



**Application of geographical indication systems in China:**

**Jinhua ham case study**

**Case study on quality products linked to geographical origin in Asia  
carried out for FAO**

**by**

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The views expressed in this information product are those of the author and do not necessarily reflect the views of the Food and Agriculture Organization of the United Nations (FAO).

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## **Acronyms**

AQSIQ	General Administration of Quality Supervision, Inspection and Quarantine
CNY	Yuan Renminbi (Chinese currency) – 1 US\$ = 6,6 CNY
MOA	Ministry of Agriculture
SAIC	State Administration for Industry and Commerce
TRIPs	Trade-Related Aspects of Intellectual Property Rights
WTO	World Trade Organization

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## **Introduction**

Since its economic reform, China has opened its doors to increasing trade with the rest of the world. The country's economic level has improved considerably in the past 30 years, but rural development is still an important issue for the State, inasmuch as there are 800 million peasants living in the countryside. This is why China's agricultural policy stresses the issue of support to rural development.

The protection of "geographical indication" (GI) products has almost 100 years of history in some parts of the world, whereas China began to implement the system in the early 1990s. The initial objective was to boost rural development and protect local expertise. It is also closely linked to the laws on intellectual property – an important criterion in international trade.

Jinhua ham is a high-quality traditional ham that is famous throughout China. Based on a traditional processing method and a traditional pig breed, Jinhua ham is currently protected by two systems (certification marks and geographical indications).

### **1. Protection of GIs in China: institutional context and relationships with WTO and the TRIPs Agreement**

Many products have acquired a strong identity based on geographical origin and a good reputation over long periods of marketing – sometimes up to 2 000 years. Many producers and traders had no brand name, but used a geographical designation instead. This method of sharing the same name results in a de facto designation of origin. Before the establishment of any basic protection for designations of origin, some companies registered the common names of these traditional products as their own brand, which was prejudicial to the interests of traditional producers and consumers and upset the balance of competition.

After China joined the World Trade Organization (WTO) in 2001, the country demonstrated its intention of meeting WTO requirements and respecting intellectual property rights. Property rights are an effective tool in economic development and are also a way of protecting and developing the agricultural economy. Considering the wealth of the Chinese agricultural heritage, the use of geographical indications as part of intellectual property could therefore play an important role in the country's rural development.

Before the reforms of the 1980s, the economic system was based on the planned market system, which made no specific reference to intellectual property protection. Since the reforms, the Chinese Government has laid more stress on the role of intellectual property. Patent rights, trademarks and copyrights have therefore been the main focus in the new regulations on intellectual property (Cao, 2007).

China joined WTO on 11 December 2001 after 15 years of negotiations (cf. annexe 1). The Chinese State has enacted some new laws and regulations to meet international standards and has amended its legislation on intellectual property in order to comply with the Trade-Related Aspects of Intellectual Property Rights (TRIPs) Agreement. The Trademark Law was revised in 2001, and GI products are now registered as collective marks or certification marks.

New regulations have also boosted the repression of counterfeiting. Chinese law has deployed three types of action to combat counterfeiting and ensure respect for property rights: administrative action, civil court action and criminal law (Druez-Marie, 2003).

China currently has three main GI protection systems. The first is under the supervision of the State Administration for Industry and Commerce (SAIC) and is governed by the Trademark Law. The second is managed under special regulations by the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) Office. The third was established by the Ministry of Agriculture (MOA) in 2008 and focuses mainly on raw agricultural produce.

### **Protection of GIs by SAIC through the Trademark Law**

When the People's Republic of China was founded in 1949, the Chinese Government entrusted the national registration system and brand management to the Central Bureau of Private Enterprises and the Central Administration of Industry and Commerce. These bodies were merged in 1978 to form SAIC, which answers directly to the country's Council of State. SAIC is in charge of market supervision and regulation, and also of protection of the legitimate rights and interests of businesses and consumers by enforcing regulations regarding enterprise registration, competition, consumer protection, trademark protection and the combating of economic illegalities. It plays a role in the renewal, cancellation and transmission of trademarks.

SAIC is also involved in business coordination among provincial and local Administrations for Industry and Commerce, providing them with relevant guidance. It assists in the implementation of international conventions and regulations, and facilitates the international exchange of trademarks, including application of the GI protection system through the Trademark Law.

After several modifications of texts, SAIC now protects GIs through three legislative acts:

- the Trademarks Law;
- regulations implementing the Trademark Law;
- measures regarding the registration and administration of collective marks and certification marks.

The first Trademark Law was approved on 23 August 1982 and then updated in 1993. Since 1983 it has prohibited the registration of a geographical name as a trademark. Nevertheless, many recognized "terroir" products were registered as trademarks (Jinhua ham, Qingdao beer etc.), with the risk that they will eventually come to be considered generic names. At that time, China had not yet established a clear definition of GIs based on property rights, resulting in some conflicts on this specific point, as has happened in the case of Jinhua ham (SINER-GI, 2008).

Under this law, GI products are registered as certification marks. The definition of geographical signs in the Trademark Law is consistent with the definition of GIs found in the TRIPs Agreement.

To be registered as a GI in China, the law stipulates that the product should not be registered as a trademark, but as a collective mark or certification mark, a system in some ways similar to the English and American systems.

Despite the preliminary registration under the certification mark system that may be found for example in the American system, it is worth noting the similarity of the SAIC procedures and principles to those of the European Union. For example, the SAIC procedures prevent the use and sale of the certification mark outside the designated geographical area of the GI. This point is in contradiction with the logic of certification trademarks, but is in accordance with the regulations in force in the European Union. This example shows that the originality of the Chinese protection system for origin-linked quality is not only the coexistence of several modes of recognition based on various different principles of intellectual property, but also that it reflects a process of institutional “hybridization” based on the combination of this diversity of principles and procedures (Gilly and Wallet, 2005).

The use of the Trademarks Act and complementary regulations allowed SAIC to obtain some positive results in the protection of local expertise and rural development in China, and the number of registered products is growing fast. By the end of March 2009, SAIC had registered 496 products – 465 of Chinese origin and 31 of foreign origin (alcohol, cheese, wine, cloth, coffee, ham and cereals) from seven countries.<sup>1</sup> This often concerns fresh produce (fruits, teas, vegetables, nuts, flowers and cereals), but also traditional Chinese medicines, livestock, aquatic products, alcohol, wine, porcelain etc.

### **Protection of GIs by AQSIQ through GI registration**

AQSIQ is a ministerial administration office under the direct supervision of the Council of State. It is in charge of national quality, metrology, entry and exit commodity inspection, entry and exit health quarantine, entry and exit animal and plant quarantine, food safety of imported and exported goods, certification and accreditation, standardization, and administrative law enforcement at both national and local levels. It functions as a law enforcement agency and has 19 departments under its authority. Those responsible for food safety are the Department of Supervision of Animal and Plant Quarantine, the Bureau of Food Safety for Imports and Exports, and the Department of Supervision of Food Production.

When China opened up to trade from abroad, fake products and the misappropriation of appellations began to appear, mainly targeting traditional products. Moreover, people were unfamiliar with the concept of intellectual property. With a view to protecting the interests of economic stakeholders and adjusting the balance of the market, since 1994 AQSIQ has stepped up exchanges with foreign countries that have experience in protecting traditional products. This was when China began to implement the GI system, taking into account the socio-economic context of an economy in transition.

In 1999, AQSIQ instituted a designation of origin system to protect the expertise and interests of all stakeholders and promote rural development. AQSIQ also popularized the GI system in provincial-level offices.

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<sup>1</sup> Germany, Italy, Jamaica, Mexico, Thailand, the United Kingdom and the United States ([www.saic.gov.cn](http://www.saic.gov.cn)).

In June 2005, AQSIQ implemented a new decree (no. 78) entitled “Regulations for the protection of geographical indication products” to increase harmonization of its content with other laws in force in China. Article 2 of the decree gives a definition of GIs for the first time: “GIs are special products that come from typical areas. Their quality, reputation and characteristics depend on human and natural factors. GI products are cultivated or animal products, and are manufactured in the region with traditional methods and raw materials originating fully or partially in the region.”

This definition of GI products is different from that of the Trademark Law administered by SAIC. Although based on the TRIPs Agreement, it recalls some aspects of the European Regulation on the Protection of Geographical Indications and Designations of Origin for Agricultural Products and Foodstuffs and has promoted a rapprochement between the authorities responsible for the protection of origin-linked products in Europe and China.

Under China’s Eleventh Plan 2006–2010, AQSIQ intends to bring the number of products under GI protection up to 1 500, which means that there should be an average of 150 new products registered under the AQSIQ GI system each year. In this way, AQSIQ wants to boost the recognition and reputation of the GI system and win a new market share to increase the quantity of exports.<sup>2</sup> AQSIQ therefore needs to increase its expertise in such areas as the management of digital networks, the assessment of product quality and scientific testing.

