Research on the Optimization of Anti-food Waste Behavior in China

Siqi Pan
Shandong University of Technology, Shandong, China

Abstract: On April 29, 2021, China officially promulgated the Anti-Food Waste Law of the People's Republic of China, which means that China's anti-food waste work has entered the era of legal compliance, but China's anti-food waste mechanism has not been fully established, and China's anti-food waste behavior needs further optimization and governance. The article first analyzes the causes of Chinese food waste behavior, such as the alienation behavior of excessive release of ownership tension, the particularity of Chinese diet; Secondly, the paper analyzes the governance experience of anti-food waste behavior outside the region from three aspects: encouraging food donation and food bank construction, food transaction contract management and industry information sharing, and reforming food labeling system. Thirdly, the initiative of implementing food donation system is not high. The whole chain anti-food waste mechanism is not yet perfect and the food standard system is not unified, which summarizes the real dilemma of China's anti-food waste behavior management. Finally, the governance path that combines improving the food donation system, promoting the supervision of the whole food chain and accelerating the construction of the local legal system against food waste is proposed. In order to give full play to the multiple participation of various subjects, enhance the effectiveness of food production and consumption behavior guidance, and promote the governance function of legal incentives, so as to promote the optimization of China's food waste management.

Keywords: Anti-food waste, Food standard system, Pluralistic co-governance.

1. Introduction

On April 29, 2021, China officially promulgated the Anti-Food Waste Law of the People's Republic of China (hereinafter referred to as the Anti-Food Waste Law). However, food waste runs through many links such as production, circulation and consumption, and not only involves different stakeholders such as administrative agencies, consumers, enterprises and schools, but also relates to major strategic issues such as resources and environment, national food security and sustainable economic and social development, and is also affected by many factors such as food culture, consumer psychology and consumption patterns. China's Food and Nutrition Development Report 2023 was released. According to the report, from the quantity point of view, China's food loss and waste rate is about 22.7%, according to the output in 2021, a total of 460 million tons of food waste, of which vegetables, grains, fruits ranked in the top three, respectively, 270 million tons, 110 million tons, 55.09 million tons, the three accounted for more than 94% of the total. In terms of links, consumption and post-harvest treatment are the two links with the most serious losses, reaching 158 million tons and 157 million tons respectively. According to the report, from an economic perspective, the economic loss caused by food loss and waste in China is as high as 1.88 trillion yuan every year, equivalent to 22.3% of the agricultural output value. Vegetables suffered the largest economic loss (917.6 billion yuan), accounting for 48.7% of the total economic loss, meat (394.6 billion yuan) ranked second, followed by fruits, grains and aquatic products; The economic loss of consumption is the largest, accounting for 41.0% of the total economic loss; The second is post-harvest handling and storage, accounting for 27.2%. This shows that the complexity of anti-food waste work and the urgency of the law enforcement process are prominent contradictions, at this stage, China's anti-food waste mechanism has not been fully established, and China's anti-food waste behavior needs to be further optimized. In view of this, this paper focuses on the optimal management of China's anti-food waste behavior, analyzes the current situation of China's food waste behavior and the actual dilemma, and puts forward the optimal management path to provide practical guidance for the implementation of the Anti-Food Waste Law.

2. The Causes of Food Waste in China

2.1 Alienation Behavior of Excessive Release of Ownership Tension

From the perspective of ownership, consumers use their personal property to purchase the ownership of food. Under the rule of ownership, the owner can possess, use, benefit and dispose of the property, which includes the disposal of food. The right of disposition includes legal disposition and actual disposition, namely consumption. As a kind of power of property ownership, consumption naturally includes wanton consumption in theory, that is, wasteful behavior. For example, the use of state public power to curb the squandering of personal property seems to go beyond the regulatory boundary of the law and violates the legal principle of "personal property is not interfered with by others". Food, as private property, is the legal object of the property right system, and the principle of "sanctity of private property" is the theoretical basis for private subjects to "fully" enjoy the right of ownership. It seems that it is not improper for subjects to waste their private property. It can be seen that the ownership system puts on the "legal" cloak of private law protection for the subject's wasteful behavior, that is, the right holder has the right to freely control the property he owns or legally occupies, and this right also includes the disposal of the property at will, meaninglessly and unnecessarily. The waste behavior under the excessive release of ownership tension deviates from the social requirements of resources.

