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Implementation of Food Waste Reduction Policy in Chinese Catering Industry and Pilot Cities Case Sharing



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CONTENTS

	Background	01
01	Milestones of the chinese anti-food waste policy	
	1.LEGISLATION: INSTITUTIONAL SUPPORT	02
	2.ACTION PLAN: REGULATION	02
	3.NATIONAL STANDARD: GUIDANCE	02
02	Analysis on the chinese anti-food waste policy	
	1.ANALYSIS ON QUANTITY	03
	2.ANALYSIS ON POLICY COVERAGE	04
	3.ANALYSIS ON POLICY TYPE	05
03	Cases analysis in pilot cities	
	1.BEIJING: RIGID LAW PLUS MULTIPLE STANDARDS	08
	2.HANGZHOU: INNOVATING PUBLICITY CARRIER AND BUILDING INTELLIGENT SUPERVISORY PLATFORM	11
	3.SHANGHAI: STRESSING WASTE REDUCTION IN ORIGIN AND PRIORITIZING FOOD SAVING TASK	14
	4.SHENZHEN: GUIDING FOOD SAVING BY POLICY AND REDUCING FOOD WASTE BY TECHNOLOGY	17
	5.SANYA: REDUCING FOOD WASTE THROUGH TARGETED LAWS AND REGULATIONS IN TOURISM SECTOR	20
	6.KUNMING: INTENSIFYING MSMES' MANAGEMENT, REGULATING CATERING SERVICES WITH STANDARDS	23
04	Questionnaire survey for catering companies on the implementation of anti-food waste policy	
	1.IMPLEMENTATION OF ANTI-FOOD WASTE POLICY	26
	2.MEASURES TAKEN BY CATERING COMPANIES TO REDUCE FOOD WASTE	28
05	Opportunities and challenges	
	1.OPPORTUNITIES	29
	2.CHALLENGES	29
06	Solutions and Suggestions	
	1.DEFINING THE MAIN BODIES' RESPONSIBILITIES AND BUILDING THE LONG-TERM ANTI-FOOD WASTE MECHANISM	30
	2.IMPROVING STANDARD SPECIFICATIONS AND BUILDING AN ANTI-FOOD WASTE GUIDELINE	30
	3.BUILDING A DIVERSIFIED MANAGEMENT MODEL THROUGH ADMINISTRATIVE AGREEMENTS	31
	4.IMPROVING DATA AND PROMOTING QUANTITATIVE MONITORING AND MEASUREMENT OF FOOD WASTE	32
	5.LAUNCHING DEMONSTRATION AND PILOT PROJECTS TO GENERATE DUPLICATE AND PROMOTABLE EXPERIENCE	32
	6.BUILDING PRICE INCENTIVE MECHANISMS TO RESTRAIN INAPPROPRIATE OPERATIONS	33
	7.STRENGTHENING PUBLICITY AND EDUCATION TO GUIDE PEOPLE TOWARDS THE GREEN AND LOW-CARBON LIFESTYLE	33
	8.CONDUCTING STUDIES ON SDGS ON FOOD LOSS AND WASTE AND DEVELOPING CHINA'S ACTION PLAN	33



Background

Food loss and waste is a global issue. Its reduction is important to the sustainability of food system and food security worldwide. The UN SDG 12.3 aims to “by 2030, halve per capita global food waste at the retail and consumer levels, and reduce food losses along production and supply chains, including post-harvest losses”. It is not only about the wasted foods, but also the ineffective consumption of water, land, energy, and other production materials, even the consequent resource waste and environmental pollution. Food loss and waste halts the sustainable social, economic, ecological and environmental development, and damages the national food security. Since frugality is the traditional virtue advocated by China, avoiding food waste, and promoting green, healthy, rational and civilized consumption in the catering industry are of special significance to national food security, social civilization, construction of a resource-saving society, sustainable social and economic development, and national security.

In recent years, President Xi Jinping attached great importance to the reduction of food loss and waste. On different occasions, he stressed the need to take comprehensive measures to reduce food loss and waste, and to stop the negative atmosphere of wasting food. The series of policies, laws and regulations, including the Eight Rules of the Political Bureau of the Central Committee on Improving Party and Government Conduct, the Regulations on Practicing Economy and Opposing Waste in Party and Government Organs, the Anti-food Waste Law of the P.R.C., the Regulations on the Administration of Grain Circulation, etc., play a critical role in legalizing the combat against food waste; The promulgation of a series of laws and regulations marks China has not only already built the legal framework, and entered into the stage of managing food waste by law, but also formally transitioned from theoretic research to practical application. All these will significantly contribute to food security, eco-civilization, and the strategic goals of "carbon peaking" and "carbon neutrality" in China.

Reducing food waste and building a sustainable food production and consumption system are indispensable in combating climate change and conserving biodiversity. Granted by the EU "SWITCH-Asia" program, the "Pride on Our Plates" project was launched in September 2020, and spearheaded by Shenzhen One Planet Foundation, with the aim to empower the medium, small, and micro enterprises (MSMEs) in the catering industry to better manage food waste, and copy the best practice in the whole industry. The project team, with the science- and behavior-oriented solutions, has developed the tool-kits and reference materials to reduce food waste (Food Waste Reduction Casebook, Food Waste Reduction Practical Guide, a WeChat APP); It has provided the tailor-made capacity-building training and supports for MSMEs in the catering industry in 6 pilot cities (Beijing, Shanghai, Shenzhen, Hangzhou, Sanya and Kunming), in order to help them achieve at least 10% food waste reduction; It has led the catering industry to transform through standards and initiatives, including the first cross-sector initiative on food loss and waste reduction in China; Meanwhile, the project team has been actively promoting the effective policy dialogues to facilitate the policy implementation; With diverse publicity activities, the project team has efficiently reached over 61 million consumers, and built the public awareness of food loss and waste.

The report collects up the case studies, interviews and questionnaires under the Pride on Our Plates project. On the basis, it analyzes the effects of the anti-food waste policy, and summarizes the experiences learned in pilot cities, with the expectation to provide a solid base and evidence for local governments and enterprises in developing and implementing relevant policies, and further accelerate the transformation towards green and low-carbon consumption in China.

01 MILESTONES

Milestones of the Chinese Anti-food Waste Policy

 The report has summarized the milestones of anti-food waste policy in China from January 2021 to October 2023:

1 Legislation Institutional Support

During the 28th Session of the Standing Committee of the 13th National Peoples Congress on April 29th, 2021, the Anti-food Waste Law of the People's Republic of China (Hereinafter referred to as the Anti-food Waste Law) was reviewed and approved for its implement upon publication. **This is the first anti-food waste law ever in Chinese history, making China one of the earliest countries combating food waste through legislation in the world after France, Italy and Japan.**

The Anti-food Waste Law addresses the food waste in consumption and sales segments of the catering industry to guarantee the national food security, save resources and protect environment. Its implementation historically elevates the issue of food waste from moral to legislative level, and provides a forceful legislative support to achieve the systemic and scientific governance of food waste.

2 Action Plan Regulation

In October 2021, the General Office of the CPC Central Committee and the General Office of the State Council of the P.R.C. jointly published the Action Plan for Food Saving, which proposes to build a food loss and waste reduction system covering the whole food industrial chain, in order to reduce food waste in production, storage, transportation, processing and consumption, and explore a new path to ensure the food security in China.

In November 2021, the National Development and Reform Commission (NDRC for short) and other 3 governmental departments developed the Anti-food Waste Work Plan together. The plan provides the detailed measures, defines the main responsible body, and assigns specific tasks to address food waste in catering industry, reinforce food saving in public institutions, promote rational food consumption, and strictly supervise the law enforcement. The work plan institutionally ensures food saving and food waste reduction throughout the industrial chain.

3 National Standard Guidance

On June 9th of 2023, the State Administration for Market Regulation and the Standardization Administration of China approved and published 3 recommendatory national standards, the Specification for Quality Management of Catering Enterprise, General Rules for Management of Anti-food Waste in Catering, and Guidelines for Preventing Food Waste in Party and Government Organs, by which it filled the gap of national standards in anti-food waste. Together with the moral and legislative requirements, the anti-food waste national standard constitutes a powerful guidance for the whole society in reducing food waste, an important support for the Anti-food Waste Law, and an indispensable pillar in the legal system addressing food waste in catering industry.

02 POLICY ANALYSIS

Analysis on the Chinese Anti-food Waste Policy

To implement President Xi's instruction on food waste prevention and the Anti-food Waste Law, a series of laws and regulations were published in different regions and sectors to improve and institutionalize the policy system, and accelerate the legalization of food waste reduction. The report analyzed the quantity, coverage and type of policies up to November of 2023.

1 Analysis on Quantity

The food saving and anti-food waste provision are already introduced into the food safety, hygiene and health, environmental protection and civilized behavior requirements as the basic principle, specification or legal rules for the great public, in order to build the social civilization.

330

policies were collected in the principles and methods¹ used for policy research, including:

216

anti-food waste special policies, including 98 items of policy documents and 118 items of standards documents.

114

food waste policies regarding food safety, civilized behavior promotion, green and low-carbon development, rural revitalization and legal publicity, adopted by other sectors.

¹Documents keywords: " Food Waste, Grain/Cereal Waste, Waste in Catering, Save Food"; Policy documents with enforcement; Documents are highly correlated with food waste and deploy policy intervention for food waste; Documents does not belong to repost of same article between institutions, including existing national and local standards, etc.

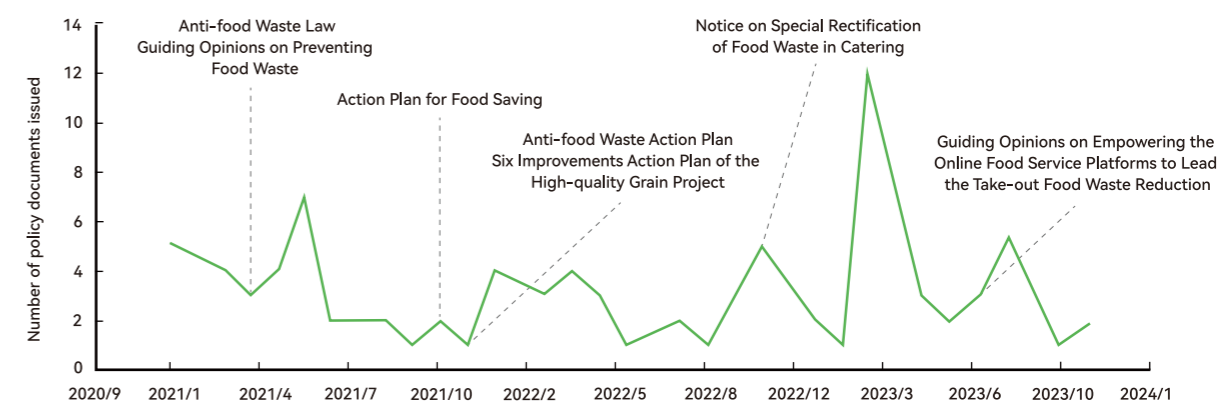


Fig. 1 Quantity of Published Anti-food Waste Policy Documents

When the Anti-food Waste Law was published in 2021, the State Council and the ministries took the lead in implementing the policy. The law provides the top-level guidelines for the formulation and implementation of local policies. In 2022, the local governments launched the anti-food waste actions and relevant work plans, and pioneered in implementation. In 2023, special actions were taken to prevent food waste. Policies are mainly published in the forms of special action plan, initiative and notice in different sectors and industries, as well as national, local and group standards for the catering industry and the consumers.

