The Study of the development of Characteristic agriculture of Sichuan province—take the example of An Yue’ Lemon industry

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Abstract
As the preliminary forming of agricultural product’s buyer’s market, agriculture and rural economy confront with double restraints respectively from resource and the market. How to adapt to these new changes and reverse the passive hard-to-sell situation under the present’s conditions of low efficiency and much more input but not that much return in result. This paper seeks approaches of solving these problems via the study of the development of An Yue’s lemon industry, which is regarded as the cutting point.

Keywords: Characteristic Agriculture; Industrial Development; Lemon

Introduction
Sichuan province is an important fruit producing area in west part of china, and also a main province of fruit tree cultivation. The aggregate area had reached 537,000 hectare provincial total in the year of 2009, fruit’s gross output 6,895,000 tons, among which 2,773,000 tons of oranges, which occupying 40.22% of the total fruit product. In Recent years, with the continuous developing of Sichuan agricultural industrialization, the development of fruit industry is consequently being pushed forward. Well-known leading enterprises spring up like mushrooms after rain, for example, AnYue golden field consociation, pujiang hybrid tangerine cooperative, guowang fruit and vegetable corporation and many other provincial important ones.

An yue, which in Sichuan province, acts as an essential role in lemon producing around china. Lemon cultivation in anyue county could date back to 1930s, during which American euraka lemon was introduced as ornamental plant. In the late 1950s and then the early 1960s,
lemon plant area experienced gradual expansion and then rapid diminishment in the changing tide of trade relationship between China and Soviet Union. In the 1970s, a favorable turn appeared to lemon industry, vice prime minister Chen Yun called on the development of citrus cultivation, after that, anyue’s lemon industry rose up rapidly. In 1986, anyue was authorized as the only national level lemon product production base by SDPCA (State Development Planning Commission) and ministry of agriculture. In 2000, anyue was named as “China’s lemon hometown”, in 2010, “anyue lemon” was awarded Sichuan province’s famous trademark, in 2012, national well-known trademark. Lemon produced in anyue owns brand superiority, scale advantage, technological superiority and beneficial advantage around China. Yield, scale and market share are all reach and stay above 80%. After several decades’ development, anyue lemon has already formed an industrial system of production-supply-marketing, in 2011, fresh lemon production was 300,000 tons in total, which can be converted into 3.3 billion RMB totally. The development of lemon industry effectively drives the development of lemon processing industry, till the end of 2011, the number of anyue lemon processing enterprises has reached 22, with their processing capacity 100,000 tons one year. Study on anyue lemon industry evolution affords a reference to other provincial characteristic industries.

1. Data resource

This research is on the theoretical basis of industrial development study, together with collection of relevant yearbook and government’s data, which contain Sichuan yearbook, anyue yearbook, reports of anyue lemon industry development and so on. Furthermore, design questionnaire, interview relevant persons in charge from organizations which are randomly chosen from local lemon industry’s government competent apartment, processing enterprises, dealers and leading enterprises related to lemon industry, of this industry’s advantages, disadvantages, opportunities etc.

The survey this time totally interviews 11 organizations, 25 questionnaires, among which 23, 92%, are finally identified as valid after strict analysis. Organizations include 2 government departments: anyue lemon industry office and anyue agricultural economy bureau, 4 processing enterprises, 3 cooperatives and consociations, 2 relevant industry firms.
2. AnYue lemon industry development situation

In general, an yue lemon industry has become a more development scale, diversification, characteristic of the momentu, and it has play a growing role in the regional economic development.

2.1 The first industry have been developing steadily

AnYue tries to build the "China's rural of lemon", existing 41 lemon base townships, base village more than 430, 400000 mu of lemon planting area, more than 100000 farmers in households, more than 30 fruits, ten thousand people, 564 households owner planted more than 150000 hectares of lemon. In 2011, 300000 tons of fresh fruit production, output value of 3 billion yuan. Farmers` income is nearly 1 billion yuan, 3214 yuan income per capita.

2.2 The second industry begun to take shape

AnYue existing 22 lemon processing enterprises, annual processing capacity of 100000 tons, the production and development of dry lemon slice, lemon oil, lemon pectin, lemon fruit wine fermentation fermented fruit vinegar, lemon, lemon tea, lemonade and so on more than 10 series more than 30 products. Survey data shows that 19 processing enterprises are established after 2000, 42.1% of the enterprise was founded in 2004 and 2005, is in the AnYue to expanding the lemon cultivation and to solve the problem of fresh fruit "hard sell" situation. Companies, total assets amount of the gap is very big, the shandong andery limit the company's total assets, the highest for more than 30, one hundred million yuan, the lowest total assets is 600000 yuan; Processing enterprises engaged in for 7 single lemon products processing enterprises, accounting for 36.8% of the total survey, engaged in a variety of 12 lemon products processing enterprises, accounting for 63.2%; Average processing enterprise has a staff of 75 people. Single lemon processing enterprises mainly engaged in the glass of primary processing, mainly including fresh fruit washing and packing, a variety of products processing enterprises mainly produce lemon slice, fruit wine, pectin, fruit vinegar, tea and lemon oil and other products.

