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Research on Poverty Alleviation of County E-Commerce

-A Case Study of Luotian County

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Abstract: Since the introduction of the e-commerce poverty alleviation, e-commerce poverty alleviation has been carried out in the counties. Luotian County is a demonstration county in e-commerce poverty alleviation, which is at the forefront of poverty reduction counties in Hubei Province. Playing the leading role of the county level government, Luotian County established the e-commerce industrial park and the village-level service station, developed the e-commerce industry and opened up the rural logistics. Giving full play to the main role of the market, the county also focused on developing agricultural industrialization enterprises, expanded sales channels with e-commerce, drove the development of featured industries, promoted the growth of the industrial chain, and shared the benefits of the poor households. Besides, it also promoted e-commerce tourism and helped poverty-stricken families get rid of poverty. The paper mainly analyzes the main practice and achievements of e-commerce in Luotian County and summarizes the experience of Luotian e-commerce in poverty alleviation, with a view to providing reference for other counties and regions.

Keywords: county area, e-commerce, poverty alleviation mode, luotian county

1. INTRODUCTION

In the informative era with big data, the E-commerce has become an effective means to alleviate poverty in the new economy. In August 2015, the Poverty Alleviation Office of State Council incorporated E-commerce Project into poverty alleviation system, proposing to develop and nurture the special agricultural products of the poor areas through the modern marketing channels, so as to “introduce the agricultural products into the cities and towns”. Later in 2016, “E-commerce poverty alleviation” was adopted into “the poverty alleviation project with targeted measures”. The poverty-stricken areas around the country have begun to explore and implement e-commerce poverty alleviation and achieve certain results.

2. THE CURRENT SITUATION OF E-COMMERCE POVERTY ALLEVIATION

Foreign researchers have studied the role of information technology in promoting economic development in rural poverty areas.

Adeniji(2010) ^[1]examined the potentials and benefits of Information and Communication Technologies (ICTs) as a means of enhancing food security and alleviating poverty in Nigeria. Adeniji suggested that ICTs can deliver useful information to farmers in the form of crop care and animal husbandry, fertilizer and feedstock inputs, drought mitigation, pest control, irrigation, weather forecasting, seed sourcing and market prices. Other uses of ICTs can benefit farmers, enabling them to participate in advocacy and co-operative activities.

Emmanuel and Muyingi's paper (2010)^[2] Researched mobile commerce application for rural economy development. he suggested the reasons for poverty in poor rural areas, were that these communities are often marginalized in terms of basic infrastructures; low economic activities and limited markets. Information and communication technologies can be used to develop these potentials by opening markets beyond the local borders. Emmanuel and Muyingi conducted a case study in Dwesa community , which is a rural community in the Eastern Cape coast Province of South Africa. A desktop-based e-commerce application was designed for

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micro-entrepreneurs in Dwesa. The survey data show that adopting m-commerce into farming and small businesses effectively helped to extend their markets beyond their immediate environment, leverage their income and enhance quality of life.

In China, e-commerce poverty alleviation has achieved outstanding results. The researchers studied the main leaders of poverty alleviation in various regions, and the leaders of different regions were different.

Xiangdong Wang (2015)^[3] explored the Longnan City of Gansu Province, and proposed the Longnan model. The government is the main leader which stimulate and guide the participation of various industries. The success of “the secretary of the walnut” shows the role of grassroots government in promoting poverty alleviation through e-commerce. Yanlong Zhang (2015)^[4] also examined the main methods of the e-commerce poverty alleviation in Longnan. He pointed out that the main role of the government is to build network infrastructure, build network service platform, and cultivate characteristic agricultural product brand.

MinSun (2016) pointed out that Lipu County of Guizhou adopted the poverty alleviation mode of “e-commerce + characteristic agricultural”, and developed the characteristic agriculture- seedling cultivation. The agricultural enterprises play a leading role, and cooperate with the Rural Co-operatives, and the poor households join the rural cooperatives.

Jingranzhe (2015)^[5] focused on the poverty alleviation of Yuan Yang e-commerce in poverty-stricken counties of Yunnan Province. Tourism is the leading industry. With its unique world cultural heritage-Hani terrace, it developed the “Internet + cultural” and “Internet + tourism.” The tourism industry will drive related industries and the whole economic development to lift them out of poverty.