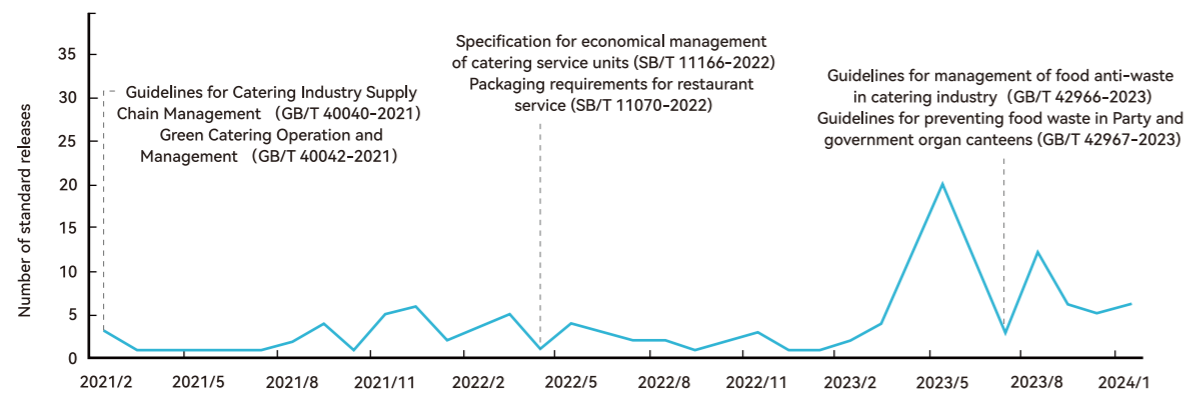


Fig. 2 Quantity of Published Anti-food Waste Standards

By authority bodies

The policies and standards from 2021 to 2023 were mainly published by government departments, industry associations and civil societies, including the national or local market regulation administrations, commercial authorities, development and reform commissions, food and strategic reserves administrations, general offices of local governments, etc.



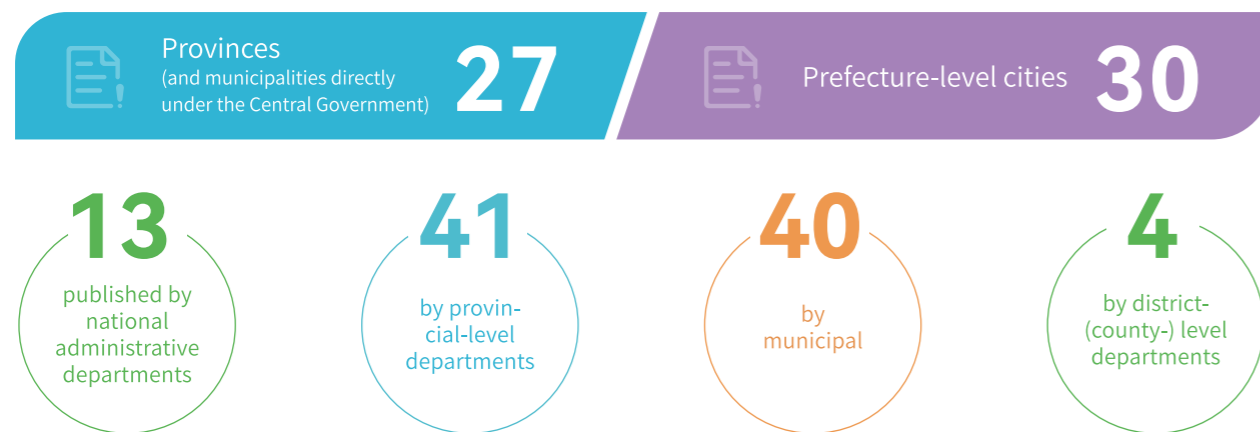
The policies are mainly targeted to the cultural tourism, online platform, restaurant and canteen, including 8 policy documents and 6 standards for cultural tourism sector; 8 policy documents and 5 standards for online platforms and take-out service providers; 1 post-production policy document for grains; 13 policy documents for canteens of non-profitable institutions and educational institutions, and 9 policy documents for banquets and group meals.

2 Analysis on Policy Coverage

After the Anti-food Waste Law was enacted, several departments under the State Council and local governments published the corresponding standards and technical documents in the forms of implementation plan, notice or initiative to guide the public prevention of food waste.

By administrative zones

From January 2021 to November 2023, total 27 provinces (and municipalities directly under the Central Government) and 30 prefecture-level cities have issued the special policies for the catering industry



Thus the cascading policy system was formed with the provincial laws, municipal rules, district and county special action plans.

3 Analysis on Policy Type

The special anti-food waste policies were mostly published in the form of law and regulation, implementation plan or special action for the following purposes:

Laws and regulations: Serving as the institutional guarantee

Based on the Anti-food Waste Law, administrative regulations and local situations, a series of rules and local regulations were developed to legally enhance the anti-food waste actions in the catering industry. The enacted Anti-food Waste Law increased the local anti-food waste regulations from 7 to 21.

Local Regulations:

- Anti-food Waste Regulation of Beijing
- Anti-food Waste Regulation of Gansu Province in Catering
- Anti-food Waste Regulation of Guangdong Province in Catering
- The Regulation of Hebei Province on Food Saving and Anti-food Waste in Catering
- Anti-food Waste Regulation of Shandong Province
- Food Waste Prevention Regulation of Shanxi in Catering
- Decision of Shaanxi Province on Food Saving and Waste Reduction
- Anti-food Waste Regulation of Tianjin
- Anti-food Waste Regulation of Hefei in Catering
- Anti-food Waste Regulation of Huangshan in Catering
- Anti-food Waste Regulation of Suzhou in Catering
- Anti-food Waste Regulation of Jiayuguan in Catering
- Anti-food Waste Measures of Zunyi in Catering
- Anti-food Waste Measures of Rikaze in Catering
- Anti-food Waste Regulation of Guangzhou in Catering
- Anti-food Waste Regulation of Heihe in Catering
- Anti-food Waste Regulation of Changchun in Catering
- Anti-food Waste Regulation of Dezhou in Catering
- Anti-food Waste Regulation of Xian in Catering
- Decision of Yanan on Food Saving and Waste Reduction in Catering
- Anti-food Waste Regulation of Huainan in Catering

Specific implementation and action plans: Refining the specific measures and defining responsibilities

In October 2021, the General Office of the CPC Central Committee and the General Office of the State Council published the **Action Plan for Food Saving**, which specifies the construction of a food saving and waste reduction system throughout the whole food industry chain covering food production, storage, transportation, processing and consumption, and the new path development to support food security in China. In November 2021, the National Food and Strategic Reserves Administration published the Six Improvements Action Plan of the High-quality Grain Project, one of which was the Healthy Consumption Improvement Action Plan for Food Saving and Waste Reduction. With the Action Plan, specific implementation arrangements were made to save food in grain market and distribution sector. Jilin Province, Henan Province, Shaanxi Province and Anhui Province followed to develop their implementation plans for the Food Saving Action Plan.



In November 2021, the General Office of National Development and Reform Commission, the General Office of the Ministry of Commerce, the General Office of the State Administration for Market Regulation, and the General Office of the National Food and Strategic Reserves Administration published the **Anti-food Waste Action Plan**, which provides detailed measures, defines main responsible bodies, and specifies food saving and food waste reduction tasks for the catering industry, reasonable food use in public institutions as well as law enforcement and supervision. Hunan Province and Jiangxi Province, based on the local situations, formulated their regional anti-food waste work plans.

Different ministries issued notices or guiding opinions, requiring the online food delivery service providers and organizational canteens to prevent food waste.

In February 2021

The 14 government departments, including the Ministry of Commerce, published the Guiding Opinions on Preventing Food Waste, in order to address the food waste in catering industry and other key sectors.

In June 2023

The State Administration for Market Regulation and the Ministry of Commerce published the Guiding Opinions on Empowering the Online Food Service Platforms to Lead the Take-out Food Waste Reduction, in order to promote the standardization and healthy development of the online food order platforms.

In August 2023

The 4 government departments, including the National Government Offices Administration, published the Notice on Implementing the Anti-food Waste Assessment and Reporting System in Organizational Canteens, and the Anti-food Waste Assessment Standards for the Canteens of the CPC Central Committee and Central Government, requiring the CPC Central Committee and Central Government to take the lead in reducing food loss and waste.

In September 2023

The 3 government departments, including the State Administration for Market Regulation, published the Notice on Preventing Food Waste on Wedding Banquet, requiring the wedding banquet providers to introduce the anti-food waste concept into menu design, remind the consumers, avoid food waste in wedding banquet, and promote the implementation of anti-food waste measures.

Special action plan: Rectifying illegal acts

In November 2022, the General Office of State Administration for Market Regulation published the **Notice on Special Rectification of Food Waste in Catering**. In March 2023, the State Administration for Market Regulation launched a 3-month special action on preventing food waste in catering. By the standards, systems, supervision, law enforcement, publicity, guidance and specific measures, it threw the "combination punches" to fight against food waste in the catering industry.

Several provinces worked out the implementation plans for their local anti-food waste action plans, to specify and assign the tasks and works as well as supervision, special rectification and patrol inspection proposals.

By May 2023:



Standards and initiatives: Leading and guiding the industrial actions

Guided by the State Administration for Market Regulation, China Cuisine Association, China Hospitality Association, China Chain Store & Franchise Association, and China Private-owned Business Association launched a joint initiative to all the catering service providers, practitioners and consumers in March 2023, calling them to earnestly implement the Anti-food Waste Law, and the Action Plan for Food Saving. In the same month, the State Administration for Market Regulation (Standard Committee) approved the Specification for Credit Rating Evaluation of Hotel Industry, in which food waste assessment was included to further intensify the long-term effect of anti-food waste mechanism in hotels, and promote the green transformation of the industry.

The local market regulation administrations guided the industry associations to conduct anti-food waste activities. Total 28 provincial industry associations published the anti-food waste initiatives; Hebei Province, Shanxi Province, Inner Mongolia Autonomous Region, Zhejiang Province, Jiangsu Province and Gansu Province developed or amended total 61 regional anti-food waste standards; And relevant industry associations formulated over 20 group standards. Total 6,700 anti-food waste promotion events were organized nationwide, and around 430,000 people joined the relevant training³.

National Food Security Week

On November 28th, 2023, 28 government departments, including the General Office of the Food Safety Committee of the State Council, jointly launched the National Food Security Week. The event advocated the "thrifty" life style, combined food security with anti-food waste, further optimized the long-term mechanism, reinforced the supervision and law enforcement, and intensified the anti-food waste publicity and promotion. Also, it published the violation cases of the food safety laws and regulations as well as food safety standards, risk monitoring and assessment results, the food safety and anti-food waste performances of educational institutions, and the industrial initiatives. During the week, around 40 thematic events were held, including the Food Safety Forum, the Food Education Conference, the Food Consumers Conference, the Conference on Promoting the Quality Development of Catering Industry by Innovation, Quality and Efficiency Development, etc.

