

The Development Strategy of Agricultural Geographical Indications in China

Zhu Yuanhua* Song Wei Ghulam Nabi

School of Public Affairs, University of Science and Technology of China, Hefei, Anhui 230026, China

Abstract

Geographical indication (GI) is one of the intellectual property rights protected by the World Trade Organization. Statistics shows that most GIs are related to agricultural products in China, the development of GIs is of great significance to rural China's economy. In 2015, China adopted the "internet plus" strategy which brings a wonderful opportunity to the development of agricultural GIs. Although the supportive policies introduced by government, the rapid development of online shopping, and the booming of agricultural e-commerce in rural China are favorable to the development of agricultural GIs, there are still some problems to be solved. This study proposes that government should play a leading role in constructing information network infrastructure and some other aspects; the production and promotion of agro-products based on GIs should be subsidized; the development of GIs-related professional associations should be accelerated. In addition, brand management and the exploration of global market are also essential factors. This study can be referable for policy makers and agricultural GIs related business owners to promote the development of China's agricultural GIs.

Keywords: Development Strategy; Agricultural GIs; Internet Plus; Agro-products Certified with GIs; Intellectual Property Rights

1. Introduction

Geographical indications (GIs) are protected by Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) of the World Trade Organization (WTO) and are defined as "indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin (WTO, 1994)." All the WTO members are required to protect GIs in accordance to the TRIPS Agreement. GIs are well protected in China. Currently, three government departments are in charge of protecting GIs under respective laws or regulations, namely State Administration for Industry and Commerce (hereinafter SAIC), General Administration of Quality Supervision, Inspection and Quarantine (hereinafter AQSIQ) and Ministry of Agriculture (hereinafter MOA).

Statistics shows that 2,697 GIs trademarks had been registered or preliminarily examined by the end of 2014, most of them are used on agricultural products (SAIC, 2015). Report on China's Agricultural Intellectual Property Creation Index also indicates that among all the GIs approved by SAIC, AQSIQ and MOA, 97.99 percent are used on agricultural products (Research Center for Intellectual Property in Agriculture of Chinese Academy of Agricultural Sciences, 2015).

In 2015, China adopted the strategy of "internet plus", which means China would make use of information and communication technology to promote in-depth integration of internet and traditional industries so as to create new development. "Internet plus" strategy brings new opportunity for the development of agricultural GIs, this paper will mainly discuss the development strategy of agricultural GIs in the context of "internet plus".

2. The Strategy of "Internet Plus" in China

2.1 The Origin of the Notion of "Internet Plus"

"Internet plus" is becoming a buzzword in China today. This term was firstly used on November 14, 2012 by Yu Yang, chairman of Analysis International Company, in his speech "internet plus", but it didn't draw much attention at that time (Liu, 2015). On November 10, 2013, at the fifteenth anniversary of Tencent Company, Chairman and CEO Ma Huateng gave a speech in which said that "internet plus" was one of the seven pointers to the future of internet. Since Ma Huateng is an influential entrepreneur in the field of internet in China, "internet plus" was spread rapidly from then on, but its detailed meaning was not introduced. AliResearch (2015) explained "internet plus" in its research report and defined it as "The process of spread and application of internet-based information technology (including mobile Internet, cloud computing, big data technology, etc.) in economy, society and every part of life." This is a widely accepted and used definition.

2.2 "Internet Plus" has Become a Strategy of State-Level in China

On March 5, 2015, at the Third Session of the Twelfth National People's Congress, China's Premier Li Keqiang delivered annual Report on the Work of the Government in which he said that China would develop the "internet

plus” action plan. This was the notion of “internet plus” appeared in high-level official document for the first time, indicating that it had been approved by the government and began to draw wide attention and became a public concern since then. The State Council on July 4, 2015 released the Guiding Opinions on Actively Promoting the "internet plus" Action Plan to drive deep and comprehensive integration between the Internet and the real economy, including general requirements, 7 supportive policies and 11 key "internet plus" actions.

China has a very important program called Five-year Plan (FYP) which mainly aims to arrange national key construction projects, lay out economic targets and social development goals for the approaching five years. On October 29, 2015, the Fifth Session of the 18th Central Committee of the Communist Party of China adopted proposals for economic and social development in the 13th Five-year Plan (2016 to 2020), one of the proposals is to “expand the cyber economy and implement the ‘Internet Plus’ Action Plan.” Nowadays, "internet plus" has become a strategy of state-level in China. What’s more, it has stepped from notion to action and will have profound influence on China’s economy, culture and other aspects. It’s a good opportunity for the development of China’s agricultural GIs. If this opportunity were well taken, agricultural GIs will develop rapidly and become a new engine for the economic development in rural China.