Protection under the AQSIQ system is based on a regulation-type system but carries less force than the Trademark Law proposed by SAIC. AQSIQ protects GIs according to Decree 78, while SAIC uses the Trademark Law to manage GI products. To overcome this weakness, AQSIQ is currently developing a special law for the protection of GIs and has entered into discussions to pass the law in the National People’s Assembly in 2010.

By June 2009, 932 products had obtained protected GI status from AQSIQ. The list is not restricted to agrifood products, but also applies to such products as handicrafts and traditional Chinese medicines. Some good examples are Dehua porcelain (2006, Fujian Province), Zhenjiang vinegar (2001, Jiangsu Province), Zizhou astragalus root (2008, Shanxi Province) and Puer tea (2008, Yunnan Province).

However, Decree 78 implemented by AQSIQ in 2005 made major improvements over the 1999 regulation. In the new decree, the focus is on the control of product quality and the fight against counterfeiting. GI products should now meet international standards. Precise specifications that are more detailed than was previously the case are laid down for each product. The criteria are linked to the economic needs of the country.

AQSIQ has also expanded its role in implementation of the system. Priorities of its mission are now the issues of how to increase added value and how to use the system to promote rural development. It no longer simply provides legal protection, but also enhances product quality by supporting research and improved technology. AQSIQ also helps producers to seek market opportunities. At the local level, its role therefore now goes beyond its original objective of promoting implementation of the GI system. For example, Shanxi Province has promulgated regulations for the management of GI products. Local governments are increasingly taking positions of leadership in management of the GI system.

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<sup>2</sup> [www.aqsiq.gov.cn](http://www.aqsiq.gov.cn)

According to the procedures in place, in order to initiate a request for protection, the government assigns a district-level office or special organization to handle all administrative matters. Some experts from the organization review the request and define the production zone. The local government (at district level or above) makes an official proposal as to the definition of the production area. The local government then makes an application for protection, including the characteristics of product quality, the links with natural and human factors, a definition of the specifications, origin and historical context, and as complete data as possible on production sales.

All application forms and other documents are provided by AQSIQ at the central level. After consideration by AQSIQ, the case must be published and undergo public enquiry for at least two months. If any contrary opinion is expressed during this two-month period, the AQSIQ office organizes a technical review meeting with a panel of experts, at which the applicant must present the case and answer the experts' questions. The panel of experts makes a report on the review. AQSIQ then issues a declaration of acceptance, and protection of the GI product in question is valid from the same day.




### **A new system to protect GI products by MOA**

A third system to protect GI products was promulgated by MOA in 2008 in the form of the "Measure of management for agricultural products of geographical indication". This system focuses on protecting materials in accordance with the Law on Agricultural Product Quality Farming and the MOA law. The entire registration process is managed by MOA's Centre for Quality and Safety of Agricultural Products.

Based on its experience with organic products and green food products, MOA would like to develop a system capable of promoting environmental protection, sustainable production methods and the quality of agricultural raw materials. MOA is considering some similar aspects to those of European GI products, with a view to meeting the expectations of sustainable development for rural areas.

*Table 1. The types of legal system for protection of traditional and origin-linked food products in China*

	<b>AQSIQ</b>	<b>SAIC</b>	<b>MOA</b>
<b>Role and main functions</b>	In charge of national quality, entry/exit commodity inspection, health quarantine, animal and plant quarantine, food safety, certification and accreditation, standardization, and administrative law enforcement at the national and local levels.	In charge of market supervision and regulation, and protection of the legitimate rights and interests of businesses and consumers by enforcing regulations regarding trade competition. Gives relevant guidance to local Administrations for Industry and Commerce. Assists in the implementation of international conventions and regulations, and facilitates the international exchange of trademarks.	Regulates and controls the use of chemicals, pollutants and pesticides on farms. Is also responsible for livestock health – and is thus in charge of managing the avian influenza epidemic and preventing mad cow disease.

<b>GI definition</b>	Agricultural, livestock and aquatic products coming from the defined area. Raw materials originating entirely or partially within this defined zone, and being processed in this area in compliance with the specifications.	A GI product is from a specific region, with quality, reputation and other features that are determined by natural or cultural elements of the region.	An agricultural GI product is named after a geographical area, indicating that it is produced within a particular area, and its quality and characteristics depend on natural, historical and cultural factors.
<b>Level of protection</b>	Decree 78, based on the Product Quality Law and the Standardization Law.	Trademark law, regulation and measures. GI protection is made compatible with the TRIPs Agreement.	Administrative measures came into effect on 1 February 2008.
<b>Type of protection</b>	Special system dedicated to GI products.	The GI can be registered by SAIC or the China Trademark Office as a certification mark or a collective mark.	Dedicated to raw agricultural products.
<b>GI system logos</b>			

## 2. Geographical zone and specific resources

With 9.60 million square kilometres, China is the world's fourth largest country in size, coming just behind the United States (with 9.62 million square kilometres). There are 1 308 million Chinese citizens, 745 million of whom live in the countryside, making up 70 million households, with an average annual per capita income of €390, and 562 million of whom are urban, making up 190 million households, with an average annual per capita income of €1 050. (cf. annex 2: Comparison table of the food consumption between urban and rural population).

In terms of agriculture, China accounts for 50 percent of the world's pigs, while 48 percent of the world's production of vegetables and 16 percent of its production of cereals (27 percent of the rice, 18 percent of the maize and 14 percent of the wheat) originate in China. On the basis of this information, China can be considered an agricultural country, and there is a very great difference in income between rural and urban areas.

### General context of Zhejiang Province

Zhejiang Province is located in eastern China, neighbouring the Shanghai region. Together with Jiangsu Province, they make up what is known as the Yangzi Delta Economic Zone – a very competitive area of China. The province benefits from more than 1 840 kilometres of coastline, giving it a competitive advantage in the import and export market (see the map of China and Zhejiang Province below).

Zhejiang has 11 cities. Nearly 46.29 million people live in the province and it is considered one of the more densely populated regions of China. The province is smaller in area than other provinces.<sup>3</sup> Its topography is very varied, with almost 70.4 percent covered by mountains and hills, and 23.2 percent by plains and basins, while its rivers and lakes account for 6.4 percent. It has green cover over 60 percent of its area. It is a province with rich biodiversity, where 3 800 varieties of vegetation have been identified. In terms of GDP, in 2008 Zhejiang was ranked in fourth place in the country, with CNY 2 100 billion<sup>4</sup> (a 10 percent increase over 2007). However, inasmuch as most of the production comes from intensive sectors, the added value is relatively low.



Figure 1. Map of China and Zhejiang Province

Zhejiang has a long farming tradition and is well equipped for agricultural development. The climate is subtropical, mild and humid, with an average annual temperature of 15 to 17 °C. January and July are usually the coldest and warmest months respectively. Thanks to geographical variety and climate, the conditions are environmentally suited to agriculture and fisheries. Nevertheless, the per capita cultivated area is only 0.035 hectare – half the national average. However, the abundance of the workforce is an advantage for the agricultural sector. For example, the province ranks first in the production and export of tea, and pig farming accounts for a large proportion of the agricultural sector. In 2006, Zhejiang sent 18 990 000 pigs to market,<sup>5</sup> and 65 percent of breeders have a production capacity of over 50 pigs, which is an advantage to the ham sector and other associated products.

<sup>3</sup> Internet site of the People's Government of Zhejiang Province: [www.zjagri.gov.cn/html/main/zjagroView/2008042187407.html](http://www.zjagri.gov.cn/html/main/zjagroView/2008042187407.html)

<sup>4</sup> [http://news.xinhuanet.com/newscenter/2009-01/16/content\\_10669490.htm](http://news.xinhuanet.com/newscenter/2009-01/16/content_10669490.htm)

<sup>5</sup> National Bureau of Statistics of China.

Table 2. Agricultural production in Zhejiang in 2008 (National Bureau of Statistics, 2009<sup>6</sup>)

Meat (thousand tonnes)	1 701	Vegetables (thousand tonnes)	17 579.2
Fish and aquaculture (thousand tonnes)	5 046.4	Fruit (thousand tonnes)	7 479.2
Cereals (thousand tonnes)	7 755.5	Tea (thousand tonnes)	162.3
Vegetable oils (thousand tonnes)	476.7	Sugar (thousand tonnes)	854.5

Although the agricultural sector is fairly well developed in Zhejiang Province, there is still a significant gap in income between rural and urban populations. In 2008, the average incomes were respectively CNY 9 258 and CNY 22 727 (National Bureau of Statistics, 2009<sup>7</sup>). Various factors are responsible for the difference. For example, although the province has a very good agricultural basis and an abundance of products, there is a lack of technological support and neglect in implementing the results of scientific research, so that products lack sufficient added value.

