China's Food Standardization System, Its Reform and Remaining Challenges

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The article examines China's food standardization system, its reform and remaining challenges. Upon examining China's general standardization system, the article argues that the food standardization institutional framework has originated from the general standardization, which has developed a four-level hierarchy mechanism. It further examines the most salient features of China's food standardization system, namely, top-down hierarchy and intensive government involvement, and suggests that these features caused a regulatory failure. Although China recently reformed this field, and the food safety standard hierarchy has been streamlined, challenges remain. The article reviews China's current reform in the food standardization system by providing a description, analysis and comparison of approaches from Europe and China.

I. Introduction

A series of recent food scandals[1] in China revealed that Chinese food standardization is a serious issue.[2] The old system of food standardization based on a four-level hierarchy and regulation of multiple institutions negatively impacted the food industry.[3] In hindsight, these scandals could have been prevented had the system developed relevant food standards in advance and rigorously enforced them. Following these regulatory failures, the Chinese food standardization system faced a turning point – the enactment of the Food Safety Law in 2009[4] – which introduced reform that, among other things, clearly aspired to produce a rational set of uniform food standards.[5] This article analyzes China's food standardization system prior to and in the aftermath of the Food Safety Law, and further examines the remaining challenges.

II. General standardization system

The diverse terminology used within different contexts and separate disciplines occasionally causes problems. Indeed, as a World Trade Organization (hereinafter referred to as WTO) report noted, lawyers and economists sometimes employ similar terms to describe distinct concepts, while at other times they apply different terms to convey similar

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1 For some typical scandals, see Peter Foster, "Top 10 Chinese Food Scandals", The Telegraph, 27 April 2011, available on the Internet at: < www.telegraph.co.uk/news/worldnews/asia/china/8476080/Top-10-Chinese-Food-Scandals.html > (last accessed on 31 October 2012). See also "Food Safety in China", The New York Times, 2012, available on the Internet at: <topics.nytimes.com/topics/news/international/countriesandterritories/china/food-safety/index.html> (last accessed on 31 October 2012).

2 Mingsheng Gao, "Can Food Safety Standards Be Made to Accommodate Various Interests? (Shipin Anquan Biaozhun Keyi Bei Xietiao Ma?)", China Youth Daily, 30 November 2011, at p. 02.

3 Duanduan Yuan and Haining He, "China's Food Safety Standards Are "Getting Old" (Zhongguo Shipin Anquan Biaozhun Laole)", Nanfang Weekly, 5 May 2011.

4 Food Safety Law of People's Repulic of China, announced by the National People's Congress Standing Committee, promulgated on 28 Feburary 2009.

5 Food standards provide benchmarks, which food enforcement authorities can use as the basis for conducting food regulation activities. For food industries, food standards are the starting point for food safety compliance. See *Ibid*, Arts. 18–26.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

meanings.[6] So, to embark on any further analysis of a certain topic, one must define the essential terms.

Chinese food standardization originates from the general standardization system. In order to understand how Chinese food standards develop, one must grasp the general standardization system in China.[7]

1. Definition for standards

Governments create standards for the benefit of both consumers and industries. For instance, product standards provide interchangeability, which benefit consumers because standardized manufacturing makes products cheaper.[8] However, standards that are not easy to define create problems on their own.

The International Organization for Standardization (hereinafter referred to as ISO) refers to its standard as "a normative document, developed according to consensus procedures, which has been approved by the ISO membership and P-members of the responsible committee...."[9] Hence, the ISO regime formulates standards in certain agreed formats in order to set unified norms. The ISO/IEC Guide 2 of the 6th edition elaborates on the definition of the standard, which is incorporated into the WTO regime.[10] The Agreement on Technical Barriers to Trade (hereinafter referred to as TBT Agreement) defines the standard as a voluntary "document approved by a recognized body, that provides for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods."[11] The mandatory counterpart of the WTO standard is regarded as a technical regulation.[12] As far as foods are concerned, the above demarcation between technical regulations and standards, observed in the Agreement on the Application of Sanitary and Phytosanitary Measures (hereinafter referred to as SPS Agreement), does not define food standards but instead presents a list of international organizations, which develop international food benchmarks.[13]

The definition of standards provided in various WTO Agreements yields a good framework to understand the nature and usage of standards. However, those do not necessarily reflect the Chinese standardization system.

In 2002, China laid down a voluntary standard to define standard and standardization.[14] A standard refers to a result reached through a consensus process that is approved by recognized bodies for the purpose of common and repeated use.[15] Standardization means the activities conducted to develop and implement standards.[16]

Clearly, a norm, regardless of whether or not it is voluntary, is a standard because it is created for the purpose of common and repeated use, to provide rules, guidelines or characteristics for products or related processes and production methods. In order to avoid confusion,, the term, standard, refers to the Chinese domestic law domain, unless expressed

6 World Trade Organization, *World Trade Report 2012: Trade and Public Policies: A Closer Look at Non-tariff Measures in the 21st Century*, (Geneva: World Trade Organization 2012), at p. 38.

7 The Standardization Law of the People's Republic of China introduced in 1988 lays down the blueprint for China's general standardization. This law covers the technical standardization of almost all kinds of industries including the food sector. See Standardization Law of the People's Republic of China, announced by the National People's Congress Standing Committee, promulgated on 29 December 1988.

8 J Farrell and G Saloner, "Standardization, Compatibility, and Innovation", *The Rand Journal of Economics* (1985), pp. 70 *et sqq.*, at pp. 70–80.

9 International Organization for Standardization,"ISO Standard", available on the internet at: <www.iso.org/iso/standards_development/processes_and_procedures/deliverables/iso_standard_deliverable.htm> (last accessed on 31 October 2012).

10 "IEC" is the abbreviation for the International Electrotechnical Commission, and please note hereinafter the same abbreviation will be used to illustrate that organization unless expressed otherwise. See International Organization for Standardization, *ISO/IEC Guide 2* 6th ed. (Geneva: International Organization for Standardization 1991). It is noted, however, the 8th edition of the ISO/IEC Guide 2, which is the most updated edition to date. See International Organization for Standardization, *ISO/IEC Guide 2* 8th ed. (Geneva: International Organization for Standardization 2004).

11 Marrakesh Agreement Establishing the World Trade Organization, Marrakesh, 15 April 1994, in force 1 January 1995, Annex 1A ("Agreement on Technical Barriers to Trade").

12 According to the Appellate Body, a technical regulation must be a document specifying product characteristics "in a binding or compulsory fashion" and "be applicable to an identifiable product, or group of products". See *European Communities – Measures Affecting Asbestos and Asbestos-containing Products*, Report of Appellate Body, WTO Doc. WT/DS135/AB/R, 12 March 2001, at pp. 26–27.

13 Terminology used in the SPS Agreement is compatible with that in the TBT Agreement. Sanitary or phytosanitary regulations are interchangeable with sanitary or phytosanitary measures referring to those rules, which are 'applicable generally' whereas international standards are "developed by the relevant international organizations, including the Codex Alimentarius Commission, the International Office of Epizootics, and the relevant international and regional organizations operating within the framework of the International Plant Protection Convention, without requiring Members to change their appropriate level of protection of human, animal or plant life or health". That generally means WTO members have certain autonomy in terms of compliance with international standards. See Marrakesh Agreement, *supra* note 11, Annex 1A ("Agreement on Sanitary and Phytosanitary Measures").

