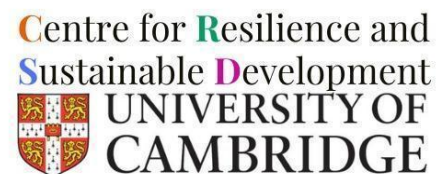


Concept Note:

Cambridge Policy Boot Camp (CPBC): Wet Market Reform in Nanjing Incentivizing Dietary Shifts

**Partnership between EAT and University of Cambridge
Funded by Rockefeller Foundation**

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Key Question

How can we transform wet markets in Nanjing to deliver a resilient supply of well-balanced, nutritious and sustainable diets to citizens, protect the livelihoods of the vendors and contribute to the National Food and Nutrition Program (2021-2035) in the context of post-COVID recovery?

National Anchor Agency

Good Food Fund, China Biodiversity Conservation and Green Development Foundation (CBCGDF)

Local Focal Point

Good Food Fund, China

Ultimate beneficiary

Wet market industry in Nanjing (represented by the Nanjing Wet Market Association, Jinbao Farmer's Market) who will develop sustainable business models to deliver a resilient supply of foods needed to support healthy and sustainable diets.

Concept note authorship

This concept note was prepared jointly by the Centre for Resilience and Sustainable Development, University of Cambridge and the Good Food Fund, China.

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Background: Why wet markets?

Wet markets in Asia are broadly comparable to the European ‘farmers market’. It is called ‘wet’ as opposed to ‘dry’ because the vendors need to hose down their produce to keep it cool and fresh. Compared to food halls in western malls, wet markets in Asia used to lack electrification and access to modern refrigeration.

In China, according to the “Regulation on the Standardised Wet Market Setting and Management”, a wet market is a marketplace with fixed space (including stalls, shops, business rooms) and corresponding facilities to sell all kinds of agricultural and sideline products. These include (but are not limited to) fruits and vegetables, meat, poultry and eggs and their products, aquatic products, dairy products, soybean products, condiments, cooked food bitterns, preserved products, grain and oil and their products, etc¹.

A special attention was given to Asian wet markets due to the role Chinese wet markets reportedly played in the outbreak of the Covid-19 pandemic. Regardless of whether or not a specific wet market was the source of COVID-19, more attention should be paid to solving the root causes which make the outbreak of zoonotic diseases more frequent - unsustainable human activities, including increasing demand for animal protein and unsustainable agricultural intensification. In addition, pandemic and continuing lockdown in different Chinese cities has raised public awareness of health and nutrition and encouraged a re-assessment of food security. There is an urgent need for action to incentivize dietary shifts, and the wet market, as a major source of food for many urban populations, is an ideal place to intervene.

The dietary profile of residents of Nanjing shows that the consumption of cereals, vegetables, aquatic products and eggs is barely meeting the recommended requirements while the intake of whole grains and beans, potatoes, fruits, soybeans and nuts, and milk and dairy products is insufficient. In contrast the consumption of meat, oil and salt is higher than recommended amounts. Promoting a dietary shift in Nanjing will therefore have practical health as well as environmental benefits.

To keep up with transformations in demographics, technology and shopping habits, Nanjing wet markets are actively exploring options to transform their mode of operations and expand their role in everyday life. Key examples include swapping to electronic payment systems, hosting social events and cooking classes, and partnering with large property-management companies to deliver the supply of the wet market to the residents in the communities they manage. These efforts to secure the future of Nanjing’s wet markets have seen limited success (many are at a very early stage) - and opportunities exist to creatively reimagine the future of these vital food hubs.

¹ Ministry of Commerce of the People's Republic of China. (2011). Standardise the setting and management of vegetable markets. Retrieved from <http://scjss.mofcom.gov.cn/aarticle/cx/201106/20110607607795.html>

Challenges and Response

Decreased and homogenised consumer base

Currently middle-aged and elderly people account for 80% of Nanjing's wet market consumers. As the younger people are living a fast-paced life under great pressure, they tend to favour dining outside the home or using food delivery service instead of going to the wet market for fresh food shopping. This contributes to an important cause of the decreased consumer base in the wet market.

As a response, creating social functions is a new trend in wet market developments, and there have been more than 100 wet markets in Nanjing serving as “neighbourhood centres”. Social functions include after-school child care and shared kitchen where housewives can socialise. These new functions were welcomed by residents, but failed to bring real profits to wet markets because the major business of selling fresh produce itself was not upgraded. A sustainable business model is yet to be developed. Today, some wet markets are also piloting the combination of gourmet markets in order to attract more diversified customers.

Threats from New Retailing

In recent years, with the popularity of mobile payment and online shopping APPs developments, the improvement of cold chain transportation and delivery efficiency, and the convenience of all-day contactless service, the New Retailing of fresh produce is sweeping young and middle-aged people, posing a huge threat to the traditional wet markets, especially during the Covid lockdown.

As a response, wet markets in Nanjing, with support from the Nanjing Wet Market Association, have been trying different ways to upgrade its retailing system to adapt to the lifestyle and shopping habits of younger people and to expand its consumer base. Initiatives, include:

- **Seeking cooperation with MissFresh (每日优鲜)** MissFresh is a large innovative digital platform for community retailing. It hopes to bring a younger customer base to the wet market while the latter can serve as a convenient warehouse for the platform. While the challenge is that MissFresh is an integrated platform which breaks the tradition of categorised and independent selling of smallholders. From the vendors' perspective, the perceived threats of being replaced by the one-stop shopping platform led to the breakdown of cooperation.
- **Participating in group purchasing** Group purchasing is an emerging way of getting fresh produce in Chinese communities, where residents place their orders in an online community group and the head(团长) would make the purchase (usually at a discounted price) and distribute the goods to each house. It is a new retailing model to circulate fresh commodities efficiently relying on the social network between the community and the head of the group. In this business model, the wet market made

attempts to become the direct supply centre for the large community order by building relationships with the head of the group. However, this has put the head under huge pressure as he/she has to connect consumers and vendors while keeping an eye on the food quality, delivery time etc., which eventually led to the breakdown of the cooperation.

- **Entering third-party large delivery platforms such as Meituan(美团) and Jingdong (京东)** Food delivery service is prevailing among young people and competitive in the food retailing industry due to the strong capital support. The wet market has made attempts to join the online platforms owned by big internet companies. However price control and profit-sharing mechanism by the platforms has meant the vendors did not see any financial benefits from operating using this method.
- **Developing a new exclusive electronic app for the wet market in Nanjing.** This can prevent the restrictions or controls from other platforms while it takes time and money to develop a trusty applet that can survive in the fierce competition of new retailing.

Despite these creative attempts to improve financial returns for wet markets, none of them were successful due to the difficulties in communications with small-holder farmers, quality control, large investment and gaming with big companies etc..

The Nanjing City Government has the responsibility for delivering the “Vegetable Basket” Program and some budgetary support for the wet markets for projects such as improvements in infrastructure. However, they do not have budgets for promoting healthy or sustainable diets. The Cambridge Policy Boot Camp will support resolving this tension through identifying potential new options for wet markets to deliver the desired nutritional and sustainable diet benefits for Nanjing citizens. In this way it can provide a case study for potential options for wet markets throughout China, and through this, contribute to the objectives of the National Food and Nutrition Program (2021-2035), developed by the Institute of Food and Nutrition Development, Ministry of Agriculture and Rural Affairs.