In Zhejiang Province, as in China as a whole, the richness of culture and tradition means that there are many products resulting from human know-how. With the abundant workforce, these products have a price advantage in the market. However, in a market environment that is becoming increasingly international the quality of food products has become more important. There is still a difference in terms of quality and safety between local products and national and international standards, and the low quality of these local products therefore prevents direct access to outside markets. Implementation of an intensive production approach, assisted by modern management tools to help in building a multifunctional and multifaceted agricultural system, is now a priority of local government policy.

Lastly, producers lack marketing experience. In general, the region's products are traded only on the local and national markets, and there is a very low level of involvement in foreign trade. Awareness of the concept of international marketing is relatively low amongst local agrifood companies.

### Delimitation of production and processing zones

The Jinhua ham production area was recognized by AQSIQ in 2002 and is divided into the two regions of Jinhua and Quzhou<sup>8</sup> (see the map of Jinhua and Quzhou regions below). Six districts in the Quzhou<sup>9</sup> region and nine in the Jinhua region are classified as falling within the protection zone.

<sup>6</sup> [http://www.stats.gov.cn/tjgb/ndtjgb/dfndtjgb/t20090318\\_402548975.htm](http://www.stats.gov.cn/tjgb/ndtjgb/dfndtjgb/t20090318_402548975.htm)

<sup>7</sup> [http://www.stats.gov.cn/was40/gjtjj\\_detail.jsp?searchword=%D5%E3%BD%AD&presearchword=%D5%E3%BD%AD&channelid=4362&record=1](http://www.stats.gov.cn/was40/gjtjj_detail.jsp?searchword=%D5%E3%BD%AD&presearchword=%D5%E3%BD%AD&channelid=4362&record=1)

<sup>8</sup> Quzhou was integrated into Jinhua region in 1955 and became an independent region in 1985 with the same administrative level as Jinhua. In 2001, when the Jinhua ham producers applied to the AQSIQ GI protection system, Quzhou was placed in the protection zone, while respecting its administrative status. There are therefore 15 districts that are part of the protection zone for Jinhua GI ham.

<sup>9</sup> [www.zjagri.gov.cn](http://www.zjagri.gov.cn)

On the other hand, SAIC did not include the Quzhou Districts in the protection zone for its Jinhua ham certification mark.

**Jinhua region.** Jinhua is a region of hills and rivers, located in the centre of Zhejiang Province and covering 10 941 square kilometres (10.74 percent of the province). It had 4.59 million inhabitants<sup>10</sup> in 2007. It is an historic area, with more than 1 800 years of history and five sites that are classified as national historic monuments.

The total GDP of the Jinhua region in 2008 was CNY 168 185 billion, which represents CNY 36 538 (US\$5 261) per capita, with an almost 10.6 percent increase over 2007 – 5.2 percent for the agricultural sector, 10 percent for the industrial sector and 12.1 percent for the service sector. The prices of goods have also risen, especially the price of food (+15.1 percent in one year). According to the Jinhua Bureau of Statistics, the consumer price index in Jinhua was 115.1 in 2008, including meat and other animal products, vegetables, fish and cereals. Transport facilities have proved a real advantage in attracting major investment, bringing new technology and increasing the workforce. In comparison with the level of industrial development in neighbouring regions, the Jinhua region has some real advantages in terms of access for inputs and outputs.



Figure 2. Map of Jinhua and Quzhou regions

Agriculture is still an important sector in the economy. Distinctive local products are cereals, cotton, oilseed, medicinal plants, vegetables and fruit. It is also a region with livestock production. According to the Jinhua Bureau of Statistics, 2.12 million tonnes of meat (pork, mutton and beef) are supplied to the market, including 171 400 tonnes of pork,<sup>11</sup> some of which will be used as the raw material to produce Jinhua ham.

<sup>10</sup> Jinhua Statistics Office.

<sup>11</sup> <http://www.jhstats.gov.cn/shownews.aspx?id=3210>

The region's specific climatic conditions are key factors in producing good-quality Jinhua ham. As Jinhua is located in a basin, there are four distinct seasons. The winter is cold and offers ideal conditions to start producing ham, while the heat of the summer allows the fermentation process. The average annual rainfall is 1 124 millimetres.

Jinhua is located in Zhejiang Province near the city of Shanghai, and the transport infrastructure allows ease of access to markets, especially in the southwest of the country.

***Quzhou region.*** Quzhou is an ancient city with origins that may date back to 192 AD. In 2004 it was listed among the historic and cultural cities of China. It lies west of Zhejiang Province and is attached to the Jinhua region. The Quzhou region covers an area of 8 841 square kilometres, with a population of 2.45 million. In 2008, its GDP reached CNY 58 billion, meaning a per capita average of US\$3 360.

Farming plays an important role in developing the local economy, and Quzhou is also a major production area for grain and poultry in Zhejiang Province. In 2008, GDP in the primary sector (agriculture, forestry and fisheries) reached CNY 9 634 million. Local products – fruit, products containing honey, tea, mushrooms etc. – are diverse and competitive in the market, and aquatic products are now a priority for the local government with a view to economic development.

The livestock sector plays a major role in local agriculture. Nearly 220 800 tonnes of meat were produced in 2008, including 198 700 tonnes of pork. However, production is hampered by the fact that the products have little added value: the majority of them are sold directly without further processing and there is a lack of known brands on the market.

***Specific resources: a local traditional breed of pig.*** In Jinhua region and some parts of Quzhou region, the rural population has a tradition of rearing Jinhua black two-ends pigs to increase its income. Despite the fact that the economy of Zhejiang is more developed than that of other provinces, many farmers in the mountain areas live with an annual income of less than CNY 2 000 (290 US\$) and most of them depend on livestock products as their main source of income.

### **3. The product**

#### **Specific quality and product differentiation**

***History and reputation.*** The tradition of making Jinhua ham goes back almost 1 200 years. According to local legend, Jinhua ham was given to soldiers who went to defend their country against foreign invaders. Because it kept better, it was used to supply the army during the war. General Zhong Ze, who was born in Jinhua, offered Emperor Zhao Gou of Southern Song some ham to taste. The emperor appreciated the delicious taste, which was very different from usual meat, inasmuch as the fragrance was preserved even after cooking. In recognition of its flavour and quality, he gave it the name “Jinhua ham”. With this seal of approval, Jinhua ham became known throughout China. Producers from Jinhua moved to other regions to spread knowledge of the preparation method, so that China came to have

several types of ham, such as south ham (Jinhua ham), north ham and Xuan ham. In this way, Jinhua ham was preserved through the years as a legacy from the ancestors. In the early nineteenth century, a statue of General Zhong Ze was always installed in stores and workshops, and each winter before the workshops began production, people would pray before the statue, asking for protection and a good manufacturing season.

Jinhua ham is well known and much appreciated in China. Its colour, smell, taste and shape are features constituting its reputation. In a well prepared ham, the skin is often slightly golden and the meat is a rather dark pink with some white fat. Once cooked, the fat becomes almost transparent, with shiny points and a fragrant scent. In China, it is eaten daily and is an essential raw material in improving the taste of fine cuisine, while farmers often keep the pork legs to give their soup a richer flavour. In the traditional Jinhua processing method, the ham is shaped into the form of a bamboo sheet or a Chinese guitar, thus giving it an easily recognizable appearance.

The local population has also discovered that Jinhua ham may be used, for example, to treat frail elderly people (Gong, 1987) and women after childbirth. Some scientific analyses (Zhu, 1993) have revealed the presence of several types of amino acid at levels 30 times higher than in fresh pork. The ham is soaked in sea salt, which was a very effective way of preserving meat in olden days – and is one of the reasons the method has survived for 1 200 years and the ham known in every household in China.

### ***Traditional product and process, and specific quality***

*Breeding.* There is a tradition of rearing Jinhua pig breed (see Photograph 1 below) in the Jinhua region. This breed has been reared for 1 600 years. But since the economic reform, the market has opened up and permitted the importation of various more profitable species of pig. The length of the breeding cycle of Jinhua pig is longer than for other species imported from outside, and production costs have become expensive for farmers. Fewer and fewer farmers now choose the traditional breed for their activity. In 1999, the Jinhua pig breed was classified as an endangered species by MOA.<sup>12</sup> Jinhua pigs are one of the 19 breeds of pig selected by MOA in 2000 for protection.

Traditionally, only the hind legs of castrated Jinhua pigs are used as the raw material for Jinhua ham. Like other slow-growing breeds, the meat of Jinhua pigs has a high fat content, giving the ham a softer texture and more flavour than ham from modern pig breeds.