14 Guide for Standardization – Part 1: Standardization and Related Activities – General Vocabulary (GB/T 20000.1–2002), announced by the AQSIQ, promulgated on 20 June 2002.

15 *Ibid*, Art. 2.3.2.

16 *Ibid*, Art. 2.1.1.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

otherwise. Thus, for the purpose of this research, a standard is a document approved by institutions that provides, for common and repeated use, any rules, guidelines or characteristics for products or related processes and production methods, with which compliance is either mandatory or voluntary. Standardization then covers the processes of developing and implementing mandatory and voluntary standards.[17]

2. Institutional structure of general standardization

The Chinese standardization system has a hierarchy of four levels of standards formulated by various national and local institutions and business entities. They are in descending order:[18]

- National Standards;
- Professional Standards;
- Local Standards; and
- Enterprise Standards.

For any given product or service, only one level of the above Chinese standards shall apply. Normally, the higher-level standards supersede the lower ones. Nevertheless, if the Enterprise Standards were stricter than the other standards levels, with the aim to better promote good quality, the Enterprise Standards would be recommended, even though they hold the lowest position.[19] The Chinese standards hierarchy can be presented as in Figure 1:



Figure 1: Hierarchical Pyramid of the Chinese Standards

The National Standards consistently apply across Mainland China, and are administered by a relevant standardization administration under the State Council.[20] At the time of writing, the General Administration of Quality Supervision, Inspection and Quarantine (hereinafter referred to as AQSIQ) and the Standardization Administration of the People's Republic of China (hereinafter referred to as SAC) affiliated thereto, assume this responsibility.[21] The "GB" – the short name for the National Standards – establish the benchmarks to unify products' safety and quality throughout the country.[22]

The government formulates Professional Standards for various industry sectors throughout China. They are commonly referred to as Industry Standards or Sector Standards, and are the responsibility of various Chinese sectorial ministries.[23] These standards are developed and applied when relevant National Standards do not exist and there is a need to regulate a specific industry sector. The Professional Standards are established through a piecemeal approach, whereby different ministries responsible for particular industries develop relevant standards.[24] Such standards bear industry-specific codes, and the appropriate ministries organize and supervise them accordingly. For instance, the Ministry of Environmental Protection (hereinafter referred to as MEP) creates Professional Standards for environmental

17 The author understands that though the approach to defining the standard is based on China's domestic laws, there is no substantial negative impact upon China's actual compliance with its WTO obligation, given the fact that Chinese standards, which are marked as mandatory, are treated as technical regulations within the scope of the WTO terminology. A WTO report stated that a standard was defined as non-mandatory in the WTO regime, but economists understood it as either mandatory or voluntary. Actually, instead of strictly following WTO legal terminology, the WTO Secretariat in its annual World Trade Report 2005 adopted an economic definition for the standard, which was considered either mandatory or voluntary. Hence, it is acceptable that standards are defined as including both mandatory and voluntary norms as long as they are consistently applied in legal practice in a given circumstance. The author adopts the approach similar to the WTO Secretariat's for the convenience of discussion. Also, the article is written to attract the attention of Chinese law scholars and policy makers at large. Hence, strictly sticking to Chinese legal terminology can produce coherence and consistency in analysing issues related to China. See World Trade Organization, *World Trade Report 2005: Exploring the Links between Trade, Standards and the WTO*, (Geneva: World Trade Organization 2005), at pp. 33–4. See also World Trade Organization, *World Trade Report 2012*, *supra* note 6, at p. 38.

18 Standardization Law, *supra* note 7, Art. 6.

19 *Ibid*.

20 *Ibid*, Art. 6.

21 The former serves as an umbrella ministry for quality and standard supervision, while the latter conducts day-to-day standardization administration. For information about the two government bodies, please visit respectively, <www.aqsiq.gov.cn> and <www.sac.gov.cn> (last accessed on 8 November 2012).

22 Implementing Regulation of Standardization Law of the People's Republic of China, announced by State Council, promulgated on 6 April 1990, Art. 11.

23 *Ibid*, Art. 13.

24 *Ibid*, Art. 14.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

protection because it is a principal agency to tackle environment issues. Table 1 presents a non-exhaustive list of Professional Standards.[25]

Code	Content	Competent Ministries
HJ	Environmental Protection	MEP
HS	Customs	General Administration of Customs
HG	Chemical Industry	National Development and Reform Commission (hereinafter referred to NDRC)
HY	Ocean	State Oceanic Administration
NY	General Agriculture	Ministry of Agriculture (hereinafter referred to MoA)
QB	Light Industry	NDRC
SN	Commodity inspection	AQSIQ
SC	Aquatic Product	MoA
SH	Petrol chemical Industry	Ministry of Industry and Information Technology
WB	Goods	NDRC

Table 1: Non-exhaustive List of Professional Standards

Local Standards are often developed by the relevant departments of provincial governments and hence are referred to as "Provincial Standards." They apply within the provincial area in cases where neither National Standards nor Professional Standards exist, but where uniform requirements for the purpose of ensuring safety and hygiene of industrial products are needed.[26] The relevant standardization administration under the local governments administers the Local Standards, otherwise known as "DB."[27] The provincial and municipal counterparts of the AQSIQ normally assume these responsibilities.[28] Where there is a lack of National, Professional and/or Local Standards for a certain product, individual companies may implement Enterprise or "O" Standards.[29]

National, Professional and Local Standards can be either mandatory or voluntary.[30] Voluntary standards may be identified by their prefix code "/T" For example, "GB/T", "SC/T" and "LB/T" represent voluntary National Standards, voluntary Professional Standards and voluntary Local Standards respectively.[31]

National Standardization Guiding Technical Documents provide a guide for industries and researchers involving rapidly evolving technologies.[32] The code, "GB/Z", may identify any one of these documents.[33] Two methods guide the development of National Standardization Guiding Technical Documents: [34]

- Some standard proposals target the research and development stage, but can also provide a guide to certain products or may in the future evolve into effective standards, but do not fit the current need[35]; or
- Proposals are created by the adoption of reports from the ISO, IEC and similar institutions.

For those standards other than National Standards, the standard-setting organizers have to file an application with the relevant higher authorities upon promulgation. For instance, in order to create the proper record for new Professional Standards, the

25 See Management Methods for Professional Standards, announced by the National Technical Supervision Bureau, promulgated on 14 August 1990, Art. 16. For a general discussion of China's Professional Standardization, see C Zhao and J M Graham, "The PRC's Evolving Standards System: Institutions and Strategy", 2, *Asia Policy* (2006), pp. 63 *et sqq*. See also Pinghui Xiao, "A comparative Study of Sino-Australian Food Safety Regulation (Zhongao Shipin Anquan Zhengfu Jiangguan Bijao Yanjiu)", (Master of Managament Thesis on file at Shantou University, 2008), Table 4–2.

26 Implementing Regulation of Standardization Law, *supra* note 22, Art. 15.

27 *Ibid*, Art. 16.

28 For instance, in Guangdong Province, it is the Administration of Quality and Technology Supervision of Guangdong Province that formulates relevant Local Standards, which are applied within the Province. This Administration is the provincial counterpart of the AQSIQ.

29 Implementing Regulation of Standardization Law, *supra* note 22, Art. 17; Management Methods for Enterprise Standards, announced by the National Technical Supervision Bureau, promulgated on 24 August 1990, Art. 12.