Although the waste behavior seems to have legal legitimacy, it is an alienation behavior of excessive release of ownership tension and deviates from the requirements of resource sociality in the current serious problems of food security, resource security and environmental security [1].
2.2 The Particularity of Chinese Diet

First of all, China's catering culture is very special, since ancient times to combine food extravagance and face. According to the "Quantitative Assessment of Food waste Reduction Path in China's catering Industry" project organized by the School of Environment of Tsinghua University and related industry associations, the waste levels of restaurant dining, take-out dining, canteen dining and family dining are 84.6, 57.5, 60.4 and 24.6 g/person/meal respectively. The recovery of gathering activities has brought about the recurrence of the "chronic disease" of waste in activities such as wedding parties. In some banquet parties, the number of ordering pay attention to "double order", dishes to include cold dishes, hot dishes, staple food and soup and other different kinds, out of the needs of the show, rather more, never less. Banquets are often accompanied by special scenes. Cultural, rational and other factors make it difficult for businesses to abide by the law and for regulators to enforce the law when increasing anti-food waste efforts in accordance with the law. Among the typical cases announced by the General Administration of Market Supervision and local market supervision departments, there have been many cases involving banquet waste. Secondly, with the development of productivity, the diet structure of the Chinese people has gradually changed, which can be simply summarized as that staple food is less and less "main" and non-staple food is less and less "secondary". Therefore, the waste of staple food is gradually high. According to a questionnaire survey conducted by the Guangdong Outbound Food Waste Research group, 68.3 percent of the respondents chose fast food bento, rice noodles and other staples in terms of food waste. In addition, China's colleges and universities are also hit hard by food waste. According to a study by Jiangxi University of Finance and Economics, 47.73% of college students waste less than 10% of their daily food, 45.74% of college students waste 10% ~ 30% of their daily food, and 6.54% of college students waste more than 30% of their daily food. The field survey also found that food waste in colleges and universities is mainly concentrated in lunch and dinner. The reason is that parents lack the sense of saving, the only child is regarded as the "pearl in the eye" parenting style, so that many teenagers have formed bad eating habits since childhood.

3. The Experience of Foreign Anti-food Waste Behavior Governance

3.1 Encourage Food Donations and Food Bank Construction

In order to further implement the food donation system, developed countries tend to adopt the way of "exemption+tax reduction" to encourage corporate donations, but in the concrete implementation process, it has derived the "encourage donation" system represented by the United States and the "statutory donation" system represented by France. In 1996, the United States issued the Good Samaritan Food Donation Act, which laid a legal foundation for food donors to exempt themselves from legal liability for food safety. In order to promote the further improvement of the food donation system, the United States passed and implemented the Federal Food Donation Act in June 2008, which stipulates that the process costs of collection, transportation, maintenance and distribution generated by donations are borne by the state, and the liability related to donations is exempted within the scope of the law [2]. In addition, the United States usually gives more favorable tax deductions to food donation enterprises than general enterprises. Under the US tax code, general companies are entitled to only 15% of the total tax credit for the year, while food donation companies can enjoy a tax deduction of half of the cost of food and even the expected profit. France has formally established the "donation behavior obligation model" through legislative means, and if a company does not donate food in accordance with the provisions, it will face penalties such as fines and publicity of illegal acts. In 2016, France promulgated the "Anti-Food Waste Law" clearly stipulates that if the food production and operation area of 400 square meters, regardless of whether the food expired must be signed with the national provisions of the charity organization food donation agreement, meet the conditions of donation but did not sign the donation agreement, the enterprise will be fined 450 euros. In the same year, France passed the "Food Waste Reduction Act", which stipulates that food in the near future or even expired, on the premise of ensuring food safety, should be prioritized for donation or further processing to prevent food waste [3].