2.3 The third industry gradually grow

In 2006, AnYue begans to forge a lemon industry culture construction. So far, it has held more than "AnYue lemon festival", "AnYue lemon flower festival", "International Lady of lemon", built with lemon culture characteristics of road signs, records of lemon in the development of square stone gallery, activities, etc. In 2010, depicting the AnYue lemon and backgrounds of the movie "lemon flower" and "lemon" boot. In 2011, successfully held the
AnYue, happiness love in style "big stars love gala, nine activities such as" meeting in ning hai ", at the same time, promote the cultural construction, which lead to the development of AnYue lemon characteristics of leisure agriculture.

3. The main achievements

Anyue County attaches great importance to the lemon industry and lemon fresh fruit won the title of national and provincial best fruit and Sichuan well-know brands, Thailand International Fair Gold Medal, the brand-name products of Beijing International Agricultural Products Expo , the National Famous Brand Products Gold rating, the Chinese famous fruit awards. In 2009, Anyue lemon won the title of " Sichuan famous brand" and was awarded the "sichuan province famous trademark", also named the "top ten regional public brand" by the organizing committee of Chinese agricultural product brand conference, in 2012 which was more awarded "China well-known trademark". Fresh fruit and processed products are exported to Germany, Canada, Russia, kazakhstan, Hong Kong, Macao and Taiwan and so on more than 10 countries and regions and domestic Beijing, Shanghai, xiamen, guangzhou and so on more than 50 large and medium sized cities.

3.1 The infrastructure construction

Anyue connects the “Tongda engineering” construction of the county and realizes the road traffic penetration rate of 80% of the county lemon production base by means of State Road 319, Provincial Highway 206, domestic hence highway, Cheng Anyu highway. Among them 9 townships, 35 administrative villages, 139 clubs, 9321 acres cultivation are involved along Cheng Anyu highway; 10 towns, 36 administrative villages, 160 Club, 10,369.2 acres cultivation are involved along the domestic hence highway. But the whole Anyue lemon industry regional development imbalances because the better development of the township can highly reach 100% and the poor villages and towns still exist impassable roads.

An yue belongs to high forest belt and is easy to dry waterlogged. lemon cultivation needs laying pipeline, water, road network and dropper, sprinkler irrigation and other water-saving irrigation system. lemon reserved area of the county reaches 400000 acres, only more than 20000 acres of which has a relatively complete system of irrigation and drainage and park trails, of which pipes, canals, road network construction account for 14.2% of the owner total planting area, occupying about 5% of the lemon total area.
3.2 Standardization system construction

Lemon production must implement the standardization of production management to guarantee both quality and quantity. Anyue lemon Institute of Science and Technology, Research Center, and Experiment Station lemon and other research institutions exist 1 total agronomist, 2 senior agronomists, 6 intermediate agronomists, 3 assistant agronomist and lemon base township with 2-3 lemon post technicians who research and popularize standard interactive modes such as “high box thin planting”, as well as lemon standardized production technologies such as building gardens, planting, bagging. The established lemon standardization demonstration garden covers 150000 acres, accounting for about 27.5% of the county planting size (figure 1), of which two modern agricultural industry bases of Sichuan were established along “Longtai-Pianyan-Yuexin” and “Sixian-Shi qiaopu-Yongshun”. Lemon planting technology was unified through multiple channels for standardized planting training, the use of cable TV, closed circuit television, distributed training, lecturing, lemon cultivates hotshot demonstration and other forms of guidance. Standardization system construction contributes to the increase of lemon quantity and high quality, which provides a favorable security for Anyue lemon going abroad, meeting international standards.

3.3 Marketing network construction

Now Anyue has 23 lemon marketing enterprises, 9 marketing enterprises with export qualifications and obtains lemon planting base 1.7 acres with export registration certificates, accounting for 4.72% of the total area, 40% lemon base of villages and towns built export lemon quality safety demonstration garden, the lemon foreign exchange through export reached 1 billion yuan in 2011. Lemon fruit and its processed products are exported to Beijing, Shanghai, xiamen, guangzhou and so on more than one hundred large, medium cities as well as the UK, Germany, Russia, Japan, kazakhstan, kyrgyzstan, the united Arab emirates, Malaysia, Hong Kong, Macao and Taiwan and other over ten countries and regions.

Marketing stocks was established by Lemon Industry Bureau in 2012 which is responsible for the lemon market system construction, brand building, base record, market research and solving marketing problems and popularize the marketing methods such as the agricultural super-docking, electronic sales, postal direct marketing and so on. Green peak lemon industry limited liability company successfully signed Taobao together cost-effective buy Cooperation Agreement "and" procurement supplier framework contract with Chengdu News Science and
Technology Development Co., Ltd., the METRO (China) Group Company, the golden lemon lemon Yonhap signed a cooperation agreement with the the Chengdu Hongqi chain supermarket, etc.