30 See e.g., Standardization Law, *supra* note 7, Arts. 3 and 7; Management Methods for Local Standardization, announced by the National Technical Supervision Bureau, promulgated on 6 September 1990.

31 See e.g., Management Methods for National Standards, *supra* note 21, Art. 4; Management Methods for Professional Standards, announced by the National Technical Bureau, promulgated on 24 August 1990, Art. 4; Management Methods for Professional Standards, *supra* note 25, Art. 16; Management Methods for Local Standardization, *supra* note 30, Art. 10.

32 Management Methods for National Standardization Guiding Technical Documents, announced by the National Quality & Technical Supervision Bureau, promulgated on 24 December 1998, Art. 2.

33 *Ibid*, Art. 6.

34 *Ibid*, Art. 3.

35 For instance, a certain technology might be so advanced that China is not able to apply it to the whole industry nationally at the time of raising the technology standard proposal.

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organization must apply to the relevant standardization administration under the State Council within 30 days of promulgation.[36] Similar record mechanisms pertain to the Enterprise Standards as well.[37]

III. Food standardization: The structure and reform

The main features of China's general standardization include a top-down hierarchical approach to regulation and heavy government intervention. China did not give special treatment to food standardization, and, even in the passage of the Food Safety Law, food standardization inherited most characteristics of the general standardization.

This approach failed. The complicated system resulted in inconsistencies which produced two negative effects, namely, industry inefficiency and increasing political pressure resulting from public unease. These effects consequently undermined public confidence in the government.

1. Food standardization prior to Food Safety Law

Prior to the Food Safety Law, China's food standardization system suffered from institutional complications. Within the central government, for instance, at least ten ministries played some role.[38] China's hierarchical food standardization system made it possible for a large number of institutions to meddle with food standard setting.

a. The hierarchy of food standardization system

Prior to the Food Safety Law's enactment in 2009, China established a comprehensive albeit complicated system for its food standardization, applying the four levels of Chinese standards to the food industry as well. Sitting atop the food standardization system, the SAC exercised central administrative functions, especially for National Standards, and, where disputes associated with food standards arose, it served as the main coordinator. The SAC assigned the responsibility for setting Professional Standards to the relevant ministries of the State Council for individual food sectors. For instance, the MoA set Professional Standards related to general agriculture, codified as "NY," and aquatic products, codified as "SC," and the NDRC had the final word on those Professional Standards for food associated with the light industry, which were codified as "QB."[39]

The administrative bureaus from various provinces, autonomous regions and municipalities endeavored to standardize their respective administrative regions mainly for the purpose of Local Standards designed for foodstuffs. Food companies, in certain cases, formulated their own Enterprise Standards.

In summary, Figure 2 illustrates China's food standardization institutional structure:[40]

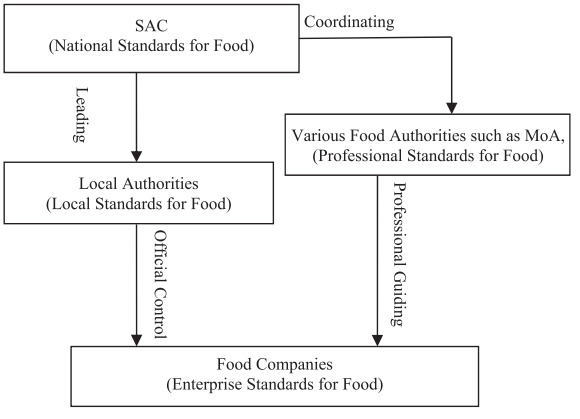


Figure 2: Food Standardization Institutional Structure

Likewise, the four-level hierarchy shaped food standardization in a similar manner as the general standardization in China. So, vertically speaking, Chinese food standards were divided into four categories in descending hierarchical order: National Standards for food, Professional Standards for food, Local Standards for food and Enterprise Standards for food.

36 Management Methods for Professional Standards, *supra* note 25, Art. 11; Management Methods for Local Standardization *supra* note 30, Art. 7.

37 Management Methods for Enterprise Standards, *supra* note 29, Art. 14.

38 Lei Zhao, "Food Safety Standardization in China" (Paper presented at the Regional Workshop on the Trade and Environment Dimensions in the Food and Food Processing Industries in Asia and the Pacific Bangkok, Thailand 2006) , available on the Internet at < www.unescap.org/esd/environment/cap/meeting/regional/documents/Session_05_2.pdf > (last assessed on 31 October 2012).

39 See Management Methods for Professional Standards, *supra* note 25, Art. 16. See also Xiao, "A Comparative Study of Sino-Australian Food Safety Regulation", *supra* note 25, at p. 42.

40 Xiao, "A Comparative Study of Sino-Australian Food Safety Regulation", *supra* note 25, Figure 4–1.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

b. Food standardization institutional structure

The government promulgated National Standards for food to establish uniform benchmarks across China. For those food products that lacked National Standards and were requested to unify their technical requirements, Professional Standards for food would fill the national void. Both National and Professional Standards for food applied nationwide.

For food products that lacked National and Professional Standards and were requested to set locally specific technical requirements, Local Standards for food would be formulated. For food products without National, Professional or Local Standards, businesses created their own Enterprise Standards, which sometimes exceeded the existing standards.

Like the general standardization, horizontally speaking, Chinese food standards were grouped into two categories, namely, compulsory standards for food and recommendatory standards for food, depending on their enforceability. Moreover, the National Standardization Guiding Technical Documents addressed cases of rapidly evolving food technology.

Table 2 outlines the categorization and codification of Chinese food standardization:[41]

National Standards for Food		
Codes	**Content**	**Competent Formulating Bodies**
GB	Compulsory National Standards	SAC
GB/T	Recommendatory National Standards	SAC
GB/Z	National Standardization Guiding Technical Documents	SAC
Professional Standards for Food (Non-exhaustive)		
NY	Compulsory General Agriculture Standards	MoA
NY/T	Recommendatory General Agriculture Standards	MoA
HJ	Compulsory Environmental Protection Standards	MEP
HJ/T	Recommendatory Environmental Protection Standards	MEP
SC	Compulsory Aquatic Product Standards	MoA
SC/T	Recommendatory Aquatic Product Standards	MoA
WM	Compulsory Foreign Trade Standards	MoA
WM/T	Recommendatory Foreign Trade Standards	MoA
WS	Compulsory Hygiene Standards	Ministry of Health (hereinafter referred to as MoH)
WS/T	Recommendatory Hygiene standards	MoH
Local Standards for Food		
DB	Compulsory Local Standards	Relevant Provincial-level Departments
DB /T	Recommendatory Local Standards	Relevant Provincial-level Departments
Enterprise Standards for Food		
Q	Compulsory Enterprise Standards for Food	Food Companies

Table 2: Categorization and Codification of Chinese Food Standardization

c. Regulatory failure

The system that existed prior to the Food Safety Law had its own problems, since so many different government departments participated in formulating all the above-mentioned food standards, resulting in debilitating fragmentation.[42] As far as compliance, both food producers and consumers struggled to come to terms with the multilayered

41 See in particular Zhao and Graham, "The PRC's Evolving Standards System: Institutions and Strategy", *supra* note 25, at pp. 84–87. See also Shantou University Food Safety Research Committee, *Reports of Food Safety Project Prepared by Law School, Shantou University (Shantou Daxue Faxueyuan Shipin Anquan Keti Zong Baogao)* (Shantou: Shantou University, 2006), at p. 18. See further Xiao, "A Comparative Study of Sino-Australian Food Safety Regulation", *supra* note 25, at p. 42.