3.2 Food Trade Contract Management and Industry Information Sharing

The UK mainly seeks to promote fair trading and information sharing in the food industry through legislation - the Farm Bill. The UK introduced industry-specific statutory contracts codes of conduct into legislation to protect producers from unfair trading. For example, changing product specifications late or cancelling orders with poor notice, leaving manufacturers unable to find alternative commercial channels, can mean that food in perfect condition does not even get a chance to make it to the shelves [4]. The Agricultural Act 2020, in Part 3, Chapter 2, "Fair Dealing Issues for agricultural Producers and Others in the supply chain", states that buyers of agricultural products must enter into a contract in accordance with the statutory content to purchase agricultural products from sellers. Where no contract is signed or the contract is not in conformity with the provisions, penalties may be imposed [5]. The UK is also committed to exploring with industry how to collect and share market data to improve production efficiency and regulate production structures to prevent food waste. Chapter 1, Collection and Sharing of Data, Part 3 of the UK Agriculture Act 2020, imposes an obligation on all members of an agricultural supply chain to share information relating to that supply chain. Important among these is the message on "minimising waste arising from activities related to the agri-food supply chain".

3.3 Reform the Food Labelling System

The United States is an early country to reform the food labeling system. The non-profit organization ReFED concluded that food manufacturers' choice of date labels unrelated to food safety increases consumer confusion and misunderstanding in the everyday retail process, and standardized date labels are an important and cost-effective means to prevent food waste [6]. The Food Date Labeling Act (hereinafter referred to as the Act), enacted in 2016, aims to
address food waste at a higher level. The bill is a result of a date labeling study conducted by Harvard Law School’s Food Law and Policy Clinic and the Natural Resources Defense Council (NRDC), which concluded that “misinterpretation of date labeling on food is a key contributor to food waste.” Unlike mandatory nutrition labels on food packaging, use-by or best-before dates are more directly related to reducing food waste. The act’s findings suggest that the likelihood of food being discarded increases if consumers misunderstand the date of food, and that existing date labels on food packaging create confusion between “use-by,” “best-by,” and “use-by,” causing up to 90 percent of Americans to occasionally throw away food that is still fresh [7]. Based on that investigation, the Act recommended that food producers use two uniform phrases on their labels: “Preferably in... ”Use by date” means quality, and “by date” means safety. A “quality date” to inform the consumer of the date on which the quality of the product may begin to deteriorate, and a “safety date” to inform the consumer of the date on which the consumption of the food poses a health and safety risk under specified storage conditions. This rule has gone a long way toward reducing food waste in the United States, as the “quality date” and “safe date” will help consumers understand the best before date. In 2019, Japan joined social groups, industry organizations and other representatives from different fields to establish a social group composed of administrators, university professors and the Food Loss Reduction Promotion Committee, and jointly committed to promoting publicity and education work to reform the food labeling system. France’s Circular Economy Law, passed in early 2020, also requires food producers to clarify the difference between “best before” and “maximum before [8].”

4. Analysis of the Current Situation of Anti-food Waste Behavior in China

4.1 Insufficient Enthusiasm for the Implementation of the Food Donation System

Article 23 of the Anti-Food Waste Law stipulates the food donation system, which is the first time that China has regulated food donations in the form of legislation [9]. At present, China has restricted the food waste behavior of many subjects through legislation, and used administrative punishment and publicity and education as strategic means. A positive incentive mechanism based on economic incentives has not yet been formed. Due to the lack of guidance and encouragement mechanism of administrative organs, the implementation of China’s food donation system is difficult, the enthusiasm of food enterprises to donate is not high, and there are also problems that cannot be ignored in the “food banks” in pilot cities. For example, there are too few food production and catering enterprises involved, and the single and unstable source of food makes it difficult for “food banks” to survive; There are too few operating subjects, lack of a unified donation platform, and only rely on the conscious implementation of individual brand enterprises, which has limited influence; Administrative supervision is absent, some foods have not established a ledger, and it is difficult to trace the source, which has food safety risks [10]. According to the “green Principle” in Article 9 of the Civil Code, the word “should” confers a certain degree of “obligation” responsibility on the public to protect the environment and save resources. In this case, under the vision of the Civil Code, its Article 9 can become the legal basis of the compulsory food donation system [11]. The Anti-Food Waste Law stipulates that food producers and operators should make donations on the premise of ensuring food safety. Therefore, it can be seen that the guarantee of food safety is the obligation of the donor, and whether the donor is not aware of the quality defect of the donated material is not a factor in the consideration of the donor's exemption from liability. Even if the donor is subjectively unaware of the quality defect of the donated material, there is still a risk of liability for damage when the damage is caused. In addition, Chapter 11 of China’s Civil Code has made relevant provisions on the defect guarantee and liability for damage in the gift contract: the principle that the donor is not liable for defect guarantee for the gift is an exception to the liability for liability [12]. That is, this chapter divides gift contracts into three categories: general gift contracts, gift contracts with obligations, and gift contracts of public benefit and moral nature. Because food donation is mainly given free of charge, with a view to reducing food waste and achieving sustainable development, food donation does not belong to the gift contract with obligations. Therefore, it can be concluded that the liability for defect guarantee of food donation is above the general gift contract of the Civil Code. This should be out of special consideration of the importance of food donations to human health, but this regulation also has the disadvantage of discouraging donors.