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<sup>12</sup> *Domestic animal genetic resources of China*, 2003: [www.fao.org](http://www.fao.org)



*Photograph 1. Jinhua piglets (black two-ends breed) (from Guihong Wang – 2007)*

*Processing.* The fresh legs must be free of injury and weigh between 4.5 and 9.5 kilograms. During the process, workers try to modify the leg to give it the shape of a piece of bamboo. They also press the remaining blood out of the leg in order to give the ham the purest possible taste of pig. Marination in salt is an important operation and depends heavily on climate: if the temperature is too low, the salt may not penetrate sufficiently, while if it is too high, the leg may not be conserved. Moisture also influences the texture of the meat and can either result in ham that is too dry or contribute to the proliferation of microbes. Producers often start processing during the winter period in Jinhua, when the temperature (0 °C to 10 °C) and humidity conditions are ideal. Depending on the weight of the fresh leg, the period of marination ranges from 25 to 35 days, during which salt is added five or six times and the legs are turned seven times.

The following step is cleaning in order to remove the salt and dirt that have stuck to the legs. The temperature of the water and the cleaning process are also dictated by tradition. After this, the legs have to be dried in the sun for a certain number of days.

The fermentation process is the stage at which the ham acquires its taste. In the fermentation room, the temperature is relatively high and the humidity of the product is low. Protein and fat change with the temperature and give the ham its special flavour. The temperature in the fermentation room is also regulated depending on the time of fermentation.



*Photograph 2. Traditional drying process (from Guihong Wang – 2007)*



*Photograph 3. Jinhua ham traditional recipe (from Internet)*

Processing takes at least nine months, and the weight of the finished ham has decreased by between 30 and 40 percent. Producers stack the finished products when storing them, but during storage they continue to turn them so that the flavour remains identical. This system is chosen in order to ensure that the meat is well pressed and hard. The texture of the finished ham is different from that of ham produced in western countries. Westerners prefer to eat sliced raw ham, so that the texture of the meat should be tender, whereas the Chinese like to cook the meat. This may explain why the reputation of Jinhua ham is confined to Asian countries.

Some scientific research (Bolzoni *et al.*, 1996; Sabio *et al.*, 1998; Zhu *et al.*, 1993) has been conducted to compare the taste of various hams, including Jinhua ham. The taste and quality of the products depend partly on the processing method and partly on the specific quality of

the raw material (a slow-growing breed in the case of Jinhua ham). The practical experience of Jinhua producers and an unpredictable climate directly determine the quality of their product. For example, the amount of salt used is left to the discretion of each producer.

According to research, the taste and smell of Jinhua ham are stronger than those of other dry-cured hams, since the manufacturing temperature is higher than that used for Serrano (Flores *et al.*, 1997; Xun *et al.*, 2003) and Bayonne ham (10 °C to 12 °C) and Parma ham (15 °C to 20 °C) (Sabio *et al.*, 1998). The tradition of adding salt and then drying and fermenting the meat was intended for conservation purposes. There is thus no real scientific method to be followed in preparing the ham; producers have learned their manufacturing methods as a cultural heritage. Their experience is very important in preserving the quality of their produce, which could explain the lack of scientific specifications.

### **Product protection process**

Jinhua ham is currently protected by both GI protection systems – under SAIC’s certification mark system and under AQSIQ’s specific GI protection system – so that producers have more opportunities to protect their interests. Most of them choose a twofold registration at both AQSIQ and SAIC to be sure of the best possible cover and also to gain access to more markets for their products. This situation exists not only in the case of Jinhua ham, but is also common for other types of product.

***Traditional local producers’ request for protection.*** In the early 1980s, in the days of a planned economy, the Zhejiang Food Company was the public company in charge of supervising every agrifood company in the province. A local company, Pujiang Food, was the owner of the “Jinhua ham” trademark registered with SAIC in 1979, at a period when there was no restriction on using a geographical name as a trademark. In 1984, following the economic reform, the Zhejiang Food Company decentralized some functions, but retained ownership of the trademark. This particular context of economic transition and reform of the agricultural system saw the birth of conflict between local Jinhua ham producers and the Zhejiang Food Company.

The Zhejiang Food Company does not directly produce ham, but outsources production to some hundreds of enterprises (not necessarily located in the traditional Jinhua ham production area and without any specifications as to raw materials), which use the name “Jinhua ham”. These companies, in accordance with trademark property law, just have to pay a fee in order to use the designation.

The designation of origin is largely usurped in the market. As the Zhejiang Food Company allows some hams produced outside the Jinhua area to be sold on the market with the Jinhua ham trademark, neither the origin nor the quality of the product can be guaranteed. Moreover, local producers of real Jinhua ham must also pay the user fee. They find it hard to accept this situation. In 1994, at the end of the ten-year validity period for a registered trademark, the Jinhua town council officially requested recovery of the name for local use. About 10 000 people signed a petition against the Zhejiang Food Company and organized a protest meeting with the media in front of the People’s National Assembly Council in order to regain possession of the Jinhua ham trademark.

**Registration of the Jinhua ham GI with AQSIQ.** The benefits and protection provided by the AQSIQ system were in line with the demands of local Jinhua ham producers who wished to provide consumers with a distinctive sign enabling them to distinguish their products from those under the Jinhua ham trademark. Local producers wanted to show the superior quality and local origin of their products, as against generic ham made from raw materials that may originate outside the Jinhua region.

In 2001, the Jinhua Ham Producers' Professional Association applied to AQSIQ for an opportunity to protect their interests. The Jinhua local government collaborated with the local AQSIQ, SAIC and MOA offices and the Jinhua Ham Producers' Professional Association to create a Management Committee Office for the Jinhua ham GI.

In 2002, Jinhua ham producers obtained protection from AQSIQ. In line with the production criterion, 15 towns and districts in Jinhua and Quzhou were included in the GI protection area, in accordance with AQSIQ procedures (see section 1 above and annexe 3).

After this official GI recognition, the producers of Jinhua ham believed they could legally use the designation of origin mark for their product. However, the conflict between the parties was not over, because two systems now coexisted for the same product: the private "Jinhua ham" trademark (SAIC) and the "Jinhua ham" GI (AQSIQ). In 2003, the Zhejiang Food Company obtained a court order for the sealing of several enterprises in the Jinhua area for the counterfeiting and usurpation of the name "Jinhua ham". The conflict has continued, exhausting both sides. The Jinhua local council and the Zhejiang Food Company spent more time in exchanges with SAIC in the hope of finding a solution.

Registration as a protected GI product offers wider opportunities to promote Jinhua ham on the national and international markets. By 2009, 30 companies had been authorized by AQSIQ to use the Jinhua ham GI name and logo.

**Registration as a certification mark with SAIC.** SAIC implemented the designation of origin system in 1994, according to which an origin-linked quality product may be protected with a certification mark. (cf. annexe 4).

In 2003, the Jinhua town council joined with SAIC, AQSIQ, MOA and the Jinhua Ham Producers' Professional Association to establish a special committee with a view to registering the Jinhua ham GI as a certification mark at SAIC under the name "Jinhua ham from Jinhua city". In 2004, the Jinhua producers filed their application. The Zhejiang Food Company, which owns the Jinhua ham trademark, objected, so that it was only in 2008 that SAIC approved the protection of Jinhua ham under the certification mark law. The Zhejiang Food Company finally accepted the decision, which solved a 20-year conflict that has damaged the reputation and quality of the product.

In 2008, the SAIC central office registered "Jinhua ham from Jinhua city" as a certification mark. In 2009, there were 39<sup>13</sup> companies that had obtained permission from SAIC. The registration process is the same as that for registration of a classic brand.

**Code of practice issues.** None of the systems has a real GI code of practice or common production rules with which producers have to comply strictly in order to be authorized to use

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<sup>13</sup> [http://www.jhhtzmsb.com/ShowArt.aspx?News\\_ID=193](http://www.jhhtzmsb.com/ShowArt.aspx?News_ID=193)

the GI mark (see Table 3 below). However, a comparison of the production specifications for the certification mark “Jinhua ham from Jinhua city” with those for the “Jinhua ham GI” shows that the AQSIQ criteria are more stringent. For example, in the new standard (GB/T 19088-2008) applied by AQSIQ, the pigs’ legs may originate only from the Jinhua black two-ends pig breed or hybrid breeds. In the case of the SAIC certification mark, producers have the choice of producing under the same criteria as those of AQSIQ, but they may also use legs from pigs bred in areas adjacent to the Jinhua region. In addition, AQSIQ has also laid down some criteria with strict scientific standards.

*Under the GI AQSIQ system.* In 2008, AQSIQ and the Standardization Administration published new standards (GB/T 19088-2008), developed by AQSIQ’s Jinhua and Quzhou offices, assisted by the Centre for the Detection of the Quality of Jinhua Ham and producers. Compared to the 2003 regulation, the aspects of quality criteria (mainly for the raw material) and product safety have been modified to meet demands in this regard; for example, some indices for substances, humidity and salt content have been changed. The new standards place more emphasis on the protection of consumer interests and combating counterfeiting.

