amount of counties that the per capita gross regional product amounted to 4 500 yuan per capita is relatively more. Per capita gross regional product of the top 100 counties is 16.1 times than that of the last 100 counties^[6].

Table 2 Distribution of the top one hundred counties (cities) for county economy in cities, autonomous regions and provinces of China

Item	Eastern areas	Northeast areas	Central China	Western areas
Numbers of counties and cities	86	5	6	4
Regional distribution	Shanghai 1, Jiangsu 21, Zhejiang 25, Fujian 8, Shandong 25, Hebei 5 and Guangdong 1	Liaoning 5	Shanxi 1, Henan 3 and Hunan 2	Inner Mongolia 2, Sichuan 1 and Xinjiang 1

Note: Data come from *China Statistical Yearbook for Regional Economy* in 2007.

3 Selection of developmental ways for county economy

3.1 Promote new industrialization process and optimize industrial structure of county economy Industrialization is the significant symbol of modern county economy. Subsidizing agriculture by developing industry, promoting rural development with the help of cities and breaking through the development of county economy can be realized, only by promoting industrialization level. Industry is the subject and support of county economy. Developed industry leads to prosperous county. Based on the intrinsic advantages and the status, promoting new industrialization should be the fundamental way in developing county economy. The development strategy that promotes development of counties by developing industry should be established. We should build an industrial layout which takes the high-tech industry as the guide, the advanced manufacturing industry as the core and the competitive industry as the support, and develops local characteristic industries and labor intensive industries overall. Meanwhile, new industrialization path with high technology, better benefit, low resources consumption and low environmental pollution, which can make the most

of human resource advantages, should be chosen. New industrialization can be pushed by cultivating industry cluster, developing matching industry, promoting core competitiveness.

3.2 Push agriculture modernization and strengthen the leading position of agriculture Agriculture is the basis of county economy. Prosperous agriculture is the premise in developing county economy. Prosperous agriculture leads to strong basis, rich farmers lead to booming county and stable rural areas leads to safe society. At present, the income increases slowly, farmers aren't rich and the county isn't prosperous in most counties of China. Based on the fact that agriculture has entered into a new stage and the characteristics of agriculture, agriculture can be equipped with modern material conditions, reformed with modern scientific technologies, promoted with modern industrial system, pushed with modern management forms, guided with modern development concepts, developed by cultivating new farmers and nurtured by the fruits of new industrialization. In addition, traditional agriculture should be rapidly transformed into modern and sustainable agriculture with market competitiveness and driving effects for being rich. It's essential to follow a path of new agricultural

modernization. The paces of agricultural modernization can be accelerated by bringing forth new ideas in productive and operational ways of agriculture, constructing agriculture system and market system, and promoting the comprehensive productivity of agriculture.

3.3 Strengthen the construction of urbanization and break the limitations of urban-rural dualistic structure Regional development should be driven by strong centre. The central cities and important towns are the developmental carriers of county economy, the core force in participating regional competition, and the important bases for attracting enterprises, developing economy, building new socialist countryside, solving the problems of "agriculture, rural areas and farmers", and realizing urbanization as well as regional modernization. Urbanization is the objective requirement for developing society and economy, the effective joint in developing counties and enriching farmers, the carrier for pushing rural industrialization and modernization, and the tache of urban-rural interaction. Accelerating the construction of urbanization is favorable for breaking urban-rural dualistic structure and realizing developmental pattern of urban-rural integration, which pushes the development of county economy. According to the principles of overall planning, reasonable layout, land saving, perfect function and driving small ones with large ones, construction of new socialist countryside and coordination of urban-rural development should be integrated with urbanization. Urban agglomeration should be taken as the driving forces to break though the limitations of administrative division, promote coordinative development of small, medium and large cities with small towns, plays a basic role of market in allocating resources, a support role of industry and a guiding role of rural labor transfer, which could push the urbanization process.