3. The Impact of “Internet Plus” on Agricultural GIs

3.1 Expand the Sales Regions

Before the birth of e-commerce, sales region of agricultural products, especially of fresh agricultural products, is very limited. Internet provides a platform on which sellers and buyers communicate easily. E-commerce offers an alternative venue of promoting and marketing agricultural products that has a benefit of reaching extensive geographical populations and providing detailed product information at a relatively low cost (Carpio, Isengildina-Massa, Lamie, & Zapatak, 2013). What is more, buyers can search the products they need conveniently. The electronic market enables sellers deal with buyers from everywhere of the world easily, regardless of scale, without brokers (Grant, 2001, p. 534). The demands for so-called niche products increase rapidly because of dramatic increase of consumers in cyberspace, this phenomenon can be explained by Long Tail Theory (Li, Tian, & Li, 2014).

3.2 Simplify Transaction Processes

The traditional mode of agricultural products distribution channel in China consists of too many processes and of little efficiency. Between producers and consumers there are brokers, wholesalers of place of origin, wholesalers of place of sale, and retailers, this is the mainstream mode which causes high cost and loss. Kou and Lu (2002) suggested that the tendency of agricultural products distribution channel in China should be direct transaction by internet between producers and buyers. With the development of e-commerce technology and the application of “internet plus” policy, the supply chain of agricultural products tends to be flat (Sun, 2015).

Agricultural products which are certified with GIs (hereinafter GIs agro-products) have strict qualifications for climate, soil, water and cultivation methods, prohibit the use of pesticides severely, the territory of cultivation is prescribed and production is limited, so the price is higher than other agricultural products in general. The redundant processes of distribution channel pushed up the price of GIs agro-products and damped the demand for them. Some of them even meet a strange situation named “sold difficultly but bought expensively” which means some GIs agro-products are difficult to be sold in the place of origin even at very low price, but purchasers in other places buy them at high place. One of key reasons is the long distribution channel, this problem can partly be solved by “internet plus”.

3.3 Improve the quality of GIs Agro-products

The European Parliament and the Council of the European Union issued Regulation 1151/2012 on Quality Schemes for Agricultural Products and Foodstuffs on December 21, 2012. The regulation consists of six titles, among which three titles are related to GIs protection. It can be concluded that GIs protection has great importance to the quality of agricultural products and foodstuffs in Europe. In China, article 23 of Agriculture Law provides that “for agricultural products that meet the requirements of the prescribed places of origin or production specifications, an application may, in accordance with the provisions of relevant laws or administrative regulations, be made for the use of geographic marks for agricultural products.” It can be deduced that quality of GIs agro-products are superior to others. “Internet plus” will help to promote the quality of them further.

Firstly, “internet plus” helps to advance agricultural and processing activities and the farming systems associated with GIs agro-products. Internet of things technology, for example, can monitor field image, soil pH, temperature, humidity, the amount of sunlight, and even wind speed, rainfall and other micro-meteorology can be recorded (Zhu, Wang, & Suo, 2011), manage the cultivation process of agricultural products of GIs precisely so as to improve the quality.

Secondly, “internet plus” is helpful to establish a quality and safety traceability system of agricultural

products, generate QR Codes for agricultural products by which consumers can get the information from fields to retailers at scanning the QR codes. If quality problems happen, consumers can know who should be responsible for them(Dong, Ding, Zhang, Jin, & Zhao, 2015).

Thirdly, consumers' online comments make sellers ensure products quality. According to a survey conducted by iResearch, over 70 percent consumers are likely to comment or evaluate after their online purchases, 90 percent consumers read other consumers' comments before their online shopping (Liang, 2016). Yang's (2014) research shows that consumers' comments have positive effect on other's purchase decision, in evaluation system which has comments classification, negative comments affect sales more significantly (Gao, Wang, Huang, & Hou, 2015). Internet has changed the situation of information asymmetry between sellers and buyers in traditional sales mode, stimulated sellers to improve products quality so as to get positive comments from buyers.

4. The Favorable Factors for the Development of Agricultural GIs

4.1 The Introduction of Favorable Policies

China is a large agricultural country, agriculture has an important impact on China's economic development and political stability, the government has been paying much attention on it all the time. Since "internet plus modern agriculture" was listed as one of the 11 key actions in the Guiding Opinions on Actively Promoting the "internet plus" Action Plan, several policies have been introduced to accelerate it.

On July 1, 2015, General Office of the State Council released Opinions on Speeding up Changing the Development Pattern of Agriculture, proposed that China would create and build a number of influential and culture-rich agricultural brands. There is no doubt that GIs will play an important role in China's construction of agricultural brands.

On September 6, 2015, MOA, National Development and Reform Commission and Ministry of Commerce jointly issued Action Plan for Promoting the Development of Agricultural e-commerce, promoting non-pollution agricultural products, green food, organic agricultural products and GIs agro-products to sell on online marketplace.