The new standards are recommendations rather than being mandatory. Their main objectives are to improve product quality, guarantee the conservation of traditional techniques and protect consumers’ interests in the fight against counterfeiting. They clearly define the production area, manufacturing conditions (climate, production season etc.) and criteria for the selection of the raw material (breed, weight), and provide some technical parameters such as the percentage of fat on fresh legs, weight, humidity and content of additives such as salt and oil. They list the various stages and duration of the preparation process.

In respect for tradition and in order to give a clear indication to consumers, the new standards stress that the pigs’ legs used as a raw material in the GI product must come specifically from the black two-ends breed or hybrid breeds, thus ensuring the traditional product quality and respecting the interests of consumers along the whole production chain.

Quality criteria are hard to measure, relying mainly on the experience of the producers. Experts rank the quality of hams in three categories: top, first and second, according to six indices: aroma, taste, colour, ham shape, flesh texture and shape of the ham leg. Several studies have been conducted on this subject (Zhu, 1993; Du and Ahn, 2001; Xun *et al.*, 2003). Some quantitative tests are performed in laboratories to measure twelve physical parameters, such as the percentage of fat and the chemical composition of the ham. A first series of tests is made by the company itself, and the local AQSIQ office carries out inspections at regular intervals in order to test quality and ensure the producers’ compliance with the norms.

Lastly, the standards also define the criteria for use of the GI logo, labelling, packaging, transport and storage of products.

*Under the SAIC system.* There is no real code of practice or common rules for production, but there is a final quality control, with evaluation by experts, who are professionals from the ham production sector with many years’ experience and are nominated by SAIC for this task. A ham-producing company must apply to the committee for authorization to use the certification mark. The Jinhua Ham from Jinhua City Committee is composed of representatives of AQSIQ, SAIC and MOA and the Jinhua Ham Producers’ Professional Association. Once the committee has received the application, it calls on its professional experts to inspect the quality of the product at the company’s premises and give an opinion, a

process that takes about 30 days. Once a favourable opinion has been given, the company can sign a contract with the committee, receive a certificate of approval and be authorized to use the certification mark logo.<sup>14</sup> To ensure the quality of products, companies must renew their contracts with the committee each year.

*Table 3. Jinhua ham: a comparison between the GI and certification trademark systems*

Designation	Jinhua Ham from Jinhua		
	Jinhua Ham (AQSIQ)	City (SAIC, certification mark)	Jinhua Ham (SAIC, mark)
<b>Type of protection</b>	GI system	Trademark Law, registered as a certification mark	Trademark Law
<b>Managing organization</b>	Jinhua Ham Committee and Jinhua Ham Producers' Professional Association	Jinhua Ham from Jinhua City Committee and Jinhua Ham Producers' Professional Association	Private business with patent right
<b>Protection validity</b>	No term of validity	10 years, registered as a GI certification mark in 2004, valid until 2014. <sup>15</sup> A producer's right to use the certification mark is valid for one year, renewable annually.	10 years, valid until 2013
<b>Existence of a code of practice?</b>	Standard norms (recommended, not mandatory) define the production area and manufacturing conditions and criteria for the selection of raw materials (breed, weight) and provide some technical parameters	None (based on Trademark Law) but the committee verifies the quality of the product before granting the right to use the certification mark.	None, National China Ham Norm (SB/T 10004-92), Company Norm (Q/zs 001-2004) <sup>16</sup>
<b>Production area</b>	Defined by AQSIQ: 6 districts in the Quzhou region and 9 districts in the Jinhua region.	Only the Jinhua region (not including Quzhou Districts).	No constraints
<b>Origin of raw material</b>	Jinhua pigs and hybrid breeds	No breed constraints	No constraints
<b>Production season</b>	Winter	Winter	Whole year
<b>Market outlets</b>	Large supermarkets, dedicated outlets, well-known distributors, luxury hotels and restaurants, export to Asian countries	Large supermarkets, dedicated outlets, well-known distributors, luxury hotels and restaurants, export to Asian countries	Standard Jinhua ham is mainly exported to southeast Asia
<b>Number of</b>	30 enterprises were approved for production in 2009 <sup>17</sup>	39 enterprises were approved for production in 2009 <sup>18</sup>	Hundreds of enterprises

<sup>14</sup> These producers often also register with AQSIQ as producers of Jinhua GI ham.

<sup>15</sup> It should be noted that application for registration was made in 2004, but only in 2008 did SAIC officially register the certification mark.

<sup>16</sup> The standard Jinhua ham brand is valid until 2013. Manufacturing of the standard ham respects the national China ham norm (SB/T 10004-92). This norm was created by the Zhejiang Food Company and has been in force since 1992 as a standard for the ham industry. Standard Jinhua ham must also respect the Q/zs 001-2004 norm established by the Zhejiang Food Company in 2004 and applicable only to standard Jinhua ham.

<sup>17</sup> <http://www.jhbts.gov.cn/bulinfo.jsp?id=38>

## **4. Stakeholders, supply chain and market**

### **Historical situation**

Every family in the Chinese countryside used to rear a few animals as a source of additional income and manure for their crops. In an autarkic economy in rural areas, it was one of the main activities.

However, many changes have occurred in recent decades. In 1956, the State extended the right to produce Jinhua ham to all public companies, expanding production to 20 districts outside the Jinhua region. At that time, the most modern factory had only a single lift. All the manufacturing processes were carried out manually, and the climate was an essential element in production. Given the economic system and policy constraints, the ham industry was not an auspicious sector for development.

In the 1970s, the Chinese Government started advising farmers to meet requirements regarding dimension and intensity, and to invest in technology in order to meet competition in the market and defend themselves against risks. Then in 1979, at the start of the economic reforms, the market opened up, encouraging businesses toward some private investment, without geographical limitations. The numbers of ham factories increased quickly over time.

### **Present situation: stakeholders in the Jinhua ham supply chain**

*Breeders and farmers.* According to data from the Jinhua Livestock and Veterinary Bureau, in December 2009, 3 738 200 pigs were being reared in the Jinhua region. Pig production is divided between small family units and larger modern units.

*Small farmers.* Because of a lack of funding and the current level of social development, the existence of small farmers, especially in family units, is still prevalent in China's rural areas. In Jinhua and some parts of Quzhou, the rural population has a tradition of rearing Jinhua black two-ends pigs to supplement its income. Despite the fact that the economy of Zhejiang is more developed than that of other regions, many farmers in mountainous areas live with an annual income of less than CHY 2 000 (US\$ 290) and most of them depend on livestock products and poultry as their main source of income. Very little information about farmers was collected in the field study, and this applies especially to the situation of small farmers living in remote areas with scant means of transport and little use of new technology. The advantages of small units are greater ease and flexibility in adapting to market conditions, but the disadvantage is a greater susceptibility to market fluctuations. Small farmers and businesses are now suffering from stiff competition from larger companies.

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<sup>18</sup> [http://www.jhhtzmsb.com/ShowArt.aspx?News\\_ID=193](http://www.jhhtzmsb.com/ShowArt.aspx?News_ID=193)

*Larger breeding units.* With the economic reform, people became more aware of new opportunities for profit. Livestock breeding is better organized. At the industrial level, some farmers have diversified into the production of animal products, while others continue in the traditional way, keeping breeding as a sideline. In the Jinhua region, 510 piggeries have more than 500 heads each, including 22 that produce more than 10 000 heads a year. There is a strong tendency to move from a traditional farming model to modern, more centralized methods and larger farms.

*Cooperation among breeders.* Professional experts are encouraging small farmers to form alliances in order to counter market competition, while large breeding companies are joining forces with small farmers to build a new type of association. Despite this trend, the new association still lacks the capacity to manage market risks.

Establishing a brand is one of the main ways for large businesses to hold a market place and create a company image. Large piggeries cooperate with small farmers and piggeries in order to reduce risks and be more competitive, creating associations with some processors in order to be able to offer products from a variety of ranges. These interest networks enable the members to protect themselves against major fluctuations in the prices of fodder and meat.

*Government support.* For its part, the government has made sustainable development a priority in its agricultural policy. Environmentally friendly and sustainable development of the livestock sector is increasingly discussed in national policy and promoted in the policies of local governments, and would appear to be an irreversible trend.

As Jinhua is one of the main production centres for pigs in Zhejiang Province, environmental protection is an important criterion for the region. Breeding areas have been defined, and the development of herds with an average size of 100 head has been encouraged. Farmers have received financial support to invest in means of recovering livestock waste and in implementing a prevention system against livestock epidemics. The government also encourages cooperation between the livestock sector and other sectors<sup>19</sup> (crops, forestry, fisheries etc.) in order to collaborate on environmental protection and sustainable development and have more influence in the social and economic spheres.