Some scholars have explored the relationship between rural e-commerce participants. Hongli Cheng (2014)^[6] pointed out the role of intermediary organizations, such as agricultural association, rural cooperative and supply cooperative in the poverty alleviation of e-commerce in China. Ke Mao (2015)^[7] et al. researched on the poverty alleviation 020 Xiangxi model of “Internet + company + cooperative+ poor households” of the rural areas in the Changputang Village of Fenghuang County.

Luotian County Government took the lead and established the public e-commerce platform, developed the e-commerce industry, fully exerted the driving role of the agricultural industrialization enterprise, and promoted the perfection of the industrial chain. It will energetically develop e-commerce and tourism to help the poor households participate in the industrial chain and achieve poverty alleviation.

3. THE MAIN PRACTICE OF E-COMMERCE POVERTY ALLEVIATION IN LUOTIAN COUNTY

3.1 The government led the development of e-commerce industry

The government is leading the establishment of e-commerce public service center and e-commerce industrial park, aiming at creating a favorable environment for e-commerce, encouraging e-commerce entrepreneurship and driving the development of rural e-commerce. Luotian Electronic Commerce Public service Center is an e-commerce service organization established by the government. Through the mode of government procurement of e-commerce public service, it is entrusted to professional e-commerce service providers for operation, providing e-commerce policy consulting, technology training, marketing promotion, product control and management and other e-commerce public services.

The government has also led the establishment of county-level E-commerce pioneer park, introduced e-commerce giants such as Taobao, Jingdong and encouraged small and medium-sized e-commerce enterprises to enter the park, encouraging poor households to open online stores and promoting the vigorous development of e-commerce industry. As of September 2016, 40 enterprises and individual businesses have entered the park. From 2014 to 2016, the number of people that open Taobao shops and micro-stores in Luotian County had risen

from 160 to 1,525, which had increased nearly tenfold. The number of entrepreneurs on the Internet had increased from 193 in 2014 to 8,500 in 2016, and the number of traditional enterprises switching to e-commerce had gone up from 26 to 165^[8].

Table 1. 2014-2016 e-commerce related data in Luotian County^[9]

YEAR	2014	2015	2016
Number of individual online stores (100)	1.6	8.9	15.25
Village service station (1)	0	150	180
Training times (100 people)	0	211.25	82.83
Number of online entrepreneurs (100)	1.93	38.77	85
Number of E-commerce related employees (100)	7.6	80	170
Number of enterprises participating into E-commerce (1)	1	26	165
Online sales (10 million)	2.05	28	81

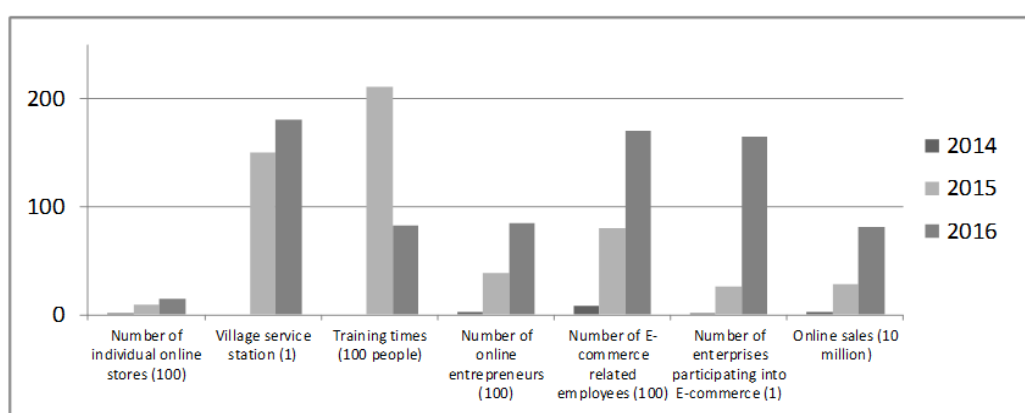


Figure1. 2014-2016 e-commerce related data in Luotian County

3.2 Developing agricultural industrialization enterprises to promote poverty alleviation

The government of Luotian County energetically cultivated the agricultural leading enterprises, participating in the e-commerce chain and realizing the “uplink of characteristic agricultural product”. The mode consists of two ways: one is that the leading enterprise directly produces the agricultural products and cooperates with e-commerce platform, thus promoting the agricultural products all over the country. The other way is that the leading agricultural enterprises establish their own e-commerce platform and sales network, which not only sell their own products, but also purchase the household products. The relationship between the leading enterprise and farmers is that through the agreement with the farmers, the enterprises help farmers package and sell agricultural products.