On October 31, 2015, General Office of the State Council released Guiding Opinions on Promoting Quicker Development of E-commerce in Rural Areas. The government would better both hard and soft environment for the development of e-commerce in rural areas. Hard environment includes logistics infrastructure, broadband network and road etc. Soft environment includes supportive policies, e-commerce talents and marketing circumstances.

In China, the first document issued by the Central Committee of the Communist Party of China every year is called "NO.1 Document". In recent years, "NO.1 Document" focuses on issues concerning agriculture, countryside and farmer. "NO.1 Document" 2016 stresses that China will advance "internet plus" modern agriculture with great efforts create brands of quality agricultural products and food. This is also a favorable policy to GIs agro-products.

4.2 The Rapid Development of Online Shopping

Research Report on China's Online Shopping Market in 2014 (China Internet Network Information Center, 2015) shows that the number of online shoppers (business to consumer, consumer to consumer) and the proportion of online shoppers to internet users increase year by year. (Figure 1) By the end of 2014, the number of online shoppers reached 361 million, accounts for 55.7 percent of internet users.

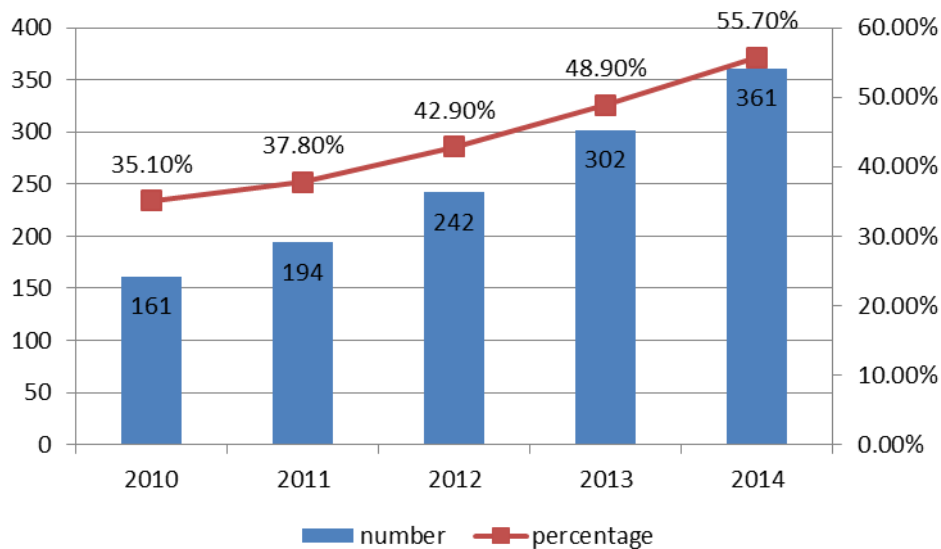


Figure 1. Amount of internet users and the percentage of online shoppers (2010-2014)

Source: China Internet Network Information Center, 2015

As a result, China’s online retail market keeps increasing at high speed (Figure 2) in recent years, the average annual growth rate is over 60 percent, the online retail sales in 2014 was nearly 2.8 trillion Yuan.

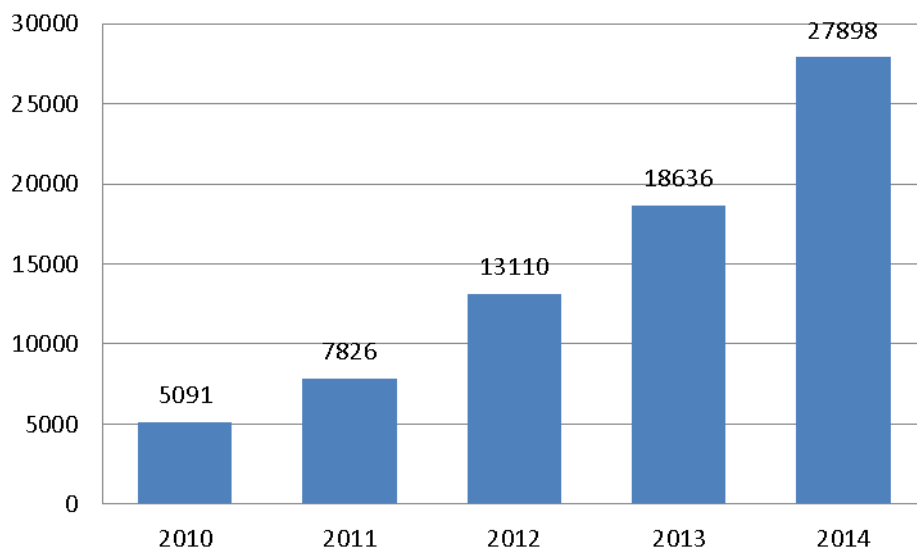


Figure 2. Year's online sales (b to c and c to c) in china (2010-2014)

Source: China Internet Network Information Center, 2015

4.3 The Booming of E-commerce in Rural Areas

Internet has changed the pattern of agricultural products distribution, e-commerce is becoming prosperous in rural areas of China. A survey by Ali, the largest electronic group in china, shows that there were 76.21 thousand online sellers on Ali by the end of 2014, up by 60.57 percent over the previous year. The sale of agricultural products on Ali reached 4.83 billion in 2014, an increase of 69.83 percent over that of 2013 (AliResearch, 2015). It is worthwhile to mention that the direct sale of agricultural products from places of origin to buyers is a hotspot.