3.4 Processing enterprise development overview

The upstream suppliers of Lemon processing enterprises includes general lemon growers, large lemon planting growers, rural cooperatives or association and other groups and self-built base, etc., the downstream distributors or receivers are mainly wholesalers, agents, vendors, supermarkets and stores, etc. At present, organizational patterns of the processing enterprises and the upstream or downstream suppliers are mainly 4 kinds: market buyout, contract type, cooperation type, enterprise integration type (table 1). In recent years, there are 15 enterprises not changing in the organization mode of the enterprise and its biggest upstream suppliers, accounting for 78.9%, 4 enterprises changing, accounting for 21.1%; for enterprises with the largest downstream sellers or receivers there are 10 not changing in organization mode, accounted for 52.6%, 9 changing, accounted for 47.4%.

Table 1: the organizational patterns of the processing enterprises and the upstream or downstream suppliers

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<td>quantity</td>
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<td>With downstream suppliers</td>
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In 2011, Shandong Andre company whose annual consumption of lemon fruit can be as high as 40,000 tons was introduced, which has brought great impact on Anyue lemon industrial development, the annual consumption of lemon makes previous difficult problem in sales of Anyue lemon into optimistic situation “production not enough sales”. Its output of lemon juice
provides processing raw materials for other enterprises in the park, reduces the cost of other small processing enterprises, which plays a external positive effect in the industry economy.

4. Problems

4.1 Industrial Structure is irrational, and the industry chain is incomplete.

At present, in Anyue Lemon Industry, the primary industry hold a large proportion, however, secondary and tertiary industry is undeveloped. The secondary industry is at the initial stage, has less pilot enterprises. The chain of the industry is short, less lemon could become goods. So it failed to turn resource advantage into trade and economic advantages.

4.2 Lack of Leading Enterprises and Low Level of Intensification of Production.

Processing enterprises in Anyue are major in raw materials and use backward technique. They are likely to be copy, extensive mode of operation, forms a family-based workshops, low utilization of raw materials. There are less such firms which have strong market competitiveness, driven the farmers ability and have a certain scale.

4.3 Less Supporting System and Imperfect Market Service Functions.

First, the market infrastructure is undeveloped and the firms have the small scale, they lack of standardization, storage capacity and circulation of the relatively poor level of service, that affect the circulation of forest production. Secondly, production technology, information mechanism and raw materials service which composed of the service system is imperfect, especially in planting, pest control, pesticide. Thirdly, Advanced lemon cultivation techniques, the universal application of the product processing and utilization technology, bio-engineering technology is backward, not suited to the new stage of the development of the lemon industry needs; Last, scientific and technological quality of the farmers are not suited to the requirements of the new stage.

4.4 Small Policy Support and Less Investment Projects.

Government investment focus more on ecological construction than industrial construction. Firms are difficult to get the policy loans. Though builded the deep processing bases and introduced other firms, which promote lemon’s value, enhance the farmers income and optimize the industrial structure. However, lemon processing firms are lack of money, they can’t try their best to make product. Last, firms have resulting in low production efficiency, dampen the enthusiasm, also affect the economic and social development.
5. Suggestions

At present, the lemon industry in Anyue has flourished in recent years. However, opportunities will outweigh challenges.

5.1 Improve the Supporting System and Enhance the Level and Quality of Social Services.

Establishing the social services improve the lemon market. Cultivating leading enterprises drive lemon industrial development. Implementation of brand strategy create the lemon Brand. Strengthen the lemon fruit standardized construction, and actively carry out qualified quality certification; Increase investment in science and technology and strengthen education and personnel training which construct labor base. Adhere to the large-scale, intensive, specialized operations, take the industrial development model of "company + base + farmers". Increased investment support efforts to actively seek financial subsidies for high-quality seedlings, deep processing base construction and farming of the leading enterprises in the service sector, product processing projects, actively seek to give appropriate subsidies to finance in accordance with the relevant provisions. Support the technological transformation of key enterprises, improve product quality, develop new products with independent intellectual property rights. Actively promote the Forest Right Mortgage Loan, farmers and small and medium enterprises the amount of the loan, the farmers guaranteed loans and forest insurance business.

5.2 Increase the Lemon Industrial Investment

In order to increase the total quantities of funds, we should integrate national, social and corporate resources and investment channels. Lemon Industry has three elements: production, processing and sales. They are uneven development. Further more, the projects of lemon industry lack of money input. So we can support the firm in financial, offer more channels to funds. If that, the funds can stimulate the lemon cooperates and firms which developed better.

5.3 Make more efforts on leading industry and enterprises.

One hand, horizontal segment regional blocks, industrial division and locate functional subdivision; On the other hand, strengthen industrial specialization and management. The key is to focus to determine the the good lemon industrialization dominant industry, and vigorously support the development of leading enterprises, and gradually expand the scale of operation, improve product quality, improve product upgrades, efforts to form a regional leading industries
and competitive products, by leading industry priority development to stimulate and promote the development of other industries and lemon industry chain.

5.4 **Focus on technological innovation, breakthroughs in enhancing industry support.**

Establishing special funds of characteristic agriculture industry, especially the lemon industry, which supports the scientific research. Promote the development mode "enterprise + base + scientific research institutions + farmers" and introduce deep processing technology, especially in technology development and utilization of high-value-added products. Actively, develop the deep processing of products, increase product added value.
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