Table 2. 2016 Agricultural industrialization enterprises in Luotian county

	Chestnut processing enterprises.	Chinese medicinal materials processing enterprises.	Silk textile enterprises	Wine producing enterprises	Characteristic agricultural products processing enterprises.
Number of enterprises (unit)	181	18	12	7	78
Output value (yuan)	1 Billion	1 Billion	0.8 Billion	0.4 Billion	0.58 Billion
Leading enterprise	Huali Food , Lorain Food Liquan Food	Hongyuan Pharmaceutical Huayang Pharmaceutical, Huitao, Chutianshu, Shiweitian	Xinshiji, Jinluo Silk, Deili Silk Luomeng etc.	Chuxiang Wine Industry Bailianfuling Wine Industry, Meigong Biotechnology	Daziran Food

Daziran Company is a local leading agricultural enterprise in Luotian County, which began the E-commerce business in 2015 under the support of the government. Daziran Company has developed 218 kinds of distinctive agricultural products including agricultural brand such as Lihuaxiang and Dogili, etc. The company's products are sold through the online platform, and network transactions reached more than RMB16.6 million in 2016^[10]. The government encourages enterprises to carry out poverty alleviation work for poor households and sign an agreement to help them. By the end of 2016, the Daziran Biotechnology Company signed the support agreement with 336 poor households across the county, established production base of 1500 mu, completed underwriting 580000 kg chestnut, 200000 kg sweet persimmon, 280000 kg vegetables, 85000 kg livestock and 65000 kg kongmy, the income of the poor households increased by 8,000 yuan^[10]. So far, only 10 leading provincial-level enterprises of agricultural industrialization such as Hubeimingyang, Daziran, Lorain etc., have signed the poverty alleviation agreement with the 13,700 poverty-stricken households in Luotian County.

3.3 Develop rural professional cooperatives to lift out of poverty.

Rural professional cooperatives expand production scale through the solidarity of farmers, and guide farmers to carry out standardized production and uniform bulk packaging of finished products. Then, online promotion and sales of finished products will be carried out by the joint e-commerce company, such as Taobao store, the flagship store of Luotian and micro-shops. By doing this, the agricultural products can be sold to consumers across the country, which will form stable sales channels and industrial chain and guarantee the income of farmers. Besides, the cooperatives have high profit, so that farmers and cooperatives realize a win-win situation. At the same time, cooperatives and farmers sign a supply and marketing agreement to protect the income of poor households. The cooperatives organize farmers to purchase insurance against the risks caused by inclement weather, bird flu and other communicable diseases in the process of their production and compensate for the losses.

The mature rural cooperatives in Luotian County include: Hubei Jinxiu Forestry and Animal Husbandry Cooperatives in Sanlifan Town, Chinese chestnut cooperatives in Shengli Town, and medicinal cooperatives in Jiuzihe and other towns, livestock breeding cooperatives in Kuanghe and other towns. Before implementing the e-commerce poverty alleviation, Jinxiu Forestry and Animal Husbandry Cooperatives only had 5 households. At present, it has had more than 4000 mu of grassland and mountain forests. There are more than 800 members in the branches, and 45 thousand of the goats in one year. The turnover is over RMB 100 billion. Shengli Town's Chinese chestnut cooperatives were established in 2006. Till now, it has possessed 1,300 members who are from 19 villages and 4000 mu of chestnut production base. The annual output of Chinese chestnut is 2200 tons, and sales volume is more than RMB 7.69million^[11]. By the end of 2017, there have been 335 market entities such as various professional cooperative organizations and family farms in Luotian County, and more than 1,600 poverty-stricken households, which have lifted more than 1,600 poverty-stricken families out of poverty^[12].