3.4 Establish the important position of private economy and accelerate reform and system innovation From the perspective of developmental tendency of county economy, private economy has clear ownership, definite subjects and flexible mechanisms, which show the prosperous vitality, strong cohesion and great competitiveness gradually. Therefore, in order to accelerate the development of county economy, the path with excavating people's wisdom, attracting people's capital, relying on people's power and activating private economy should be taken. Based on the status of private economy, the overall promotion and group enlargement of private economy can be pushed, according to the thoughts and methods of "focusing on big enterprises, cultivating small enterprises and promoting the middle-scale enterprises" from the aspect of organizational guidance. Emancipating the mind and grasping the opportunities should be realized with the private economy as the main body of county economy. Under the premises of ensuring the preservation and increment of state-owned and collective assets, the measures such as restructuring, uniting, merging, renting, shareholding reform and auction can be taken to reform state-owned and collective enterprises, implement diversified and privatized transformations of investment subjects, introduce private mechanism, establish modern business system and arouse the enthusiasm of enterprises. Efforts should be devoted to accelerate reform and system innovation, develop

private enterprises in scale, encourage private enterprises to take part in the reform of state-owned and collective enterprises positively, collect social funds with multi channels and widen the channels for increasing farmers' income. Strengthening the non-public economy and developing county economy with a sustainable way can be realized by solidifying developmental platform, strengthening the scale and strength of enterprises, and activating the energy of the people for starting a business.

3.5 Break through the mindset of county economy and expand domestic market as well as international market positively Efforts should be devoted to forge ahead bravely, strengthen the introduction of capital and the domestic connections among regions, and realize new breakthrough on promoting capital attraction, strengthening the lateral economic cooperation and developing export-oriented economy. From the practical point of county economy development, both the more developed counties and the developed counties have made use of international capital, resources and market to different extents. Facing with the new opportunities and challenges such as economic globalization, knowledge economization and adjustment of industrial policy, county economy can be promoted only by expanding the view, establishing the senses such as opening-up, market, resources and development, making full use of the domestic and international markets as well as their resources, overcoming the limitations in the aspects of funds, technologies and talents, and forming the pattern which is favorable for complementing each other, exerting its advantages while avoiding its disadvantages, and developing cooperatively. The key in accelerating the development of county economy lies in implementation. Firstly, it depends on the push of leaders and "top leader" project in attracting capital is carried out; secondly, it depends on the pull of policies, enterprises and individuals are encouraged to attract capital; thirdly, it depends on the promotion of service, efforts should be devoted to straighten and simplify the procedures, enhance the working efficiency and service quality, and protect the legal benefits of investors; fourthly, it depends on the drive of foreign capital, the scale and quality of the capital should be improved.

3.6 Exert regional advantages and cultivate characteristic economy actively^[7] From the perspective of competitive tendency among regions, characteristics are financial ability, potential, competitiveness and vitality. Implementing regional layout, specialized production, management in scale and socialized service can highlight the comparative advantages and regional characteristics, such as "a county with an industry", "a township with an industry" and "a village with an industry". Therefore, implementing dislocation competition and building characteristic industry are favorable for developing characteristic economy of counties with advantageous resources as the support. The general thought of "developing in all aspects" should be broken according to the principles of "focusing on something while giving up other things". Combining with the comprehensive factors such as local resources, traffic locations, industrial structure, and sci-tech level, we could form our own characteristics, exert the advantages and find an adaptive way. The principle of comparative economic interests should be insisted in studying and making the development planning of

characteristic industries. It's essential to actively take part in economic division and cooperation outside the counties, and highlight intrinsic characteristics. Only by focusing on its characteristics, county economy could have competitiveness and distinctiveness and find its right position in joining the domestic and international markets.

3.7 Establish close combination mechanism among education, technology and economy, and promote the strategy of prospering the county by science and education The development of county economy should be combined with science, technology and education, so as to form long-term mechanism. It's the basis of innovation and sustainable development for county economy. Various sci-tech talents should be attracted to realize the transformation of economic growth mode. With the acceleration of knowledge economization and economic globalization, the process that knowledge and information are transformed into actual productivity is shortening day by day. Intellectual talents, industries, management and economy are the inevitable trend of social development. The nature of market competition is the competition of talents and technologies. In the fresh wave of economic development, a large amount of talents which can exert the role of "science and technology constitute a primary productive force" should be cultivated and introduced so as to realize leaping development. Measures such as ensuring educational inputs, adjusting educational structure, developing adult and vocational education, and improving the comprehensive quality of laborers as well as labor skills should be taken to prepare conditions for the transfer of rural surplus labors. Meanwhile, preferential policies should be made for encouraging and supporting various enterprises and individuals with competence to enter into high-tech fields and exert their demonstration and driving effects.