¹State Administration for Market Regulation https://www.samr.gov.cn/xwfbt/art/2023/art_db10698d5c564ff79e28a93bdc35a2ea.html

²State Administration for Market Regulation https://www.samr.gov.cn/xwfbt/art/2023/art_db10698d5c564ff79e28a93bdc35a2ea.html

The "Pride on Our Plates" project carried out pilot works in Beijing, Hangzhou, Shanghai, Shenzhen, Sanya and Kunming, and documented the experience in policy making and implementation in the six pilot cities.

Beijing Rigid Law Plus Multiple Standards

1 Policy overview

(1) Regional law with rigid requirements highlighting clearly responsibilities

On May 27, 2021, Beijing approved the Anti-food Waste Regulation in Beijing, taking the lead in implementing the regional anti-food waste law. The Regulation aims to address the "waste on plate," focuses on "specific industries," highlights local features, and defines the responsibilities of main responsible bodies.

Since then on, Beijing launched the "Empty Plate Campaign" to prevent food waste in catering industry, summarized the work experience in anti-food waste by district and organization, and published guidance for the "Empty Plate Campaign."

- ▶ The Regulation clearly provides that individuals are entitled to persuade, stop and report food waste in **the catering service process**;
- ▶ **The restaurant operators and organizational canteens** shall strengthen the management over "ingredient sourcing, storage, processing, food making, catering service and take-out delivery", and punish the violations against relevant regulations or persuasion for consumers' excessive food order with RMB 10,000 yuan;
- ▶ **School or kindergarten canteens**, in providing food reservation services, shall advocate rational consumption, and prevent extravagance in food ordering, business treatment, wedding and funeral banquets;
- ▶ **Group meal preparation and delivery** shall avoid excessive food preparation or shall be charged for kitchen waste disposal fee;
- ▶ **Online catering service** platforms and online catering services shall recommend small-portion foods and optional combos;
- ▶ Any publicity or promotion of overeating by online platforms shall be held accountable.

(2) Multiple standards guiding anti-food waste provisions

- ▶ On November 5, 2021, the group standard Anti-food Waste Specifications for Catering Industry in Beijing (T/BJCA001—2021), formulated by Beijing Cuisine Association under the guidance of Beijing Municipal Commerce Bureau, was officially published;
- ▶ On March 24, 2022, Beijing Municipal Food and Strategic Reserves Bureau published the local standard - Technical Specification for Storage of Finished Grain Products;
- ▶ Beijing Municipal Commerce Bureau guided relevant associations and organizations in formulating 3 local standards - The Specifications for Food Saving and Waste Reduction for the storage, transportation and processing segments;
- ▶ Beijing Municipal Bureau of Culture and Tourism incorporated the anti-food waste into local standards, e.g. Specifications for Local Tour Service by Travel Agency;
- ▶ In April 2023, Beijing Cuisine Association published the **Anti-food Waste Guidelines for Catering Service Providers** in Banquets, requiring the catering enterprises to guide consumers consumption, improve their service procedures, strengthen the guidance for consumers in food order, build the thrifty life style, provide separate dining and take-away service, serving spoon and chopsticks, etc.;
- ▶ The formulation of the local standard, **Technical Guidelines for Food Waste Reduction in Catering Industry**, is already initiated in Beijing, and actively participated by multiple industry leaders. At present, the standard is under development.

2 Measures for policy implementation

(1) Build mechanism and reinforce collaboration (for government implementation)

Total **19 governmental departments**, including Beijing Municipal Commission of Development and Reform and the Publicity Department of Beijing Municipal CPC Committee, built the special anti-food waste mechanisms as well as the tracking and assessment systems, actively accelerated the implementation of responsibilities specified in the policy and anti-food waste works by relevant departments, and **created the synergy in preventing food waste**.

(2) Promote, guide and mobilize the public (for publicity)

With public-welfare ads, feature programs and newspaper publicity, Beijing vigorously promoted food saving and waste reduction, extensively advocated the "Empty Plate Campaign," and created the social atmosphere of thriftiness.

The mainstream medium and new media platforms under the management of the municipal government produced and broadcast public-welfare ads to promote the thrifty life style; Beijing Radio and Television Bureau, Beijing TV Station and Beijing Consumer Association launched multi-dimensional publicity of the "Empty Plate Campaign" from different perspectives, e.g. public-welfare ads, thematic programs, periodicals, images and texts of the campaign, and new media platforms.

Beijing Women Federation, Beijing Municipal Communist Youth League, Beijing Federation of Trade Unions, the Propaganda Department of Beijing Municipal CPC Committee and the Capital Civilization Office actively educated the public to introduce the thrifty, healthy, green and low-carbon life style into their family education and tradition as well as into the construction of a civilized city, town, village, organization, family and campus, in order to guide the whole society to reduce food waste.

(3) Reinforce management and promote innovation (for industry engagement)

Improving the ability of green food storage. The grain engineering projects were launched to improve green storage, develop green storage techniques, including pest control with inert powder, introduce the information-based management for grain status monitoring, and boost the old storage upgrade, facility repair and maintenance.

- ▶ A reminding function was designed for the food delivery platforms to guide rational consumption and food saving. The vendors on the platforms are encouraged to provide small-portion foods and single set meals, and the small-portion food providers are presented with a medal by the "Food Saving Campaign";
- ▶ Beijing Municipal Commission of Development and Reform openly collected green innovative technologies and application scenarios for food waste reduction, and included 3 anti-food waste technologies, including the "AI algorithm to identify food waste on plate", in the List of Beijing of Recommended Green Innovative Technologies (2022 Edition);
- ▶ Beijing Municipal Science and Technology Commission and Z-park Administration Committee supported the innovative research and development of food safety and inspection techniques; Beijing Municipal Civil Affairs Bureau built and improved the matchmaking mechanism for food donation, and guided philanthropic organizations to launch charitable activities and provide volunteer services.

(4) Build pilots and reinforce supervision (for government regulation)

- ▶ In May 2022, Beijing Municipal Administration of Government Logistics organized the Party and government offices above division level in Beijing to build the anti-food **waste performance assessment and reporting system** for their canteens, strengthen monitoring and management, and establish a long-term anti-food waste mechanism;
- ▶ **Anti-food waste education and training** were provided for the Party and government offices during the National Energy Saving Week and the World Food Day;
- ▶ Beijing Municipal Administration for Market Regulation put the focus on food waste in inspections for the catering industry, and included it in routine and special inspections during important festivals. It reinforced the monitoring and guidance for catering service providers and food takeaway platforms, and pushed the implementation of anti-food waste policy;
- ▶ Beijing Municipal Commission of Urban Management actively encouraged the catering service providers to provide small-portion meals, and consumers to rationally order foods and take leftovers away in order to reduce food waste in the origin.

3 Typical cases of regulation



case

On March 17, 2023, Dongcheng District Administration for Market Regulation imposed an administrative punishment over a catering company for its failure in demonstrating the "Empty Plate Campaign" logo and reminding consumers to order and take foods in a rational manner.

4 Summary



summary

Beijing took multiple measures to comprehensively practice President Xi Jinping's instruction on preventing food waste. It enacted the Anti-food Waste Regulation in Beijing to define the responsibilities of main bodies, and reinforced the rigid legislative restriction; published several standards to guide the citizens' behavior; shaped the anti-food waste trend, promoted food saving and waste reduction, and ensured food security through multi-departmental collaboration, multi-platform publicity, multi-way waste reduction as well as multi-channel monitoring and management.



Hangzhou

Innovating Publicity Carrier and Building Intelligent Supervisory Platform

1 Policy overview

- On April 1, 2016, the Management Measures of Kitchen Wastes in Hangzhou was officially implemented. It regulates that the administrative and law enforcement departments for urban management of the district or county (city) where the kitchen wastes producers are located shall stop any breach against the Management Measures, and impose a fine up to RMB 50,000 according to the relevant provisions.
- On January 1, 2018, the Management Measures of Hangzhou for Non-household Wastes Disposal, Measurement and Charge was implemented to charge the non-household wastes by actual quantity. The wastes below the benchmark quantity are charged by different levels, and wastes beyond the benchmark are charged with extra fees.
- On September 28, 2020, Zhejiang Province published the Action Plan of Zhejiang Province on Preventing Food Waste in Catering, and Zhejiang Provincial Administration for Market Regulation published the implementing rules, Guidelines for Catering Industry on Food Saving and Anti-food Waste.
- On October 10, 2020, Hangzhou officially initiated the anti-food waste action in catering industry, and published the 6 actions to prevent food waste. The Office of Hangzhou Food Safety Committee issued the Notice on Food Saving and Food Waste Reduction in Catering Industry. The 6 actions cover rating and assessment, ad supervision, pricing violation inspection, social monitoring, publicity and education, thorough investigation, etc. Relevant departments are required to develop and enact corresponding guidelines for anti-food waste actions, specifying measures and requirements to strengthen routine management.
- On September 22, 2021, Zhejiang Provincial Administration for Market Regulation published the local standard, Specifications on Food Saving Management in Canteens of Government Departments and Public Institutions.

2 Measures of policy implementation

(1) Increase publicity and consumer engagement through industry associations

In March 2023, Hangzhou Municipal Administration for Market Regulation, Shangcheng District Administration for Market Regulation, Zhejiang Consumer Rights Protection Committee and Meituan.com organized the publicity event of "Welcome the Asian Games and Build Hangzhou into a National Civilization Model by Preventing Food Waste," to introduce the anti-food waste laws and regulations as well as standards. The above organizations collaborated with the takeaway foods providers and platforms as well as the citizens in Hangzhou to implement the laws, regulations and standards, improve the takeaway restaurants' food safety and anti-food waste works, and shape the new civilized "food-saving" life style for the whole society.

Market regulators in Hangzhou collaboratively advanced the food safety and food waste reduction in catering industry, by "jointly deploying, promoting and implementing" the "Civilization on Dining Table" and "Empty Plate Campaign", encouraging the catering service providers to offer "half-portion meals" and "small-portion meals", and introduce the "green food order" model.

Hangzhou Municipal Administration for Market Regulation issued an initiative to the public, requesting the citizens to resist food waste; maintain dietary and nutritional balance; practice "empty plate", rational and economical food order for banquet and treatment; take away leftovers; order as needed; avoid excessive food order and being picky about food, etc. Food waste by catering service providers can be reported and complained to market regulators by hotline 12345.

(2) Guarantee implementations through supervision and special actions

In March 2023, Hangzhou started a 3-month anti-food waste special action, by which the market regulators at all levels in Hangzhou pushed the third-party food order platforms to fulfill their responsibilities, reinforced the routine inspection and supervision, intensified the law enforcement and popularization, advanced the standard implementation, strengthened publicity and guidance, combined legal regulation with public education, urged the relevant departments and operators to implement their responsibilities, corrected the violations against laws and rules, accelerated the establishment of long-term mechanism, and leveraged the new media's multiway dissemination of the corrective measures and effects, and explored good practices in food waste control.

(3) Combination of rewards and punishment for online platforms to engage consumers



Regulating the online platforms' takeaway service

Hangzhou guided the online platforms to build a takeaway food description mechanism through which the vendors need to clearly record the weight, size or recommended number of diners, so as to improve the vendors' awareness of providing standard information of meals. Also, the online platforms are required to remind consumers of rationally ordering food, and to actively introduce "small-portion meals" and "half-portion meals." Thus, the platforms regularly tweet the anti-food waste message internally, and educate the users to rationally and scientifically order foods according to dietary standard and actual needs.