3.4 E-commerce + tourism for poverty alleviation

The government of Luotian County spared no efforts in building the e-commerce mode of “e-commerce + tourism + poverty alleviation + current,” which vigorously promoted the industrial transformation and upgrading and increased farmers' income from level of poverty line. In 2016, Luotian County vigorously promoted the integrative development of “the Internet +the whole region tourism” and built a “smart tourism” system. Through all levels of government websites such as “Luotian E-commerce”, “Luotian Tourism”, “Luotian Wenlian” and other WeChat public accounts, it made the publicity and promotion of Dabie Mountain's famous scenery, history humanities, specialty snacks and scenic spots. Through the establishment of

Luotian Tourism Flagship Store, and Characteristics Luotian Museum in Chins, it made the comprehensive layout of tourism products and agricultural products. While enjoying the special food of eco-tourism, consumers can scan the QR code to buy the tourism products and agricultural products that they have just seen or tasted.

The convenience of e-commerce tourism and the rapidness of information transmission have brought more tourists to Luotian. In Luotian, there are 75 tourist spots, and 5.35 million domestic tourists were received in 2016, an increase of 15.1 over the previous year^[13]. By means of scenic areas, hotels and rural tourism, Luotian County gave priority to the placement of the surrounding poor villages and the poor population employment, and gave priority to contract sales of its native chicken, vegetables and other agricultural products. In the first quarter of 2016, more than 350 poverty-stricken households were lifted out of poverty with the support of job placement, targeted acquisitions and sales of travel products from the scenic area. The 656 guesthouses in the county have lifted more than 500 poverty-stricken families out of poverty. The 33 rural tourism destinations have lifted 420 poor households out of poverty. The 8 tourism commodity processing enterprises have lifted 95 families out of poverty^[14].

3.5 Setting up the “Ganjie” model to improve the rural logistics system.

In 2015, Luotian adopted the government procurement method to sign with Zhejiang Suiwang Company to set up Luotian Ganjie Company, and established a rural e-commerce service station in each village for the connection between urban and rural areas. Specifically, it established 3-level logistics stations in county, town and village and signed a cooperation agreement with express delivery company. Through 3-level logistics stations of county, town and village, it fulfilled the express delivery from county to rural areas. It also takes agricultural products to the city to realize the two-way circulation function of “consumer goods into the countryside” and “agricultural products into the city” .

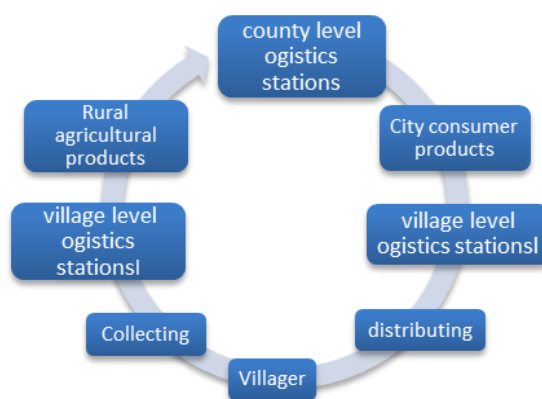


Figure 2. Flow chart of Ganjie Mode

There are more than 180 village level service stations in Luotian which connect the urban and rural areas. In 2015, the trade volume of the service station was over 6 million. In 2016, the online trade of the village service station in the county reached RMB 9 million, saving RMB 3 million for the villagers^[15].

Table 3. The growth of village service stations' sales and online sales

Year	Growth number of village service stations	Sales growth rate (100 million)
2014	0	0.2
2015	150	2.5
2016	180	8

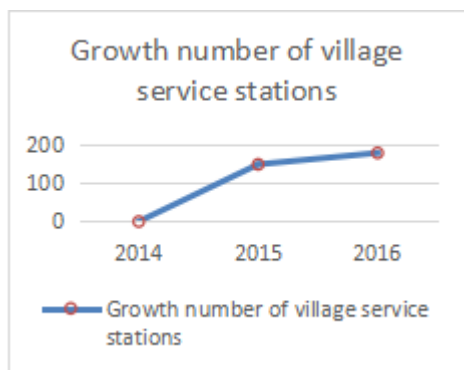


Figure 3. village service stations



Figure 4. Sales growth (per RMB100 million)