Opportunities

Global Agenda

According to the landmark *Eat-Lancet* Commission Report in 2019², three prioritised actions should be taken to transform the global food system: shift to Planetary Health Diet³, reduce food loss and waste, and improve production practices. As food is the single strongest lever to optimise human health and environmental sustainability on Earth,⁴ a healthy and sustainable diet can be an effective and feasible way to tackle the problems faced by the global food

² [EAT Lancet Commission Summary Report](#)

³ See [The Planetary Health Diet website](#)

⁴ Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.

system. In the 2021 UN Food Systems Summit process, a key priority echoed by many Member States and stakeholder groups involved was the urgent need for action to deliver healthy diets from sustainable food systems for all.

National policies

China's annual "policy document No. 1" had agriculture and rural development as its top priority for 17 years — until 2020, when fighting rural poverty became the top priority. China's development vision 2035 underlines the fundamental role of agriculture to ensure food security, safety, and quality, as well as rural revitalization. The food systems in China — which include agriculture, agribusiness, food processing, packaging, transportation, wholesale and retail trade, food services, finance, insurance, advertising, and input supplies — account for 23% of the country's gross domestic product (GDP) and employs 30% of its population⁵.

The central government has recently published the "Fourteenth Five-Year Plan (2021–2025)," as well as its "Fourteenth Five-Year Plan for National Agricultural Green Development". It has also developed the "National Food and Nutrition Program (2021-2035)" guided by its National Rural Revitalization Strategic Plan (2018-2022), Healthy China 2030 Plan, Plan to Boost High-quality Development of Agriculture (2018-2022), and the National Nutrition Plan (2017-2030). These plans and guidelines aim to engender a shift toward "a well-off society in an all-round way," which includes greater food security and accessibility, as well as a more efficient, green, inclusive, and sustainable agriculture and food system.⁵

The "Fourteenth Five-Year Plan for National Agricultural Green Development" (jointly issued by the Ministry of Agriculture and Rural Affairs, the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Natural Resources, the Ministry of Ecology and Environment, and the National Forestry and Grass Administration) calls for a sustainable logistics system, with prioritised actions including developing low-carbon transportation of agricultural products, accelerating the upgrade of agricultural wholesale markets and promoting green e-commerce of agricultural products.

Increasing farmers' income is a priority for the Ministry of Agriculture, reflected in the National Agricultural Green Development Plan calls for promoting e-commerce which would allow farmers to increase their income through selling their produce directly to the consumers through e-commerce platforms like Taobao, the most widely used online shopping platform in China.⁶

The Plan also calls for promoting consumption of green agricultural products by developing relevant standards and certifications, promoting traceability systems, and setting special areas in wholesale markets/supermarkets/e-commerce. It is unclear yet whether such a requirement is

⁵ S. Fan, et al., "Transforming Chinese Food Systems for both Human and Planetary Health," (2021). Retrieved from: https://sc-fss2021.org/wp-content/uploads/2021/04/FSS_Brief_Food_Systems_China.pdf; B. Ghose, "Food Security and Food Sufficiency in China: From Past to 2050," *Food and Energy Security* 3(2): 86–95.

⁶ Per Com Dr Zhu, Ministry of Agriculture.

included in the policies that guide the operations of wholesale or even retail markets on the ground.

Nutrition improvement is also among the key priorities of food policies in China. In 2019, the central government initiated the Healthy China 2030 campaign, which promotes balanced diets as a key element of addressing nutrition issues including the over-consumption of energy-dense, nutrient-poor foods to curb the rise in overweight and obesity rates. China's National Nutrition Plan (2017-2030) and National Food and Nutrition Program (2014-2020) have detailed targets for specific food categories and nutrients, as well as key strategies and tasks to achieve these aims. Recently, the Chinese Nutrition Society published Chinese Dietary Guidelines 2022 with practical suggestions on food choices for nutritionally sound individual diets. Currently, the prepackaged food in supermarkets is regulated by the National Health Commission and the State Administration for Market Regulation, while the produce in wet markets remains unregulated.

National policies and practices on food and diets typically focus on sector-specific goals, meaning fragmentation ('siloed working'), rather than coordination, is the norm in efforts to deliver healthy diets - making it harder to generate multiple benefits for both nutrition and environmental sustainability goals. Moreover, policies to date have largely neglected the environmental impact of the overconsumption of animal products and the industrialised livestock production system. To promote a holistic food system transformation, there are policy gaps that need to be addressed.

Provincial and City Policies

The National Government is committed to providing food security to every citizen in China through its "Rice Bag" Program and "Vegetable Basket" Program. The "Rice Bag" Program, implemented in 1995, assigns the responsibility for the grain cereal supply and pricing to the provincial governors. The "Vegetable Basket" Program, implemented in 1988, assigns the responsibility for the non-grain food supply to city mayors. At the city level, wet markets have been highly valued as part of the "Vegetable Basket" Program, to support local livelihoods, employment and access to fresh foods - as a "livelihood project" (民生工程). In Nanjing, a special office for the "Vegetable Basket" Program was established to better complete the task of food supply at all events.

For the "Vegetable Basket" Program, there is significant discretion on how it may be implemented and therefore open to interpretation and the initiative of city mayors. For example, listed below are some representative documents regarding the non-grain food supply in Jiangsu Province.

- ***Notice on the assessment measures for the implementation of the mayor responsibility system for "Vegetable Basket" Program*** (省政府办公厅关于印发江苏省

“菜篮子”市长负责制考核实施办法的通知)⁷ was issued in May 2017 by the general office of the Government of Jiangsu Province. This document clarified the assessment procedure of the “Vegetable Basket” Program targeting 12 municipal cities in Jiangsu Province except for Nanjing⁸. The content of the assessment includes five aspects: the production capacity, market circulation capacity, quality and safety supervision capacity, regulation and control capacity, and citizen satisfaction.

- ***Opinions on the Construction of Green Vegetable Supply Base for the "Vegetable Basket" Program*** (关于开展“菜篮子”工程绿色蔬菜保供基地建设的意见)⁹ was issued in May 2021 by the Department of Agriculture and Rural Affairs of Jiangsu Province (江苏省农业农村厅), which aimed to improve vegetable production and supply capacity at the provincial level. This document made clear to each municipal government about the importance of building a green vegetable supply chain for the “Vegetable Basket” Program and paved the way for the planning of the supply chain in different cities through a series of guidelines. For instance, it divided the vegetable supply of Jiangsu Province into three parts: the southern Jiangsu, which is the most developed area within the province, mainly focus on the modern urban agriculture and high-quality vegetable supply; the goal of the middle of Jiangsu is to develop green vegetable industry and ensure the vegetable supply of southern Jiangsu; and the northern Jiangsu, which is the less developed area, would engage in the national vegetable market as a competitive brand from Jiangsu. The three parts are combined together to give full play of the advantageous resources in every region and achieve the provincial level balance of economic development and food supply.

