

# *On Optimization and Innovation of Rural Circulation System in Western China under the Targeted Poverty Alleviation Strategy*

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**Abstract**—The poor development of the circulation industry in rural areas of western China is a major issue restricting the economic development of the region. This paper analyzed the development of circulation industry in western China and the mechanism of circulation industry and targeted poverty alleviation. And it concluded that to solve the problem of overall poverty in the areas, we must optimize the supply chain of agricultural products, make the channels of rural circulation unimpeded, and cultivate compound logistics talents and implement the strategy of combining electric merchants with the implementation of the new poverty alleviation model of “Internet + logistics + poverty alleviation”. We can improve the poverty alleviation in the western rural areas through the optimization of the circulation system.

**Keywords**—*targeted poverty alleviation; circulation system; western rural areas*

Targeted poverty alleviation is a great strategy in China's economic and social development in the new era, and it is related to whether China's comprehensive well-off society can be realized on schedule. By the first half of 2017, China's poverty-stricken population had dropped to 43.25 million, and targeted poverty alleviation has also embraced its hard time. It is estimated that, 80% of the rest 40 million poor people are located in remote, backward rural areas in western China. Most of the areas own bad traffic infrastructure, which resulted in underdeveloped market and geopolitical poverty issues caused by information block. In these areas, the phenomenon of poverty in the whole village and in the whole township requires us to address the root cause of poverty. The current poverty alleviation measures such as road infrastructure construction and industrial poverty alleviation have made some improvements. However, to sustain the poverty reduction, especially achieve the formation of a relatively prosperous rural market economy system in the remote western rural areas, the key is to build an efficient urban and rural circulation system [1].

## I. THE STATUS QUO OF WESTERN RURAL CIRCULATION SYSTEM CONSTRUCTION

### A. *The circulation system is developing slowly*

The current form of rural circulation in China is mainly the “farmers + wholesale market”. The circulation method mainly relies on the tangible market. Farmers can only sell agricultural and sideline products once a week or several times a month when going to the market. Most rural markets are mixed with fake and shoddy goods and expired goods. The limited market space is hard for people to buy or sell. With the development of the market in some rural areas, a new form of “farmers + leading enterprises” and “farmers + cooperative organizations + leading enterprises” has emerged, but these forms also have drawbacks as individual farmers are in a weak position in the circulation supply chain, and the low purchase price has not brought real benefits to farmers [2]. The loose distribution structure is also the cause for the slow development of rural circulation system. As the villages scatter in the western rural areas, the demand disperses as well. What's worse, the scale of rural commercial circulation is small, and the operation is scattered with low degree of organization. Enterprises lack cooperation and market information transmitted unsmoothly.

### B. *Logistics infrastructure and network are not complete*

As the major factor restricting the circulation of the rural areas in the west is the inadequate logistics infrastructure and network level, the complement of logistics infrastructure is related to the overall development of the circulation industry. Most of the western rural areas are located in the plateau mountainous areas where the transportation infrastructure is underdeveloped. Although the road had accessed 98% of the administrative village by 2016, the construction level of the roads is low. The proportion of highways above grade 4 and substandard road reached 78.2%, while the expressways and primary roads accounted for less than 6% (Fig 1). By January 2017, 43% county of the 12 provinces and cities in western China had not built the high speed [3]. Furthermore, the logistics facilities and equipment are incomplete, and the modern logistics facilities required for the development of rural circulation industry are seriously lacking, without modern warehouse distribution center, cold chain logistics transportation vehicles, loading and unloading equipment and

logistics information systems. Instead, the manual handling and operation of traditional warehouses are common. All these made it difficult for rural logistics services meet market demand. Generally, rural logistics enterprises are small and decentralized, and lack the concept of modern logistics operations. Moreover, the rural logistics network is unevenly extended and distributed. In suburbs and rural villages with good traffic conditions, the logistics networks coverage is almost realized. However, in remote villages and vast mountainous areas far from the towns, logistics stations are less distributed. Whereas these remote mountain areas are the main targets for poverty alleviation.