Exploring an incentive system

The online takeaway food platforms were encouraged to explore a positive incentive measure to avoid food waste, launch thematic activities like "discount for empty plate practitioners," open a special channel (page) for the anti-food waste vendors, guide the traffic to the vendors supporting anti-food waste campaigns to some extent, prioritize the special channel for display, consider the anti-food waste factor in the KPI assessment, optimize the vendors' management model, and constantly send the anti-food waste reminder to vendors and buyers.



Governing over-consumption

Hangzhou urged the online takeaway platforms to consider the category and per order price in setting the minimum order baseline, optimize the marketing campaigns for takeaways, regulate the vendors' unreasonable discount, and prevent consumers from ordering extra foods to meet the minimum order or discount baseline, resulting in "food waste for discount."

(4) Innovative media engagement for publicity



Two Loudspeakers

The restaurants were encouraged to install the "infrared loudspeaker" at their entrance, vocally reminding consumers to "order food rationally and avoid food waste", in order to guarantee the effect of publicity. The loudspeakers attached to the online vendors' cameras in their "sunshine kitchens" regularly broadcast the anti-food waste laws and regulations. The new publicity approach was used to address the potential food wastes in the catering segment, raise the consumers awareness, remind them of the food-saving tradition, and shape the habit of ordering as needed and emptying plate.



Kitchen under Sunshine

Hangzhou focuses on the "critical points" of online service, and assumes responsibilities upon the platforms' main bodies. A smart digital supervision platform, "Zhejiang Takeaway Online", was established to intelligently manage the online catering services, further improve food safety, and facilitate the quality development of online catering. "Pushing over the kitchen wall and revealing the kitchen to customers." Cameras were installed to demonstrate the takeaway providers' kitchens and food preparation.



White and Black List

The "White and Black List" management system was used to catering service providers, and the lists were updated and published every week. The counties (cities and districts) published the "white and black lists" on websites and the government's WeChat accounts, showing the good performers in food waste reduction in the "White List," and the bad performers in the "Black List," in order to translate the advocacy into the catering service providers conscious action. The "White and Black List" is to encourage the positive behavior, and reveal the negative. By directing the consumers with the "White and Black List," the operators are forced to fulfill their responsibilities, and join the anti-food waste campaign.

③ Typical cases of regulation



On March 22, 2023, a cinema in Hangzhou was administratively warned by Fuyang District Administration for Market Regulation of Hangzhou for only providing medium and large-portion popcorn or fries for non-combo buyers, while providing small-portion popcorn or fries for combo buyers with the Coca-cola as a compulsory order. A single small-portion popcorn or fries is not available for consumers, by which the cinema forced or misled buyers to excessive consumption.

④ Summary



Hangzhou mobilized the whole society to prevent food waste in catering industry, empowered the industry associations to play the leading role, built the long-term reward and punish mechanism, innovated the promotion and publicity carriers, innovatively established the catering regulation platform, enhanced routine supervision and management with the 6 actions, launched special actions to strengthen regulation, and incentivized the responsible bodies with the white and black lists. By all these measures, it comprehensively implemented the anti-food waste works, and built the whole society's food-saving awareness.



Shanghai

Stressing Waste Reduction in Origin and Prioritizing Food Saving Task

1 Policy overview

- On July 1, 2019, Shanghai officially enacted the Regulations of Shanghai on the Management of Household Wastes, imposing compulsory requirement on waste sorting, and trying to reduce food waste in the origin and lay the foundation for the "Empty Plate Campaign."
- On October 25, 2020, Shanghai Landscaping & City Appearance Administrative Bureau published the Notice on Promoting Wet Wastes (Kitchen Wastes) Reduction from Origin with Price Leverage, in order to engage government departments, public institutions, businesses and organizations into the "Empty Plate Campaign," create the social environment of "honoring thrifty life style, and being shameful of waste," and reduce wet wastes in the origin.
- On June 5, 2021, Shanghai Municipal Education Commission issued the Work Plan for Waste Sorting and Food Waste Reduction in Higher Education Institutions in Shanghai, with the aims to increase students' awareness in waste sorting and food saving, encourage colleges and universities to take the leading role, and advance the relevant works under the mechanisms of "training talents of integrity" and labor education.
- On June 18, 2021, 16 departments of Shanghai, including Shanghai Municipal Commission of Commerce, issued the **Action Plan on Prevention of Food Waste in Catering**, to launch a series of measures for food waste reduction in banquet, buffet, business dinner, canteens of Party and government departments and education institutions, and dining halls for the elderly people.
- On September 1, 2022, Shanghai Municipal Commission of Development and Reform, together with Shanghai Municipal Commission of Agriculture and Rural Affairs, Shanghai Municipal Commission of Commerce, Shanghai Municipal Administration for Market Regulation, and Shanghai Municipal Food and Strategic Reserves Administration, jointly developed the **Major Tasks of Shanghai in Strengthening Food Saving and Anti-food Waste (2022-2025)**, specifying total 26 major tasks to address food loss and waste issues in production, storage, processing and consumption, and defining the objectives for 2025.
- In March 2023, Shanghai Municipal Administration for Market Regulation issued the **Notice on Special Action for Food Waste Reduction**, initiating a 3-month anti-food waste special action; and the **Plan on Strengthening Supervision over Food Waste in Catering Industry**, which provides that the enterprises shall fulfill their responsibilities, and measures to strengthen supervision and guidance over them, enhance the social co-governance.

2 Measures of policy implementation

(1) "Clean Plate Campaign" acts as important means to cultivate long-term zero-wastetable manners

The "Empty Plate Campaign" is an effective approach for food saving and food waste prevention. The catering enterprises in Shanghai actively innovated their services, consolidated the impacts of the "Empty Plate Campaign," demonstrated the logo of "Empty Plate Campaign" at notable position, reminded customers to order foods as needed, and guided the customers not to take excessive foods in buffet.

The canteens of Party and government departments took the lead in implementing the "Empty Plate Campaign" and the anti-food waste law. The Regulations of Shanghai on Logistics of Party and Government Departments enacted in 2022 provides, the Party and government departments shall strengthen food saving and dining management in canteens and during public events as meeting, conference, training, business reception, etc., and implement the "Empty Plate Campaign."

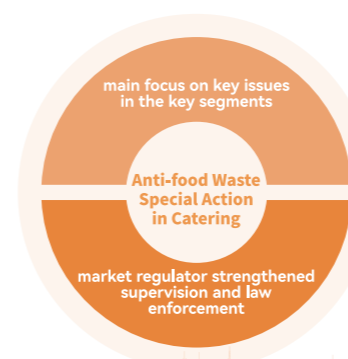


(2) Encourage carbon emission reduction through engaging Green Restaurants

Preventing food waste in catering is an important entry point for green restaurants to meet the low-carbon and environment-friendly requirement, and to reduce kitchen waste in the origin. The local standard published on April 28, 2023, the Specifications for the Management of Green Restaurants, incorporated the requirements of separate dining and "Empty Plate Campaign." The Specifications on Certification for Green Catering Service, published by Shanghai Testing Inspection and Certification Association on May 25, 2023, provides a series of quantitative indicators to increase the yield of ingredients and quality of dishes, reduce food and ingredient waste, and improve green catering service.



(3) Deployment of special actions as crucial measure to tackle food waste



Shanghai Municipal Administration for Market Regulation launched the "Anti-food Waste Special Action in Catering." With the main focus on key issues in the key segments, the market regulator strengthened supervision and law enforcement, and took measures to advocate healthy and civilized life style, energy-efficient and environment-friendly consumption.

(4) Stop food waste through strong market regulation and legislation

The market regulators in Shanghai conducted inspections on law enforcement, such as the Anti-food Waste Law, with the main focus on reminding customers of ordering food as needed, and punishing any misleading operations for excessive food order.



3 Typical cases of regulation



On March 31, 2023, Jingan District Administration for Market Regulation required an open-air food stall, which misled the consumer to order excessive foods, and refused to correct the legal breach, to take corrective action, and imposed an administrative penalty of RMB 5,000 yuan.

4 Summary



Shanghai initially enhanced food waste reduction from the origin in green restaurants. With the aim to meet the reduction target for 2025, Shanghai assigned major work tasks. The special action pushed the businesses, i.e. the main responsible bodies, to fulfill their responsibilities, addressed the major problems in main segments, strengthened instruction, monitoring and inspection, promoted the social co-governance, and actively promoted the civilized, healthy, resource-efficient, and environment-friendly consumption.



Shenzhen

Guiding Food Saving by Policy and Reducing Food Waste by Technology

1 Policy Overview

- Shenzhen has started the Empty Plate Campaign since 2016, in response to the national anti-food waste policy.
- In 2018, Shenzhen announced to launch the "Empty Plate Day" on November 8th every year, to correct food waste behavior and promote the whole nations' engagement in saving food.
- On September 1, 2020, the Regulations of Shenzhen on Household Waste Sorting was officially implemented. The Regulations expands the contents of "Empty Plate Day" on every November 8, by proposing the "Household Waste Reduction Day," combining waste sorting, food waste reduction in origin with the empty plate campaign, and promoting the eco- and environment-friendly life style.
- On September 8, 2020, Shenzhen Municipal Administration for Market Regulation carried out 10 actions to prevent food waste, and published the Action Plan on Preventing Food Waste in Catering. The Action Plan specifies the requirements on standard dining, coverage of the whole industry chain, supervision on disposable tableware in key organizations, and establishment of positive model, by which the direction of food saving for Shenzhen is pointed out.
- On October 29, 2020, the 45th Session of the 6th NPC Standing Committee of Shenzhen approved the Amendment for the Regulations of Civilized Behaviors in Shenzhen Economic Zone (Draft), which provides that all relevant departments shall take effective measures to prevent food waste in catering, and introduce legislation to build the long-term anti-food waste mechanism.
- On November 9, 2020, the NPC Standing Committee of Shenzhen published the Decision on the Amendment of the Regulations of Civilized Behaviors in Shenzhen Economic Zone, adding the provisions of civilized and healthy diet, prevention of food waste, rational food order as needed, takeaway of leftovers, food waste reduction in wedding, funeral and other activities, and prohibition over production and dissemination of crapulous videos or programs.
- On November 26, 2020, Shenzhen Municipal Bureau of Commerce published the Action Plan of Shenzhen on Preventing Food Waste and Encouraging Civilized Behaviors in Catering Industry, to implement relevant tasks, build the catering industry's awareness, and prevent food waste in the industry.
- On October 23, 2021, Shenzhen Municipal Commission of Development and Reform drafted the Work Plan on Promoting the Measurement and Charge for Non-household Kitchen Waste Disposal (Draft for Comment).
- On April 1, 2022, the Management Measures of Shenzhen on Household Waste Disposal Charge was officially published, stipulating that the producer of household wastes shall be charged at differentiated rate which is calculated by the Convert Coefficient Method for Sewage Discharge by Amount and Charging Method by Actual Waste Discharge.
- On September 13, 2023, the Urban Administration and Regulation of Shenzhen Municipality amended the previous Management Measures of Shenzhen for Kitchen Wastes into the Draft for Comment.