Wet markets in Nanjing: policies and practices

As the capital of Jiangsu Province and the second largest city in East China, Nanjing has an administrative area of 6600 square kilometres and a population of more than 9 million. Situated in the Yangtze River Delta region, the most developed area of China, Nanjing is a fully modernised city with the GDP ranking top 10 and the per capita GDP of more than US\$24,000 in 2020. It is also a unique centre of Chinese history, culture and education.

With the rapid speed of urban expansion and economic development, the Nanjing city government pays close attention to residents’ food security, achieving close to zero hunger across the city. Using a cross-sector team, led by the city’s mayor, Nanjing has achieved great success in the “Vegetable Basket” Program, against all four main goals of food security (i.e.,

⁷ http://www.jiangsu.gov.cn/art/2017/5/27/art_46144_2545549.html

⁸ According to the general office of the state council, the performance appraisal responsibility for the “Vegetable Basket” food management in Nanjing lies with the inter ministerial joint meeting led by the Ministry of Agriculture (农业部牵头的“菜篮子”食品管理部际联席会议). Appraisal Measures for the Mayor Responsibility System of Vegetable Basket Program.

http://www.gov.cn/zhengce/content/2017-01/09/content_5158046.htm

⁹ http://nynct.jiangsu.gov.cn/art/2021/5/31/art_11977_9833329.html

availability, accessibility, utilisation, and stability for all). The four main goals are implemented sequentially in the policy-making process due to the extensive nature of food insecurity and a very limited state budget to tackle them simultaneously(see figure 1 below).

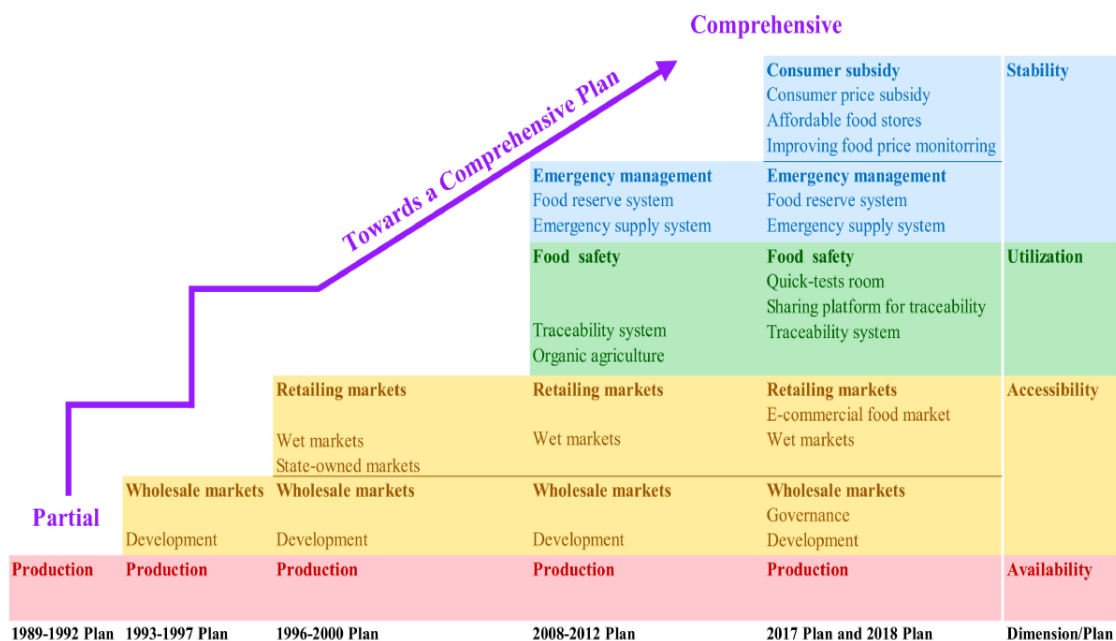


Figure 1. Incremental development of food system planning in Nanjing (Source: Zhong,2021¹⁰)

As in many urban areas in China, wet markets provide a multifunctional role in Nanjing. Wet markets are not only the dominant fresh produce source in Nanjing, but also offer other social and recreational functions. As such, Nanjing City Government has recognized the importance of this traditional food outlet in food security and launched a series of programs to promote the wet market reforms and development, including upgrading infrastructure to improve the physical environment and provision of electronic payment systems.¹¹ Key reforms and developments include:

- From 1993, it became mandatory to build a wet market of at least 500m square metres to serve any residential neighbourhood with a population of 10000-15000.

¹⁰ Zhong, T.; Si, Z.; Scott, S.;Crush, J.; Yang, K.; Huang, X. Comprehensive Food System Planning for Urban Food Security in Nanjing, China. *Land* 2021, 10, 1090. <https://doi.org/10.3390/land10101090>

¹¹ Yuan Y., Si Z., Zhong T., , Huang, X., Crush, J. (2021)Revisiting China’s supermarket revolution: Complementarity and co-evolution between traditional and modern food outlets, *World Development*, **47**, <https://doi.org/10.1016/j.worlddev.2021.105631>

- Since 2011, real-estate developers have been required to build a new wet market whenever a residential area is developed.
- In the two annual plans (2017 and 2018) of Nanjing city, it was proposed that each housing complex in the city should have physical access to five different “vegetable baskets” or food outlets. These included Basket 1: wet markets; Basket 2: fresh produce zones in supermarkets; Basket 3: “favourable price” food shops for fresh produce at subsidised prices; Basket 4: e-commerce lockers for online food deliveries; and Basket 5: self-pick-up stores.
- According to the "15-Minute Community Life Circle Planning Guidelines" ¹²issued by Nanjing municipal government at the end of 2021, every residential community centre (service radius 500-600 metres, population 30,000-50,000) shall be equipped with an integrated service centre, which includes a wet market, to achieve 10-15 min convenient life within the community circle.
- The development and upgrading of facilities at wet markets have been subsidised by the municipal government (70% of the total investment).

The wet markets in Nanjing follow a public-private mode of ownership and management (Figure 2) whereby approximately 1/3 of the market is publicly owned and managed, one-third is publicly owned and privately managed, and the rest privately owned and managed.¹³ This approach was adopted to balance food affordability and profitability and contributes to the prosperity of the industry, but poses a challenge to price control.