China’s government is now encouraging mass entrepreneurship and innovation and many steps has been taken to push it, a large quantity of people which are called “new farmers” have devoted themselves into the business in rural areas. “New farmers” mean people who are engaged in agricultural production, agricultural distribution or agricultural service by internet. Merely on Ali there are more than one million “new farmers”. Compared with traditional farmers, “new farmers” are better educated and more likely to accept fresh things. They are full of courage to innovate and will probably push rural e-commerce in China into a new stage.

5. The Development Strategy on China's GIs for Agricultural Products

5.1 The Government plays the leading role

The government should create favorable conditions for the development of GIs with agricultural products by financial support, tax incentives and things like that. The follows are important and urgent:

5.1.1 Accelerate the Construction of Information Network Infrastructure in Rural Areas

In recent years, information network infrastructure in rural areas has made rapid progress in China. By 2014, 3G network has covered all the towns, 91 percent of the villages can use broadband service and 41 percent of information service stations in towns have computers to connect to the network (Ji, 2016). Nevertheless, digital divide apparently exists between cities and countryside (Meng & Zhao, 2016). We can see from figure 3 that the level of internet popularization in rural areas is obviously lower than that in cities.

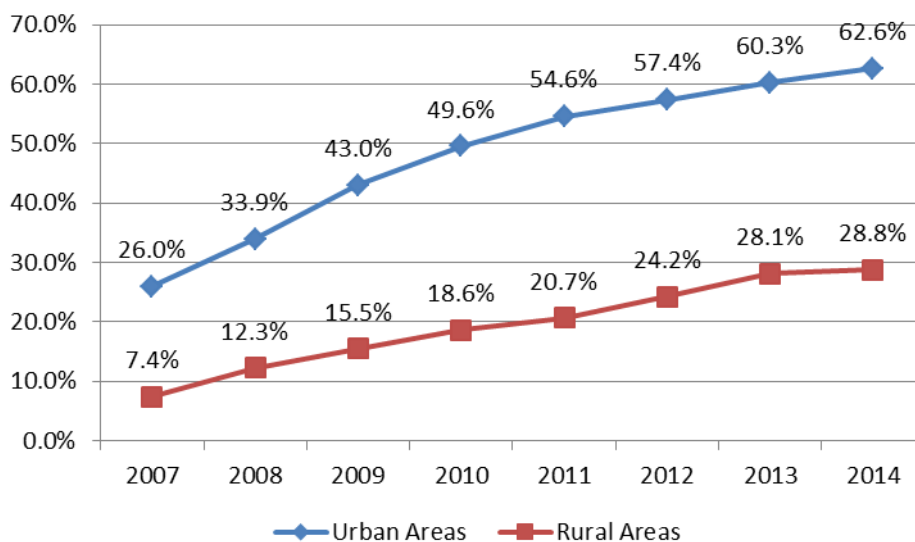


Figure 3. Penetration rate of internet in urban and rural areas
Source: China Internet Network Information Center, 2015

Broadband has gone from being a luxury to a necessity for full participation in our economy and society, the three telecommunications operators: China Communication, China Mobile and China Unicom are all listed joint-stock companies who think highly of return on investment, they have low interest in investing broadband in rural areas, so it is necessary for government to undertake this responsibility (Liu & Dai, 2015). China can learn from the experience of the United States. The United States construct rural network by multiple governmental departments. In 2009, President Obama signed the economic recovery package, which included \$7.2 billion to be spent on broadband, of which \$2.5 billion fell under the jurisdiction of the Agriculture Department, giving particular emphasis to broadband deployment in rural areas (Condon, 2009). In 2010, United States Department of Agriculture provided a loan of 1.3 billion dollars for the construction of broadband in rural areas (Zhang, 2014). Federal Communications Commission (FCC) set up Connect America Fund (CAF) in 2011, with the amount of 4.5 billion dollars, to expand the benefits of high-speed internet to more than 7 million Americans (Li, 2012).

5.1.2 Accelerate Build-out of Cold-chain Logistics System for Fresh Agricultural Products

Among GIs agro-products, fresh ones account for a large share of the total. Fresh agricultural products are easily to decay and thus have high requirements for packaging, transportation and storage, cold-chain logistics system is a must for long distance distribution.

Medias reported that in China 25 percent to 30 percent of fruits and vegetables were at a loss during the processes of picking, transportation and storage, mainly due to underdeveloped cold-chain logistics system, especially in rural areas where transportation infrastructure is backward. The construction of cold-chain logistics system requires heavy investment while the payback period of investment is long, the operation risk is high, and so government's support is necessary. What is more, the current standard of cold-chain logistics needs to be improved by the government.