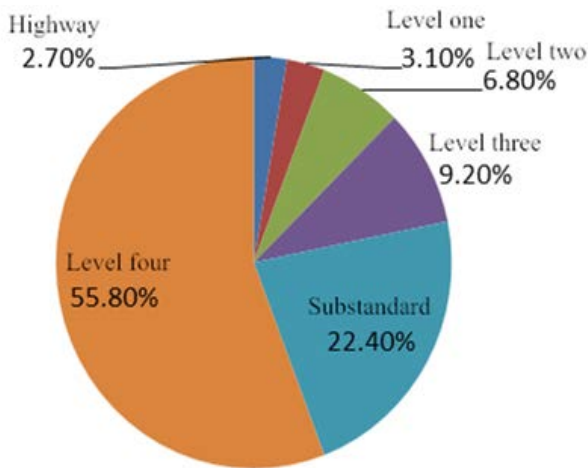


Fig. 1. 2016 mileage grade composition of western China

### C. High circulation costs

It is estimated that China's current agricultural product circulation loss is 20%, and the figure of western rural areas even reach 30%. In terms of distribution, the cost increases as rural villages scatter. From the perspective of agricultural products, most products are plant or animal products, which are difficult to package, transport and store. And the lack of logistics equipment such as cold chain cars and special transport vehicles in rural areas makes the operation of rural logistics more difficult [4]. From the perspective of transportation efficiency, though there is a two-way circulation system for agricultural products going to the city and production and living materials going to the countryside, the circulation resources have not been integrated as the rural circulation enterprises run on their own policies. The respective operations of the enterprises have resulted in a high empty return rate, which has greatly increased the logistics cost.

## II. THE MECHANISM OF RURAL CIRCULATION SYSTEM PROMOTING TARGETED POVERTY ALLEVIATION

### A. Expand the market for agricultural products

Strengthening the construction of rural circulation system is the key to the construction of new rural areas in China, and is also an important point for rural revitalization in the new era. The vast rural areas boast abundant and unique agricultural products, but because of the distance from the consumer market and the backward circulation system, "resources are

rotten in the ground". The root cause is that the circulation market is underdeveloped and hinders the export of agricultural products. Therefore the poverty in the vast western rural areas of China is the structural poverty caused by the sluggish market development. In the past offline sales, the low prices and limited demand in the county wholesale and consumer market make it difficult farmers to get rich. Build a sound circulation system for the development of e-commerce in rural areas to make online sales more convenient and expand the market scale. We can change the current inefficient market resource allocation in rural areas and stimulate the enthusiasm of farmers. In the context of the current development of rural e-commerce, as the rural areas rely on its unique product advantages and vigorously develop e-commerce Taobao, a number of well-known Taobao Village and Taobao brand sites have formed in the western region. Rural e-commerce is developing at a rate of over 40% per year, which has driven the sales of western rural agricultural products. The backward circulation infrastructure is the biggest bottleneck restricting the development of rural e-commerce. Once the two-way circulation system of rural integration is established, it will revitalize the rural sales market valuing trillions of dollars, which is of great significance to increasing farmers' income.

### B. Promote rural production and life facilitation

Rural circulation mainly includes three major fields, namely agricultural product, production materials and rural consumer goods. Due to the backwardness of the current rural retail business mode and the redundancy and irregularity of circulation channels, the overall price of rural consumer goods is higher than that of cities and towns. In addition, it is difficult for people to buy genuine goods as most of the western rural market is full of fakes. The isolated market blocks information and the structural excess of agricultural and sideline products is prominent with a large number of fruits and native products left unsold. The backwardness of the circulation industry also makes it difficult for production materials to access the countryside, hindering the sharing of current social and economic achievements in remote rural markets. The backward production and management concept has caused the low acceptance of technology and new products among people. In the remote mountainous areas of the west, it is not common to use modern farming machinery, resulting in backward agricultural production and management. However, the purpose of targeted poverty alleviation is to enable the poor population groups to enjoy convenient services in production and life, to obtain sufficient production materials and consumer goods for production and life, so that people all over the country can share development fruits. While the fundamental problem of the realization of the target lies in the severe market segmentation caused by the imperfection of the circulation industry system.