2 Measures of Policy Implementation

(1) action plans to regulate catering waste

On September 8, 2020, Shenzhen Municipal Administration for Market Regulation carried out 10 actions to prevent food waste in catering, and published the Action Plan on Preventing Food Waste in Catering, specifying the 10 actions:

- ▶ Example setting activities to educate the public and promote the civilized and thrifty life style;
- ▶ Small-portion Meal activities to explore a small-portion meal standard throughout the whole industry chain from farmland to dining table;
- ▶ Regulating action taken in key segments to regulate the key segments in catering;
- ▶ Special Law Enforcement Action to eliminate disposable tableware;
- ▶ Online regulatory actions to prevent waste of foods ordered online;
- ▶ Smart regulatory actions to adopt intelligent regulation over food waste in catering by "internet + open kitchen";
- ▶ Legislation actions to reinforce legislation and support the anti-food waste action;
- ▶ Standards guiding implementation and formulate the dining standard and improve the quality of action with standard;
- ▶ Model Setting Action to establish the positive role model and disclose the negative example through the "Restaurant Inspection on Wednesday";
- ▶ Demonstration by government bodies, to assign the government bodies play the leading role in saving food.

With the 10 actions, Shenzhen created the social environment of "living a thrifty life," and the diversified co-governance pattern with the government acting as the advocator, enterprise as the leading figure, and consumers as the practitioner of self-discipline.

(2) Amplify publicity through innovative livestream programs

In 2023, Shenzhen innovatively launched a live program featuring the anti-food waste law enforcement. In the program, the items, area and restaurants to be checked are determined by online voting before the random inspection intended to address the consumers' pain points. The law enforcement departments randomly sampled the areas and restaurants which the consumers complained the most, published the law enforcement and regulation procedures, and finally educated the public with food waste prevention. By July 2023, the program was viewed for 2.6 million times, playing a significant role in preventing food waste.



(3) Reduce food waste from the origin with innovative technology

Shenzhen emphasizes the application of technology in advancing "civilized consumption." The catering enterprises use an APP called "Xiao Nv Dang Jia" to select and weigh the ingredients on sale to avoid food waste. The "Smart Canteen of High School Affiliated to SUSTECH" adopted an intelligent scenario-based facial recognition payment system. The payment system binds the face up to the food tray at the entrance of the dining hall, and weighs the foods taken by students in the buffet and specialty area for dynamic billing. The smart system analyzes the nutrition in daily diet, produces the dietary health report, informs students of daily nutritional needs and corresponding food amount, while preventing excessive food taking. Jiaxian Kitchen, a catering company under the state-owned Guangdong Agribusiness Group Corporation, prepares foods according to the back-stage data. The data analysis empowers the kitchen understand the users' favorite foods, prepare and purchase ingredients not by experience, so as to avoid ingredient waste, and realize "zero inventory". Environment-friendly meal boxes and tableware are important for the catering industry in the "Empty Plate Campaign." Thanks to the latest technology, they are now being used for different foods at different temperature. The safe, degradable and environment-friendly meal box and tableware enabled consumers reduce waste in the "Empty Plate Campaign."

(4) Reduce kitchen waste and increase community care through food donation

To boost the food waste reduction in the origin, Futian District of Shenzhen carried out the food deposit public-welfare program. Excessive foods left over a certain duration are saved in fridges and provided to people in need for free, under the precondition of guaranteed food safety. The program is led by government, engaged by businesses, organized and operated by society, managed and shared by the public. It reduces burden in the food origin, and spreads good will to the society.



(5) Special actions to enhance food saving

From November to December, 2022, Shenzhen took special anti-food waste action, with the main focus on wedding banquet, buffet, business dinner, and travellers' group meal. Shenzhen Municipal Administration for Market Regulation inspected and punished the catering service providers for not reminding consumers of rational food order or misleading consumers to excessively order, and consequent food waste or violation of the anti-food waste law.



3 Typical cases of regulation



On May 16, 2023, a restaurant in Baoan District, Shenzhen misled consumers to order excessive foods on a promotion activity, "Challenge for Free", and didn't remind consumers of rational food ordering. Shenzhen Municipal Administration for Market Regulation required the violating restaurant to correct the breach of law, and issued an administrative warning.

4 Summary



Shenzhen managed the catering industry by law, innovated the publicity by livestreamed inspections and penalties against breach of law, reduced food waste in the origin by technology, advocated excessive food donation to reduce waste and promote philanthropy, conducted special actions to reinforce regulation, created the social environment of "living a thrifty life," and established the diversified co-governance with the government acting as the advocator, businesses as the leaders, and consumers as the self-discipline practitioners.



Sanya Reducing Food Waste through Targeted Laws and Regulations in Tourism Sector

1 Policy Overview

- In 2018, Hainan Provincial Government issued the Work Plan of Hainan Province for GHG Emission Control in "13th Five-year Plan Period", to advocate green and low-carbon life style, low-carbon catering and the Empty Plate Campaign, and to prevent food waste.
- In 2020, Hainan Provincial CPC Disciplinary Inspection Committee issued the Measures on Strengthening Disciplinary Inspection to Prevent Food Waste in Catering, requiring the disciplinary inspection authorities in Hainan Province to implement President Xi Jinping's instructions, **and reinforce supervision by rigid standards to stop food waste.**
- In December 2021, the General Affairs Office of Hainan Provincial Government published the Opinions on Accelerating the Construction of Green and Low-carbon Circular Economic Development System, which specifies that the Party and government departments as well as state-owned enterprises shall take the lead in promoting dining civilization, and the public shall engage in the Empty Plate Campaign.
- In March 2023, Hainan Province published the Written Proposal of Hainan Provincial Administration for Market Regulation on Preventing Food Waste in Catering, which requires catering enterprises to fulfil their social responsibilities, strengthen their self-discipline, and lead the food waste prevention; and consumers to establish a healthy food consumption concept, intensify the food-saving awareness, and practice rational consumption.
- In May 2023, Hainan Provincial Administration for Market Regulation published the Guidance for Catering Service Providers on Self-inspection of Food Waste in Hainan, providing 13 requirements and recommendatory measures for catering service providers' self-inspection, and guiding their effective measures to prevent food waste and fulfill their responsibilities as the main body.
- To fully implement the anti-food waste policy of Hainan Province, Sanya published a contextualized relevant policy. In August 2020, the NPC Standing Committee of Sanya published the Specifications of Sanya on Kitchen Waste Management, requiring the organizations and individuals to actively participate in green life campaign, develop a civilized, healthy and environment-friendly life style, and reduce kitchen waste in the origin.
- On October 1, 2020, Sanya officially implemented the Specifications, which specifies that the municipal and district environmental hygiene authorities shall take the responsibility of monitoring the kitchen waste management in their administrative regions, and punish catering service providers' failure in meeting the standards for kitchen waste disposal facility, delivering kitchen waste at the designated place, or transporting kitchen waste to the licensed disposal enterprise with the fine below RMB 1 million,.
- In March 2023, Sanya issued the Implementation Plan of Sanya Municipal Administration for Market Regulation for the Anti-food Waste Special Action, which emphasizes the work objectives and timeline, inspection and supervision over the platforms, different segments and issues, expansion of publicity channels, active disclosure of authoritative information, constant release of positive messages, and guidance for the public in shaping the scientific, rational and civilized consumption habit.
- In May 2023, Sanya published the **Guidelines of Sanya Municipal Bureau of Coordinated Administrative Law Enforcement on Food Waste Case Investigation and Punishment**, which clarifies the law enforcement tasks against food waste catering industry, in order to improve the law enforcement capacity.

2 Measures for Policy Implementation

(1) Combine regulation with training and capacity building

Sanya actively implemented the anti-food waste special action of Hainan. In May 2023, Sanya published the Guidance of Sanya on Food Waste Case Investigation and Punishment, to improve the law enforcement personnel's capacity.

Sanya Municipal Administration for Market Regulation provided door-to-door training service for over 500 catering companies to explain the anti-food waste standard in details, and organized business training on building a national food security demonstration city, i.e. the anti-food waste publicity for the responsible persons of grass-root market regulators, Meituan platform, catering company operators and food deliverers. By May 2023, total 1,231 practitioners and regulators of the catering industry were trained, and 2,112 copies of training materials were distributed.



1,231 practitioners and regulators of the catering industry were trained



2,112 copies of training materials were distributed

(2) Create an "anti-food waste" social environment through multi-channel publicity



Sanya organized 11 publicity events, and guided the catering service providers on the takeaway food platforms, including Meituan, to publicize food waste reduction on their homepage, and to attach anti-food waste posters on the meal delivery boxes.



Sanya asked restaurants to add slogans against food waste to meal information, play short promotional videos on LED screens, and distribute promotional leaflets.



Sanya Municipal Administration for Market Regulation published a written proposal on food waste prevention, and guided the industry association to publish the written proposal on food waste prevention. Up to now, total 53,000 copies of publicity materials were distributed, patrol inspection over food waste covered 100% of restaurants, and all food safety personnel in large-scale catering enterprises passed the after-training assessment by 100%.

(3) Industry associations lead in building long-term anti-food waste mechanism

Sanya, as one of the hottest tourism destinations, fully mobilized the civil society organizations as, hospitality and catering associations. The restaurants in the city actively practiced and promoted the "thrifty life style, and anti-food waste campaign," as an "important demonstration window".

Sanya Seafood Restaurant Association and Sanya Tourism Hotel Association launched "thrifty tradition and life style" publicity activities to promote the traditional virtue and food-saving custom.

Sanya Tourism Hotel Association actively promoted the tourism hotels' optimization of group meal design, advocated the Empty Plate Campaign, and spread the civilized consumption concept featuring "order as needed" and "small-portion meal".



Sanya Tourism and Culture Administration, together with the district-level tourism and culture authorities, intensified the supervision over food waste in star hotels and green restaurants, and urged the tourism catering providers to advance "separate dining" as well as provide more options to meet diversified catering needs, including small-portion meals, half-portion dishes, etc.

3 Typical cases of regulation



On April 4, 2023, a restaurant in Haitang District of Sanya didn't hang the anti-food waste posters, nor remind consumers of preventing food waste. Sanya Municipal Administration for Market Regulation submitted relevant evidences and the case to Sanya Coordinated Administrative Law Enforcement Bureau for investigation. The latter required the restaurant to take corrective actions, and issued an administrative warning.

4 Summary



summary

Sanya fully mobilized the tourism-related industry associations in building and improving the long-term anti-food waste mechanism, in order to improve the catering enterprises' anti-food waste awareness and capacity through publicity and training, strengthen regulation, supervision and law enforcement by special actions, increase the effects of law enforcement with inspection and punishment, and fully boost the anti-food waste practice among enterprises.