4. THE ADVANTAGES OF LUOTIAN COUNTY POVERTY ALLEVIATION

4.1 Having a remarkable effect on poverty alleviation

By the end of 2016, 22,177 households and 72,137 people in the county got rid of “poverty hat” and 63 impoverished villages were out of the list. The third-party evaluation about the mass satisfaction was 100%. There were 165 village service stations, 85 e-commerce shops, and 5 million annual logistics packages, annual turnover amounting to 50 million yuan. The e-commerce sales volume is 560 million yuan, accounting for 12% of the total retail sales of consumer goods, with 575 e-commerce enterprises, 53 e-commerce platforms, and 8,000 employees. As of January to August 2017, the online trading volume of Luotian county had exceeded 560 million yuan, with a year-on-year growth of 20%, among which 160 million yuan was sold on agricultural products, and the income of the poor households increased by 16.5 million yuan.^[16]

4.2 Expanding the distribution channels for agricultural products

First and foremost, the export market has been expanded. The main agricultural products of Luotian County were exported to more than 20 countries, including the United States, Japan, Germany and the Southeast Asia, and the annual export volume is more than 20 million us dollars. Secondly, the domestic market effect has been increasing. Most agricultural products were mainly sold to more than 30 cities and regions such as Guangzhou Shanghai, Shenzhen, Zhuhai etc. In 2016, the deep processing enterprises of special agricultural products gained industrial output value of 4.28 billion yuan, achieved a profit tax of 250 million yuan, and resettled more than 30,000 people. Last but not least, it opened the supermarket channels, for example, the fried sugar chestnut made by Lorain Company has entered a large chain hypermarket such as Walmart and Carrefour, etc in Wuhan.

4.3 Enhancing the economic and social benefits

For one thing, the farmers have increased their income. Since the implementation of the e-commerce poverty alleviation, through leading enterprises and rural specialized cooperatives, Luotian County has realized the deep processing of agricultural products, which has increased the demand for agricultural products. One-third of the county's net income comes from the planting, raising, processing and sales of special agricultural products. For another thing, the fiscal revenue has risen. Over the past three years, the tax revenue generated by the deep-processing enterprises with special agricultural products in the county has been increasing by 20% every year, accounting for 40% of the annual tax revenue of the county. Finally, the enterprise has made more benefits. Since the implementation of the e-commerce poverty alleviation project, the deep processing enterprises of agricultural products in Luotian County developed rapidly and the number of enterprises in scale

increased from 15 in 2005 to 33 in 2016, accounting for more than 30% of the total industrial output of the county. Furthermore, the industrial chain has been expanded. The leading enterprise of agricultural industrialization and rural professional cooperatives have cultivated a large number of processing enterprises of agricultural products and fostered a large number of planting bases which have achieved specialization, standardization and large-scale planting and production, so that poor households can participate in the entire industrial chain of planting, product packaging, transportation and express logistics to share profits, expand employment and achieve poverty alleviation.

5. EXPERIENCE OF LUOTIAN COUNTY IN POVERTY ALLEVIATION

5.1 Relying on local industry

Luotian County relies on the development of local industry, which plays the leading role in agricultural industrialization. These companies have produced the characteristic agricultural product. Through the publicity and sales of e-commerce channel, Luotian County expanded sales volume and strengthened the industry, which formed large-scale production, processing, marketing, and promoted the common development of processing industry, transport, tourism, service industry and other industries, thus shaping a complete industrial chain. Only the larger the scale of production, the longer the industrial chain can lead to the greater the added value of the product and the greater the income of poor households. In the following Figure 5, the chestnut industry is taken as an example, which explains the development of agricultural products in processing enterprises which promotes the development of the whole industry chain and industrial integration, so to increase the income of poor households.

