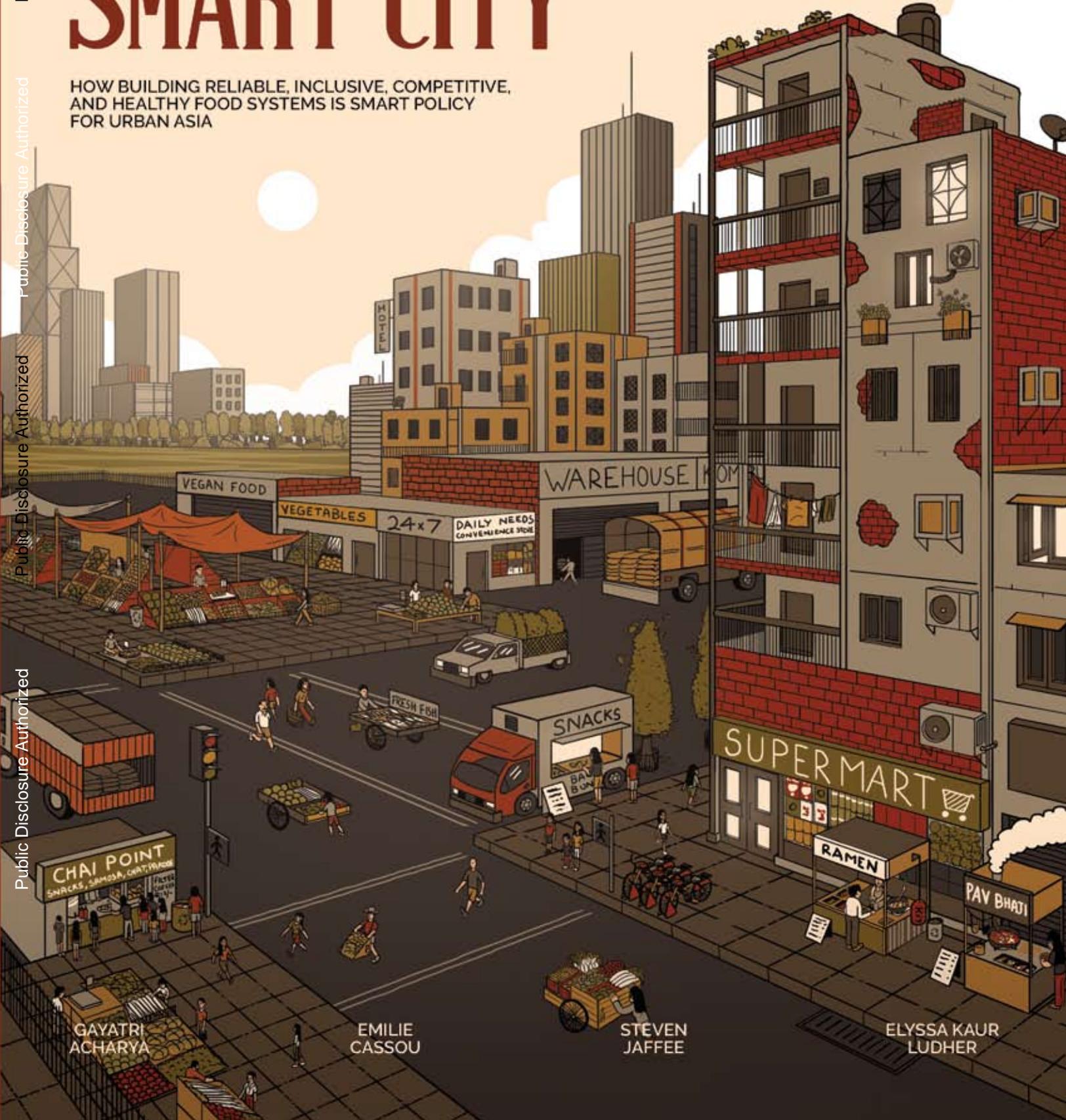


RICH FOOD SMART CITY

HOW BUILDING RELIABLE, INCLUSIVE, COMPETITIVE,
AND HEALTHY FOOD SYSTEMS IS SMART POLICY
FOR URBAN ASIA



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EXECUTIVE SUMMARY

OVERVIEW

Well-functioning food systems are a critical part of the economy, identity, and human and environmental health of Asian cities. Healthy and sustainable food systems should actually be a defining aspiration of Asia's dynamic cities given the importance of food to some of their leading concerns and priorities, including job growth and innovation, livability and sustainability, fiscal health, safety, and resilience. Moreover, with cities facing significant food-related challenges and opportunities, food ought to have the full attention of Asia's city planners and leaders and food system matters should be a mainstream topic in urban planning and policy.

In much of emerging Asia, however food has been an urban policy and governance blind spot. Food systems have rarely been an area of urban policy focus and typically feature little in urban strategic and spatial planning. More often than not, urban food system issues are addressed in a piecemeal and reactive fashion. Different municipal government departments typically address the symptoms of food system problems independently, without coordination. Some actions by cities in other spheres may unintentionally be having adverse consequences on urban consumers and food business operators. While urban Asia has rightfully gained a reputation for innovation in many fields, in relation to urban food policy the region is lagging, badly, behind other regions. Of the more than 200 international cities that have signed the Milan Urban Food Policy Pact, and thus committed to mainstreaming sustainable food measures in urban governance and policy, only three are in South Asia (Colombo, New Delhi, and Pune) and there are none in Southeast Asia.

One factor explaining the weak presence of food in urban policy making is institutional. Across Asia food policy has long been assumed to be the mandate of ministries of agriculture. In practice, these ministries have focused their policies on raising primary agricultural production, promoting rural development, and realizing national food security objectives. Urban areas have not generally featured in agricultural or natural resource planning. The development of institutions such as food safety agencies, nutrition-focused departments in health ministries, and market development authorities, suggests that food system matters are being handled by a disparate set of actors with little coordination. In addition, many topics of core concern in urban food systems, including food logistics, food safety, food entrepreneurship, dietary quality, and food waste are not assigned to a designated authority and hence have become areas of relative neglect. This institutional reality partly explains the paradox that urban food is at once “everybody’s business” and “nobody’s business.” It helps explain the urban policy and governance vacuums that persist in relation to food despite the range of stakeholders whose futures are tied to it—and the clear need for coherent multisectoral strategies and coordinated action.