5.1.3 Provide Finance-Related Support

Financial service is a key factor to the development of rural e-commerce, the government should support it in the following aspects.

Firstly, help rural e-commerce operators to cope with the difficulty of funds shortage. The government should encourage financial agencies to provide them with specific financial products such as microcredit lending, afford qualified operators start-up capital or loan interest.

Secondly, improve the state support agricultural insurance. Fiscal funds support agricultural insurance is a common policy in many countries, China is also the case, but the supported categories of agricultural products are limited. Especially for premium of local characteristic agricultural products, China has not established central fiscal supportive system, merely supported by some local budget (Xiao, Zhang, He, & Du, 2013).

Thirdly, increase investment channels in rural areas. At present, idle money in rural areas is mainly saved in bank to get interest, more channels for investment are needed. Government should encourage financial agencies to promote online investment products, provide stocks, funds, insurance and some other choices (Wang, 2015).

5.1.4 Cultivate Rural E-commerce Talents

Talent is another key factor to the development of rural e-commerce. The current situation of rural China's e-commerce talents is not satisfying. Rural areas are less attractive than urban areas in attracting talents, and lack talents training mechanism in addition. Micro Report on Development of E-commerce in Counties (Ali Research, 2014) indicated that shortage of e-commerce is a common problem in counties. Local governments should make beneficial policies to introduce experienced e-commerce talents into rural areas, encourage college graduates to go to rural areas to start their own businesses, inspire "students-turned village officials" (note 1) to play greater roles develop e-commerce training program, carry out "order-oriented education" with vocational colleges.

5.2 Subsidize GIs Agro-products

Subsidy is a direct and effective tool which is used to support agriculture in both developed and developing countries (Gao & Shen, 2014). The tendency of agricultural policy reform in European Union, the United States, Japan and other developed countries is to support green production (Xu & Xia, 2015). Subsidy for Environment-friendly ecological agriculture has become a common pattern which is worth referring to by China (Hu, Yang, Wang & Luo, 2016). India and some other developing countries also reduces yellow box subsidy gradually (Kong, 2011). China should subsidize for farmers to increase their interest in producing and protecting GIs agro-products.

China has not introduced national policies of subsidy for GIs up to now, but some local governments have drawn up measures to reward GIs registration, this can be regarded as another form of subsidy. For example, in October, 2010, Chongqing Municipality issued Measures on Awards and Subsidy to the Trademark Development, which provided that the municipal government would award 300 thousand Yuan to trademark right owners who have GIs registered. Hangzhou, Jinan and some other local governments also introduced similar policies. But there is something wrong with these policies in their guiding direction, because the value of agricultural GIs is quality but not quantity.

The latest regulation on GIs protection in European Union: Regulation 1151/2012 on Quality Schemes for Agricultural Products and Foodstuffs entered into force in 2013. In this regulation, GIs protection was regarded as important means to the quality of agricultural products and foodstuffs (Yang, 2013). This idea can be referred to by China's local government while making beneficial policies on GIs. The reward should be offered not in process of registration, but in processes of production and industrialization of GIs agro-products so as to encourage farmers to use environment-protecting ways in production, and encourage agricultural GIs owners to pay more attention to sales promotion (Lv, 2015).

5.3 Improve the Development of Professional Organizations

In China's existing GIs related legal system, the subject of legal responsibility of agricultural GIs is uncertain, this causes the ambiguity of agricultural GIs rights and is likely to result in Tragedy of the Commons. So it is necessary to assign a representative to exercise the rights. In view of international experience and domestic reality (Yu & Huang, 2014), professional associations should be good candidates.

Liu (2015) thinks France is the earliest and most successful country in GIs protection, Wang (2011) holds the view that the core of legal protection for GIs in France is the regulation of L'Appellation d'origine contrôlée (hereinafter AOC). Each AOC is defined by decree at the proposal of Institut national des appellations d'origine (hereinafter INAO) (Chiaradia-Bousquet, 1995, p. 75). AOC can be applied for only by professional associations. Professional associations play important roles in France's GIs protection and application, they supervise GIs at almost all stages of production, processing and distribution to guarantee the high quality of GIs products. The responsibilities of professional associations in France include market research, sales promotion and so on (Wang, 2015).

Due to the provisions of GIs related laws and regulations, professional associations also play a great part in GIs protection and development in China. GIs can be registered as collective marks and certification marks, but according to article 3 of the Trademark Law, collective marks are registered in the name of bodies, associations or other organizations, certification marks are controlled by organizations capable of supervising some goods or services. Article 8 of the Regulations for Protection of Products of GIs issued by AQSIQ requires

that the applications for protection of GIs products should be submitted by organizations assigned by government at or above the level of county, or by associations and companies approved by government. Article 8 of the Measures for Administration of Agro-Products GIs issued by MOA also has similar requirements.