*Ham producers and processors.* As seen in Table 3, 30 companies are allowed to produce under the GI logo and 39 companies produce hams under the certification mark. It should be observed that the quantity of ham produced varies widely among the companies, from 200 to 15 000 units per year:

- 59 percent of companies produce between 1 000 and 2 000 pieces;
- 25 percent of companies produce between 3 000 and 5 500 pieces;
- only one company produces a total of 15 000 pieces.

Most companies have “limited liability” status.

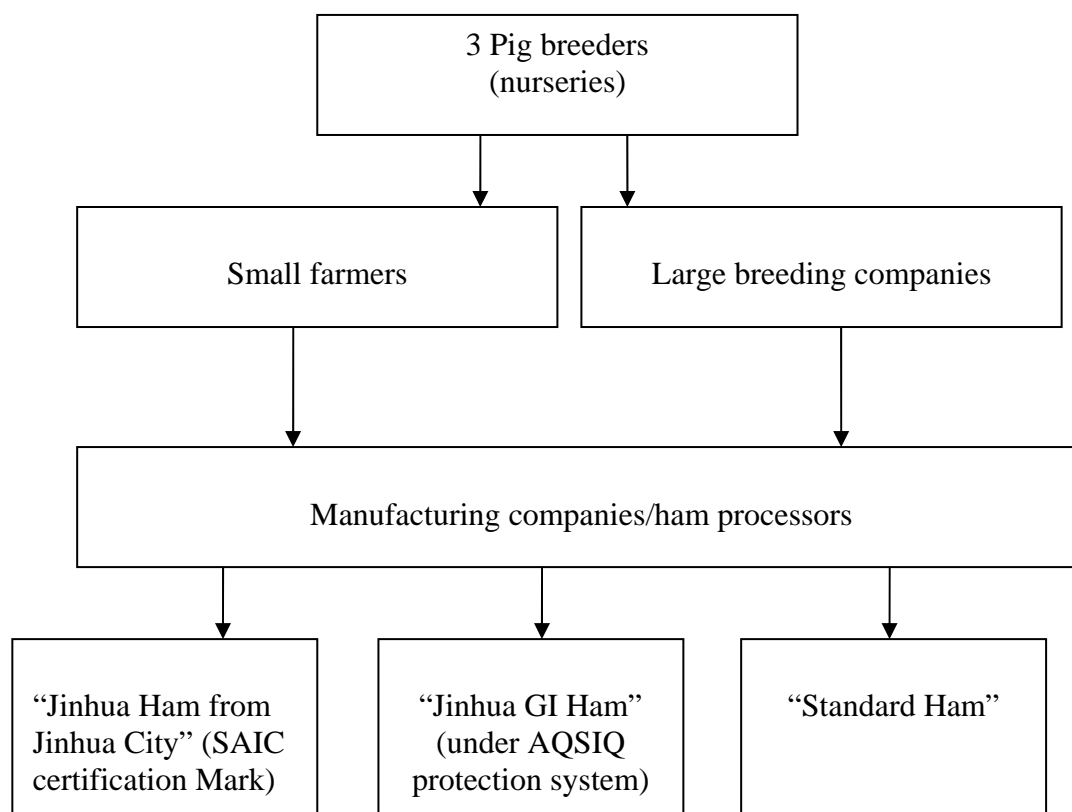
The main difference between the GI product (AQSIC) and the certification mark product (SAIC) is in the choice of raw material: the standards of the GI system require the use of Jinhua pigs as raw material, whereas the certification mark puts no constraint on the breed of pig. Many companies produce both Jinhua GI ham and certified Jinhua ham. When they have the appropriate raw material, they can make the type of product demanded by the market.

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<sup>19</sup> [http://www.zjahv.gov.cn/html/main/zw\\_jcxxView/8102.html](http://www.zjahv.gov.cn/html/main/zw_jcxxView/8102.html)

## Supply chain organization and external support at various stages

Figure 3. Simplified organization of the Jinhua ham supply chain



In 2007, three breeders/nurseries<sup>20</sup> were supplying piglets to the market. These three companies, formerly with public status, are now privately owned and are either independent or are financially dependent on processors. Some local and regional animal science institutes on the one hand collaborate with agricultural universities to improve the species by adjusting to market needs, and, on the other, help farmers to seek an outlet market. Moreover, in order to ensure the supply of raw material, agrifood companies have all agreed to be involved in a mutual benefit process.

Some farmers have signed contracts with large ham manufacturing companies to supply raw material (Jinhua pig legs), but this does not reflect the overall situation. In addition, it appears that some companies make oral contracts with farmers, and these cannot provide a full guarantee. In the 2007 survey, it appeared that some ham producers sign production contracts with independent farmers. As an example, a fairly competitive company has managed to make contracts with 4 900 farmers, thus ensuring itself a sufficient quantity of raw material. This is of course not the case for all producers of Jinhua ham, and one of the contractors told

<sup>20</sup> <http://www.jhxm.gov.cn>

us that small businesses cannot guarantee the quantity of production every year because of the unpredictable quantity of raw material. Small enterprises often do not have enough income to sign contracts or do not want to take the risk in a context of low market visibility. The system does not effectively manage the risk.

A collaboration committee organizes cooperation among the province government (Zhejiang), the local government (Jinhua), agricultural offices, universities and agrifood companies, and monitors the progress of work.

Processors have organized themselves into the Jinhua Ham Producers' Professional Association and assist in implementing new systems. The members of the association are, on the one hand, producers of Jinhua ham and, on the other, advisors from the main administrative offices, such as local AQSIQ, SAIC, MOA and public health offices with the task of explaining policies and regulations. The purpose of the association is to enable a greater participation of processors, so that they create alliances and keep in touch with the administration. Its main tasks are to establish norms for Jinhua ham, exchange technical information, promote products and organize quality competitions. Moreover, the association acts as a bridge between government and producers, transmitting complaints and opinions, and facilitating the implementation of regulations. It acts directly on the market by participating in control operations against counterfeiting and provides legal information to its members.

## Markets

**High consumer demand.** Meat consumption is increasing in China. Nutrition, hygiene and flavour are the main purchasing criteria of Chinese consumers. Salted products, such as marinated or smoked traditional foods, are enjoyed at the tables of Chinese consumers. Jinhua ham is one of the best known products, thanks to its taste, tradition and cultural history. During the Qing Dynasty, Jinhua ham was sold in Japanese markets and in other countries in south Asia. In 1915, Jinhua ham won the gold medal at the Panama International Exhibition in Panama. It symbolizes a cultural heritage for the Chinese and is also a regular traditional dish for local people. Since 2008, it has been registered and protected as a non-material heritage by the Chinese State.

Jinhua ham is more expensive than other types of ham, but there are some niche markets, and thanks to its excellent reputation, consumers are ready to pay for the higher quality.

**Current market.** The Manager of the Livestock and Veterinary Office at the Jinhua Academy of Agricultural Sciences believes that the Jinhua pig sector has a high economic value and that only a small part of its economic potential is currently being exploited.<sup>21</sup> Anticipation of market risks, environmental problems, business management methods, the role of the farmers' association etc. remain key issues that will influence development of the Jinhua livestock sector.

Jinhua ham is currently sold in Shanghai by a few large distributors and consumed by the city's inhabitants. Another part of production is transported to Guangzhou and the Pearl River Delta area. It is mainly served in large hotels; in other words, it is intended for restaurants.

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<sup>21</sup> [http://www.jhny.gov.cn/article\\_show.asp?articleid=904](http://www.jhny.gov.cn/article_show.asp?articleid=904)

Some companies have even installed commercial branches in Guangzhou. Some production is also exported to such other Asian countries as Japan, Singapore and Hong Kong, and Macao is a common destination. The main consumers in these countries are often members of the Chinese community.

Increasing numbers of companies are prompted to invest in this sector thanks to the support policy of the State and also for economic interests. Companies have developed new product lines based on Jinhua pig meat and created new ready-made meals to suit market trends. The products are mainly sold in large supermarkets. Demand is rising fast and companies are constantly finding new opportunities. Some companies have begun to focus on customers with a high purchasing power mainly living in large cities. They are opening outlets in Hangzhou, the capital of Zhejiang Province, dedicated to products made from Jinhua pigs. Some companies have installed commercial branches in Guangzhou and major coastal cities, where they have agreements with well-known restaurants and hotels.

## 5. Challenges

### Challenges for Jinhua ham

**Supply problems for Jinhua pig legs and related dangers to the specific quality of Jinhua ham.** During the period of a planned economy when production was confined to public enterprises, product quality was to some extent guaranteed. When the country started its economic reforms, the market was opened up to everyone: public companies, private companies and individuals. In some seasons, there are insufficient legs of Jinhua black two-ends pigs to meet the increasing demand. Moreover, the fact that the breeding cycle of Jinhua pigs is one third longer than that of other breeds has led many local farmers to abandon the less profitable breed.

