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Sustainable Development of Agriculture from the Perspective of Rural Urbanization

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Abstract In recent years, China's economic construction enters into a new development period. The buyer's market appears, structural demand of agricultural products becomes excessive, and the demand market becomes depressed. In the process of seeking approaches for expanding domestic demands, accelerating construction of small towns is a breakthrough point of rural population urbanization, and also an optimal approach for realizing transfer of rural surplus labor. Besides, accelerating construction of small towns is an inevitable path for intensive management of rural land implementing ecological agriculture, and also an optimal path for improving farmers' quality and improving living conditions. In addition, it is an essential strategy for increasing consumption, expanding domestic demand, pulling rural economic and social development, and also a powerful measure for realizing sustainable development of agriculture. In the process of construction of rural urbanization, it is required to attach importance to strategy of sustainable development of agriculture. This is beneficial for the present generation and for descendants. Therefore, how to build small towns and how to solve many problems in sustainable development of agriculture have received much concern.

Key words Rural urbanization, Sustainable development, Modern agriculture

1 Difficulties in sustainable development of agriculture

As early as 1987, the sustainable development was put forward by the World Commission on Environmental and Development (WCED) in *Our Common Future*. Sustainable development is development that needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: (i) the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. Therefore, the goals of economic and social development must be defined in terms of sustainability in all countries. Interpretations may vary, but must have certain general features and must flow from a consensus on the basic concept of sustainable development and on a broad strategic framework for achieving it. Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life. Key objectives for sustainable development include: reviving growth; changing the quality of growth; meeting essential needs for jobs, food, energy, water, and sanitation; ensuring a sustainable level of population; conserving the enhancing the resource base; reorienting technology and managing risk; and merging environment and economics in decision making. In sum, the strategy for sustainable development aims to promote harmony among human beings and between hu-

manity and nature. Agriculture is foundation of national economy. Sustainable development of agriculture inevitably becomes foundation of sustainable development of human society and economy. Basic factors influencing sustainable development of agriculture include population, grain and land. In recent years, various economic activities of human beings result in increasingly prominent conflict between population, resource, environment, and economic growth. This becomes a great difficulty in sustainable development of agriculture.

1.1 Conflict between expansion of population and shortage of agricultural resources Large population of China is a great factor restricting sustainable development of agriculture. China has 1.3 billion people. Among them, 800 million live in rural areas. By the middle of the 21st century, China's population will reach 1.6 billion. Such huge population will consume enormous means of livelihood, and producing such means of livelihood will need huge economic source. However, the per capita resource of China is little. With constant population growth and rapid economic development, as well as constant improvement of people's living conditions, the conflict of resource shortage will become more and more violent. Therefore, it is extremely urgent to control population growth and improve population quality.

1.2 Conflict between reduction of agricultural resources and degradation of resource quality If shortage of agricultural resources has excellent quality or increase to make up, such shortage will not restrict sustainable development of agriculture. However, China's agricultural resources take on the serious trend of quality degradation and quantity reduction. This can be manifested as follows: (i) Farmland area reduction and fertility degradation; (2) Shortage of fresh water resources and pollution of water; (iii) Excessive and random lumbering leading to resource depletion and serious water and soil loss; (iv) Degradation of grassland and de-

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sertification of land. These problems directly threaten national grain security.

1.3 Conflict between environmental pollution and people's health

Many small towns in China are separate. Their distribution is unreasonable and lacks long-term scientific planning. As a result, township enterprises are also separate. Some enterprises lack management and control of pollution. They discharge waste water, gas and materials directly without treatment. It seriously pollutes farmland, rivers and other rural space and leads to increase of respiratory diseases. People are eager to return to nature and breathe fresh air. Pile of industrial waste residue and excessive use of chemical fertilizer, pesticide and plastic film in agricultural production deteriorate existing water and air pollution. These jointly lead to greenhouse effect, thinning of ozone layer, and increase of various diseases. In addition, rapid transfer of rural population to small towns further leads to environmental pollution and ecological deterioration and influences sustainable development of small towns.

2 Concept of rural urbanization

Rural urbanization is the situation of rural population shifting from rural areas to towns and urban areas relying to traditional markets and administrative centers in the context of certain population migration. It is different from large-scale population migration to cities in general sense and also different from urbanization of developed countries after the World War II. The construction of rural urbanization generally relies on small and medium-sized cities, counties and small towns with excellent foundation, accords with local situation, develops regional agricultural advantage, takes township enterprises as leader, and agricultural byproducts processing, and green tourist service industries as center. It is to realize transformation of rural population to secondary and tertiary industries. It is an agricultural modernization road for adjusting agricultural industry structure and increasing farmers' income, and also a great strategy for promoting national economic and social development in the Tenth Five-Year Plan of China. According to our survey, taking Huapu Manor urbanization road in Youai Town in Pi County of Chengdu City as an example, this town got rich on the basis of original village orchards and various flowers and plants through peasant family tourist reception, selling of flowers and plants, and outside investment. In Youai Town, there are hundreds of mu of flower and plant seedlings and indoor green plants. Various flowers and plants vie with each other for glamour, rivers and streams murmur, the scene is picturesque, forming harmonious development of human and nature. Besides, development of peasant family tourist reception boosts local flower market, agricultural product market, consumer goods market, building market, and talents market, promotes agricultural population changing to local secondary and tertiary industry, and increases farmers' income at the same time of reducing employment pressure of large and medium-sized cities. With support of government, farmer households establish their village rules and committee taking con-