42 W Tam and D Yang, "Food Safety and the Development of Regulatory Institutions in China", 29, *Asian Perspective – Seoul* (2005), pp. 5 *et sqq*.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

and overlapping regulations.[43] This was particularly the case for Professional Standards for food. It was not uncommon that several Professional Standards designed for the same kind of food co-existed. Those Professional Standards often conflicted with each other since the departments that formulated them operated independent of one another and behind closed doors. [44]

Having multiple regulatory standards created incoherence, and it produced practical and institutional barriers to maintaining up-to-date standards. In 2004, it was reported that 24.5 tons of daylilies were seized for further inspection by the Health Department in Shenyang, Capital of Liaoning Province.[45] However, the authority struggled to identify the right food standard to justify further action because at least four ministries had formulated four different relevant standards. The challenge increased when the relevant standards conflicted with each other. For example, according to the GB2760–1996 Hygienic Standards for Uses of Food Additives,[46] jointly issued by MoH and SAC, daylilies with a sulphur dioxide content of less than 0.05 g/kg were acceptable while the MoA, in its NY5184–2002 Pollution Free Food Daylily,[47] set the maximum residue limit for sulphur dioxide at 0.1 g/kg.[48]

Because of a lack of reliable authoritative standards applied to daylilies, the relevant authority adopted 0.035 g/kg as the limit for sulphur dioxide. As a result, thousands of tons of daylily products registered positive test results that exceeded the legal limit, thus preventing them from entering the marketplace, which had serious implications for the daylily farming and relevant industries.[49] Among the most affected were the daily producing areas in Qidong County of Hunan Province. At the time, 76 thousand daylily businesses across the county employed 350 thousand peasants. On average, each farmer earned 3800 RMB (around US$ 585) per year from daylily farming in 2004, whereas the annual per capita income of Hunan Province's agricultural households stood at 2837.76 RMB (around US$ 436).[50] Farmers and their representatives argued against the authorities' actions. The conflicting standards then resulted in a dispute between industry and relevant government bodies, which soon escalated into a political crisis. Mr. Li, Member of the National People's Congress, subsequently filed an application with the State Council for intervention in the matter.

The Central Government realized that the conflicting standards for daylily posed nothing but an opportunity for endless debate that, if not settled properly, could lead to unrest among the farmers. Six ministries jointly issued an urgent announcement, which brought a resolution to the conflicting food standards by establishing a unified provision stipulating that daylily with a sulphur dioxide content of less than 0.2 g/kg could lawfully be sold on the market. The new provision requested that the local authorities in the affected areas follow the new requirement for inspection and testing.[51]

2. Institutional reform in the aftermath of the Food Safety Law

In 2004, the SAC, together with five other ministries and industry associations laid down the Plan

43 Xingwen Li, Yi Wang and Jing Wu, "Food Standards are in Conflict with Each Other and Who Will the Public Trust in? (Shipin Biaozhun Dajia Xiaofeizhe Xin Shui?)", 15 March 2007, available on the Internet at <www.sd.xinhuanet.com/qlys05/2007–03/15/content_9518409.htm> (last accessed on 31 October 2012).

44 Yuan and He, "China's Food Safety Standards Are 'Getting Old'", *supra* note 3.

45 Some species of the daylilies are edible and are quite popular in Chinese cuisine. They are quite often sold as dried yellow-flower-like ingredients in China's market so Chinese people literally call them Yellow Flower Vegetables. They are quite often used to make soup. See e.g., C Y Tai and B H Chen, "Analysis and Stability of Carotenoids in the Flowers of Daylily (Hemerocallis Disticha) as Affected by Various Treatments", 48, *Journal of agricultural and food chemistry* (2000), pp. 5962 *et sqq*.; Maorun Fu and Linchun Mao, "Research Development of Daylilies: Its Health and Nutritional Benefits (Huanghuacai De Baojian Gongxiao Ji Huaxue Chengfen Yanjiu Jinzhan)", 32, *Food and Fermentation Industry* (2007), pp. 108 *et sqq*.

46 Hygienic Standards for Uses of Food Additives (GB2760–1996), announced by the MoH and the Standardization Administration of China, promulgated in December 1996.

47 Pollution Free Food Daylily (NY5186–2002), announced by the MoA, promulgated on 25 July 2002.

48 Zhe Tang, "New Standards Are Established for Daylily Products (Xinbiaozhun Jiedu Huanghuacai)", 10/2004, *China Quality Report* (2004), pp. 36 *et sqq*.

49 Shaolong Liu and Yiping Hang, "Daily Suspected to Be Poisonous Has Been Cleared (Youdu Huanghuacai Shiji Wudu)", Xiaoxiang Daily, 12 August 2004, at p. A5.

50 Hunan Statistics Bureau,"The Year of 2004 Saw an Increase of 305 RMB in Terms of Per Capita Income of Rural Households (2004 Nian Hunan Nongmin Renjun Chunshouru Zengjia 305 Yuan)", available on the internet at: < www.hntj.gov.cn/fxbg/2005fxbg/2005tjxx/200502040010.htm> (last accessed on 31 October 2012).

51 Xiuwei Song, "Further Strengthening the Daylily Farming (Jinyibu Guifan Huanghuacai Shengchan Jingying Huodong)", Farming Daily, 18 April 2005.

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for Developing Food Standards 2004–05.[52] The plan identified inconsistencies, gaps and the obsolescence of standards arising from the food standardization system's failure as the biggest problems facing the food industry and government.[53]

However, the plan failed to launch a reform package for the food standard system. Instead, it addressed only the technical aspects of the existing conflicting standards. So, it did not offer much assistance in improving the deep-rooted systematic food standardization failure, given its stopgap approach to food standards. Only in the aftermath of the Milk Scandal associated with the milk conglomerates like Sanlu[54] did China begin to rethink its approach and finally propose an institutional reform package for food standardization.[55]

As discussed previously, the food standards regime simply adopted the hierarchical approach reflected in the general standardization system. China subsequently realized that its regulatory framework had to be simplified in terms of its hierarchy of laws and the extent of government involvement. The Food Safety Law, as its name indicates, prioritized food safety and attached importance to food safety standards.[56]

Institutionally, food standardization generated positive results since the standardization system designed for food safety has simplified its hierarchy. More importantly, the MoH assumed the principal role for formulating the National Standards for food safety, which has reduced the possibility for inconsistency.[57]

a. The food safety standardization hierarchy is simplified

As far as consumer perception, the line between food safety and quality is a delicate one.[58] However, food safety represents the lower threshold for marketable foodstuffs, and food quality signifies superior characteristics that exceed the food safety baseline.[59] Therefore, food safety standards are compulsory by nature whereas food quality standards are generally voluntary. The existing Chinese food legislation does not include definitions for food safety and quality; however the Food Safety Law has proposed food safety standards and implied that they are different from quality standards.[60]

Professional Standards shall not be created to ensure food safety. In other words, the ministries that used to hold the power to lay down various Professional Standards for foodstuffs are no longer eligible to formulate food safety standards. The Food Safety Law has reduced the hierarchical levels of food safety standards and withdrawn Professional Standards from the food safety standardization system, which became a three-level hierarchy.[61] As the result of these new institutional and regulatory developments the food safety standardization system has become more streamlined.