As a consequence, ham processors have some difficulty in obtaining enough legs of Jinhua pigs. Some processors have reduced their production, but find it hard to defend themselves against strong competition from industrial processors. Other processors have chosen to purchase legs from other breeds of pig to produce Jinhua ham, and it is hard for consumers to distinguish the origin of the final product. However, when they do this, these processors fail to meet the main criterion concerning the raw material as defined in the GI technical specifications of AOSIQ. As a consequence, the quality of Jinhua ham is likely to suffer.

**Traditional processing.** In Europe, scientific research is systematically carried out to analyse the characteristics of hams and define standards. Manufacturing equipment is modern, with scientific instruments to ensure quality. However, most production in China is carried out manually (Xun *et al.*, 1993). Climate and processors' experience are key factors in processing. The disadvantages are that unpredictable climatic conditions and experience cannot guarantee the best quality, especially in terms of flavour.

**Food safety issues.** Problems concerning food safety are still major issues for which the government has not yet found solutions. Regulations regarding the use of additives and toxins in processed foods, the use of labels and the establishment of food quality standards are all issues that need more time for improvement.

There are several reasons for this situation: retailers take advantage of the fact that consumers do not have enough information on products and quality, producers are not fully aware of health risks, administrative offices lack the resources to regulate the market, or the cost of monitoring is too high. Although the State stresses human and financial resources to reform the market in order to combat unfair competition, it must find a way of organizing professional training regarding the implementation of policies, laws and regulations. However, the result is still largely inefficient. If the situation is analysed in greater depth, the main cause would appear to be that the institutional system is not yet complete. China has established several laws and regulations relating to food safety and product quality, but these rules still need to be harmonized and made operational.

### **General challenges**

Management of food quality systems concerns a dozen offices, which share responsibility for control procedures. In the health field, these include AQSIQ, SAIC, the Agricultural Bureau, the Customs Office, the Trade Office and the Office for the Supervision of Food and Medicine. The tasks assigned to one office are duplicated by another, so that in some cases management is covered by several bodies, while there are grey areas for which none is apparently responsible.

- One persistent problem in China is the inaccuracy of statistics and the lack of management of databases regarding the source of GI products.
- At all administrative levels, more emphasis needs to be placed on investigating GI products and establishing a system of database management, covering geographical extent, product characteristics, production quantities, market situation and revenue.
- Many origin-linked products have so far obtained GI registration, but most of them are located in still underdeveloped regions, lack scientific management and use obsolete production methods, resulting in a low and stagnating level of production. Local offices have little awareness of the value of the GI system.
- GIs are signs of quality, product origin and intellectual property. However, government offices, other agencies and producers have only a partial understanding of the subject (Feng *et al.*, 2007). Training sessions for stakeholders on GI product management should be promoted.
- As previously noted, many public institutions in China share responsibility for organization of the market. However, there is still a lack of communication, and the many lacunae often lead to problems with unreliable quality and counterfeiting.
- Consumers have lost confidence in the quality of GI products and do not necessarily trust the GI logo. According to the field survey we conducted, consumers do not know enough regarding the value of GIs, mainly because they are confused by the number of different quality signs (organic products, green products, safety, quality etc.). Before the consumer can become aware of product quality, confidence in the safety aspects needs to be built up through better information.

- The producers' organization has a very important role to play in GI management. Producers' associations in China depend on the technical support of administrative offices (in this case AQSIQ and SAIC), and the GI system often means that these bodies require new expertise. Capacity-building at both producer and administrative levels is thus an important challenge.

## **6. Impact analysis and recommendations**

### **Impact of the GI process on Jinhua ham**

The Chinese State has identified the development of specific products as a potential tool in rural development, and especially in improving farmers' incomes in sensitive rural areas.

Promotion and protection of the particular characteristics of GI products through intellectual property rights allow differentiation and thus give the product added value on the market. This system is one important way for the Chinese State to assist the economic development of rural areas.

In the case of Jinhua ham, the supply chain is composed of various stakeholders: breeders, small and large-scale farmers, and ham-processing companies. The model was structured and supported by the national and local governments. The main production companies play a pilot role, carrying small farmers with them to capture the market, thus facing the competition together and sharing interests and risks.

The economic impact (price, market, suppression of infringements and income improvement) of the GI protection of Jinhua ham on farmers and processors is still to be assessed. Nevertheless, the establishment of GIs through the various institutional systems has improved value chain organization and encouraged a collective approach to management of a collective asset, reputation and code of practice.

On the other hand, application of the GI system for Jinhua ham is also a means of protecting biodiversity. In 2000, MOA identified the black two-ends or Jinhua pig as a specific breed for protection. This is now a mandatory item in Jinhua ham GI specifications.

### **Recommendations**

Various recommendations can be made with a view to meeting the main challenges.

#### ***General recommendations***

GIs have the potential to be a useful tool for the Chinese authorities in implementing a policy of rural development and increasing the income of rural inhabitants. Various types of protection for GIs exist in many countries. Looking at the situation in China, the questions are to work out which protection system would be best for each situation and how to reconcile the various legislative means made available by the different models in order to avoid overlapping and conflict.

It is not essentially a problem that there are two GI protection systems in China. Both systems are considering GIs a common heritage, but each administration has its own prerogatives, SAIC being dedicated to market regulation and AQSIQ focusing on food quality and safety.

The various rules established by the agencies (SAIC, AQSIQ) are now well developed after several years of refinement, but collaboration between them needs to be improved in order to clarify and facilitate the registration process for producers and provide consumers with clear identification signs.

The government's priority should be to harmonize relations and cooperation among all the institutions in order to avoid conflict and the waste of resources and improve the effectiveness of intellectual property protection.

GI products represent thousands of years of culture and tradition for the Chinese population. Their special characteristics give them a strong potential for competing on the market, although most of the products lack sufficient added value. Moreover, the market in China is vast and is influenced by the image of brands that are synonymous with quality for Chinese consumers. It is therefore necessary to strengthen the image of the GI logo, while noting the special characteristics of GI products, such as local expertise, and promoting the concept of terroir.

### ***Recommendations regarding the Jinhua ham GI***

Management of Jinhua ham production should not be left to the sole responsibility of SAIC and AQSIQ offices. Producers' associations should be more involved in all aspects of management (application for GI protection, market analysis, marketing and sales strategies, accounting, statistics etc.), while remaining independent of public offices.

The farming community is also an important stakeholder in this system, and its participation and role in implementing the system should be further encouraged, so that it can better protect its interests. This applies especially to small farmers, who have less influence and negotiating power. There is major potential for improvement in the role of producers' (breeders' and processors') associations to ensure the protection of all stakeholders' interests and develop market opportunities.

Environmental protection is a key factor in sustainable development. In the case of Jinhua ham, this point still appears to be somewhat neglected. The use of systems to process garbage and livestock waste should be included in the code of practice (AQSIQ), which currently focuses mainly on technical norms and the scientific aspects of ham production. Environmental factors could be taken into greater account.

A collective approach should be supported in order to share views on the outlook for Jinhua ham production among the various certification schemes, so that the various associations can work in the same direction.

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China-Africa Business Council: [www.cabc.org.cn](http://www.cabc.org.cn)

China Trademark Office: [www.ctmo.gov.cn](http://www.ctmo.gov.cn)

Food and Agriculture Organization of the United Nations: [www.fao.org](http://www.fao.org)

National Bureau of Statistics of China: [www.stats.gov.cn](http://www.stats.gov.cn)

People's Government of Zhejiang Province: [www.zjagri.gov.cn](http://www.zjagri.gov.cn)

SINER-GI: [www.origin-food.org](http://www.origin-food.org)

State Administration for Industry and Commerce: [www.saic.gov.cn](http://www.saic.gov.cn)

Canadian Trade Commissioner Service: [www.infoexport.gc.ca](http://www.infoexport.gc.ca)