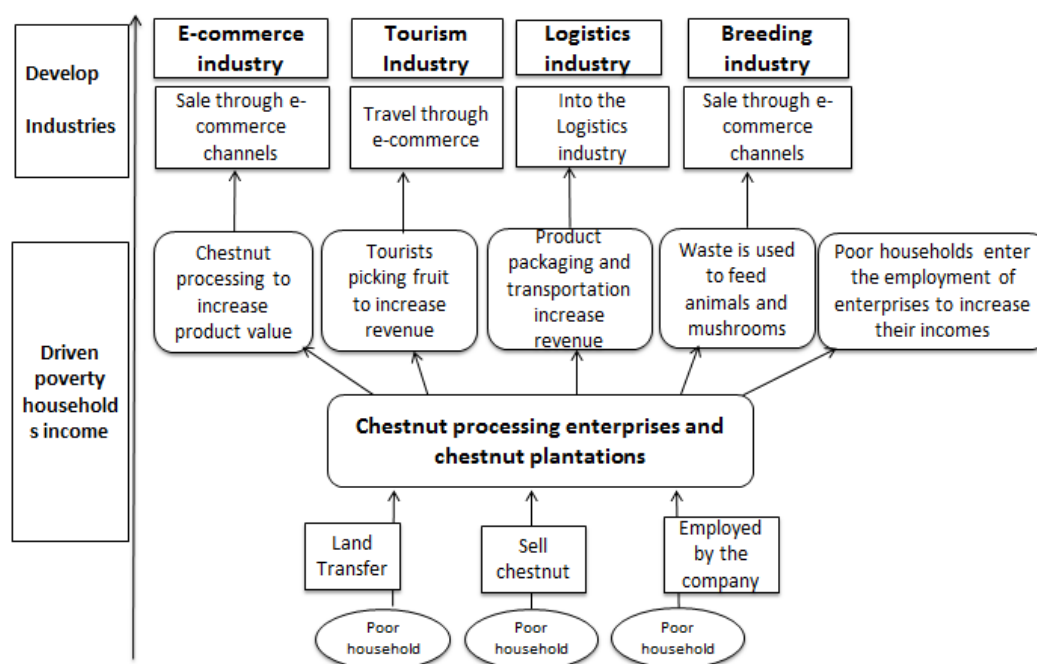


Figure5. Mechanism of Agricultural products processing enterprises to promote industrial development and poverty-stricken households income

In 2016, the five Characteristic industries of Luotian County were composed by chestnut industry, Chinese medicinal industry, tourism industry, livestock breeding industry and the e-commerce industry to poverty alleviation, as shown in Table 4.

Table 4. The situation of five Characteristic industries for driving poverty alleviation in Luotian County^[17]

2016	chestnut industry	Chinese medicinal industry	livestock breeding industry	Tourism industry	E-commerce industry
Growing area for planting	33760mu	4000 mu	33175mu		
Total income OR Transaction amount	unknown	unknown	unknown	total income 2.96billion yuan.	Online sales volume 810 million yuan.
The number of poor households that participate in	More than 10,000 households	1946 households	unknown	More than 1800 households	
The number of poor households opening online stores					64 households

5.2 Developing a market led by the government, with multi-party participating

Above all, Luotian County fully played a leading and synergizing role of the government, completely mobilized the active individual subjects in the social economy such as the initiative of leading enterprise, financial industry and put them into the e-commerce poverty alleviation system. Luotian County Government put forward the five-in-one poverty alleviation mode of “government + main market player + bank + insurance + poor household”. It gave full play to the main role of the market – the leading role of leading enterprises, gave play to the promotion role of e-commerce enterprises and strengthened the support function of the party branch. It speeded up land transfer to promote large-scale planting and production, cultivated a number of physical enterprises and built a number of scenic spots, which made the industry community of whole county integrated and promoted.

Secondly, policy support is a guarantee. Luotian County Government successively issued “the supporting methods of Luotian e-commerce,” “the implementation suggestions to accelerate the e-commerce development”, “the implementation method of Luotian County industrial precision poverty alleviation”, “the implementation plan of Luotian County e-commerce into rural work” and other policies for supporting the development of e-commerce. It formulated various incentive policies, including Incentives for online shops, incentives for enterprises (such as industry, circulation and service industries), incentives for support of online stock suppliers, incentives for supporting service systems, and advanced unit for poverty alleviation through e-commerce and advanced individual reward policy. The government also rewarded farmers to transfer their land to leading enterprises, professional cooperatives and large planters, the transfer area amounting to more than 20 mu. The government granted 100 yuan / year / mu of circulation allowance to poor households. In terms of financial support, the government provided 30,000 yuan of discount loans and 10,000 yuan of support funds for each poor family. The government gave 5000 yuan to the enterprises supporting one poverty-stricken family. As for the enterprises that need to deal with the acquisition funds, the government provided discount loans at the standard of 30,000 yuan per household. The government also guided financial institutions to help leading enterprises (specialized cooperatives) of planting agricultural products and signs a poverty reduction agreement. Additionally, the government signed the insurance agreement of poverty reduction with the poor households of leading enterprises (professional cooperatives).