However, one must bear in mind that the new institutional mechanisms were not developed to rule out the Professional Standards for food. Indeed, it is almost an impossible mission to eliminate Professional Standards from the food standardization

52 Plan for Developing Food Standards 2004–05, announced by the Standardization Administration of the People's Republic of China, the National Reform and Development Commission, the MoA, the Ministry of Commerce, the MoH, the AQSIQ, the State Food and Drug Administration, the China National Light Industry Council, the China General Chamber of Commerce, promulgated in 2005.

53 Guangzhou Daily,"The Plan for Developing Food Standards 2004–05 has been announced ('Quanguo Shipin Biaozhun 2004–2005 Nian Fazhan Jihua' Yi Yinfa Xuangao)", available on the internet at: < news.sina.com.cn/o/2004–12–08/09144465913s.shtml> (last accessed on 31 October 2012).

54 Sanlu or "Three Deer" literally in English was one of the most attacked milk brands in China caught in the notorious milk scandal relating to melamine. See e.g., Pinghui Xiao, "China's Milk Scandals and Its Food Risk Assessment Institutional Framework", 2 *European Journal of Risk Regulation* (2011), pp. 397 *et sqq*; Quentin Sommerville, "Little Comfort in Milk Scandal Verdicts", available on the internet at: < news.bbc.co.uk/2/hi/7845545.stm> (last accessed on 31 October 2012).

55 See e.g., Yuan and He, "China's Food Safety Standards Are 'Getting Old'", *supra* note 3; Hao Hu, "MoH has promulgated 269 National Standards for food safety since 2009 (Wushengbu: Sannian Lai Zhiding Bing Gongbu 269 Xiang Xinshiping Anquan Guobiao)", available on the internet at: < food.china.com.cn/2012–07/28/content_26043803.htm> (last accessed on 31 October 2012).

56 Food Safety Law, *supra* note 4, Art. 1.

57 *Ibid*, Art. 21.

58 K G Grunert, "Food Quality and Safety: Consumer Perception and Demand", 32, *European Review of Agricultural Economics* (2005), pp. 369 *et sqq*. However, some holds a holistic approach to understanding of the food safety and quality and considers the former to be part of the latter. See S F Hamilton, D L Sunding and D Zilberman, "Public Goods and the Value of Product Quality Regulations: The Case of Food Safety", 87, *Journal of Public Economics* (2003), pp. 799 *et sqq*.

59 Duanping Ren, Siyi Pan, Hui He, et al., "Food Safety, Food Sanitary and Food Quality and Their Interaction (Shipin Anquan, Shipin Weisheng He Shipin Zhiliang Gainian Bianxi)", 27, *Food Science* (2006), pp. 256 *et sqq*.

60 Article 22 of the *Food Safety Law* provides that the MoH will have to incorporate among others, those mandatory National Standards for food and compulsory Professional Standards for food quality into a unified system of National Standards for food safety. See Food Safety Law, *supra* note 4, Art. 22.

61 *Ibid*, Arts. 19, 24 and 25.

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system altogether, since a large number of effective Professional Standards for the purpose of ensuring food quality continue to operate.[62] The Food Safety Law clearly articulates that those Professional Standards for foodstuffs, which are abolished, were created for ensuring food safety; the law also implies that it leaves untouched those food standards that were formed for the purpose of compliance requirements other than safety.[63] As a result, food quality standards previously formulated may continue to exist in the form of Professional Standards, and new food quality standards may be introduced in the future using the same mechanism.

It has been a common practice that certain food quality schemes are established by reference to the voluntary National and Professional Standards for food. For instance, the MoA created the Green Food Scheme during the 1990s, and the China Green Food Development Centre, a specialized MoA-affiliated agency responsible for national development and management, currently administers this scheme. The Green Food Scheme is a certification program that certifies "both the production process and the outcome" by reference to those Professional Standards created by the MoA and other relevant ministries.[64] The China Green Food Scheme covers the production, processing, labeling and marketing, and management system of all farm produce and processed products.[65]

b. MoH is the one-stop ministry responsible for food safety standard setting

Today the MoH establishes all national food safety standards. This arrangement helps to ease, if not eradicate, the deep-rooted problem of inconsistency that has afflicted Chinese food industry. As discussed above, the government has reduced the number of food standardization hierarchy levels associated with safety from four to three, namely, the National, Local and Enterprise Standards for food safety. Furthermore, as far as national food safety standards, only the MoH, discharges the responsibility of setting the National Standards designed for food safety.[66]

c. Reform in summary

In summary, the reform made concrete progress but left untouched many aspects of China's food standardization system. Although Professional Standards for food safety do not exist in the aftermath of the Food Safety Law, the mechanism for Professional Standards still applies to food standards created for all kinds of food quality schemes in law and in practice. As a consequence, although the MoH became the only ministry responsible for National Standards for food safety, the one-stop solution affects China's food standardization only in a limited way.[67]

IV. Boundary between food safety and quality standards: An emerging problem

The Food Safety Law is the first piece of Chinese food legislation to use the word, "safety." Because the notion of safety in Chinese food legislation is associated with, if not equal to hygiene or health, the government intended for the Food Safety Law to replace the old Food Hygiene Law.[68] Under the Food Hygiene Law, the MoH acted as the principal ministry for ensuring food hygiene, and, to that end, it developed food hygiene standards, which were codified as Professional Standards. The MoH's Professional Standards for food hygiene co-existed and sometimes conflicted with other Professional Standards

62 See e.g., "Shanghai Government Officer Said that Some China's Professional Standards for Foods Are Out of Date (Shanghai Guanyuan Chen Zhongguo Bufeng Shipin Hangye Biaozhun Chaoqi Fuyi)", available on the internet at: < news.sohu.com/20120503/n342266206.shtml> (last accessed on 31 October 2012); Hua Qu, "How to Strengthen Food Safety Standardization (Ruhe Jianquan Shipin Anquan Biaozhun Tixi Jianshe)", available on the internet at: < www.cqn.com.cn/news/zgzljsjd/316062.html> (last accessed on 31 October 2012).

63 Food Safety Law, *supra* note 4, Arts. 18–26.

64 J Paull, "Green Food in China", *Elementals: Journal of Bio-Dynamics Tasmania* (2008), pp. 48 *et sqq*. at p. 48.

65 The above quality food schemes still largely rely on China's food quality standards, which are still primarily established through the mechanism of Professional Standards and the Food Safety Law does not specifically deal with this issue. R Sanders, "A Market Road to Sustainable Agriculture? Ecological Agriculture, Green Food and Organic Agriculture in China", 37, *Development and Change* (2006), pp. 201 *et sqq*., at pp. 210–11.

66 However, food standards relating to biosafety are made by the MoA. See Section VI of this article.

67 For instance, there are still quite a few ministries getting involved in creating food quality standards, which is a legacy of China's general standardization system.

68 Food Hygiene Law of the People's Republic of China, announced by the National People's Congress Standing Committee, promulgated on 30 October 1995.