4 Conclusion

As the basic regional unit of national economic system in China, county economy has some basic attributes. Due to the effects of environmental variation and internal evolutionary mechanism, county economy shows some distinctive characteristics such as openness, specialization, diversification, privatization, urban-rural integration, modernization. Meanwhile, there are some problems in the development of county economy: slow development of urbanization and imperfect infrastructure; deficient higher resources elements and mismatched production

technology; unreasonable industrial structure and serious convergence; greater influences of policy and system with prominent dualistic phenomenon; disequilibrium development among counties and significant regional differences. Based on these, a strategic selection should be made for the future development of county economy: firstly, promote new industrialization process and optimize industrial structure of county economy; secondly, push agriculture modernization and strengthen the leading position of agriculture; thirdly, strengthen the construction of urbanization and break the limitations of urban-rural dualistic structure; fourthly, establish the important position of private economy and accelerate reform and system innovation; fifthly, break through the mindset of county economy and expand domestic market as well as international market positively; sixthly, exert regional advantages and cultivate characteristic economy actively; seventhly, establish close combination mechanism among education, technology and economy, and promote the strategy of prospering the county by science and education. The development of county economy should combine with the actual background, bring forth new ideas, widen minds and break the routine, so as to realize a leaping and sustainable development.

References

- [1] YANG YK, HAN DM. The basic approaches to develop China's country economy[J]. *Economic Review*, 2005(8):5-8. (in Chinese).
- [2] WANG YM. Some thoughts on how to develop the county economy[J]. *Macroeconomics*, 2002(12):11-13. (in Chinese).
- [3] YU MG. County's economic development strategy[EB/OL]. (2008-10-29). <http://www.tianyabook.com/jingji/0823063.htm> 35K. (in Chinese).
- [4] SI MY. Suggestions on propelling county economic development in Henan Province[J]. *Henan Agriculture*, 2008(9):25-26. (in Chinese).
- [5] ZHANG L, XU ZM, WANG SY. Path finding for intra-county economic development in Anhui Province[J]. *Journal of Tongling College*, 2008(4):12-15. (in Chinese).
- [6] Department of Comprehensive Statistics, National Bureau of Statistics of China. China statistical yearbook for regional economy in 2007[M]. Beijing: China Statistics Press, 2008:500-591. (in Chinese).
- [7] TAO XY, ZHU JL, WANG SJ. The strategy of accelerating the development of county economy[J]. *Commercial Research*, 2004(22):142-144. (in Chinese).

中国县域经济发展的问题和出路

杜李 (河南大学工商管理学院, 河南开封 475001)

摘要 介绍了县域经济的概念,其基本属性可以概括为空间上的区域性、结构上的综合性、形式上的层次性和过程上的开放性。概述了县域经济的特征,即县域经济是开放型、特色化、多样化、民营化、城乡一体化和现代化经济。分析了中国县域经济发展中存在的问题和局限性:①城镇化发展滞后,基础设施不完备,县域的自然与人力资源难以充分开发和有效利用;②高等资源要素缺乏,生产技术基础和配套能力差,难以实现有效协作;③产业结构不合理,三次产业之间关联度小,趋同现象严重;④政策和体制性影响较大,二元现象突出,城市投入远远大于农村,农民

(To page 27)

a reasonable lowest purchase price of grain, and improve the direct subsidy standards for grain planting, in order to make up for the revenue loss of peasants caused by the rise of production costs, to ensure the peasants a higher efficiency of grain production. Thus, both the productive enthusiasm of peasants and the output of grain are improved^[2,11].

(2) Carry out scale management of grain production in major grain producing areas of Henan Province, such as Huaxian, Yingyang and Zhoukou. Peasants use their own land to buy shares, so that a small number of managers can conduct unified production. In this way, peasants can reduce production costs, improve grain output, enhance the capacity of food production, and realize the modernization and technicalization of agricultural production. Living standards of peasants can be improved by accelerating the transfer of surplus labor forces, and increasing the nonagricultural income of peasants.

(3) Strengthen the construction of agricultural infrastructure, and improve the sustainable development level of agriculture. As effective irrigation area is the primary factor affecting food production capacity of Henan Province, it is necessary to consolidate the construction of water conservancy facilities and other agricultural infrastructure. Based on a stable sowing area, inputting more in fertilizer, farm machinery and effective irrigation area is an effective way to improve the production level of grain, and is also an inevitable trend of the modernization of agriculture.

(4) Main directions to improve the comprehensive capacity of grain production are to increase input in agricultural machinery and technology, to choose a benign mode of production, to reform the farming systems, and to develop inter-

cropping and interplanting with multiple cropping system^[10].