5.3 Attaching importance to e-commerce service support system, and creating a favorable environment for poverty alleviation

For starters, it strengthened the infrastructure. The construction of rural roads added to nearly 800

kilometers from 2016 to 2017, and nearly 300 million yuan will be completed. In 2016, the government started to launch the upgrading of 735.96 km of rural highways in the 12 townships and 275 administrative villages of the county. In October 2017, the upgrade of rural highways in the county was completed by 95% ^[18]. It will continue to invest in mobile network construction and broadband construction, expand network coverage, and increase the rate of optical fiber occupancy. As of June 2016, Luotian County had completed 228 of 2G base stations, 76 of 3G base stations, 281 of 4G base stations, and realized 100% network coverage in the county.

Secondly, the government paid attention to the construction of logistics system and strengthened the integration of e-commerce and logistics. Through reasonable reference of Suichang government mode of procuring public service by e-commerce, it established Luotian Ganjie E-commerce Co., Ltd, which not only serves as the public service platform of e-commerce, but also plays the role of e-commerce operation center and logistics transit. The “Ganjie Model” established by Ganjie Company has established a village-level service station by utilizing the densely sites such as existing convenience stores, canteens and recycling stations of in rural areas to solve the problem of “the last mile” and realize the two-way circulation function of “consumer goods into the countryside ” as well as “agricultural products into the city” .

6. CONCLUSION

With the guidance of the government, Luotian County mobilized various parties to participate in the e-commerce poverty alleviation. With the development of the industry as the root, it cultivated a number of leading enterprises by supporting the development of rural professional cooperatives to form a complete industrial chain of scale and standardization’ s cultivation and processing and sales and tourism. Farmers have been lifted out of poverty by participating in industrial chains and sharing benefits. By means of the Ganjie Mode, it established the village-level service station, which formed the three-level logistics network and expanded the distribution channels for agricultural products, increased income from poor households, and lifted poor people out of poverty. Through the establishment of e-commerce industrial park, the introduction of e-commerce giants from the outside, and the cultivation of local small and medium-sized e-commerce enterprises, the government encouraged the poor households to open stores to start businesses and realizes poverty alleviation. Through the promotion of “e-commerce + tourism” , it increased passenger traffic, promoted the poor households to participate in tourism services, and achieved poverty alleviation.

There are also some problems in the poverty alleviation of Luotian e-commerce. First, it lacks the backbone enterprises to play the role of promotion and demonstration. The scale and benefit of the main backbone enterprises are still not enough. As a result, the demonstration effect is not obvious for the development of e-commerce in the whole county. Second, the varieties of featured products are scattered and their collection and package are difficult. Besides, there are less characteristic products that are suitable for the online marketing and it lacks the characteristic products of online marketing that have registered certification. Brands are also more fragmented and less integrated. For example, there are many brands of chestnut such as Jiahui, Xinfuyuan, Hongyun and Sugar fried chestnut (Tangchaobanli) and other brands, but the reputation of these brands are not high. Thirdly, the high cost of rural logistics has affected the rapid development of e-commerce.

For the problem of brand integration, it is suggested to play the coordinating role of the trade association and coordinate the unified production standard of agricultural products. Meanwhile, it is also suggested to strictly classify the quality of agricultural products, ensure the quality, concentrate on building several key brands, and unify the price and the name. For the higher cost of rural logistics, it is suggested to further strengthen the logistics infrastructure construction, integrate the express industry and establish a logistics information sharing platform, while adopting big data and real-time information to integrate capacity, share

vehicles and personnel, and reduce logistics costs.

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