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developed by ministries other than the MoH. In the past the Food Hygiene Law left food hygiene and the food hygiene standards undefined. Meanwhile, the Food Safety Law simply removes the word "hygiene" from the previous law and replaces it with the word "safety." Thus, the law does not define food safety and food safety standards.

In terms of a food standards regime, China has streamlined its food safety standards. The MoH now entirely administers the regulatory system, but it leaves almost untouched food quality standards are left almost untouched.

In a way, the Food Safety Law's lack of definitions for food safety and food safety standards continues the legacy of various pieces of basic food legislation. Prior to the Food Safety Law, China enacted the Law on the Quality and Safety of Agricultural Products to improve its agricultural production, including edible agricultural products.[69].The law included the words "Agriculture Product Quality and Safety Standards" but did not define them. In addition, the so-called Agriculture Product Quality and Safety Standards including standards for agri-foods have a compulsory legal status.[70] The above two pieces of legislation, if read together, leave the same questions unanswered. Questions arise as to whether or not there are any differences between food safety and quality standards? If there are, where is the boundary? If ambiguities between safety and quality in China persist, they will continuously impede food regulation. The food industry has started to worry about the problem arising from the ambiguity between food safety and quality standards.[71] Table 3 summarizes China's food safety and quality standards regime:

	Administration	Standards Coverage	Applicability
National Standards for Food	MoH	Food and additive hygiene, novel foods, labelling, etc.	Mandatory
Agri-food Safety and Quality Standards	MoA	Pollution Free Foods,[72] Genetically Modified foods (hereinafter referred to as GM foods),[73] etc.	Mandatory
Food Quality Standards	MoA, AQSIQ, NDRC, etc.	Green and organic farming, geographical indications[74], etc.	Mandatory & Voluntary

Table 3: China's Food Safety and Quality Standards Regime

Food quality has recently become an emerging policy focus.[75] In the aftermath of the bovine spongiform encephalopathy (hereinafter referred to as BSE) crisis, the European Union (hereinafter referred to as the EU) released a White Paper on Food Safety.[76] In this recent EU policy paper, it is recognized that

69 Law on the Quality and Safety of Agricultural Products of the People's Republic of China, announced by the National People's Congress Standing Committee, promulgated on 29 April 2006.

70 *Ibid*, Art. 11.

71 Teng Liu,"There Is an Impediment to Approach to a Unified National Food Safety Standization System (Shipin Anquan Guojia Biaozhun Jiquan Yuzu)", available on the internet at: <www.cb.com.cn/1634427/20120218/337471.html> (last accessed on 31 October 2012).

72 Management Methods for Pollution Free Agricultural Products, *Infra* note 107.

73 Agricultural Genetically Modified Organism Safety Regulations, *Infra* note 100.

74 Wang and Kireeva examined China's dual system for geographical indications protection, namely, geographical names as certification and collective trademarks administrated by State Administration for Industry and Commerce and sui generis protection of the geographical names handled by AQSIQ. However, the system of the geographical indications run by the AQSIQ is supported by all kinds of technical standards. For instance, the AQSIQ has established some wine geographical indications through a voluntary national standardization mechanism. See Xiaobing Wang and Irina Kireeva, "Protection of Geographical Indications in China: Conflicts, Causes and Solutions", 10 *The Journal of World Intellectual Property* (2007), pp. 79 *et sqq.*, at p. 79. For an overview of China's geographical indications standards created by the AQSIQ, see e.g., General Requirements for Standards on Products of Geographical Indications (GB/T 17924-2008), announced by the AQSIQ and the SAC, promulgated on 27 June 2008; Product of Geographical Indication - Yantai Wines (GB/T 18966-2008), announced by the AQSIQ and the SAC, promulgated on 25 June 2008; Product of Geographical Indication - Helan Moutain East Region Wines (GB/T 19504-2008), announced by the AQSIQ and the SAC, promulgated on 31 July 2008.

75 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Agricultural Product Quality Policy, COM(2009) 234 final.

76 White Paper on Food Safety, COM (1999) 719 final.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

"EU citizens demand high quality and a wide choice of food products, reflecting high safety, quality and welfare standards."[77]

With the rising liberalization of food trade within and outside the EU, food safety and quality have become a regulatory priority. The former is looked after by the European Commission Directorate General Health and Consumer Protection (hereinafter referred to as DG SANCO) whereas the European Commission Directorate General Agriculture and Rural Development (hereinafter referred to as DG Agriculture) directs the latter.[78] At least from the institutional perspective, food safety and quality standards are relatively clear in the EU and have been formulated into relevant EU legislative acts. Food safety standards are mandatory while, for quality, both mandatory and voluntary standards exist.[79] Technically speaking, the EU has codified food safety standards and other standards related to food production, e.g., packaging, into the so-called Hygiene Package.[80] Food quality standards in the EU take the form of, among others, Marketing Standards, Geographical Indications & Traditional Specialties, and Organic Farming, which focus on consumer preference and cultural context.[81] Table 4 summarizes the EU food safety and quality standards regime:

	Administration	Standards Coverage	Applicability
Food Safety Standards	DG SANCO	Food and feed hygiene, novel and GM foods, labelling,[82] etc.	Mandatory
Food Quality Standards	DG Agriculture	Marketing standards, geographical indications & traditional specialties, and organic farming, etc.	Mandatory & Voluntary

Table 4: EU Food Safety and Quality Standards Regime

Nevertheless, whereas the EU's institutions clearly define the boundary between food safety and quality within their regulations, China does not make this clear, which causes legal uncertainties for the industries that must comply. The EU pays increasing attention to food quality schemes while China prioritizes food safety.[83] The Twelfth Five-Year Plan for the National Standards for Food Safety directs the MoH to cooperate with the other ministries in order to extract safety elements from their standards, which were independently formulated by various food agencies under the auspices of the mechanism of Professional Standards, and to consolidate them into National Standards for food safety.[84] There are at least two challenges. First, in the context of a lack of benchmark demarcation between food safety and quality, the MoH has so much discretion to interpret which elements belong to food safety that it could

77 The CAP towards 2020: Meeting the Food, Natural Resources and Territorial Challenges of the Future, COM(2010) 672 final, at p. 4.

78 M Will and D Guenther, *Food Quality and Safety Standards*, 2nd ed. (Eschborn: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH 2007), at p. 1.

79 *Ibid*.

80 For instance, the Regulation (EC) No. 852/2004 on the Hygiene of Foodstuffs and the Regulation (EC) No. 853/2004 Laying down specific Hygiene Rules for Food of Animal Origin in Order to Guarantee a High Level of Food Safety and Public Health. See T. Blaha, "Animal health, animal welfare, pre-harvest food safety and protecting the environment as key elements of animal production", *Proceedings of the International Society for Animal Hygiene (ISAH)* (2005), pp. 17 *et sqq*., at p. 17.

81 See Will and Guenther, Food Quality and Safety Standards, *supra* note 78, at pp. 4 *et sqq*. See also Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Agricultural Product Quality Policy, *supra* note 75, at p. 7.

82 In 2011, the EU proposed a piece of food labelling legislation, which will generally apply from 13 December 2014 and in which the nutrition information requirements will apply from 13 December 2016. See Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 Text with EEA relevance, OJ 2011 L 304/18.

83 Hence, it is an important platform for the EU and China to launch the EUCTP II to increase mutual understanding. However, from the EU side, it is only an initial step to enter into China's food market.