Kunming

Intensifying MSMEs' Management, Regulating Catering Services with Standards

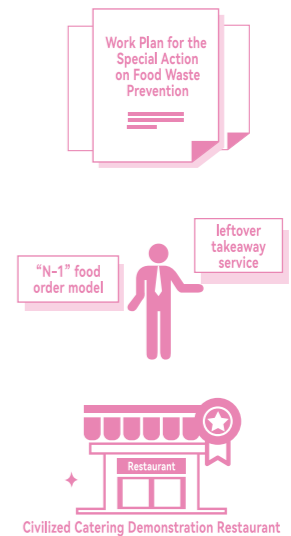
1 Policy Overview

- On October 30, 2020, the Decision of Kunming NPC Standing Committee on Food Saving and Food Waste Prevention was officially published and enacted to strengthen food security education, and foster the food-saving habit and a social environment honoring thrifty life style.
- On December 1, 2020, Kunming NPC Standing Committee published and implemented the Regulations of Kunming on Patriotic Health Work, incorporating the food saving and waste prevention into local legislation.
- In October 2021, Kunming Municipal Bureau of Commerce, Kunming Municipal Administration for Market Regulation and Kunming F-B & Delicacy Industry Association jointly organized the "Green Catering, Civilized Catering and Safe Catering" campaign and the Launching Ceremony of "Clean Restaurant" Patriotic Public Health Special Action, published the Industry Standard of Kunming on Preventing Food Waste in Catering, and developed the plan and the Reward & Punishment System for the "Food Saving Demonstration Restaurant" campaign.
- In March 2023, Kunming Municipal Administration for Market Regulation and Kunming Municipal Bureau of Commerce jointly developed the Management System for Food Saving and Catering Waste Prevention, under which the weekly inspection in the catering industry was implemented, and the "Empty Plate Campaign" and food waste prevention were included in the supervision and assessment for catering companies. The responsible persons of the food-wasting catering companies and organizational canteens were interviewed and urged to prevent food waste by publicity and education.
- On June 1, 2023, the Regulations of Kunming on Household Waste Management was officially implemented, which provides that catering service providers shall set up reminder signs at prominent positions in restaurants, guide consumers to develop the food-saving habit, and remind consumers of ordering as needed. Kitchen wastes and other wastes shall be sorted and thrown into the corresponding garbage bin.
- In July 2023, Kunming Municipal Bureau of Commerce and Kunming F-B & Delicacy Industry Association jointly published the Written Proposal on Promoting "Small-portion Meal" and "Half-portion Dish" to Prevent Food Waste, pushing the catering companies and third-party online catering platforms to promote food saving, create the atmosphere of "empty plate," actively remind and guide consumers, establish the scientific dietary concept, strengthen the coordinated management, synergistically build the food saving mechanism, innovate service model, provide "small-portion meal" and "half-portion dish", incorporate food saving concept in production, processing and serving process, reduce kitchen waste, and adopt the concept of "food saving and waste prevention" throughout the operation and service process.

2 Measures for Policy Implementation

(1) Improve the mechanism to strengthen law enforcement

- In March 2023, Kunming launched a food waste prevention special action to implement the national and provincial anti-food waste policies. To address the food waste problem, Kunming published the Work Plan for the Special Action on Food Waste Prevention, to incorporate food waste prevention into the "Two Responsibilities for Food Security" and the "List of 3 Tasks (Daily Control, Weekly Inspection and Monthly Allocation)", and push the catering service providers to fulfill the responsibility of ensuring food security;
- Kunming F-B & Delicacy Industry Association, in cooperation with the market regulation and commerce authorities, organized a series of civilized catering activities, encouraged catering companies to implement anti-food waste measures, trained restaurant attendants, and promoted the "N-1" food order model and leftover takeaway service;
- Kunming F-B & Delicacy Industry Association developed the "White and Black List" to prevent food waste, selected and rewarded the Civilized Catering Demonstration Restaurant, and sought for incentives to improve their initiative in preventing food waste.

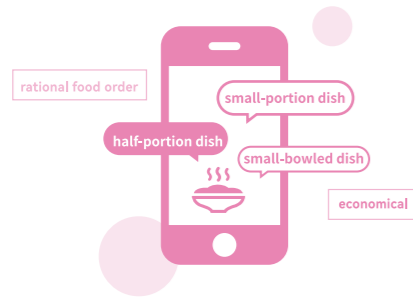


(2) Shape the public awareness and social conduct by diversified publicity

Kunming carried out anti-food waste publicity by law enforcement staffs at open markets and catering companies. The food-saving awareness was deeply implanted in peoples' minds through policy interpretation, publicity materials, poster and banner, etc. The restaurants were required to seriously fulfill the anti-food waste responsibility, guide consumers to rational order, and educate catering service providers and consumers to save food and dine in a civilized manner.



(3) Mark dish weight and remind rational order

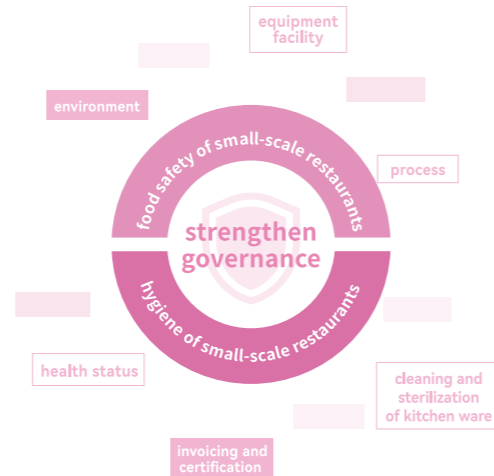


Kunming forcefully launched the "small-portion meal" and "half-portion dish", clearly marked the online offerings with weight, and reminded rational food order. Some catering providers in shopping malls launched the economical "half-portion dish" and "small-portion dish." By searching "small-portion dish", "half-portion dish" or "small-bowled dish" on the food delivery APP, many restaurants will be screened out. Some companies launched "big-portion dish" on the contrary, providing bigger-size specialty dishes for one or two most popular variety as a new trial in reducing food waste.

(4) Strengthen governance of small restaurants to standardize their operation

Kunming Municipal Administration for Market Regulation strengthened governance over small-scale restaurants in environment, hygiene and food safety aspects. It intensified the training and guidance for market regulators at county and district level, carried out special actions to control the out-of-scope operation of catering companies, strictly examined the small restaurants which newly applied for registration, renewal and modification according to specifications, constantly standardized the audit procedures, strengthened the on-site inspection, and improved the service licensing and filing quality of small restaurants. It focused on the environment, hygiene, equipment, facility, process, health status of work staffs, invoicing and certification of food products, cleaning and sterilization of kitchen ware and table ware, fought against legal breach, and punished the small restaurants with potential risks of food safety, complained or reported legal breach which had been proven in investigation.

Up to now, the market regulation system of Kunming shows that total 5,311 routine inspections were conducted to small restaurants and food stalls, and 16 cases were established and processed in Kunming.



③ Typical Cases of Regulation



On March 24, 2023, a restaurant in Xishan District, Kunming neither hung or set up anti-food waste sign at prominent position, nor reminded customers of rational order as needed or taking away leftovers. Kunming Municipal Administration for Market Regulation required the restaurant to take corrective action, and issued an administrative warning.

④ Summary



Kunming improved the mechanism to strengthen the institutional guarantee, publicized anti-food waste on multiple platforms to create the atmosphere, promoted food waste reduction technology, standardized catering operation by multiple standards, supervised the small restaurants operation, stressed the governance over weak points, and intensified the anti-food waste campaign by multiple measures.



INVESTIGATE

Questionnaire survey for catering companies on the implementation of anti-food waste policy

The project team initiated a survey over catering companies on online platforms, to learn the implementation and impacts of the anti-food waste policy system, actions and practices after the Anti-food Waste Law was enacted.

Total 556 enterprises completed the questionnaire, of which 83% were Chinese restaurants and 17% were western restaurants; 61% were fast food restaurants, and the rest were snack bars and desert shops; and 89% were micro enterprises⁴ with less than 10 staffs and less than RMB 1 million yuan of revenue.

⁴According to the Measures on Categorization of Large-, Medium- and Small-size Enterprises (2017) developed by the National Bureau of Statistics.

1 Implementation of Anti-food Waste Policy

The publicity of anti-food waste policy was being constantly reinforced, and anti-food waste training already generated effects. However, the policy publicity and implementation led by governmental authorities for multiple main bodies through multiple media channels need to be carried out in an all-round manner, especially the publicity and training for small- and medium-sized enterprises need to be increased.

The survey result shows that 69% catering companies knew the Anti-food Waste Law, and 44% implemented it or took corresponding measures; 43% learned about the law from governmental publicity more than other media channels, and followed by internet and TV channels, accounting for 33%. Only 10% catering companies staffs knew little about the law. After the Anti-food Waste Law had been enacted, 26% catering companies significantly reduced food waste; 55% reduced food waste to some extent, and continued the efforts to explore more potential; 11% believed that the policy implementation shall be further intensified to produce better effects; and 56% thought the "food saving and food waste reduction" training shall be enhanced, of which 34% said technical training was needed.

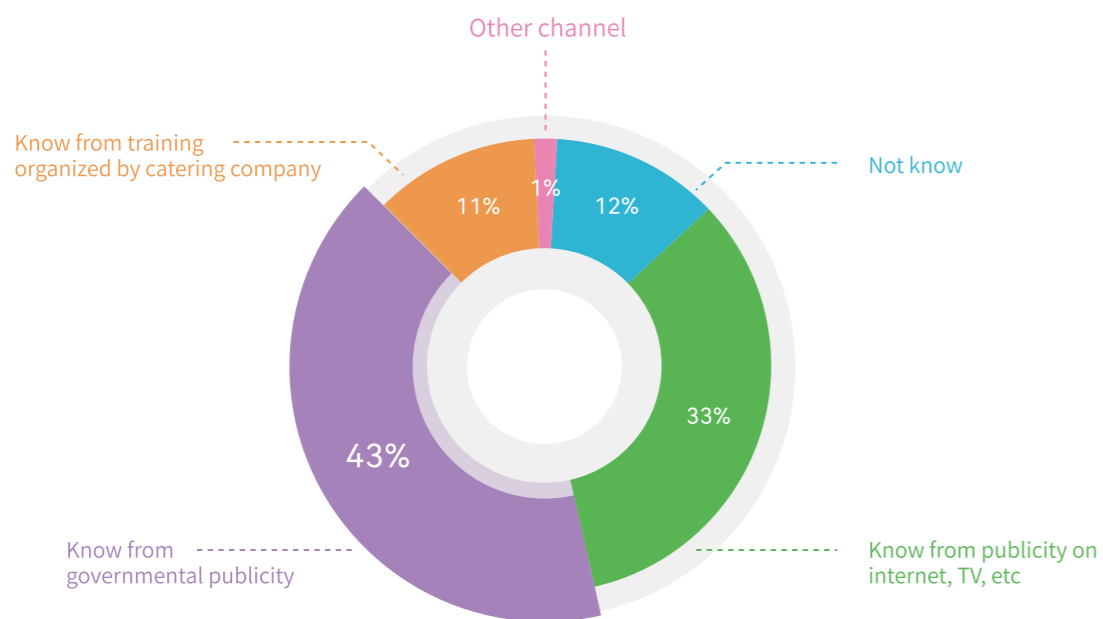


Fig. 3 Channels of Knowing the Anti-food Waste Policy



Fig. 4 Effects on Food Waste Reduction after the Implementation of the Anti-food Waste Law

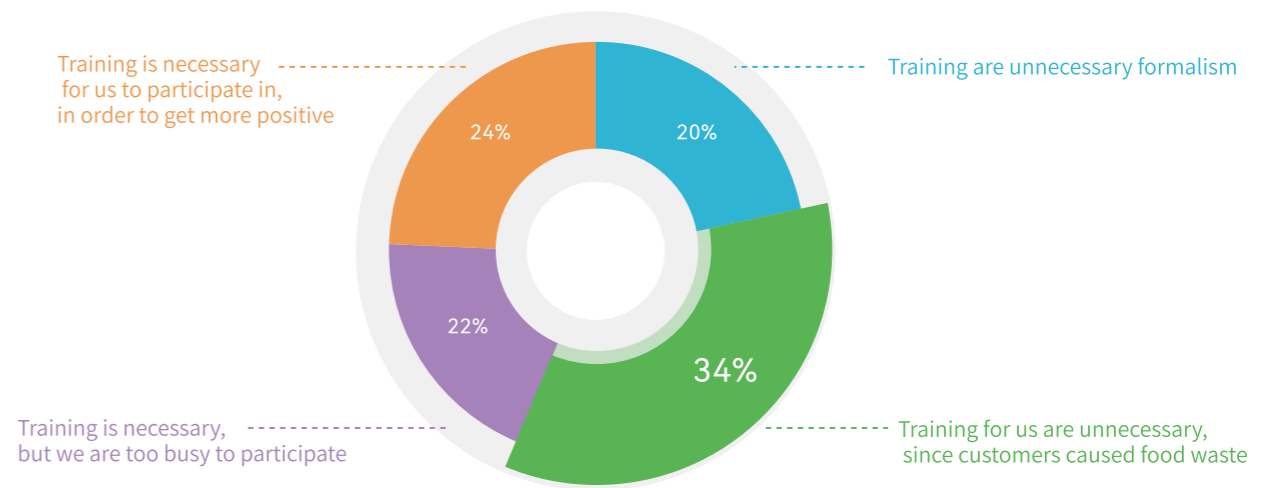


Fig. 5 Work Staffs' Attitude Towards the "Food Saving and Food Waste Reduction" Training

To promote food waste reduction, we need an effective incentive measure and mechanism. Rating or credit assessment is the effective measure to improve the catering industry's and industry players' management, and to regulate the market order. Incorporating the catering companies performance in food waste reduction into the rating or credit assessment process will inspire them to actively reduce food waste. Total 67% catering companies agreed to include "food waste performance" into rating or credit assessment, of which 32% believed it would generate significant effect, 35% considered the effect should be tested in practice, and 27% thought that it depends on the development of catering industry later on.