¹² Nanjing municipal government. (25/01/2022).15-Minute Community Life Circle Planning Guidelines. Retrieved from http://www.jiangsu.gov.cn/art/2022/1/25/art_33718_10331560.html

¹³ Pers comm. Yan Qing, Secretary-General of the Nanjing Wet Market Association

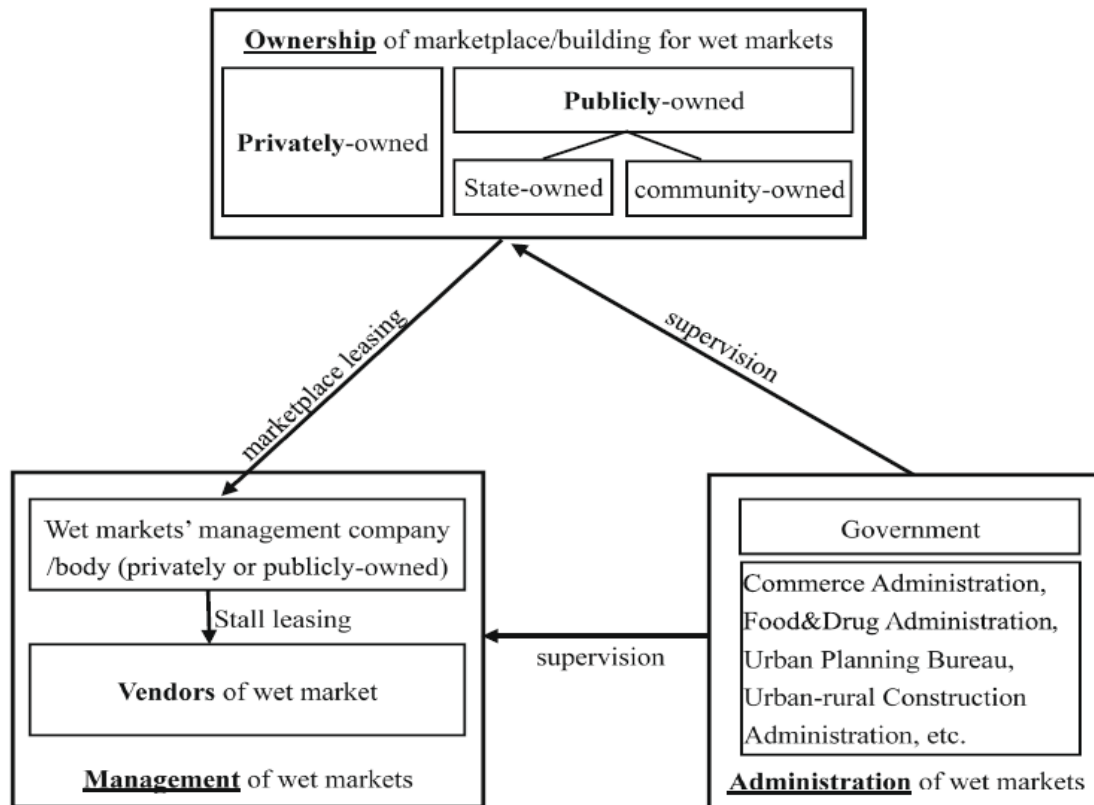


Figure 2. Ownership, management and administration of wet markets

(Source: Zhong et al., 2019¹⁴)

These policies and practices have enhanced residents' physical accessibility to food outlets, which is reflected in the fact that over 90% of surveyed households bought vegetables and fruits within walking distance of their residence.

In Nanjing, residents' food sources have shown a great diversity including wet markets, supermarkets, street vendors, online shops, restaurants etc., among which wet markets and supermarkets are most frequently visited.¹⁵ Supermarkets are the top venues for purchasing staple grains, dairy products and processed food and existing/new supermarkets are required to reserve no less than 20%/30% of their area for fresh produce retail. This policy enhances supermarkets' role in the fresh food provisioning system. However, the prices in supermarkets tend to be higher than those found in the wet markets because consumers have the opportunity to bargain prices at wet markets. .

¹⁴ Zhong, T., Si, Z., Crush, J. et al. Achieving urban food security through a hybrid public-private food provisioning system: the case of Nanjing, China. *Food Sec.* 11, 1071–1086 (2019). <https://doi.org/10.1007/s12571-019-00961-8>

¹⁵ Zhenzhong Si, Steffanie Scott & Cameron McCordic (2019) Wet markets, supermarkets and alternative food sources: consumers' food access in Nanjing, China, *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, 40:1, 78-96, DOI: [10.1080/02255189.2018.1442322](https://doi.org/10.1080/02255189.2018.1442322)

Wet markets are the main sources for purchasing fresh produce and meat partly because of their easy accessibility, freshness of food and negotiable price (fresh/cooked vegetables, fresh pork, fresh fish and fresh chicken sales from wet markets account for 92.6%, 83.8%, 92.4%, 87.6% of total purchases of the respondents respectively.¹⁶ More than 70% of respondents visited wet markets at least five days a week. The relationship between supermarkets and wet markets in Nanjing has been co-evolving and complementary, rather than supermarkets replacing wet markets.¹⁷

According to the Nanjing Wet Market Association, currently there are 360 wet markets in Nanjing, 300 of which have upgraded infrastructure and software systems by 2019, with more explicit planning on the food division within the space. Now wet markets in Nanjing are far from the stereotype of “dirty, disorderly and bad” (脏乱差). They are located in permanent buildings, and equipped with advanced food preservation, food testing and traceability systems.¹⁸

Supply chain of wet markets

A multi-channel wholesale mode now dominates the supply chain of the Nanjing food system. As figure 3 shows below, brokers collect produce from independent small producers, farmers' cooperatives, contracted producers, agri-food companies, and state farms and resell it to regional wholesalers who then resell the bulk food to wholesale markets. For millions of small-holder farmers, fishermen, livestock owners, traders, entrepreneurs, and day labourer livelihoods are linked with thriving wet markets in China.

¹⁶ Si,Z, Scott,S., McCordic,C. (2019). Wet markets, supermarkets and alternative food sources: consumers' food access in Nanjing, China, *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, 40(1), 78-96.

¹⁷ Yuan Y., Si Z., Zhong T., , Huang, X.,, Crush, J. (2021) *op cit*

¹⁸ Pers. comm. Yan Qing, Secretary General Nanjing Wet Market Association.