84 MoH, "*Twelfth Five-Year Plan for the National Standards for Food Safety* (Shipin Anquan Guojia Biaozhun Shierwu Guihua)", 15 June 2012, available on the internet at: < http://www.gov.cn/zwgk/2012–06/15/content_2161656.htm > (last accessed on 31 October 2012).

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

lead to overlapping food standards.[85] This may result because the MoH's safety standards and other ministries' quality standards might deal with the same technical aspects but lay down different requirements.[86] Second, Chinese food standards that affect other policy dimensions, e.g., food quality, might create future inconsistency.[87]

The EU is keen to engage China in more dialogues concerning the food sector of both regions. For instance, the EU and China launched the second phase of the EU-China Trade Project (hereinafter referred to as EUCTP II) in Beijing in 2011 to deepen trade cooperation between the two regions with a joint overall contribution of 25 million Euros (around US$ 31 million) between 2010–2015.[88] The two plan to expand economic cooperation in areas including but not limited to agriculture and food safety, designating agricultural and food Geographical Indications as one of the priority areas.[89] Yet, the EU must bear in mind that the remaining weakness of China's food standardization system might negatively impact the food trade between the two regions. One could imagine that China's domestic compliance might present a puzzling issue when EU food products enter the Chinese market and create overlapping and inconsistent food standards.

Coupled with the above emerging problem is the new debate on China's GM food regulation and standardization, which shall be discussed in the following section.

V. China's GM food standardization: A new debate

Since there are growing concerns about GM foods' potential adverse effects on human health, GM foods have become a safety issue.[90] Hence, special attention is placed on the emerging biosafety standardization associated with GM foods.

China's GM regulation was intertwined with the regulation on novel foods, which was passed by the MoH in the Management Methods for Novel Foods Hygiene in the 1990s.[91] At the time, the MoH considered GM foods as a subcategory of novel foods and placed them under the auspices of the above Management Methods.[92] However, in 2001 the MoH enacted the Management Methods for the Genetically Modified Foods Hygiene[93] to specifically regulate GM foods.[94] Meanwhile, the government designated the MoA as the principal organ, if not the only one, to regulate agricultural biosafety since 2001, when the State Council introduced the Agricultural Genetically Modified Organism Safety Regulations.[95] Both the MoH and the MoA claimed regulatory power over GM foods, and co-regulated them for years. However, in 2007, the MoH revised the 1990 Management Methods for Novel Foods Hygiene, renaming it the Management Methods for Novel Foods.[96] The revision repealed the 2001 Management Methods for the Genetically Modified Foods Hygiene as well. Interestingly enough, the 2007 MoH's Management Methods implicitly recognizes that the novel food regime

85 In the past, China's food standards were developed by quite a few ministries without due care or a lack of communication between institutions before standard setting occurred, resulting in inconsistency. Past experience showed that cooperation between ministries having the same level of authority was difficult if not impossible. See Section III.1.c of this article.

86 To date, there is no such overlapping case in practice, but the Twelfth Five-Year Plan for the National Standards for Food Safety directs the MoH to constantly keep abreast of Professional Standards for foods created by the other six agencies, which still work independently from each other. See MoH, "*Twelfth Five-Year Plan for the National Standards for Food Safety*", *supra* note 84.

87 According to the Twelfth Five-Year Plan for the National Standards for Food Safety, the MoH will have to do the consolidation in cooperation with the other six institutions, which still have authority to create Professional Standards for the purpose of industry compliance requirements other than safety. Nevertheless, in terms of food quality standardization, unlike food safety quality, there is a lack of strong leadership. Because the Food Safety Law is silent in this regard, we have to go back to the Standardization Law and we find accordingly the SAC is the agency leading the way of coordinating the food quality standardization. However, given the fact the SAC is an agency affiliated with the AQSIQ and hence has an administrative level lower than any ministry, it looks likely that the coordinating leadership will be weak. See *Ibid*. See also *supra* note 21.

88 "Second Phase of EU-China Trade Project Kicks off in Beijing", available on the internet at: <http://english.people.com.cn/90001/90776/90883/7330719.html> (last accessed on 31 October 2012).

89 EU-China Trade Project (Phase II), Introduction to EUCTP Components, (Beijing: European Union 2011).

90 Gideon Lack, Clinical risk assessment of GM foods, 127 *Toxicology Letters* (2002), pp. 337 *et sqq*.

91 Management Methods for Novel Foods Hygiene, announced by the MoH, promulgated on 28 July 1990.

92 *Ibid*, Art. 1.

93 Management Methods for the Genetically Modified Foods Hygiene, announced by the MoH, promulgated on 11 December 2001.

94 The 2001 Management Methods for the Genetically Modified Foods Hygiene and the 1990 Management Methods for Novel Foods Hygiene were complementary to each other with the former elaborating on the latter with regard to a specific type of novel foods, namely, GM foods. See *Ibid*, Art. 3.

95 Agricultural Genetically Modified Organism Safety Regulations of the People's Republic of China, announced by the State Council, promulgated on 23 May 2001 and revised in 2011.

96 Management Methods for Novel Foods, announced by the MoH, promulgated on 26 December 2006.

https://doi.org/10.1017/S1867299X00002439 Published online by Cambridge University Press

excludes GM foods, and, the MoH has consequently retreated from regulating GM foods ever since.

Although China's Food Safety Law mandates the MoH to take responsibility for food safety standards, the MoA continues to handle GM food safety standardization.[97] As such, the MoA exclusively regulates GM crops including GM foods with no intervention from the MoH. In a sense, China's approach to GM food regulation embraces a certain degree of deregulation.[98] Unlike previous policies that treated GM foods as a subcategory of novel foods, China has differentiated GM from novel foods, with the former regulated by the MoA and the latter by the MoH within its recent food legislation. As a result, these two institutions independently execute the standardization of these two kinds of foods.[99]

By comparison, although EU legislation grants GM foods special treatment compared with novel foods, the DG Agriculture formulates the technical standards for both.[100] Unlike in the EU where an agriculture agency handles GM food safety regulation, a health agency controls GM regulation in China.

Since the enactment of the Food Safety Law in 2009, China has entered a new era of food risk regulation. The MoH plays an increasing role in risk assessment and the resulting food safety standardization.[101] However, the MoA's role in assessing GM food risk and setting relevant standards harms the credibility of GM food regulation since the MoA also oversees food marketing and promotion in China.[102] Furthermore, the MoA has helped create many food schemes based on all kinds of technical standards, particularly relating to food quality.[103] In the EU, the DG Agriculture plays a big role in marketing and promoting quality food schemes but has no say in food safety policy. In China, the MoA serves as the guardian of both quality and safety policy.[104] The MoA's industry promotion role also challenges its independence and neutrality regarding GM food risk assessment and standardization, and, hence, there is

97 The Food Safety Law articulates that GM foods are subject to special rules. See Food Safety Law, *supra* note 4, Art. 101.

98 Even in the US, a staunch supporter of GM technology, there are at least three agencies heavily involved in assessing and standardizing GM foods, namely, the United States Food and Drug Administration, Department of Agriculture and Environmental Protection Agency. See e.g., Emily Marden, "Risk and Regulation: U.S. Regulatory Policy on Genetically Modified Food and Agriculture", 44 *Boston College Law Review* (2003), pp. 733 *et sqq*.; John Lang and William Hallman, "Who does the public trust? The case of genetically modified food in the United States" 25 *Risk Analysis* (2005), pp. 1241 *et sqq*.