Another important factor is the overwhelming number of issues that city planners and decision makers have to address in rapidly growing Asian cities. Many cities are encountering massive challenges associated with unplanned growth, including traffic congestion, air pollution, solid waste accumulation, underdeveloped physical infrastructure, and poor delivery of health, education, and other services. All of these are highly visible, and challenges for which urban residents are vocally demanding solutions. In contrast, many important food-related problems that are invisible because they are poorly monitored or measured are emerging steadily yet incrementally. As a result, they are not conjuring up a sense of urgency to the same degree that other city problems are. In some cases, this situation has given rise to a notion that urban food system matters can be dealt with later, when cities have become wealthier, and addressed after seemingly more urgent problems associated with early or rapid growth and development are tackled.

Yet, it is precisely the rapid pace of urbanization within emerging Asia that gives urgency to the mainstreaming of a food system perspective in urban planning and governance. The neglect or delay of urban food policies is setting up many Asian cities, unknowingly, for needless setbacks and missed opportunities on a large scale. Cities are unintentionally adopting harmful policies, inadequately addressing emerging risks, and failing to fully leverage food systems to advance city goals. Urban planning and policy decisions being made today and in the coming years will potentially have far-reaching impacts, including adverse consequences, for food providers and consumers. The decisions in question relate to matters as diverse as urban and periurban land-use zoning, the use of public space, investments in water, sanitation, and waste management systems, urban transportation and logistics, and public market infrastructure. Often, their impacts on the food system and various knock-on effects are not being assessed or given much weight in decision making. Meanwhile, many cities in the throes of rapid growth are having to contend with the vulnerabilities of low-income residents to food price shocks and chronic food and nutritional insecurity. Different interventions may be needed for cities’ vulnerable groups than have been traditionally applied in rural or remote areas. Yet few cities are fully mobilized or equipped to take on these new challenges.