China should advance the development of professional associations for agro-products GIs and expand their function. The responsibilities of professional associations include: apply for GIs protection, communicate with local government on behalf of their members, set standards and implementing regulations for agro-products with GIs, license or draw back the use of GIs, resolve the contradictions among members, provide services such as production, processing and marketing for members etc. (Zhang, 2007).

5.4 Advance the Branding of Agricultural GIs

5.4.1 Professional Associations Should Serve as Organizers

A brand can be defined as “a name, term, sign, symbol, or design, or a combination of these, that identifies the maker or seller of a product or service.” (Kotler & Armstrong, 2009, p. 211), GI is a kind of brand. Branding of agricultural products is the trend of modern agriculture and is supported by the government. GIs should play an important role in this trend, but the current situation is not the case in China at present. Studies show that there are many problems in branding of GIs, such as many consumers know little about GIs, many sellers have low interest in using special mark for GIs (Yu & Huang, 2014). The reason lies in the absence of organizer, namely none is responsible for the task of GIs branding. As discussed previously in 6.3, professional associations are proposed to take this responsibility.

5.4.2 Position Agricultural GIs as Premium Brands

As a result of increased disposable income, the demand for labeled agro-products is also on the rise. In accordance with the EU consumer survey performed in 1999 referred to by the European Commission, 40% of consumers were ready to pay a 10% premium for origin-guaranteed products. (Mantrov, 2014, p. 10). Surveys in China draw the same conclusion. The study of Hao, Yi, Zhou and Zhang (2011) found that 81.3 percent of consumers are willing to pay more for GIs agro-products. Shang, Hao and Li's (2014) study on the GI of Yanchi Tan-sheep showed that the better the consumers knew about this GI, the higher price they were willing to pay. The quality, reputation or other characteristic of GIs agro-products is essentially attributable to their geographical origins. The rarity of GIs agro-products makes it possible to position GIs as premium brands.

5.4.3 Communicate Brands of GIs Agro-products Online

Online brand communication is more advantageous than traditional measures. Firstly, internet makes it possible to communicate a brand with less cost, this is very important to operators who are normally in lack of capital. Secondly, online word-of-mouth is effective communication for brands. Advanced online social networks such as Micro-blogs and WeChat provide very good platforms for word-of-mouth dissemination. Finally, internet makes consumers communicate directly with brand owners which enables better services for consumers and creates consumers loyalty. In a word, online brand communication is an economical and effective way to promote the sales of GIs agro-products.

5.5 Explore International Market

In the summer of 2013, China's online retailer Tmall and the U.S. Department of Agriculture's (USDA) Agricultural Trade Office (ATO) Shanghai hosted a joint promotion to sell freshly-picked cherries from the USA, 20 tons were pre-ordered in first three days and the sales reached 168 tons after the promotion ended (Wu, 2013). With the popularization of internet and the development of e-commerce, the information of supply and demand will be spread wider and quicker, internet of things technology improved the management of transportation and storage, thereby reduce the costs and lessen the risks of cross-border trade in fresh agro-products, cross-border trade of fresh agro-products will be more frequent.

The departments of government should improve the trade environment and make it convenient in customs clearance, commodity inspection, exchange settlement, tax rebate and some other foreign trade processes, which require the coordination of departments of finance, commerce, customs and taxation. Moreover, the government should strengthen international communication for cooperation on GIs. On September 5, 2002, AQSIQ signed a Memorandum of Understanding on GIs with the European Commission's Directorate-General for Trade, each part agreed to protect appointed 10 GIs of the other part. This program had been fulfilled in 2012. This is a good precedent and this kind of cooperation can be more, and the categories of protected GIs can be wider. China's GIs agro-products operator should pursue its development opportunities with a global vision and sell GIs agro-products of high quality to global market.

6. Conclusion and future work

China is an agricultural country with abundant GIs resources. Compared with other countries in the field of intellectual property rights (IPR), China has no advantages in patents, trademarks and copyrights etc., but GIs has the possibility of becoming an advantageous program (Zheng, 2002). Besides the significance of economy

and culture, the development of GIs is also of great significance to China's IPR.

The introduction of "internet plus" strategy brings valuable opportunities to the development of agricultural GIs. The agricultural GIs will bring better results for Chinese economy which depends on multiple factors i.e., government role in creating favorable agricultural environment & improvement in professional associations to make branding of agricultural products based on GIs. Moreover, this also depends how swiftly the "internet plus" is being used to market the agro based products world widely by operators of GIs agro-products.

China is a developing country and needs a great attention by researchers to investigate GIs from different perspectives, especially the practical measures for the development of agricultural GIs. In the future, the application of internet in GIs is inevitable. In this regard there is a need to conduct a study on developed economies to learn their advanced experience. Furthermore, an extensive research is needed to understand the policy formulation and support from the government.