References

- [1] Henan Provincial Bureau of Statistics. Some problems in Henan grain production in 2007[EB/OL]. (2007-07-31). <http://www.ah.xinhuanet.com/zhuanti/zl/200707/31/content-10730898.htm>. (in Chinese).
- [2] CAI XE. Some issues and strategies on the existing foodstuff price policies in China[J]. Technology Economics, 2007(9):26-29. (in Chinese).
- [3] ZENG YR, ZHOU JM, YANG J, et al. Forecast for food comprehensive productive capabilities in Fujian and countermeasures for food safety[J]. Fujian Journal of Agricultural Sciences, 2007, 22(4):426-432. (in Chinese).
- [4] FAN JG. The grey analysis on grain output and its main input elements in Shaanxi Province from 1983 to 2004[J]. Agricultural Research in the Arid Areas, 2007, 25(3):209-212. (in Chinese).
- [5] ZHANG C. Gray correlation analysis of grain yield[J]. Modern Business Trade Industry, 2008, 20(4):19-20. (in Chinese).
- [6] XU SS, LIU SQ. Gray correlation analysis of grain yield of Heilongjiang Province[J]. Journal of Heilongjiang Grain, 2007(5):19-21. (in Chinese).
- [7] WANG ZY, HUANGFU GY. Grey correlative analysis of grain production and factors[J]. Journal of Anhui Agricultural Sciences, 2008, 24(2):217-222. (in Chinese).
- [8] BAI W, HAO JM, YANG J, et al. Grey relevant analysis and prediction of capital goods in grain production at regional level[J]. System Sciences and Comprehensive Studies in Agriculture, 2007, 23(3):368-371, 376. (in Chinese).
- [9] LIU SF, DANG YG, FANG ZG. Gray system theory and its application[M]. Beijing: Science Press, 2008. (in Chinese).
- [10] LIU J, WANG SX. The dynamic change and the regional pattern of grain production in China based on GIS[J]. Territory & Natural Resources Study, 2007(1):54-55. (in Chinese).

基于灰色关联的河南省粮食生产影响因素分析

李秋芳¹, 康国磊², 李小芳³, 李炳军^{1*} (1. 河南农业大学信息与管理科学学院, 河南郑州 450002; 2. 郑州轻工业学院现代教育技术中心, 河南郑州 450002; 3. 河南农业大学财务处, 河南郑州 450002)

摘要 概述了中国河南省粮食生产存在的三方面问题:一是夏粮生产形势严峻,小麦病虫危害严重,有效灌溉面积在退化,田间管理效率较低;二是春耕生产农资价格偏高,影响了农民生产投入的积极性;三是农田水利设施老化,抗御自然灾害能力偏低。分析了河南省粮食生产能力的宏观影响因素,主要有4个方面:一是粮食价格不稳定、收益不确定,一定程度上影响了农民粮食生产的积极性;二是土地承包缺乏灵活性,实行粗放经营;三是促进粮食稳定增产和持续增收的长效机制尚未建立;四是市场变化对粮食生产的影响更趋复杂。介绍了灰关联数学模型的原理及关联度的计算步骤。根据河南省1990~2007年的统计数据,运用灰色关联分析实证研究了河南省粮食产量与其8个影响因素之间的关联情况。结果表明:影响河南省粮食生产主要行为因素的重要程度依次是有效灌溉面积、劳动力、粮食作物播种面积、化肥施用量、农用机械总动力、农村用电量、农药施用量、农用塑料施用量。最后,提出了4点相关建议:一是国家应采取积极的干预政策,制定合理的粮食最低收购价格,完善种粮的直接补贴标准;二是在河南省粮食主产区实行粮食生产规模经营;三是加强农业基础设施建设,提高农业可持续发展水平;四是加大农业机械投入,提高技术投入,选择良性生产模式,改革耕作制度。

关键词 粮食生产;投入要素;灰色关联分析

(From page 5)

组织化程度低、增收缓慢;⑤县际发展不平衡,区域差异显著。最后,提出了发展中国县域经济的思路:①推进新型工业化进程,优化县域经济产业结构;②加快农业现代化步伐,增强农业的基础地位;③加大城镇化建设力度,打破城乡二元结构限制;④确立民营经济的重要地位,加快改革和制度创新的步伐;⑤打破县内经济的思维定式,积极拓展国内外市场;⑥发挥地区优势,积极培育特色经济;⑦建立教育、科技、经济紧密结合机制,推进科教兴县战略。

关键词 县域经济;可持续发展;战略途径