At the same time, structural changes in Asian food systems are increasing the potential benefits of shaping urban food systems as well as the costs of inaction. Emerging economic opportunities are one consideration. Cities and towns are the primary residences of Asia’s burgeoning middle classes whose demands for safer, more diverse, convenient, and higher-quality food are creating an enormous market opportunity. Cities already account for more than half of national food expenditures in emerging Asia and this share will rise sharply in the future. Unforeseen or poorly managed risks are a second consideration. Across middle-income Asia, cities are emerging as hotspots for the double burden of malnutrition, for the health and economic burdens of unsafe food and biosecurity risk, and a variety of environmental problems affecting or caused by food production and delivery systems.

Despite often facing mandate and resource constraints, municipalities and nearby administrative areas potentially have distinctive abilities or advantages to address complex food system matters. Cities

can sometimes be more nimble than central ministries in coordinating multisectoral interventions and experimenting with user-centered interventions. Cities can focus on how a challenge presents itself locally, and use local configurations of actors and resources to respond. Cities have the power to shape the built environment and uses of urban space, to influence the fate of urban and periurban cropland and its supply of fresh produce to city residents, and to leverage choke points in the supply chain for potentially wide impact on production and consumption practices. For example, cities can leverage the power of institutional food procurement and of food business licensing and regulation. Cities can also leverage emerging information technologies, as has been seen in the recent explosive growth in food-based e-commerce in China, India, Indonesia, Singapore, and Thailand, and the growing application of various tracking technologies to support quality management and food safety. Of course, there are also areas where cities tend to lack influence, for example in relation to international food trade and the relative prices of different food items.

A large majority of cities in emerging Asia have yet to fully leverage their areas of comparative advantage to improve their food systems' trajectories and outcomes. Nearly three-fourths of the cities that responded to a survey conducted as part of this research were either still interacting with the food system in a largely reactive "firefighting mode," or were at a relatively early stage of developing and implementing a coherent set of forward-looking, integrated, and inclusive food-relevant policies and programs. There is much more that can and needs to be done across most cities, including ones of different sizes, wealth, and resource endowments. This study highlights areas of food system engagement that are likely to be relevant to the majority of cities in emerging Asia. While the book highlights examples of good practice in many areas, it does not prescribe how individual cities ought to engage in the food system. City circumstances are diverse and this variability impacts the suitability of specific instruments and approaches. Strategies and action plans need to be developed locally and nationally.

Effectively integrating food into urban policy in emerging Asia will require much experimentation, learning, and exchange. While a growing body of international experience with urban food policy and planning can certainly help inform strategies and decisions within Asia, it should not be regarded as providing turnkey solutions. Much of the well-documented experience in this field has occurred in cities with very different demographic patterns, socioeconomic conditions, food cultures, and political and administrative systems than those of Asian cities. Approaches that have worked elsewhere will likely need to be adapted, especially in applying them to emerging Asia's small and medium cities, informal urban settlements, and the informal food sector.

FOOD AND ASIAN CITIES: CHALLENGES AND OPPORTUNITIES

Asian cities have a number of distinctive characteristics that simultaneously raise the need for more forward-looking and integrated food policies, and create enormous challenges for them to effectively do so. These characteristics relate to demographics, diet quality and safety, competition for natural resources, and food market structure and infrastructure.

Emerging Asia is experiencing a historically unprecedented scale and pace of urbanization. Simply the *growth* in Asia's urban population since 2000 has been greater than the entire *size* of Western Europe's or North America's urban population. As of 2015, Asia had an urban population of 2.11 billion, making it home to over half of the world's urban population. Going forward, between 2020 and 2050 the urban population is expected to rise by a further 20 percent in East Asia, 58 percent in Southeast Asia, and 81 percent in South Asia. Urban growth and development have not been limited to capitals or even megacities. In fact, cities with populations between 500,000 and 1 million and between 1 and 5 million have been growing at a faster rate than the megacities. Small and satellite towns have also been growing at a rapid pace. Another demographic consideration is the prominent role of rural-to-urban migration. A large proportion of the new urban dwellers were previously farmers who are now largely dependent upon markets for their food. In many Asian cities, a majority of migrants have not found formal sector employment and instead earn a livelihood in the informal economy, especially via some form of food vending or service.