## Annexes

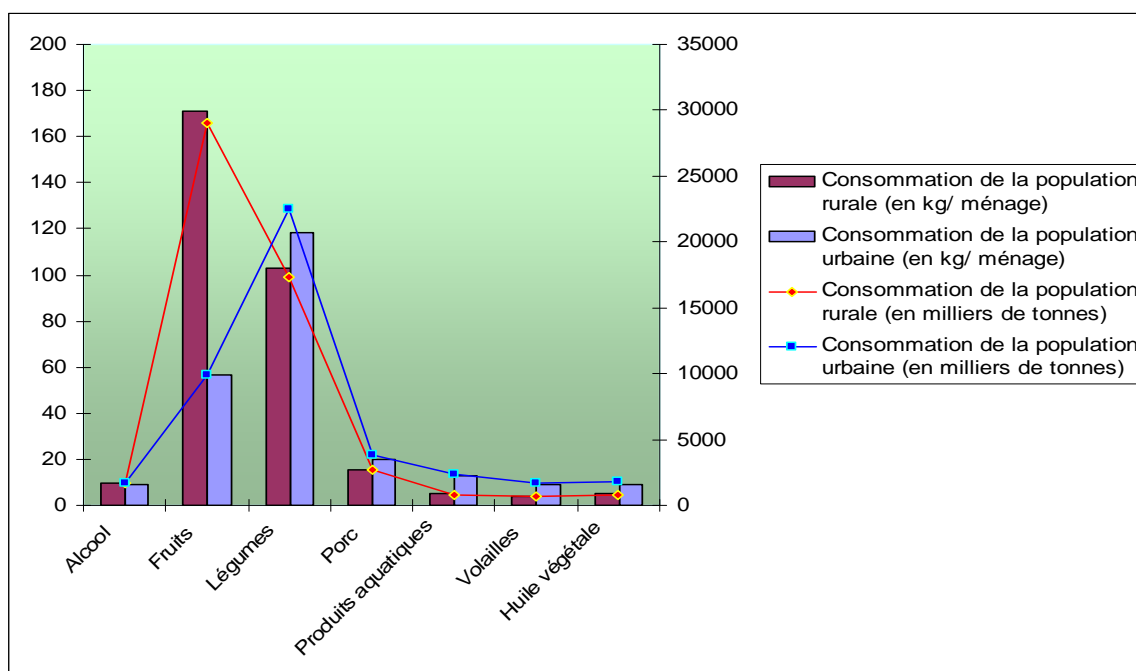
### Annex 1: Treaties and conventions related to the Intellectual properties

(Reference: *Protection of intellectual property rights* <http://www.cabc.org.cn>)

- In 1980, China became a member of the World Intellectual Property Organization.
- In 1985, China became a member of the Paris Convention for the Protection of Industrial Property. China was one of the first countries that signed the Treaty on Intellectual Property in Respect of Integrated Circuits, the negotiation of which was concluded in 1989.
- In 1989, China became a member of the Madrid Agreement Concerning the International Registration of Marks
- In 1992, China became a member of the Berne Convention for the Protection of Literary and Artistic Works. In 1993, China became a member of the Convention for the Protection of Producers of Phonograms against Unauthorized Duplication of Their Phonograms.
- In 1994, China became a member of the Patent Cooperation Treaty and a member of the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks.
- In 1995, China became a member of the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure and applied for membership in the Protocols of the Madrid Agreement Concerning the International Registration of Marks. In 1996, China became a member of the Locarno Agreement on Establishing an International Classification for Industrial Designs.

### Annex 2: Comparison table of food consumption between urban and rural population

(Reference: *The weight of China, 2007, Embassy of France in China*)



### Annex 3: Application procedures for GI product at the AQSIQ

(Reference: table after AQSIQ data)

**First step:** To initiate the request for the protection, an office or a special organization is assigned by the government at the district level to handle all the administrative procedure

- Some experts in the organization will review the request and delineate the production zone. Local government (at the district level or above) will make a proposal (official document) on the definition of production area.
- The local government will then make a supplication to the protection, including:
  - The characteristics of product quality and links as well as the links with the natural factors and human factors.
  - The definition of the specifications, the origin and historical context, provide the most complete possible dataset on production, sales

**Second step:** All applications forms and correlation documents will be provided by AQSIQ at the central level. After consideration by the AQSIQ, the case must be published and undergoes public inquiry for at least 2 months

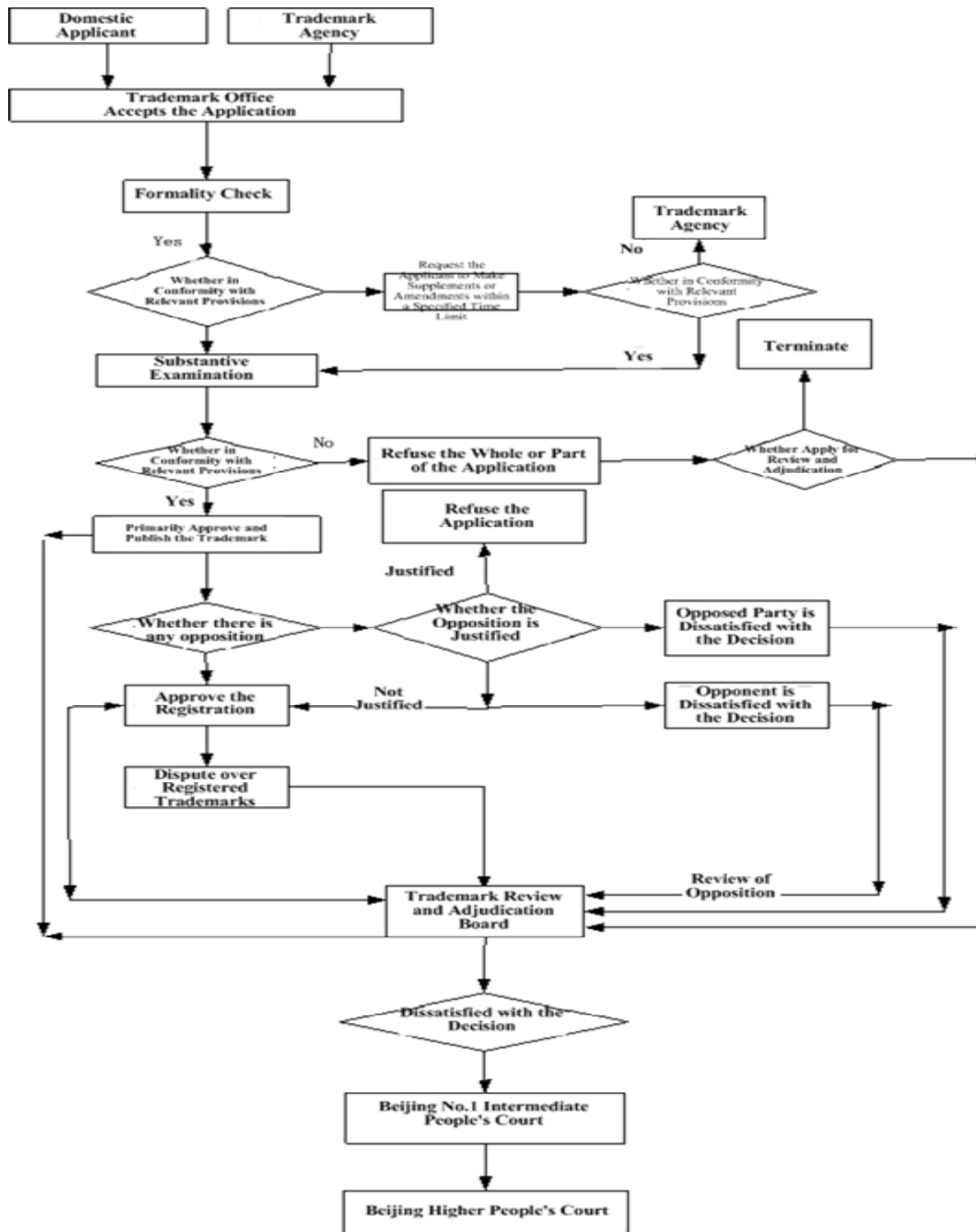
**Third step:** If nobody has explained an opposite opinion during this period of 2 months of publication. AQSIQ agency will organize a technical review meeting with the experts. The applicant must present the case and answer some questions from the experts, then the team of experts will give a notice of the review.

**Fourth step:** The AQSIQ will issue the declaration of acceptance, from the same day; the protection of this IG product will be valid.

**Annex 4 : The application procedure for registration of a mark at SAIC**

(Reference:

[www.ctmo.gov.cn](http://www.ctmo.gov.cn))



## **Annex 5 : Methodology for data collection and analysis**

This study is based on my ongoing thesis "The Application of the Geographical Indication System in China under the institutional context, the cases of the Jinhua ham, the Longjing tea and the Shaoxing yellow wine." and my participation to the "SINER-GI<sup>22</sup> project" (2005-2008).

A field survey has been conducted for three weeks in May 2007 as part of the SINER-GI project in Beijing and the Hangzhou County, Zhejiang Province. During this trip, we had the opportunity to meet some officials from the Ministry of Agriculture, AQSIQ (at national and local level) and SAIC offices and to realize some visits and interviews in the farms and the processing units.

The data and information that have been collected in the field were later deeply analyzed and complemented with more data extracted from administrative databases managed by the MOA, AQSIQ and SAIC. Our analysis is available in the final version of the SINER-GI project report.

Some data are somewhat dated and I also experienced some difficulties to collect reliable information because the databases are not always up to date or are not so rigorous to collecting relevant data. It has been difficult from France to access to the documentation and communicate with the local actors. A good example is illustrated by the lack of information in regards to the quantity of raw material that farmers are able to provide to the producers.

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<sup>22</sup> [www.origin-food.org](http://www.origin-food.org)