venient suburbs as center. They have regular learning and recreation place and complete public facilities. In this town, there has been no criminal crime for five consecutive years, no breach of state family planning policy for 15 consecutive years, no migrant worker, and no feudalistic superstition activities. The per capital annual income of Youai Town is up to 150 000 yuan. Villagers feel safe even they do not lock their door at night; no one picks up and pockets anything lost on the road; villagers live in harmony with each other.

3 Positive functions of construction of rural urbanization

3.1 Absorbing rural surplus labor and reducing employment pressure of large and medium-sized cities

At present, China has 120 million agricultural surplus labors and this figure will increase at the annual rate of near 10 million. It is unrealistic for such huge labor to move to large and medium-sized cities. Development of small towns creates conditions for stable transfer of surplus labor and rural labor division. Since towns have most functions of cities and are political, economic and cultural center of rural areas, they are leaders of local economic development. The development of small towns needs place of production, circulation, and exchange and corresponding services, convenient traffic, perfect communication network, municipal infrastructure, and wide cooperation and information exchange. These provide numerous jobs for rural surplus labors. In future ten years, small towns will become ideal place for transfer of rural surplus labor, different from countryside production, living, consumption and recreation.

3.2 Implementing the family planning policy and education policy to improve quality of rural residents

Relative concentration of rural population in towns will completely change current situation of low population quality, low labor productivity and low resource utilization level. Relative concentration of rural population can effectively prevent unplanned child-bearing, and also can effectively strengthen scientific and technological education and cultural and health education of rural population. Chinese farmers have deep-rooted rural diseases, such as selfishness, backward, uncivilized and wholesome. Rural urbanization construction integrates science and technology, education, culture, recreation, and service consumption, and provides a brand-new production, living and consumption way for farmers. So it is favorable for farmers accepting modern civilization more rapidly, changing bad customs and habits, and improving farmers' cultural and scientific and technological quality.

3.3 Increasing farmers' income and narrowing urban and rural gap

With development of township enterprises, agricultural and sideline products processing industry, green tourist service industry, and green agriculture expand development space of rural economy. Farmers are liberated from traditional agriculture and move to secondary and tertiary industries and receive considerable income. Increase of farmers' income provides larger investment space for small town construction and development of second-

ary and tertiary industries. Besides, it promotes development of related industries, such as real estate, communication, home appliances, decoration, and service. In addition, it also creates favorable condition for opening up rural consumption market and expanding domestic demands.

3.4 Reasonably planning and utilizing land resources, to realize intensive agricultural production and increase agricultural labor productivity Land is fundamental and precious resource for survival and living of human beings. Rural urbanization construction absorbs numerous rural surplus labors. It not only reduces costs and risks of labor transfer, promotes movement of agricultural labor to secondary and tertiary industries, but also provides large idle land. Therefore, it provides favorable condition for raising level of large scale operation of land and increasing labor productivity and utilization efficiency. After some farmers moving to towns, it is possible for connect land together and form large area of land. Intensive operation of land at moderate level is fundamental condition for realizing agricultural modernization. Besides, connected land is convenient for maintenance of land on large scale. Therefore, rural areas can bring into play agricultural advantages in accordance with actual local situations, to realize intensive production of grain, cotton and oil. Alternatively, they can energetically develop vegetable, fruit, aquatic product, and animal husbandry, or develop green tourism, to promote integration of production, processing and circulation, boost benign circulation of agricultural industrialization and ecological agriculture, so as to realize grain security and sustainable use of agricultural resources. The above factors indicate that proper attention to sustainable agricultural development in the process of rural urbanization construction not only alleviates many conflicts in sustainable agricultural development, but also promotes rural industrialization and agricultural modernization, and expands rural consumption market. Besides, it can keep dynamic balance between rural population, resource and environment, and ensures smooth and comprehensive implementation of small town construction strategy, to realize benign and sustainable cycle of agricultural population, agricultural resource and agricultural environment. Therefore, both are interconnected, mutually promoted and restricted, and interdependent.