While average per capita income tends to be higher in Asian cities than in rural areas, extremely large numbers of the region's urban residents are poor, food insecure, and lacking in access to basic services. Some 535 million urban residents in Asia live in informal settlements. This represents 70 percent of the world's population living in slums. Facing low or variable income, a large proportion of Asia's urban poor are food insecure, whether measured by perceptions or by indices of chronic undernutrition. A 2016 survey by the Food and Agriculture Organization of the United Nations (FAO) found a higher proportion of urban than rural residents in Asia reported to be moderately to severely food insecure. For the region as a whole, some 23 percent of urban residents reported being food insecure. Chronic malnutrition is also widespread in urban Asia and especially in South Asia. Over one-quarter of children under five are stunted in urban Bangladesh, Bhutan, India, Lao People's Democratic Republic, Nepal, and Pakistan. And across the region, the stunting rates among the urban poor (the bottom income quintile) match or exceed those of the rural poor.

Asia's urban environment may be creating the perfect storm for the double burden of malnutrition to take hold. Childhood malnutrition is not only associated with a host of disadvantages that carry through to adulthood, but it has also been shown to increase the propensity to contract and suffer from diet-related chronic diseases. That risk is thought to increase through exposure of affected individuals to obesogenic or otherwise unhealthy food environments. Though not exclusive to cities, such environments seem to be shaping up to be features of Asia's urbanization. Contributing factors may include widespread out-of-home eating, heavy consumption of animal source and ultraprocessed foods, the widespread availability and advertising of unhealthy foods, and low access to fresh produce due to logistical constraints, product losses, and policy biases. Air pollution and infrastructure developments have also made some Asian cities unwalkable, further compounding dietary health problems. In 2017, the proportion of deaths attributed to dietary risks reached 30 percent in East Asia, 22 percent in Southeast Asia, and 19 percent in South Asia. Overweight and obesity levels are growing nationally, yet obesity prevalence tends to be three or four times higher in urban areas than in rural ones.

Urban Asia is also emerging as a major global hotspot in relation to food safety. Reported food poisoning outbreaks typically occur in urban areas—generally in schools, restaurants, and workplace canteens—yet they represent a tiny proportion of actual foodborne illness. Asia's urban populations are especially vulnerable given their rapid embrace of animal source and formulated foods and out-of-home eating, and their continued reliance on traditional marketing channels with limited infrastructure and oversight for many perishable food items. While the empirical picture is incomplete, a large number of local surveys point to a relatively high incidence of food contamination in Asia's popular fresh food and street food markets. According to a recent World Bank study, emerging Asia accounts for nearly two-thirds of the estimated productivity losses from unsafe food in the developing world. For a variety of reasons, urban areas are likely to account for a disproportionately large share of these losses.

Urban expansion has been a key driver of cropland loss in Asia and now poses an existential threat to periurban agriculture—a leading source of nutritionally important fresh fruit and vegetables for many cities. In China alone, nearly 4.3 million hectares of cropland were converted into built-up land between 1987 and 2010. Other large-scale conversions have occurred in Thailand, Vietnam, and India, as well as Japan and South Korea. One study estimates that between 2000 and 2030 Asia will have lost between 16 and 21 million hectares of cropland due to urban expansion. Much of this cropland loss is of very high quality (often irrigated) land, with this quality of land being one of the historical factors that led cities to be positioned or to thrive in those specific locations. The absorption of farmland into emerging cities has mostly been unplanned and driven by narrowly framed economic interests. Fragmented, project-by-project decision making has occurred alongside informal and often speculative transactions.