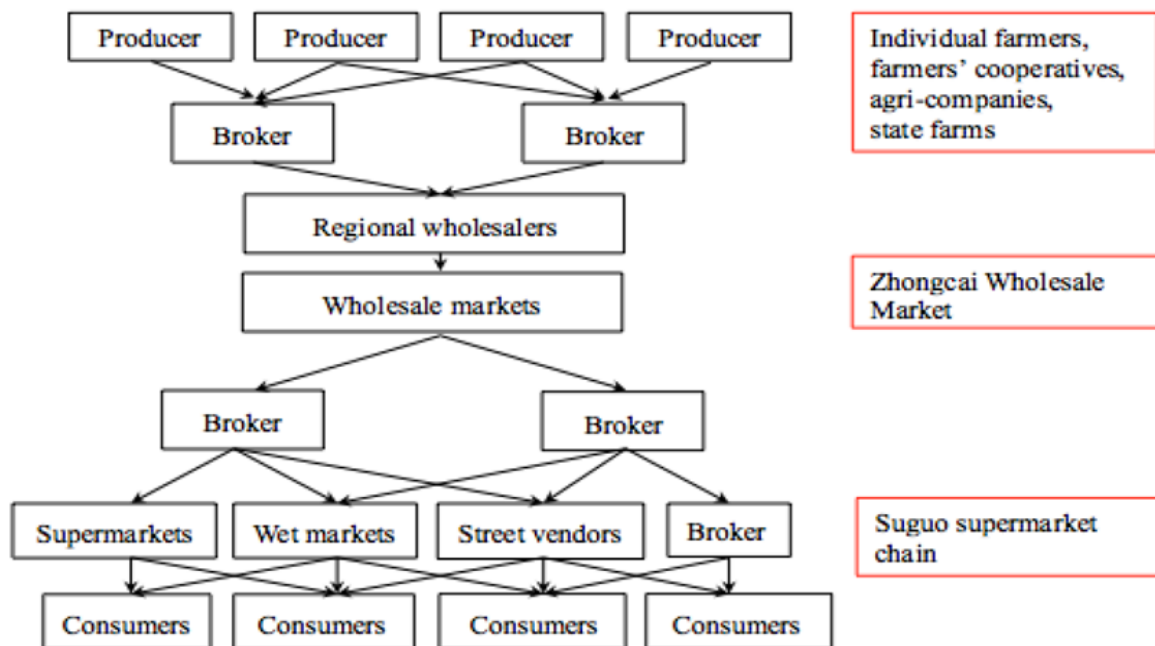


Figure 3. Food supply chain flowing to and within Nanjing ¹⁹.

Studies have shown that food from outside of Nanjing accounts for around 70 percent of all the food sold in the city's markets²⁰. Meanwhile, the Nanjing government has been promoting local food production and cultivating local brands to ensure residents' food supply - particularly during the COVID-19 pandemic.

Today, the Nanjing Wet Market Association is pushing for a direct link between local farms and wet markets by introducing local farms to the wet market owners and encouraging the wet markets to set up self-operated areas along with other vendors. This would not only promote local short chain supply but also help control other vendors from selling at excessive prices.²¹

¹⁹ Si, Z., Crush, J., Scott, S., & Zhong, T. (2016). The urban food system of Nanjing, China. Hungry Cities Report Series No.1. <https://hungrycities.net/wp-content/uploads/>

²⁰ Zhou, Y., and L. Lu. (2008). Efficiency of Supply Chains of Fresh Vegetables: A Case Study of Nanjing. *Jiangsu Agricultural Science* (01), 69:72. (in Chinese).

²¹ Pers. comm. Yan Qing, Secretary General Nanjing Wet Market Association.

Cambridge Policy Boot Camp: An integral Part of the Food System Game Changers Lab 2.0

The Food Systems Game Changers Lab (FSGCL) 1.0 - which was a major part of the UN Food Summit 2021 - collected more than 500 solutions, from 83 participating countries, during the leadup to the Summit, from 83 countries submitted, reflecting a diverse range of ideas, innovations and initiatives. Further screening of the ideas brought together 24 Solution Cohorts who co-created an Action Agenda that offers a vision for future food systems that are sustainable, equitable, healthy, and diverse, as well as a transformative pathway to realise that vision through a particular collective solution set.

The Cambridge Policy Boot Camp (CPBC) builds on the work of FSGCL 2.0 by providing the tailor connects between specific food system problems that a (local or national) governments want to tackle and the participants in the Game Changers Lab who have chosen to specialise in that particular area of the food system.

The boot camp methodology allows participants to engage in an intensive exploration of a given challenge through a multilayered system lens, guided and supported by a dedicated group of expert facilitators and mentors with years of substantive expertise. The “challenge owner” (government entity) takes part and is committed to taking forward the outcomes of the boot camp.

The CPBC approach can greatly facilitate the process of moving from a specific solution, developed as part of the FSGCL 1.0, to propositions with system changing potential, via matchmaking with governments and companies and “stress testing” of the propositions against the realities of a particular context.

The Cambridge Policy Boot Camp (CPBC)

The Cambridge Policy Boot Camp is a transdisciplinary ‘action research’ method developed by Dr Nazia M Habib, the Centre Head and the Founder of the Centre for Resilience and Sustainable Development (CRSD) at the University of Cambridge, UK. A multi-disciplinary team of experts at the Centre are also members of the Department of Engineering at the University of Cambridge.

The CPBC is an agile approach to quickly identify, document and use evidence to develop potential solutions for a complex policy problem. The aim is to integrate multiple perspectives, using mutually reinforcing frameworks, that can provide practical direction for complex decisions²² and promote resilient solutions within the given context and resources.

²² Decision makers and participants from over 90 countries have benefited from the Cambridge Policy Boot Camp experience. Policy topics addressed in CPBC exercises have spanned safe repatriation of

Using collective design thinking CPBC supports decision makers to make better decisions without spending a lot of time, money and energy by addressing three key challenges in designing policy:

1. Insights brought to unlock thematic challenge - allows policy makers to quickly come to terms with the complex systems within which they operate, and the scope and scale of potential effective policy responses (e.g. complex multi-level governance of the food system and public food)

2. Insights brought to unlock Technical challenge - this acts to improve coordination and collaboration between knowledgeable parties and the powerful entities required through creative and critical thinking to unlock shared insights to find common ground. Doing so often reduces transaction cost and improves shared trust in the policy system.

3. Insights brought to unlock Outreach challenge - this acts to engage with external agencies (including media) to secure (implicit) buy-in in the new policy systems, This is an important part of the CPBC design to create potential institutions that can facilitate, promote and secure long term rights for the under 5's to access a Minimum Acceptable Diet.

Using a combination of dynamic systems thinking approach blended with political economic theories, decision science and creative design, a CPBC exposes participants to social design thinking, complex deductive reasoning and empathetic analysis. Articulation of outcomes, exposure to trade-offs, unintended complexity and inefficiency in the existing system enables individuals to question inherent biases, exercise critical thinking capacity and to practise negotiated reasoning skills in a short burst of time.

Empirical studies on impacts of applying system thinking indicate that systems thinking can significantly improve organisational leadership performance and efficiency²³, and is integral to effective project management²⁴ which can improve crisis responses²⁵. Improving crisis response is part of developing a resilient system, which can also optimise itself by conducting specific practices such as getting rid of outdated knowledge or tools²⁶, and engaging in co-producing research, form new network, and invest in new structure²⁷.

refugees to upskilling policy for industry 4.0. To find out more about the research centre work see <https://www.crsd.landecon.cam.ac.uk>

²³Skarzauskiene, Aelita. (2010). Managing complexity: Systems thinking as a catalyst of the organisation performance. *Measuring Business Excellence*. 14. 49-64. 10.1108/13683041011093758..

²⁴Kerzner H (2013). *Project management: a systems approach to planning, scheduling, and controlling*: Wiley; London.

²⁵Goldberg KI (2013). Crisis decision-making: Understanding the decision-making process during emergencies. *CRISIS*. 2013;25

²⁶Cherney, A., & Head, B. (2011). Supporting the knowledge-to-action process: a systems-thinking approach. *Evidence & Policy: A Journal of Research, Debate and Practice*, 7(4), 471–488. <https://doi.org/10.1332/174426411x603461>

²⁷Kitson A, Brook A, and et al (2018). Using complexity and network concepts to inform healthcare knowledge translation. *International Journal of Health Policy Management*. 2018;7:231.

CPBC is primarily intended to benefit identified lead organisations in process - as they are the accountable party with the mandate to implement the best ideas developed by participants.