References

- AliResearch. (Julu 24, 2014). Micro report on development of e-commerce in counties. Retrieved March 27, 2016, from <http://www.aliresearch.com/blog/article/detail/id/19461.html>.
- AliResearch. (June 1, 2015). White paper on agricultural products e-commerce in 2014. Retrieved March 20, 2016, from <http://i.aliresearch.com/file/20150601/20150601222304.pdf>.
- AliResearch. (March 12, 2015). Research report on "internet plus". Retrieved March 30, 2016, from <http://i.aliresearch.com/img/20150312/20150312160447.pdf>.
- AliResearch. (March 30, 2015). Find new farmers: research report on China's new farmers. Retrieved March 20, 2016, from <http://i.aliresearch.com/file/20150601/20150601222304.pdf>.
- Carpio, C. E., Isengildina-Massa, O., Lamie, R. D., & Zapata, S. D. (2013). Does e-commerce help agricultural markets? The case of MarketMaker. *Choices*, 28(4), 1-7.
- Chiaradia-Bousquet, J. P. (1995). Legislation governing food control and quality certification: authorities and producers (No. 54). Food & Agriculture Org..
- China Internet Network Information Center. (September 9, 2015). Research report on china's online shopping market in 2014. Retrieved April 10, 2016, from <http://www.cnnic.net.cn/hlwfzyj/hlwzxbg/dzswbg/201509/P020150909354828731159.pdf>
- Condon, S.. (February 17, 2009). Stimulus bill includes \$7.2 billion for broadband. Re-trrieved March 29, 2016, from <http://www.cnet.com/news/stimulus-bill-includes-7-2-billion-for-broadband/>.
- Dong, X.D., Ding B.Y., Zhang G.W., Jin G.L., & Zhao X.CH. (2015). Quality and safety traceability system based on supply chain of agricultural products. *Transactions of the Chinese Society of Agricultural Engineering*, 2 (1), 280-285.
- Gao, B.J., Wang, H.N., Huang, ZH., & Hou, Y.Y. (2015). An analysis of effect of online evaluation system on sales: Based on the data from Jingdong and Tmall. *Price: Theory & Practice*, 8, 103-105.
- Gao, Y.Q., & Shen, K.R.. (2014). The agricultural subsidy system in the European Union and the United States and the enlightenment to China. *Reform of Economic System*, 2, 173-177.
- Han, Y.L., Xu, L., & Fan, J. (2015). Study on agricultural product exportation in post internet era. *Journal of Huaiyin Institute of Tecchnology*, 24(5), 79-81.
- Hao, J.Q., Yi, L., Zhou, X.B., & Zhang, L. (2012). An analysis on consumers' perception and purchasing behavior of agricultural geographical indications. *Quality and Safety of Agro-Products*, 4, 18-21.
- Hu, B., Yang, Y., Wang, Q., & Luo, L.G. (2016). Progress of eco-compensation practice for environmental-friendly agriculture. *Journal of Agricultural Science and Technology*, 18(1), 7-17.
- Hu, T., Zhang, H.F. (Trans.) (2001). Grant, R. M. *Contemporary Strategy Analysis*. Beijing: Guangming Daily Press.
- Ji, L. (March 10, 2016). China Telecom increases investment in rural network infrastructure. Retrieved March 23, 2016, from <http://www.cctime.com/html/2016-3-10/1146190.htm>
- Kong, J. (2011). Characteristics and enlightenment of agricultural subsidy policy in India. *Productivity Research*, 11, 146-148.
- Kotler, P., & Armstrong, G. (2009), *Principles of Marketing*, Beijing: Tsinghua University Press.
- Kou, P.J., & Lu, F.J. (2002). Strategic thinking on construction of distribution mode of agricultural products in China. *Issues in Agricultural Economy*, 8, 13-17.
- Li, Ch.G. (June 5, 2012). Connect America Fund supports broadband voice applications. *China Electronics News*, p. 3.
- Li, H.J., Tian, Y.X., & Li, W.J. (2014). Internet thinking and traditional business reengineering. *China Industrial Economics*, 10, 135-146.
- Liang, R.L. (2016). From the branding of Internet to online brand. *China Textile*, 1, 14.
- Liu, C.F., & Dai, X.T. (2015). The experience of rural broadband construction in the United States for reference.