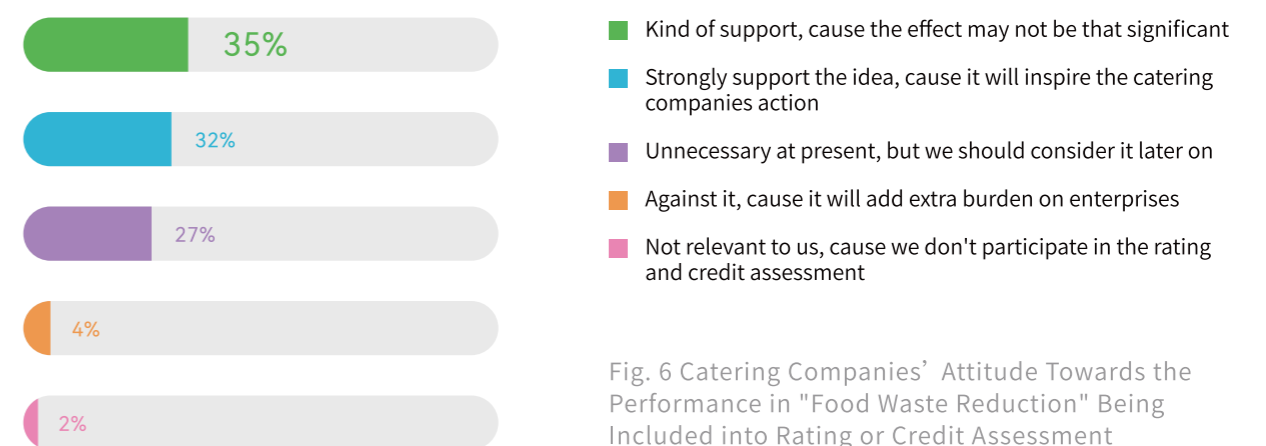


Fig. 6 Catering Companies' Attitude Towards the Performance in "Food Waste Reduction" Being Included into Rating or Credit Assessment

05 OPPORTUNITIES AND CHALLENGES

2 Measures taken by catering companies to reduce food waste

The food waste reduction by multiple measures needs to be further publicized and promoted. The statistics shows 31% catering companies believed the reason why food waste could not be stopped, though measures were taken is that customers food saving habit was not fostered, and 20% companies believed the reason is consumers thought "I am entitled to do whatever to foods I bought by myself", so customers habits must be changed. Most of the companies believed by combining multiple effective measures, food waste could be reduced, of which 51% believed strengthening publicity and education to improve the awareness of food saving would work; and 17% believed industry associations should issue implementation guidance and provide training. As for the opinions on measures taken to reduce kitchen waste, 41% catering companies selected and widely promoted "precise purchase as needed"; and others selected multiple combined measures.

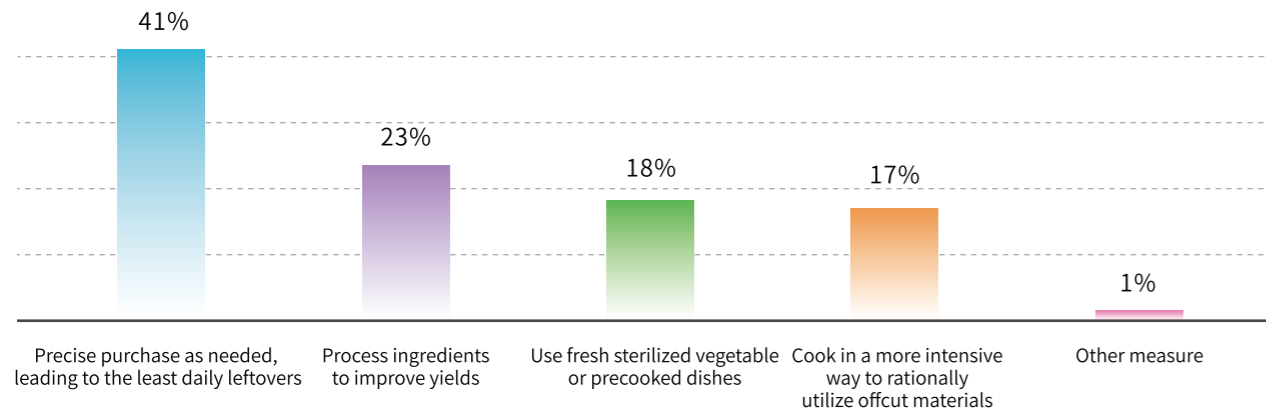


Fig. 7 Measures Taken to Prevent Food Waste in Kitchen

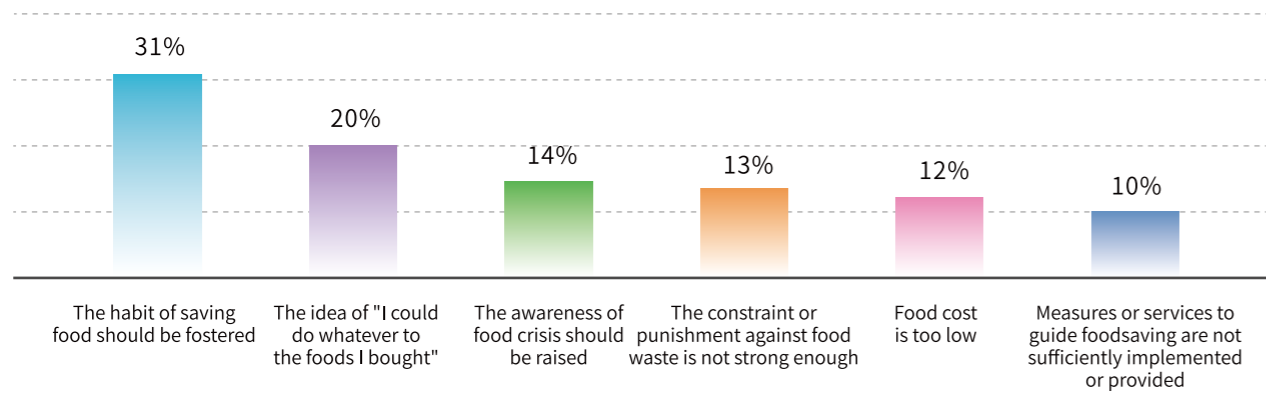


Fig. 8 Catering Companies Views on the Unsuccessful Food Waste Prevention

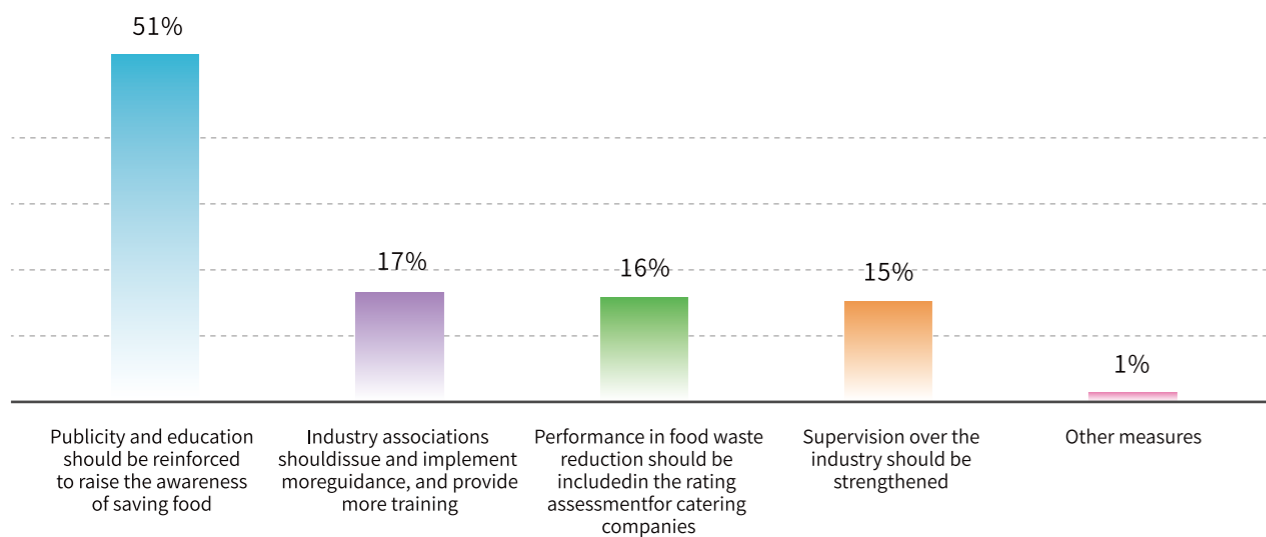


Fig. 9 Measures of Food Waste Reduction Catering Enterprises Considered as Effective

1 Opportunities

Green and low-carbon development

Promoting green and low-carbon social and economic development is key to quality development. President Xi pointed out, "Promoting green development and life style is necessary for adopting the new development philosophy," and "We need to accelerate the transition to green development, advocate green consumption, and promote green and low-carbon production and life style." Advocating and promoting food saving and food waste reduction are required to establish the green and low-carbon life style, and lay the solid foundation for Chinese food security. In the context of advancing the global trend to green and low-carbon development, the catering industry needs to follow the universal trend by preventing food waste, since it is of great social significance.

Scientific and technological innovation

In recent years, innovative technologies provided new ideas and accelerated new development for food waste reduction in catering companies. IoT technology, including AI recognition, data monitoring, smart weighing and precision ingredient rationing, significantly enhanced food waste reduction. The smart management software collected real-time data to monitor the operation of restaurants. Intelligent analysis on different levels helped operators strengthen the management of sales and inventory, improve the accuracy of sales prediction, precise positioning and order control, so as to realize the intensive management and reduce food waste. Technological innovation expanded the market, saved cost and increased efficiency, accelerated the transformation and brand appreciation, and increased the visibility of the catering companies.