The anticipated outcomes from the CPBC are:

- 1) sharpened quality of the solutions** in terms of their relevance and effectiveness in a particular policy/political economy context;
- 2) expanded individual level capacity amongst the participants** (stakeholders, shareholders) to apply systems thinking in the development of solutions; and
- 3) generating advance commitment** in specific policy making entities (national or local) to operationalize solutions

The CPBC Delivery Process

Each Cambridge Policy Boot Camp works with an ‘anchor agency’ who holds the appropriate budget and mandate for taking forward any policy options developed - and is therefore the ultimate beneficiary of the project.

In the Nanjing China workshop, the ‘anchor agency’ will be the Good Food Fund under China Biodiversity Conservation and Green Development Foundation (CBCGDF). The Good Food Fund is a leading NGO in China’s food space and is well connected to networks of experts and practitioners.

Representatives from stakeholders and shareholders are identified through rigorous consultation with the global and national experts who are dealing with the policy challenge on a daily basis. It is their insight into the value chain of the policy and product that allows CPBC to address unintended consequences collectively and efficiently.

There are **five stages** in executing a Cambridge Policy Boot Camp. Throughout these stages, the EAT and Cambridge teams will work together with the responsible government institution that has committed to the CPBC as “owner²⁸” of the **key challenge question**, and with Thought for Food as host of FSGCL.

- (a) **Stage 1: Setting up (Overall project):** The FSGCL 2.0 leadership team, along with the *EAT-Cambridge team* develop a Country/Idea selection protocol to ensure the CPBC is targeted well. Based on the framework, countries will be selected or invited, a decision to be made collectively.

²⁸Also known as Anchor agency, as defined in the methodology section.

- (b) **Stage 2: Interlinked Analysis (CPBC Phase 1):** Conducting background research to identify and map the underlying system of relevance to the specific challenge area and corresponding solution cohort that the government entity wants to engage with through the CPBC, related networks and the ultimate beneficiaries. This stage takes approximately two to three months to complete.
- (c) **Stage 3: Boundary Setting (CPBC Phase 2):** Define a question that pinpoints the exact challenge that a government entity wants to tackle, within its institutional mandate, and that matches the specific FSGCL solution cohort.
- (d) **Stage 4: Workshop Design and Execution (CPBC Phase 3):** Design a time-bound workshop in close collaboration with the lead government institution as identified in phase 1 (See figure 1), and invite ultimate beneficiaries as identified through these same steps. Subject matter experts will be engaged to provide 'lightning talks' on specific subjects to provide background and contextual information for participants. Subject matter experts are likely to include experts with experience in regulation and decision making, local community leaders, union representatives, farmers, agripreneurs and consumer representatives. Participants from the FSGCL solution cohort will also be identified and selected to play important roles - some as mentors, others as facilitators or note takers, and others as participants.

The workshop date is 29 July, 2022 from 09:00 to 13:00 (London, UK Time).

The workshop will comprise of 40 participants divided into 5 teams with representatives from from each following group (with careful consideration to maintain diversity and gender balance):

- Representatives from the wet market "industry" (from investment, development, management to vendors, from wholesale markets to retail markets, from public to private actors)
- Representatives from "New Retail" and other food retailers
- Representatives from food value chain stakeholders (farmers, brokers, food companies, restaurants, chefs, household consumers, etc.)
- Representatives from other stakeholders (food educators, nutritionists, culture & tourism, art & design, architecture & urban planning, NGOs, media, etc.)
- Youth participants from GFF's Youth Talent Development Program
- Youth participants who will help facilitate.

- (e) **Stage 5: Synthesis, Follow-Up and Evaluation (Overall project):** There will be constant engagement between the EAT-Cambridge team throughout the process. In particular though there will be structured collaboration to produce *two types of documents reporting on the synthesis of the outcomes from the CPBC.*

The best solution of the CPBC will be considered **by Jinbao Farmer's Market** and Nanjing Wet Market Association to be implemented and will be considered **by Dr Zhu Dazhou** to be

submitted to media channels which could have influence on policy making; and potentially be developed with further research to submitted to policy makers through Two Sessions.

Defining Key Terms of the Cambridge Policy Boot Camp

Shareholders are the problem owners and less powerful groups in the policy system. If anything improves in the policy system due to a policy application, the shareholder group should benefit first. For example, a healthy school meal will benefit the students before their families for having healthy children.

Stakeholders, as categorised in the CPBC analytical process, possess greater political economic power. This group is often represented by institutions that have institutional mandates or some provision of responsibility to implement the articulated policy, when made public. It is the same group that can contest the policy or help complete the policy life cycle. The CPBC method applies insights from network research to identify stakeholders who need to be part of the co-creation process of policy articulation to reduce unintended consequences. By involving policy stakeholders from the starting point of the CPBC design phase, individuals participating in the process benefit from systems level understanding and can appreciate the institutional value of being part of the change process that a particular policy design is aiming for.

'*Ultimate Beneficiary*' (*UB*) is a group of population represented within the shareholder group, and is also identified *for whom* the policy articulation is needed and going to take place. During this first phase, boundary conditions are set around the problem in partnership again with the anchor agency who is aiming to improve communication and commitment to its shareholders and stakeholders of the solutions.

Policy Anchor (PA) is a member within the stakeholders category, often a government institution at any level—national, regional or local—which is the *owner* of the challenge and hence has the authority to make policy and institutional changes.²⁹ Every CPBC is delivered in partnership with a local policy *anchor agency*. Policy anchor agency is the 'owner' of the

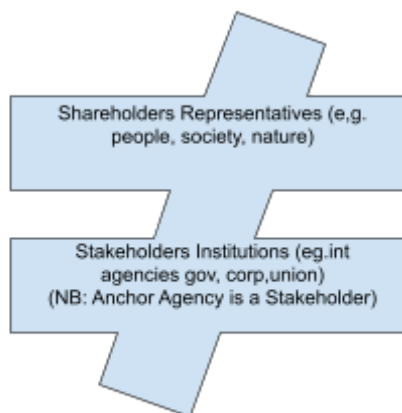


Figure 4: Sketch of intertwined representation of CPBC Participants

²⁹For an example of a recent Cambridge boot camp see: <https://www.globalfood.cam.ac.uk/news/un-food-systems-summit-2021-and-eat-foundation-applied-cambridge-policy-boot-camp-methodology>

solution. The owners are typically a local institution, a government agency that is responsible for rolling out a transformation change for a given challenge.