- C-Enterprise Management, 7, 74-76.
- Liu, J.T. (2015). Discussion on Internet Plus Connotation. *China Terminology*, 3, 14-16.
- Liu, ZH.B. (2015). Enlightenment of protection system of geographical indications products in France. *Quality Exploration*, 3, 47-48.
- Lv, S.Y. (2015). Reflection on Chinese subsidy and bonus policies of geographical indications of agricultural products in china based on the reform trend of CAP in EU. *International Economics and Trade Research*, 31(10):70-81.
- Mantrov, V. (2014). *EU Law on Indications of Geographical Origin: Theory and Practice*. Springer.
- Meng, Q.G., & Zhao, X.J. (2016). Prospect of the "internet plus" action plan under the new normal. *Frontiers*, 2, 84-95.
- Research Center for Intellectual Property in Agriculture of Chinese Academy of Agricultural Sciences (May 25, 2015). Report on china's agricultural intellectual property creation index. Retrieved April 2, 2016, from <http://www.ccipa.org/uploads/soft/150525/1-1505251G155.pdf>.
- SAIC (2015). Categorized data and figure of registered or preliminarily examined GIs trademarks in China. Retrieved March 30, 2016, from http://www.ctmo.gov.cn/dlbz/xwbd/201503/t20150317_154305.html.
- Shang, X.D., Hao, Y.W., & Li, B.L. (2014). An analysis on payment intention of consumers to geographical indication agricultural products: a case study of Yanchi tan-sheep. *Technoeconomics & Management Research*, 1, 123-128.
- Sun, K.ZH. (2015). The innovation of agricultural supply chain under "internet plus" in China. *Enterprise Economy*, 12, 93-98.
- Wang, L. (2015). Research on EU geographical indications product management. Unpublished doctoral dissertation, Jilin University, Changchun, China.
- Wang, SH. (2015). The analysis of the present situation and innovative trend of "Internet plus finance" serves issues concerning agriculture, countryside and farmers. *Rural Finance Research*, 11, 14-18.
- Wang, Y.T. (2011). On the nature of the rights of geographical indications. *Public Administration & Law*, 2, 122-126.
- World Trade Organization. (1994). Uruguay round agreement: trips. Retrieved May 3, 2016, from https://www.wto.org/english/docs_e/legal_e/27-trips_04b_e.htm#3.
- Wu, B., & Liu, SH. (2013). Legal protection of geographical indications in France and its revelation for China. *Journal of Huazhong Agricultural University (Social Sciences Edition)*, 6, 121-126.
- Wu, Z.W. (July 11, 2013). The competition of fresh goods e-commerce turns to American cherries. *China Food Newspaper*, p. 1.
- Xiao, W.D., Zhang, B.H., He, CH., & Du, ZH.X. (2013). Public finance subsidies agricultural insurance: International experience and China's practice. *Chinese Rural Economy*, 7, 13-23.
- Xu, X., & Xia, H.L. (2015). The adjustment of agricultural subsidy policy in developed countries and its experience for reference: Based on the study of the European Union, the United States and Japan. *Journal of Hunan Aericultural University (Social Sciences Edition)*, 16 (3), 70-74.
- Yang, L. (September 23, 2013). The European Union protects geographical indications as a quality policy. *China Quality Daily*, p. A1.
- Yang, X.L. (2014). The impact of consumer evaluation on consumer buying decisions: A case study of Taobao. Unpublished master's thesis, East China University of Science and Technology, Shanghai, China.
- Yu, J., & Huang, X.R. (2014). Research on the subject system of agricultural geographical indications in China. *Journal of Guangxi Administrative Cadre Institute of Politics and Law*, 29(2), 28-31.
- Zhang, G.H. (2007). Several issues on professional associations of geographical indications. *China Trademark*, 8, 57-59.
- Zhang, ZH. (2014). The development of electronic commerce of agricultural products in the United States and its enlightenment to China, *China Journal of Commerce*, 25, 115-117.
- Zheng, CH.S. (2002, December). From "entry into WTO" and the protection of intellectual property rights to the modernization of civil and commercial law. Paper presented at the annual symposium of WTO Law Research Society of China Law Society, Beijing, China.
- Zhu, H.X., Wang, F.L., & Suo, R.X. (2011). The application of the internet of things in china modern agriculture. *Chinese Agricultural Science Bulletin*, 27 (2), 310-314.

Note

Note 1. "Students-turned village officials" is a talents program carried out by Central Committee of the Communist Party of China from 2008, by recruiting college graduates to become village officials, this program aims for boosting development in China's less developed regions. 248 thousand college graduates had taken part in this program by the end of 2014.

Biographical statements

Mr. Zhu Yuanhua is working as Associate Professor in Anhui Finance and Trade Vocational College. Presently he is in the final phase of his doctoral study at the school of public affairs, University of Science and Technology of China. He is also author of various research publications as well.

Song Wei, PhD is a Professor and Dean of the School of Public Affairs, University of Science and Technology of China. He is also Director of USTC Intellectual Property Management Research Center and Vice president of China Sciences, Technology and Law Association and Member of China Marketing Association. There are around 30 international and dozens of Chinese PhD students whom Professor Song supervises.

Mr. Ghulam is serving as Assistant Professor in the University of Azad Jammu & Kashmir, Pakistan. Currently he is in his last phase of PhD at the University of Science and Technology of China. Along with teaching he has served a head of the department and is author of multiple research publications as well.