4.2 The Anti-food Waste Mechanism of the Whole Chain is not Yet Perfect

Food waste occurs in every link of food from production, processing, transportation, sales to consumption, so China's anti-food waste mechanism should also cover the management of food life cycle. According to the "Anti-Food Waste Law" and the "Anti-Food Waste Work Plan", the design concept of China's anti-food waste mechanism basically follows the logical framework of pre-consumption, consumption and post-consumption. The main task before food consumption is to curb food waste in storage, circulation, processing and other links. The consumption is mainly concentrated in the catering industry, administrative organs, schools and other public catering institutions anti-waste. Post-consumption mainly focuses on the rational use of surplus food, such as the establishment of food donation system, food sales system and kitchen waste resource utilization. However, China's anti-food waste mechanism is still in the exploratory stage, and how to use various policy tools needs further research.

4.3 The Food Standard System has not Been Unified

The Anti-Food Waste Law explicitly stipulates the anti-food waste duties of various departments and stakeholders, but the implementation and enforcement of specific laws still need the guidance of specific standard rules. Judging from the problems encountered in the current implementation process, we should strengthen the construction of the standard system of anti-food waste work. In the "Anti-Food Waste Law", the provisions on law enforcement standards are qualitative statements such as "obvious waste" and "serious food waste", which retains flexibility for the subsequent law enforcement
Process. However, at present, China's anti-food waste promotion standard system is still missing, the law enforcement standards, industry reference, law enforcement norms and other comprehensive standard system has not been established, resulting in various departments and industries in the process of promoting anti-food waste work, "there is a law to rely on, no evidence to examine", affecting the progress and effectiveness of the work. For example, Chinese legislation has not yet established a uniform standard for food labeling, especially in the definition of temporary food there are different standards in different regions. Article 12 of the "Anti-Food Waste Law" clearly states that food operators such as supermarkets and shopping malls should strengthen daily inspection of the food they operate, classify and manage the food that is close to the shelf life, make special labeling or centralized display and sale. From this point of view, the imminent period of Chinese food labels refers to "near the shelf life". In the context of food labeling based on the "shelf life", China generally adopts two ways to deal with food that exceeds the shelf life: one is to be checked by enterprises or directly discarded by consumers after purchase, and the other is to be processed as fertilizer for agricultural production. But no matter which way is taken, it is loss and waste for food processed through multiple procedures. The possibility of direct discarding by food enterprises is relatively low, because some supermarkets or retailers can attract consumers to buy expired food by means of discount promotion, so as to pass on the risk of discarding expired food to consumers, and consumers may buy too much based on preferential psychology, and finally waste because they cannot eat all before the shelf life or forget to eat. Therefore, the relevant departments and units should build an anti-food waste implementation standard system applicable to different regions, different institutions/units, and different places according to the scope of adaptation of the law, behavioral characteristics, local culture and other factors, so as to smoothly carry out law enforcement work.