Co-creation Partners, Participants and Facilitators:

This project is a collaboration between EAT Foundation, the University of Cambridge and the following Chinese organisations:

- **The Good Food Fund and Slow Food Great China** recognized the pandemic as a timely opportunity to re-invent wet markets so they have co-created and launched a WET Market Guidebook, presenting the vision and insights for Well-Being, Ecology, and Transformation (WET) wet market reform. The Slow Food Great China has helped identify and outreach local partners in Nanjing.
- **The Nanjing Wet Market Association** was entrusted by the Nanjing Municipal Bureau of Commerce to manage the wet market industry and act as a bridge between government and enterprises. Yan Qing, the current Secretary-General of the Association was appointed by the government to the position with mainly two tasks, the first is to explore how the traditional wet markets can be transformed in the context of New Retailing and the second is to promote dietary nutrition, spearheading breakfast improvement. Yan has very close connections with the Office for Vegetable Basket Program under Nanjing Municipal Bureau of Commerce (南京市商务局菜篮子工程办公室).
- **Jinbao Farmer's Market Co., Ltd. (Nanjing)** (南京金宝农贸集团) is a key enterprise under the Nanjing Goldfoil Group (南京金箔集团). Nanjing Goldfoil Group is a multi-regional, cross-industry, and cross-domain diversified industrial group company. It has been the largest taxpayer of local enterprises for more than a decade. Jinbao Farmer's Market specialises in the investment, development, operation and management of wholesale and retail markets, owning one of Nanjing's largest wholesale markets and 10+ retail markets. As a vice-chairman member of the China Agriculture Wholesale Market Association (全国城市农贸中心联合会), it has great influence in the industry, and has long been participating in the formulation of relevant industry standards.
- **Ministry of Agriculture and Rural Affairs** is represented by Dr. Zhu Dazhou who is the Deputy Director of the Division of Science and Technology at the Institute of Food and Nutrition Development, Ministry of Agriculture and Rural Affairs (农业农村部食物与营养发展研究所). The Institute is responsible for developing the National Food and Nutrition Program (中国食物与营养发展纲要). Dr. Zhu is also the Deputy Secretary-General of the Expert Committee on Nutritional Standards of Agricultural Products, and a member of the National Vegetable Standardisation Technical Committee.

There are four different types of participants in the Cambridge Policy Boot Camp - country participants, the University of Cambridge, the Eat Foundation and the Food Systems Game Changers Lab. Key participants in each group are listed below.

Country participant

The Good Food Fund as the anchor agency in Nanjing, along with other country partners, will be identifying and recruiting country participants to take part in the CPBC. The list of individual participants is currently under development. The following organisations have been approached to identify and send representatives to the CPBC.

- Representatives from the wet market "industry" (from investment, development, management to vendors, from wholesale markets to retail markets, from public to private actors)
- Representatives from "New Retail" and other food retailers
- Representatives from food value chain stakeholders (farmers, brokers, food companies, restaurants, chefs, household consumers, etc.)
- Representatives from other stakeholders (food educators, nutritionists, culture & tourism, art & design, architecture & urban planning, NGOs, media, etc.)
- Youth participants from Good Food Funds Youth Talent Development Program
- Youth participants who will help facilitation
- Regulatory experts with decision making power
- Industry experts with long-term experience in influencing change
- Local community leaders or union representatives
- Academic experts in designing and challenging change
- Voice of farmers and agripreneurs who benefit from the market
- Voice of consumers who benefit from the market

In addition Good Food Fund and Slow Food China will each send 3 to 5 staff to lead discussions, undertake translations and noting and help with facilitation as needed.

University of Cambridge, UK

No.	Name	Title
1	Dr Nazia M Habib, FRSA	Associate Professor and Head of Research Centre, Centre for Resilience and Sustainable Development (CRSD), University of Cambridge, UK
2	Prof Steve Evans	Director of Research in Industrial Sustainability at the

		Institute for Manufacturing, University of Cambridge, UK
3	Steve McCauley	Senior Fellow of Centre for Resilience and Sustainable Development, University of Cambridge, UK
4	Robbie Stamp	Senior Fellow of Centre for Resilience and Sustainable Development, University of Cambridge, UK
5	Francesca Re Manning	Programme Manager, Global Food Security Interdisciplinary Research Centre, University of Cambridge
6	Dr Diana Khripko	Senior Solution Development Specialist, University of Cambridge, UK
7	Terry Nicklin	Communication Specialist, Centre for Resilience and Sustainable Development (CRSD), University of Cambridge
8	Dr Hannah Parris	Research Associate of Centre for Resilience and Sustainable Development (CRSD), University of Cambridge
9	Lena Yang	Administrative Assistant, Centre for Resilience and Sustainable Development (CRSD), University of Cambridge

EAT Foundation Experts:

No.	Name	Title
1	Olav Kjørven	Senior Director of Strategy, EAT Foundation
2	Lujain Alqodmani	Director of Global Action, EAT Foundation
3	Marius Weschke	Engagement Officer, EAT Foundation

The Food Systems Game Changers Lab - Cohort 3 Experts:

No.	Name	Title
1	Tim Bjorstrand	Founder of School Food Reconnected, and teacher elementary grade school, the Food Systems Game Changers Lab
2	Mwendwa Emmaculate	Kikwetu Foundation, the Food Systems Game Changers Lab
3	Bibi la Luz Gonzalez	Founder of Eat Better Wa'ik, the Food Systems Game Changers Lab

Agenda

Workshop Date: 26th Sep 2022; 09:00-13.00 (London UK Time)

Zoom: <https://eng-cam.zoom.us/j/4330861571>

(note that the NABC presentations will be held separately on the 29th September from 10:00 - 12:00 London UK Time).



Time	Action	Speakers and Sessions
10 min	Welcome (0900-0910) Anchor: Mr Steve McCauley, CRSD Senior Fellow	Welcome and Introduction (HELLO) <i>Room: Main Session</i>

20min	<p>Lightning Talk (0905-0925)</p> <p>Anchor: Mr Steve McCauley, CRSD Senior Fellow</p>	<p>Invite the experts to speak on the issue</p> <p>Five experts will offer 3 minutes of reflection on the thematic challenge of the Cambridge Policy Boot Camp.</p> <p>Room: Main Session</p>
45min	<p>Introduce Techniques (0920-1005)</p> <p>Anchor: Mr Steve McCauley, CRSD Senior Fellow</p>	<p>Introduce Techniques (BRIEFING):</p> <p>Multiple thinking techniques will be introduced to the participants by the experts and asked to select one or two techniques to address the CPBC challenge.</p> <p>Room: Main Session</p>
5min	<p>Break (1005-1010)</p> <p>Anchor: Mr Steve McCauley, CRSD Senior Fellow</p>	<p>Break:</p> <p>Room: Breakout rooms</p>
120min	<p>Group Application (1010-1210)</p> <p>Anchor: Mr Steve McCauley, CRSD Senior Fellow</p>	<p>Group Application (APPLIED THINKING):</p> <p>Groups will be formed and sent to the breakout room where they will use the thinking techniques to analyse the CPBC challenge and come up with tentative solutions. Experts will be assigned to each room to provide further help.</p> <p>Room: Breakout rooms</p>

5min	Break (1210-1215) Anchor: Mr Steve McCauley, CRSD Senior Fellow	Break: Room: Breakout rooms
35min	NABC Presentation skill (1215-1250) Anchor: Mr Steve McCauley, CRSD Senior Fellow	NABC Presentation skill (Elevator Pitch): A technique will be introduced to the groups to enable them to summarise their ideas for presentation. Room: Main Session
10min	Closing (1250-1300)	Closing

NABC Date: 29th Sep 2022; 10:00-12:00 (London UK Time)