4 Recommendations for promoting sustainable agricultural development through rural urbanization

4.1 Suiting measures to local conditions and making scientific planning To prevent unordered development of rural urbanization construction, government department should make intervention and regulation of urban construction and development, and take proper adjustment through scientific regulations. According to local foundation conditions and objective requirements, it is recommended to determine how to adjust industrial structure, allocate infrastructure, and make well connection of urban planning with local regional economic and social planning. Especially, it is recommended to support those areas with high regional advantage and excellent resource condition and powerful economic strength to

build organic towns. In the process of development, it is required to attach great importance to environmental construction, protect and improve ecological environment, develop in accordance with local material and financial strength, to avoid waste of land and fund.

4.2 Formulating reasonable land and water resource use and development policies, reforming household registration system, to ensure ordered management of rural population after urbanization It is recommended to formulate preferential land policy, attract secondary and tertiary industries to move to small towns, provide preferential tax policy for connected land development, make unified planning, unified examination and approval, unified transfer of non-agricultural land, and properly treat the relationship between small town construction and farmland protection. In the aspect of saving land and keeping water, it is required to encourage development of ecological agriculture. It is recommended to develop ecological agriculture, coordinate the relationship between agricultural development, resource utilization and protection, to realize benign cycle of ecology and economy. Some areas practice vertical ecological planting technology such as "grain-cotton, grain-rape, grain-vegetable" and "chicken (upper level) - pig (middle level) - fish (bottom level)"; some areas close hillsides to facilitate forestation and concede the land to forestry and grass, to undertake planting of green commodity trees. Development of ecological agriculture not only invigorates economy, but also realizes environmental protection, favorable for realizing fully use of land and water resources, sustainable agricultural development with low input, low consumption, high yield and high benefit. In addition, it is recommended to promote investment of leading enterprises in rural urbanization. At present, the whole country has established 300 agricultural ecological counties, including small town road, water supply and drainage, sewage and garbage disposal in 101 counties, strengthened construction of public infrastructure, and ensured harmonious development of rural urbanization construction.

4.3 Energetically increasing the correlation between leading enterprises and modern agriculture It is recommended to take small town construction as leader of local political, economic and cultural enterprises, and integrate culture, health, education and environment construction together. Local government should take small town construction as overall benefit of the local area, use small town construction to promote regional economic development. Thus, it is recommended to take cultivation and promotion of rural economic and social development as essential strategy, and focus on construction and strengthening of transport, processing and sales of agricultural products to support small town construction. At the same time, all areas should suit measures to local conditions, give prominence to advantages, make use of local resources; various financial institutions should support construction of small towns, strengthen support for small town construction; local areas should set foot on local resources, take agricul-

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ving the level of flower seedling production technology. It is necessary to give full play to the advantage in production resources of China's flower seedlings, use advanced flower seedling technology, cultivate the flower seedling products with independent intellectual property rights, cultivate new varieties of flower seedlings with comparative advantage, and enhance the large-scale operation and industrialization of flower seedlings to raise the level of international competitiveness of flower seedlings.

4.2.2 Strengthening policy support and improving the degree of organization of flower seedling industry. It is necessary to strengthen the government's policy support to flower seedling industry, change the current disorderly competition and small-scale production and operation of flower seedlings, and organize a large number of scattered flower seedling production individuals to improve the professional level of flower seedling producers. It is also necessary to achieve effective linking of various parts of flower seedling production and gradually increase the level of competition of China's flower seedling industry in the international market.

4.2.3 Accelerating the development of new varieties of flower seedlings and opening up Europe and US markets.

At present, the main export market of China's flower seedlings is concentrated in the neighboring countries and regions such as Japan, China's Hong Kong, Singapore, Thailand and Russia. In recent years, the international competitiveness of China's flower seedlings has been increasingly enhanced, and the international market share of flower seedlings has also been increased. The export market is also gradually increased and the exports continue to enlarge. However, China still lags far behind the world's three major flower markets (US, Europe and Japan) in terms of flower

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tural and sideline product processing, storage and transportation as major work, energetically develop green agriculture, green tourist service industry, and increase the correlation between leading enterprises and agriculture, and use influential funds and modern science and technology of leading enterprises to promote long-term development of green agriculture, to realize sustainable development of agriculture.

4.4 Attaching great importance to hardware and software construction of small towns, and creating harmonious social environment

Rural population is moving to small towns in large number. Concentration of township enterprises in small towns needs constantly raising urban level and functions. Now, present development of small towns in China has problems of

exports. China should gradually establish the export-oriented flower seedling industry, and further enhance the international competitiveness of China's flower seedlings.

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small size, imperfect urban function, backward social undertaking and infrastructure, and serious environmental pollution, *etc.* Therefore, small towns should focus on investment in public infrastructure, take feasible preferential measures, mobilize social forces, increase input in public infrastructure, strengthen environmental construction and protection, resolutely put an end to problem of randomly discharge of waste water and gas, and raise people's environmental protection awareness. Furthermore, it is required to attach great importance to construction of spiritual civilization in small towns, and take social ethics, professional ethics, collectivism and patriotic education, to establish excellent social conduct and mental outlook.