### C. A sound circulation system boosts rural industrialization in the west

The implementation of agricultural industrialization is an important measure to change the current backward agricultural landscape in China. By the end of 2016, various types of operation organizations for agricultural industrialization in China had reached 420,000, which have brought influences on

nearly 100 million households. For example, in the central and eastern regions, the industrialization operations can increase the annual income per household by more than 3,500 Yuan, which has a great effect on promoting poverty alleviation in rural areas. With the innovative development of rural rich pattern driven by new-type operation organization of family farms and farmers' cooperatives, the development of agricultural industrialization in the western rural areas requires continuous innovation and exploration of development models and paths and the agricultural industrialization requires the participation and collaboration of multiple parties, such as "company+ family farm+ logistics enterprise" or "company+ farmer cooperative+ logistics enterprise" etc., which makes the leading enterprises as the core to build the industrial chain, truly letting farmers share the profits from the development of agricultural industrialization. From the perspective of the spatial layout of existing agricultural industrialization, most of the regions with better agricultural industrialization operation are mainly distributed in the eastern regions with convenient transportation and sound circulation system and the vast suburban areas, while the industrialization development in remote rural areas has been difficult to make progress, for which the circulation industry in remote areas is relatively lagging behind and the circulation system supporting the development of agricultural industrialization has not yet been established. To realize the poverty alleviation of more than 30 million people in the western region, the investments must be increased and the highly-efficient urban-rural circulation system must be constructed to build an important platform for the promotion of agricultural industrialization and rural revitalization, and finally realizing poverty alleviation in the vast western region.

### III. INNOVATION AND OPTIMIZATION OF WESTERN RURAL CIRCULATION SYSTEM

#### A. Optimize the agricultural products supply chain

The construction of rural circulation supply chain needs to break the barrier of segmenting market between urban and rural area and gradually transform the "Production—Market wholesale—Marketing" pushing supply chain to the "Orders—Circulation—Production" pulling type one. In this process, since the engaged enterprises and peasants lack principles and ideas about the supply chain management in modern enterprises, setting up core enterprises for agricultural products indeed stands at a critical position. The local government is supposed to encourage leading corporations from home and abroad to expand and development rural market, utilize advancing methods such as information integration management, inventories management, customer relations etc. to comprehensively motivate rural circulative industry and instruct and cultivate local enterprises to participate in the supply chain system. In order to improve the inter-independent stalemate in traditional circulative industry, it's necessary to make constant innovations and optimization for supply chain results as a whole as well as set up a clear-up assessment mechanism for suppliers and a reasonable entry and exit mechanism for enterprises by cooperative operation, shared benefit and risks and establishment of cooperative mechanism among peasants, producing and processing corporations,

circulative enterprises and sales enterprises. It's particularly essential to start from ameliorating and optimizing supply chain of agricultural products for the implementation of accurate poverty alleviation strategy on rural area in western region. Methods should be suited to the situations. Focusing on the deficient demand in the agricultural products supply chain, the relevant government departments shall connect with the supermarkets and wholesale markets nearby city to seek consumer market and a strong competitive agricultural products supply chain system will be ultimately formed with the effort from the government and all parties. (Fig 2)

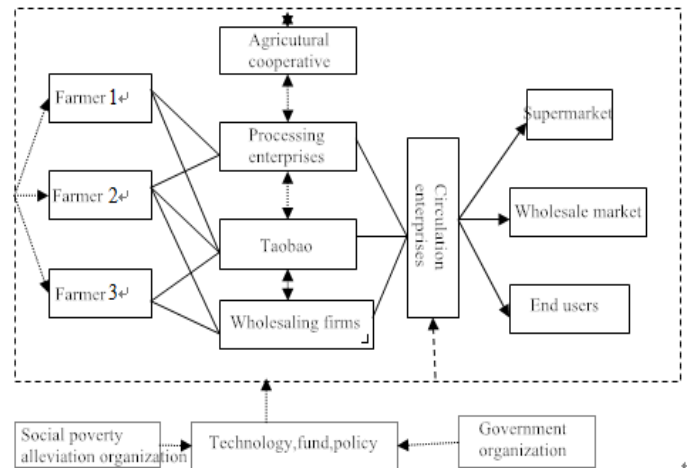


Fig. 2. Agricultural product supply chain model under targeted poverty alleviation strategy