This displacement of periurban land could potentially have far-reaching impacts. For example, it could have adverse public health implications in settings where underdeveloped logistics systems will not readily support the lengthening of fresh produce supply chains. In some cases, periurban cropland loss could threaten to undermine some of the national food security gains that have been achieved in recent decades. The loss of periurban land also has the potential to deepen food systems' overall environmental footprint by increasing demands on remaining farmland. In parts of the region, it has already accelerated the intensification of farming

activities on marginal land and the conversion of natural landscapes. The current and future fate of periurban agriculture could thus have significant national implications, and this possibility points to the need for coherent and consistent strategies and policies from the national to the municipal level.

Despite the modernization of many Asian cities, traditional and informal distribution channels continue to play a major role in food supply. Compared with countries at similar levels of per capita income in other regions, Asian countries tend to have lower rates of supermarket penetration. And most supermarkets and other modern retail outlets such as convenience stores in Asian cities tend to primarily sell packaged and processed foods. In most Asian cities, traditional community markets often referred to as “wet markets” continue to account for a majority if not a predominant share of consumer purchases of fresh products, including fruits and vegetables, fish, meat, and eggs. Large cities still have hundreds of such markets, although typically, only a small proportion of them have undergone physical upgrading to address hygienic or environmental problems. Higher-income households with more access to motorized vehicles and refrigeration are tending to shop less frequently but to rely more on supermarkets for their food. But the bulk of the population in most cities still relies on traditional community markets and vendors because of their convenient location, greater diversity of fresh produce, more affordable or flexible pricing, and other qualities. From a municipal perspective, this situation presents advantages and disadvantages. On the one hand, the plethora of community markets provides the basis for an inclusive food system, as they are convenient to access for consumers and support the livelihoods of large numbers of people. On the other hand, the dominance of informal and semi-formal food distribution systems creates challenges for regulatory oversight and can conflict with other city goals and plans, including different uses of urban land and the development of transportation throughways.

The COVID-19 pandemic has exposed the fragility of urban food systems across emerging Asia by making it more difficult for many urban residents to access or afford staple and high-nutrient foods. Many cities have experienced rural-to-urban supply and logistical disruptions, the temporary or prolonged shutdown of markets, schools and institutional canteens, and other venues critical to urban food supply, and exacerbated concerns about food safety and hygiene. In many cities, the livelihoods of tens of thousands of people involved in food services and delivery have also been significantly disrupted. While the pandemic’s impacts are still being felt and it is too soon to reach definitive conclusions, it does seem to be the case that the prior existence of coherent food system policies, governance, and monitoring have enhanced cities’ ability to respond to the food-related challenges triggered by the pandemic.

While the above factors point primarily to food system challenges for urban planners and administrators to contend with, emerging Asia’s urban food economy is also a tremendous business opportunity. According to a Brookings Institution study, close to 90 percent of the next billion new entrants into the middleclass will be in Asia. The bulk of them are residents of emerging Asia’s cities. While these rising consumers’ spending patterns will certainly involve a higher percentage of non-food items, their food expenditures will also grow and further diversify away from low-cost staples toward animal source and processed foods, fruits and vegetables, and out-of-home eating. These shifts in consumption patterns have already been taking place over the past 10–15 years, especially in urban parts of Asia. Still, going forward, huge opportunities will avail themselves to farmers, food companies, and many supporting service providers who will meet—and create—the new needs, preferences, and expectations of urban consumers, including for food variety, convenience, relevance, and safety.

CURRENT STATE OF URBAN FOOD POLICY IN ASIA

There currently exists no systematic or comparative assessment of the state of urban food policy in Asia. Individual case studies do offer useful insights into the scope for action and the challenges of implementation. But they paint a partial and skewed picture of the regional policy landscape, and one that says particularly little about the experiences and realities of secondary and tertiary cities.