Zoom: <https://eng-cam.zoom.us/j/4330861571>

Time	Action	Speakers and Sessions
5 min	Welcome back (1000 - 1005)	Opening
50min	NABC Presentation Prep (1005-1055)	NABC Presentation Prep (SMART THINKING): Groups will re-enter the virtual room and rework on their solutions by revisiting the presentation technique. Room: Breakout rooms
5min	Break (1055-1100) Anchor:	Break:

	Mr Steve McCauley, CRSD Senior Fellow	Room: Breakout rooms
50min	Presentation and Evaluation (1100-1150) Anchor: Mr Steve McCauley, CRSD Senior Fellow	Presentation and Evaluation (STRESS TESTING): All the groups will come back to the Zoom's main room and present their ideas one by one to the experts and decision makers from various stakeholder institutions. Room: Main Session
5min	Announcements (1150-1155) Anchor: Mr Steve McCauley, CRSD Senior Fellow	Announcements (DECISION POINT): The best idea will be announced and offered a chance to sit at the table at the Ministry to help with the idea to be integrated. Room: Main Session
5min	Closing (1155-1200)	Closing

Delivery note:

1. Virtual workshop run in the UK time zone
2. The China team will provide translation support for local participants, if needed

Appendix 1

Some of the policies, reports, articles and other resources that have informed this concept note are listed below:

Chinese Nutrition Society. (2022). Dietary Guidelines for Chinese Residents 2022.

FAO. (2021). The Coalition of Action for Healthy Diets from Sustainable Food Systems for Children & All.

<https://foodsystems.community/wp-content/uploads/2021/09/Healthy-Diets-Coalition-Template-140921-9948e4994acae43e0c7bdc160b7a723c.pdf>

Hu, D., T. Reardon, S. Rozelle, P. Timmer, and H. Wang. 2004. The Emergence of Supermarkets with Chinese Characteristics: Challenges and Opportunities for China's Agricultural Development. *Development Policy Review*, 22 (5), 557-586.

Liu, F. (2019) The impact of food deserts on food insecurity of urban households: a case study of Nanjing city. Master's Thesis, Nanjing University, Nanjing.

Jiangsu Provincial Bureau of Statistics. (2021). Jiangsu Statistical Yearbook.

Maruyama M and Wu L. (2014). Quantifying barriers impeding the diffusion of supermarkets in China: The role of shopping habits. *Journal of Retailing and Consumer Services* 21(3): 383–393.

Sheng, F., Gao, H. Fan, S., Chen, K., Zhang, Y., Zhu, C., Zhao, Q. (2021), Shifting Chinese diets for a win-win for health and the environment. 2021 China and Global Food Policy Report.

Ministry of Commerce of the People's Republic of China. (2011). Standardise the setting and management of vegetable markets. Retrieved from <http://scjss.mofcom.gov.cn/aarticle/cx/201106/20110607607795.html>

Nanjing Daily. (16/01/2021). Thirty percent of the vegetables in Nanjing's "vegetable basket" come from metropolitan areas. Retrieved from <http://www.njdaily.cn/news/2021/0116/3078036244651837399.html>

Nanjing Daily. (06/07/2021). Small vegetable baskets levered the big green industry up. Retrieved from http://nyncj.nanjing.gov.cn/nygzdt/202107/t20210706_3027486.html

Nanjing municipal government. (25/01/2022). 15-Minute Community Life Circle Planning Guidelines. Retrieved from http://www.jiangsu.gov.cn/art/2022/1/25/art_33718_10331560.html

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Reardon, T., Henson, S., & Berdegué, J. (2007). "Proactive fast-tracking" diffusion of supermarkets in developing countries: Implications for market institutions and trade. *Journal of Economic Geography*, 7(4), 399-431.

Regnier-Davies, J. (2015). "Fake Meat and Cabbageworms": Connecting Perceptions of Food Safety and Household Level Food Security in Urban China. Master's Thesis, University of Waterloo, Waterloo.

Si, Z., Crush, J., Scott, S., & Zhong, T. (2016). The urban food system of Nanjing, China. *Hungry Cities Report Series No. 1*. <https://hungrycities.net/wp-content/uploads/>

Si,Z, Scott,S., McCordic,C. (2019). Wet markets, supermarkets and alternative food sources: consumers' food access in Nanjing, China, *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, 40(1), 78-96.

Wang, X., Zhao, C. (14/07/2020). New retailing seized the chance with traditional wet markets facing challenges. *Beijing Business Today*. Retrieved from <http://capital.people.com.cn/n1/2020/0714/c405954-31782534.html>

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.

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Zhong T, Si Z, Scott S, Crush J, Yang K, Huang X. (2021) Comprehensive Food System Planning for Urban Food Security in Nanjing, China. *Land*. 10(10), 1090. <https://doi.org/10.3390/land10101090>

Zhong, T., Si, Z., Shi, L., Ma, L. Liu, S. (2020), Impact of state-led food localization on suburban districts' farmland use transformation: Greenhouse farming expansion in Nanjing city region,

China. *Landscape and Urban Planning*. (202),
<https://doi.org/10.1016/j.landurbplan.2020.103872>.

Zhou, Y., and L. Lu. (2008). Efficiency of Supply Chains of Fresh Vegetables: A Case Study of Nanjing. *Jiangsu Agricultural Science* (01), 69:72. (in Chinese).

Appendix 2

Preparatory meetings

	Meetings	Time	Attendees
1	a meeting to discuss the concept note and define the key question	May 23	GFF, CRSD, EAT; After the meeting GFF interviewed Nanjing Wet Market Association and Dr. Zhu.
2	a meeting to discuss the systematic literature review, and expert/participant selection	June	
3	a series of seminars from certain perspectives (tentatively: policy; technology; business; capacity building and awareness raising) under the theme "the potential of wet markets in incentivizing dietary shifts" to engage experts and participants, enrich existing knowledge and facilitate dialogues	July to August	GFF, invited speakers, Chinese experts and participants who will attend the CPBC
4	a meeting to summarise the outcomes from the seminars to increase understanding of the concept note	late August or early September	GFF, Slow Food, Nanjing Wet Market Association, Jinbao Farmer's Market, Dr. Zhu, CRSD, EAT
5	a meeting to let the facilitators from Cambridge and Chinese participants who will help facilitation in each team get familiar with each other and with the CPBC process/concepts	mid September	GFF, CRSD, facilitators, Chinese participants who will help facilitation in each team

Appendix 3

wholesale market	农贸批发市场
wet market	菜市场/农贸零售市场
food security	食物保障
healthy and sustainable diet	可持续健康膳食
Vegetable Basket (non-grain food supply) Program	菜篮子工程
National Food and Nutrition Program (2014-2020)	《中国食物与营养发展纲要 (2014-2020 年)》
Regulation on the Standardised Wet Market Setting and Management	《标准化菜市场设置与管理规范》
Chinese Dietary Guidelines (2022)	《中国居民膳食指南(2022)》
China Health and Nutrition Survey	中国健康与营养调查
new retailing	新零售
e-commerce	电商

group purchasing	社区团购
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