5. Optimization Path of Anti-food Waste Behavior Governance in China

5.1 Improve the Food Donation System

In many developed countries, such as the United States, Australia, Canada and European countries, distributing surplus food through donations to charities has been seen as an effective means to address food security and waste. In some countries, food donation systems are supported by legislation. The US Environmental Protection Agency, for example, has developed a clear food waste hierarchy that places food donations as the top priority for disposing of surplus food. The United States also enacted the Good Samaritan Law, which promotes food donations by strengthening rights protections for food retailers and charitable organizations. In the European Union, France enacted the Law on Combating Food Waste on February 11, 2016, and Italy enacted the Law on the Donation and Distribution of food and medicine for Social solidarity and the limitation of waste on August 19, 2016, which sets out the rights and obligations of food donors [13]. Based on the provisions of the Civil Code, on the one hand, if the donor knows that the food is defective, the obligation of the donor to inform should be clearly defined and the behavior of the donor to inform should be regulated, for example, to prevent the donor from donating in order to dispose of the expired food and obtain business reputation or tax incentives. On the other hand, in the case that the donor is not aware of the food defects, the liability for defect guarantee of the donor can be divided according to the purpose of the donation, such as higher guarantee liability when the food is donated to others for use, and lower guarantee liability when the food is donated to livestock for feed use, etc., supplemented by tax and other preferential measures to adjust the enthusiasm of the donor.

5.2 Promote Oversight of the Entire Food Industry Chain

Article 15 of the Anti-Food Waste Law stipulates the production, storage, transportation, processing and other aspects of food in principle, so it is necessary to establish a joint anti-food waste organization in coordination with various departments. In the grain production sector, it is suggested that the central Ministry of Agriculture and Rural Affairs and local agricultural departments cooperate with each other and strengthen cooperation to reduce waste in the process of grain production, purchase and storage through the upgrading and transformation of production, storage and processing technologies. In the grain circulation link, the grain and material reserve management department should cooperate with the transportation department and the logistics service industry to comprehensively use technical means to ensure the quality and safety of agricultural products, further improve the efficiency of cold chain transportation, and reduce the loss of grain caused by excessive transportation time and spoilage. In the food retail and catering consumption links, the competent department of commerce and the market supervision and management department should jointly supervise the food waste in the catering industry; In the food recycling process, the environmental protection department should formulate stricter and finer classification standards for food waste on the basis of existing garbage classification, and use technical means to establish supporting recycling systems and recycling devices to improve food waste management; In addition, it is recommended that more information and education activities on food conservation be led by the national publicity department and jointly with the environmental protection department as a supplement to the traditional regulatory means.

5.3 To Build a Pluralistic Co-governance Pattern Against Food Waste

The China is a vast country with different levels of economic development, and there are also differences in diet structure, eating habits, consumption levels and consumption concepts. In this context, food waste varies from place to place. If the law formulates a uniform standard across the board and only makes provisions in principle, it is difficult to achieve legislative results. Local legislation often has distinct territorial characteristics and can more pertinently solve prominent problems in local food waste management [14]. Therefore, it is particularly important to refine local legislation and improve implementation rules. At the same time, the Anti-Food Waste Law is a substantive law, and its legal norms are mostly rights and obligations provisions, while the specific procedural provisions need to be improved. Local legislation should not only take into account the
substantive content, but also improve the procedural provisions, refine the enforcement procedures as much as possible, and improve the implementation rules, so as to improve the operability of the law while ensuring the quality of legislation [15].

6. Conclusion

Waste exists widely. From the perspective of social production process, there is waste in resource development, goods production, transportation and storage, and product consumption. From the perspective of the subject of behavior, producers, operators, consumers or organizations and individuals, there is waste: From the perspective of the object of waste, natural resources and energy in nature, raw materials, products and food in human society are all wasted. To regulate the waste phenomenon caused by many fields and many factors, it is necessary to design the system to restrain the actor. In the context of current environmental protection, anti-food waste behavior is its proper meaning and has an important position. Reflecting on the difficulties of China's food waste behavior and exploring the path selection of China's anti-food waste optimization governance are the problems we must face at present. On the basis of facing the existing governance dilemma in China, the regulation governance is carried out by combining multi-dimensional main body forces and comprehensively using multiple means. It is necessary to realize the cross-linkage between rule of law and education, punishment and incentive through law-based governance and market-oriented means, combine law-based governance and incentive governance, and comprehensively use scientific governance and digital governance to open a new journey of anti-food waste.

References