#### B. Make circulation channels unimpeded

It is necessary to rely on the "Wancun Qianxiang Market Project" to strengthen the completeness of rural infrastructure, the accessibility of information transmission, and the integrity of the system. The first is to implement subsidies for rural logistics enterprises. Although logistics enterprises and express delivery operations continues to provide better services in rural areas, the "last mile" distribution in rural distribution channels is still the biggest difficulty. How to make express and logistics enterprises quickly reach the village and serve every villager is the biggest bottleneck in rural logistics. In addition to accelerating the transformation of rural modern logistics facilities and information, the government needs to increase the subsidies for logistics enterprises that have long been engaged in rural logistics operations [5]. Second, the implementation of joint distribution, the implementation of joint distribution is an important way to smooth the circulation channels, reduce logistics costs, that is, according to the order needs of different cargo owners, the different goods in the same area can be handed over to a vehicle for intensive transportation, which can greatly improve rural distribution efficiency. The third is to build a rural distribution center. The construction of the distribution center should take into account the actual condition of the rural area. While giving full play to the modern distribution center to speed up the efficiency of commodity circulation, it is necessary to combine the regional reality and not blindly seek for the best, and try to save the investment in logistics construction for the enterprise. And design

distribution routes, optimize rural distribution and distribution outlets, establish a three-level operation and service network in counties, townships and villages to ensure that every village has an express outlet. Fourth, to optimize the external environment for rural logistics development, it is necessary to establish and improve the legal system for rural circulation industry, combat dishonest and illegal business practices, establish a circulation enterprise access mechanism, comprehensively optimize the competition mechanism of rural circulation enterprises, and combat monopolistic behavior. Establish a good external environment for the development of the rural circulation industry.

#### *C. Implement "Internet + Logistics + Poverty Alleviation"*

By the first half of 2017, many express delivery companies including YTO Express, ZTO Express had covered more than 90% township, and 40% administrative village. The country's vigorous promotion of rural e-commerce effectively promotes online sales of agricultural products. The implementation of "Internet + Logistics + Poverty Alleviation" in the western rural areas requires joint forces of the government, enterprises, farmers and the society. Based on the e-commerce platform and government policy guidance, we should help the poor groups and farmers to make sales online [6]. In the past two years, the development of rural e-commerce will provide a huge platform for the implementation of "Internet + Logistics + Poverty Alleviation" in poverty-stricken areas. In 2016, the online transaction volume of China's agricultural products reached 220 billion Yuan, and the fresh agricultural products exceeded 100 billion Yuan. The online shopping scale of consumer goods in rural areas exceeded 500 billion Yuan with year-on-year growth of 38%. During the "double eleven" festival in 2017, the network retail sale of demonstration counties was 11.91 billion Yuan with year-on-year growth of 89%. The total retail online sale of 832 national poverty-stricken counties was 4.37 billion Yuan, twice that of last year, effectively driving online sales of agricultural products in rural poverty-stricken areas. Next, the development of rural e-commerce should form a new pattern of government, e-commerce logistics enterprises and poverty alleviation teams in the village to promote "Internet + logistics + poverty alleviation" and timely promote new e-commerce poverty alleviation models in different villages.

#### *D. Cultivate rural e-commerce and logistics compound talents*

The government needs to attach high importance to the important role of rural e-commerce logistics talents in rural economic development, as the shortage of e-commerce and

logistics talents is the main bottleneck of poverty alleviation by e-commerce. Local governments should pay attention to cultivating and introducing e-commerce management and operation talents, logistics warehousing talents and e-commerce outsourcing compound talents. Ride the wave of the rural strategies of the third parties like Alibaba, JD, S.F. Express to enhance the localization of rural e-commerce talents. We will cultivate rural self-employed households, business smart people and migrant workers returning for entrepreneurship as e-commerce logistics composite talents. Build a linkage mechanism among local colleges, e-commerce logistics enterprises and the government for compound talent training, which not only addresses the talent shortage faced by enterprises entering the rural market but also promotes the e-commerce poverty alleviation.

#### IV. CONCLUSION

The construction and development of the rural circulation system in the western region is related to the poverty alleviation of located residents. The establishment of an efficient circulation system requires the participation and cooperation of the government, enterprises and civil organizations. Start with innovative circulation methods, optimizing the supply chain of agricultural products and upgrading the integration and development of e-commerce and logistics and the cultivating relevant talents. There are the key to the development of rural circulation industry in the future.

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