99 The 2007 Management Methods for Novel Foods explicitly excludes its application to GM foods. It also mandates that it is the MoH that makes standards relating to novel foods. According to the 2001 Agricultural Genetically Modified Organism Safety Regulations, it is the MoA that formulates all kinds of standards associated with genetically modified organisms including GM foods. See e.g., Management Methods for Novel Foods, *supra* note 96, Arts. 8 and 27; Agricultural Genetically Modified Organism Safety Regulations, *supra* note 95, Art. 7.

100 For instance, there is a notification procedure for novel foods which are substantially equivalent to existing foods. This notification procedure however, is abandoned with regard to genetically modified foods. See e.g., Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on Genetically Modified Food and Feed, OJ 2003 L 268/1; Regulation (EC) No 258/97 of the European Parliament and of the Council of 27 January 1997 concerning Novel Foods and Novel Food Ingredients, OJ 1997 L 43/1.

101 Xiao, "China's Milk Scandals and Its Food Risk Assessment Institutional Framework", *supra* note 54.

102 Actually, the MoA's marketing role to promote agri-businesses is very ambitious and much more inclusive than before. Apart from the Green Food Scheme, the MoA is also the guardian of the Pollution Free Agriculture Product Scheme including a sub-scheme of Pollution Free Foods. In addition, it competes with other ministries like the MEP to promote its Organic Food Scheme. The MEP established the Organic Food Development Centre to administer a system of organic farming. In 1995, the MEP promulgated the Management Constitution of Organic/Natural Food Marks (for Trial) to institutionalize its organic food scheme. However, The MoA expands its Green Food Scheme to include AA Grade Green Foods, which are claimed to be equivalent to organic foods. So, at present, the MoA is also involved in promoting organic farming in China. Recently the MoA proposed an agriculture geographical indication brand scheme, although it is criticised for adding more complexity to the existing geographical indication system. The MoA's Agriculture Geographical Indication Brand is introduced as a brand scheme to promote overall brand image of China's agriculture. Consequently, all the above schemes contribute to the so-called "Three Products and One Brand" Program, which is comprehensive marketing propaganda to promote the above-mentioned Pollution Free Agriculture Product Scheme, Green Food Scheme, Organic Food Scheme and the Agriculture Geographical Indication Brand. See e.g., Management Methods for Pollution Free Agricultural Products, announced by the MoA, promulgated on 29 April 2002; Management Constitution of Organic/Natural Food Marks (for Trial), announced by the MEP, promulgated on 1 October 1995; Announcement on Speeding up the Development of Green Foods by MoA, announced by the MoA, promulgated on 18 January 2002; Management Methods for the Organic Product Certification, announced by the AQSIQ, promulgated on 27 September 2004; Management Methods for Geographical Indications of Agricultural Products, announced by the MoA, promulgated on 6 December 2007; Yuying Guan, "Overview of China's Geographical Indication Protection", available on the Internet at < www.iolaw.org.cn/showArticle.asp?id=2771> (last accessed on 31 October 2012); Announcement on 2012 Action Plan of Speeding up "Three Products and One Brand" Program, announced by the MoA, promulgated on 14 March 2012.

103 For instance, Green Foods are largely based on voluntary Professional Standards formulated by the MoA.

104 The distrust in the government agriculture portfolio in Europe is by no means out of the blue, partially because during the BSE crisis, British Minister of Agriculture Mr Gummer tried to whitewash the safety incident to protect the beef industry. See Xiao, "China's Milk Scandals and Its Food Risk Assessment Institutional Framework", *supra* note 54, at p. 400.

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public concern that interested industries could lobby the MoA to adopt pro-GM food policy at a cost to human safety and health.[105] Nevertheless, the MoA moves forward to promulgate new GM food standards to legalize GM foods in China.[106]

VI. Conclusion

To understanding the food standard system in China, one must begin to grasp the general standardization system. The Chinese general standardization system is a four-level hierarchy with standards formulated by various national and local institutions and business entities. The hierarchical standards in descending order are, National Standards, Professional Standards, Local Standards and Enterprise Standards.

China's food standardization was established prior to the Food Safety Law. As a sub-system of the general standardization, the food standardization inherited many of the characteristics of the Chinese general standardization, including its hierarchy. Under the old system, food standardization occurred via a top-down system heavily controlled by government. Yet, systematic inconsistencies caused industry inefficiency, increasing public outcry for reform, and seriously undermined public confidence in food governance.

However, China's institutional structure for food standardization has reached a new era since the introduction of the Food Safety Law. China has realized that it must simplify its food standardization process. Thus, the Food Safety Law presented an institutional reform package for food standardization, which reduced food standard hierarchy levels and the government's level of involvement. Instead of four levels, today there are only three levels of food safety standards, and no Professional Standards can be created under the portfolio of food safety. More importantly, now the MoH formulates most of the National Standards for food safety, which reduces the possibility of inconsistencies. Nevertheless, the reform package raises a new question with no easy answer. The Food Safety Law, as the name indicates, was created to tackle food safety issues; however, it promulgates food safety and quality standards without distinguishing them. If it is read together with some other basic food legislation, China shall face the problem of demarking the boundary between food safety standards and food quality standards. European experience in food safety and quality standards can help solve this issue.

In sum, challenges remain with regard to China's food standardization process. Although China effectively reduced its hierarchy of food safety standards, it retains much bureaucracy within the field. The ambiguity between food safety and quality standards may result in food standards that overlap or create inconsistencies. Finally, the fact that the MoA, an agency that deals with marketing, also oversees GM food standardization may challenge its independence and credibility, which will likely undermine public confidence in GM regulation in China.

105 For instance, Prof Xiulin Gu of Yunnan University, who has conducted research on the impact of modified crops for years in China, recently found that the MoA had approved the US GM soybean products, though there was no sound scientific evidence to support the safety of these products. She also argued that the MoA did not strictly follow Chinese laws and procedures governing GM foods for the benefits of some GM crop multinationals. Her research elicited heated public debate on the current approach to GM food regulation in China in national mainstream media like Xinhua and People's Daily. See "The Imported GM Soybeans from Monsanto, the United States Were not Legally Approved and Scientific Testing of Them Was not Strict Enough (Meiguo Mengshandu Gongsi Jinkou Zhuanjiyin Dadou Beizhi Cun Shenpi Jiance Quexian)" available on the Internet at < news.xinhuanet.com/fortune/2012–05/26/c_112042158.htm> (last accessed on 31 October 2012).

106 For instance, it has announced testing and analytical standards relating to GM edible products like rice, soybean, oilseed rape and maize, to name a few. See e.g., Detection of Genetically Modified Plants and Their Derived Products—Qualitative PCR Methods for Bt Rice to Control Insect Pests (MoA Announcement No. 953–6–2007) announced by the MoA, promulgated on 18 December 2007; Environmental Impact Testing of Genetically Modified Soybean (NY/T 719.1~719.3—2003), announced by the MoA, promulgated on 1 December 2003; Environmental Impact Testing of Genetically Modified Oilseed Rape (NY/T721.1~721.3–2003), announced by the MoA, promulgated on 1 December 2003; Environmental Impact Testing of Genetically Modified Maize (NY/T720.1~720.3–2003), announced by the MoA, promulgated on 1 December 2003.

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