2 Challenges

Promoting food waste monitoring and measurement

The quantitative monitoring of food waste helped the assessment of food loss and waste, and the development of targeted measures. Currently, some enterprises in some regions use the IoT technologies to monitor, weight, record and statistically calculate food loss and waste, e.g. the "Restaurant Dining Record" in the WeChat mini app of "Pride on Our Plates". Only a limited number of catering companies monitor food waste due to different reasons, e.g. the operation philosophy, management idea, capital and technical investment, etc., but their large-scale promotion and application are challenging; A complete food waste monitoring and assessment system can hardly be built, due to lack of data on the national and local level.

Building a multi-stakeholder coordination mechanism

Fight against food waste is a systemic task, covering multiple segments like food production, purchase, storage, transportation, processing and consumption, and involving multiple main bodies as enterprise, consumer and government. Between the main bodies, there is complicated interest relationship. For example, in the context of anti-food waste measures being taken, there are the distinctive conflict between enterprise's revenue and consumer's rational consumption; the conflict between enterprise's performance and government's social benefit; and the conflict between consumer's living standard and government's low waste initiative. The complicated interest relationships impaired the implementation of anti-food waste measure. How to balance the interests of different main bodies, and build an efficient and coordinated anti-food waste promotion mechanism face big challenges.

Building an efficient multi-main body regulating system

On the management level, many government departments regulate food waste, including the authorities of commerce, market regulation, culture and tourism, and urban management. Their responsibilities may overlap, and the catering industry fatigue in dealing with their regulation; The regulatory absence may lead to the food consumer groups' escape from regulation, so the regulation efficiency needs to be further improved. Additionally, the regulation on the grass-root level is challenged by the problems like excessive main bodies, difficulties in regulation and consumers' resistance. How to build an efficient multi-main body regulating system is one of the challenges in promoting food waste reduction.

Appropriate food waste reduction measures for restaurants with different management levels

Catering companies are different in type, size, management level and awareness of food waste. The big companies are relatively higher in management level, and stronger in awareness of food waste. Due to their higher requirements on dishes and ingredients, the focus of reducing food waste should be put on the ingredient loss in kitchen. The small- and medium-size restaurants usually have limited capacity in routine operation and management, but stress more on economic effect. Meanwhile, the turnover rate in catering companies is relatively high, and the employee's awareness of food waste needs to be improved, due to the lower education background. Thus, the main focus of food loss and waste reduction should be put on the food waste on dining table. Considering the different characteristics of catering companies, we need to develop appropriate food waste reduction measures and solutions, and guide the catering industry to take food waste reduction actions in a targeted way. These are the challenges to be overcome.

1 Defining the main bodies' responsibilities and building the long-term anti-food waste mechanism

The Anti-food Waste Law involves different regulating bodies. In implementation, the responsibilities of each main body shall be specified, and an inter-linked food loss and waste reduction mechanism shall be built to intensify the supervision over food waste, and create a smooth reporting channel. In this way, the regulators can establish a reporting hotline in the production and catering venues, handle the reported violations instantly, and educate the public on site. The functional departments responsible for anti-food waste can build an inter-linked anti-food waste information platform, to share resources and information, enhance the inter-departmental connectivity, efficiently advance the anti-food waste works, and effectively avoid repeated or excessive law enforcement as a result of information asymmetry. Meanwhile, flexibility, inclusiveness and prudence should be adopted in law enforcement. The Anti-food Waste Law is not to punish the food wasters, but to change the food consumers' and stakeholders' food waste behaviors and correct their consumption concept, so as to reduce food waste and foster the new thrifty fashion in the society. Therefore, the law enforcers shall seek to educate the public by convincing, instead of punishing them, and thus create a universally accepted education-based law enforcement for all the stakeholders.

Suggestion

The central government should appoint a responsible government department to lead, and other departments to support the action. The governments and organizations at all levels should fulfill their respective responsibilities to meet the objectives of the law. An Anti-food Waste Office should be set up on the grass-root level, and a food loss and waste management information exchange platform should be built. Thus an efficient inter-linked work mechanism can be developed to comprehensively guide, scientifically manage and precisely govern food waste reduction endeavors. For the ambiguous responsibilities in the legislation, the corresponding specifications should be developed, together with the supporting systems. Supervision and management should be strengthened, and specific anti-food waste measures should be planned to proceed the anti-food waste work forward. Meanwhile, the responsibilities and performance assessment standards of different departments should be clearly defined in anti-food waste campaigns according to the Anti-food Waste Law. The anti-food waste campaign should be normalized, and the dynamic performance assessment should be systematized.

2 Improving standard specifications and building an anti-food waste guideline

Standards should be improved, by organizing the formulation of national standard, and group standard by industry associations, in order to standardize the industry practices.

Firstly, strengthen promotion and trainings of national standards

Including the Guidance on Individual Dining System in Catering Service (GB/T 39002-2020), Guidelines for Catering Industry Supply Chain Management (GB/T 40040-2021), Specifications for Information Description of Food Delivery (GB/T 40041-2021), Green Catering Operation and Management (GB/T 40042-2021), General Rules for Management of Anti-food Waste in Catering, etc., shall be publicized and introduced more through training.

Secondly, accelerate the establishment, amendment and trainings of local standards

Beijing is now accelerating the formulation of local standards as the Specifications on Assessment of Green Packaging for Food Delivery and Distribution, Guidance for Catering Industry on Food Loss Reduction Technology, etc.; Heilongjiang Province is organizing training on local standards, the Specifications for Services of Economic Catering Enterprises (DB23/T 3090-2022) and Specifications for Services of Online Order Delivery (DB23/T 3099-2022); and China Hospitality Association published the group standard, the Specifications for Green Catering Assessment (T/CHA 026-2022), and launched a series of publicity activities, to set the standards for the industry.

Thirdly, further develop specifications for standards

Considering the natures of foods, the realities faced by different enterprises' and the difference in residents' consumption in different regions, the local governments above the county level shall develop the food waste standards for different segments and geographical locations. The differentiated food waste standards and the standard filing systems shall be consistent and aligned with each other. The anti-food waste implementation standard systems applicable for different scenarios, organizations/units and regions shall facilitate the smooth enforcement of the Anti-food Waste Law.

Suggestion

An example-based quantitative baseline shall be determined to define food waste in different stage on the basis of the food categorization standard, e.g. the quantitative baseline for producers, according to their production scale and mechanization level; the baseline for catering industry shall be estimated approximately, according to their business and daily leftover amount; and the baseline for household kitchen waste shall be specified and developed into a separate standard after survey and assessment.

3 Building a diversified management model through administrative agreements

- Firstly, producers, sellers and administrative bodies shall sign the anti-food waste administrative agreement, transferring the responsibility from the administrative body to the society, and assuming the responsibility of reducing food waste to producers and sellers in the production and sales process. By signing the administrative agreement with the responsible parties, a community of government and the public is established to "share risks and interests."
- Secondly, an administrative reward and punishment mechanism shall be established, under which any organization or individual are entitled to stop food waste, any effective reduction of food waste or reporting of others' food waste shall be rewarded, any violation by catering service provider or organizational canteen shall be reported to the service hotline, official platform or relevant government department, and the reporter shall be rewarded. In this way, the public will be incentivized to eliminate food waste.
- Thirdly, administrative guidance shall be strengthened. The government and relevant departments shall lead the anti-food waste project, and actively work with other main bodies to reduce food loss and waste.

Suggestion

Administrative departments shall sign a voluntary agreement with the catering operators, and incentivize them to voluntarily sign the administrative agreement with relevant departments through fiscal subsidy, tax reduction or other supporting policy, e.g. tax cut or exemption policy for food-donating enterprises. In implementing the anti-food waste agreement, the signatories shall avoid resource waste, environmental pollution and ecological damage. For the operators which did not implement the agreement, the relevant authorities shall terminate the agreement, and abolish the incentive measure.

4 Improving data and promoting quantitative monitoring and measurement of food waste

A monitoring and assessment system shall be built to monitor and measure the food loss and waste throughout the supply chain, and to comprehensively learn about the actual food waste in the whole food system.

01

food loss and waste measurement shall be considered as a systemic project in top-level design, covering all the steps, main bodies and foods throughout the supply chain. Standardized methodologies and definitions shall be used to enable internal comparability and the connectivity between different steps.

02

the entities in the food system shall be mobilized to establish a regular monitoring and reporting system according to certain standards for each segment of the industry, and collect representative food loss and waste data by area, industry and stage in a bottom-up manner.

03

international communication and cooperation shall be strengthened, to borrow international organizations' and other countries' measurement and evaluation methods, and share Chinese measures in reducing food loss and waste, and support the sustainable development goals.

04

the catering enterprises shall be guided and urged to monitor food waste and collect data for statistical purposes, and governmental departments shall strengthen monitoring and regulation.

5 Launching demonstration and pilot projects to generate duplicable and promotable experience

Food loss reduction shall be piloted in key segments and regions for key products. Demonstration and pilot works shall be strengthened to generate and summarize duplicable and promotable experience, e.g. localized sales of fresh products (vegetables, fruits, etc.) is encouraged, i.e. fresh products should be sold in places of origin or in neighboring area, to reduce food loss caused by long-distance transportation; and remote storage strategy should be adopted for grains, cause the Northeast and southern provinces in China, like Zhejiang Province, are the main grain production places.

6 Building price incentive mechanisms to restrain inappropriate operations

The reform of non-household kitchen waste charge aims to enhance waste reduction in the origin. Besides the waste sorting and publicity, a rational charging standard for non-household kitchen waste shall be developed to further improve the kitchen waste collection, transportation and disposal mechanism. In institutional design, the non-household kitchen waste pricing shall follow the practical and realistic principles. The quota management and differentiated charging shall be adopted. Thus an elaborated step toll charging mechanism shall be built to allow a stepwise and classified implementation, and a reasonable timeline for market players to adapt and adjust to it.

7 Strengthening publicity and education to guide people towards the green and low-carbon lifestyle

Publicity and public education shall be strengthened to boost the wedding banquets transition from extravagance to health, thriftiness and civilization. Popular guidance shall be adopted to guide the public in shaping the scientific, rational and civilized consumption habit. The Empty Plate Campaign shall be continuously publicized to reduce food waste and carbon emission, boost the realization of the "Dual Carbon" objective in catering industry, and promote the consensus on green and low-carbon development.

Relevant departments shall take the lead in educating different groups with food education on campus, in community and organization, and guide the social transition to green consumption. Education institutions shall play the leading role in the public education. Labor education, art education and traditional culture education can be combined with food education for different age groups in different grades. Food waste course can be provided in some capable education institutions.

8 Conducting studies on SDGs of food loss and waste and developing China's action plan

Special researches shall be conducted on UN SDGs, including climate change, poverty alleviation, food security, water resources and biodiversity conservation, the key steps and issues of SDG 12.3⁵, as well as food loss and waste; The central government shall conduct top-level design, and assign the relevant government departments, such as the National Development and Reform Commission and Ministry of Agriculture and Rural Affairs, to develop the Chinese Action Plan in response to UN SDG 12.3. All relevant parties, including the government departments, processing enterprises, retailers and farmers in different sectors, shall be motivated to actively participate in the program, setting specific targets, and developing guidance on food waste reduction actions for the supply chain and consumers.

⁵By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

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