Although they are just a beginning, the responses obtained from 170 cities in 21 Asian countries surveyed for this study offer new and broader insight into the state of urban food policy in the region. Indeed,

without being fully representative or comprehensive, responses were received from a diverse collection of cities about a wide array of food system topics. The survey solicited perceptions from various city officials about food-related problems and opportunities, cities' mandates and constraints to engage, and food-related strategies, policies, and programs. The 170 surveyed cities are also diverse in size and level of development. About 40 percent have fewer than 200,000 people, 30 percent have between 200,000 and 1 million people, and 30 percent have over 1 million. Half of the surveyed cities are in lower-middle-income countries, 25 percent are in upper-middle-income countries, 20 percent are in low-income countries, and 5 percent are in high-income ones.

The food-related policies and programs across Asian cities vary in number, size, focus, and approach, yet have a strong focus on the regulation of urban and periurban agriculture and food distribution. Interesting differences were found among cities of different sizes. While some interventions are relatively common (or rare) across cities of all sizes, some policy instruments such as food price controls and food shortage contingency programs are found only in larger cities. A number of differences were also discernable along national lines. For example, food banks that redistribute fruit and vegetables to vulnerable people are common among Indian cities but rare elsewhere. The direct provision of technical and financial support to urban farming activities is common among cities in Indonesia, Nepal, the Philippines, and Vietnam, but not widespread in Thailand or India, where the zoning of farmland mostly precludes urban farming on non-farmland. Government involvement in food wholesale markets is common in China, India, and Vietnam, yet uncommon in other emerging Asian economies. Overall, there appeared to be rather scant focus on programs to influence consumer access to healthy, nutritious foods.

Survey results were used to rate the degree to which cities' food-related policies are *proactive*, *integrative*, and *inclusive*. Survey responses were scored so as to examine cities' food-related work—their plans, diagnostics, regulations, initiatives, and processes—from the perspective of these three dimensions of good practice. Cities' overall policies were considered *proactive* when their work was oriented toward future problems or opportunities; *integrative* when it was multisectoral in scope and coordinated across multiple entities; and *inclusive* when it was attentive to the welfare of poor or otherwise vulnerable consumers and food suppliers and involved broad participation of diverse stakeholders. The opposite of these good practices consists of reacting to food system problems; engaging a narrow set of food system issues and doing so in a fragmented way with limited administrative coordination; and making decisions from the top down with limited stakeholder involvement or focus.

This three-dimensional benchmarking analysis was used to classify city policies as belonging to one of four categories, from *reactive* to *food-smart*. The categories are meant to indicate cities' "distance to the frontier" of good urban food policy and governance:

- The "frontier is reached when cities are pursuing food system matters in highly proactive, highly integrative, and highly inclusive ways. Cities applying this approach are categorized as *food-smart cities*. This does not mean that such cities have fully resolved their food-related challenges or realized the full potential of their food economies—or even that the frontier is fixed. The race to good food policy is more like a marathon—without a finish line—than a sprint.
- On the other end of the spectrum, cities deemed to have *reactive* food policies primarily respond to food problems and try to mitigate their adverse impacts rather than act to prevent them or take advantage of emerging opportunities—often for a lack of mandates, capacity, or political commitment to bettering food system outcomes.
- One step ahead of *reactive* food policy cities are ones designated as *engaged*. These cities engage proactively in some parts of their food system and have begun to forge synergies across some interventions, yet continue to display reactive responses to many food system problems.
- Finally, one step ahead of *engaged* cities—and one step behind *food-smart* ones—are cities whose policies are deemed *progressive*. These cities tend to be forward-looking yet their food system work tends to be notably less integrative or less inclusive than it is in cities that earn the *food-smart*

policy label. In many *progressive* food policy cities, implementation lags behind the level of ambition apparent in their plans.

Judging from this analysis, nearly three-fourths of cities that responded to the survey are at relatively early stages of developing and applying proactive, integrative, and inclusive food policies. Of the 170 surveyed cities, 49 of them, or 29 percent, fall into the *reactive* city category. Most surveyed cities, that is 75 or 44 percent of them, are one step ahead in the *engaged* category. For a large majority of cities in these two categories, food-related matters are not yet mainstreamed into more general urban governance and development planning. Among cities with fewer than 3 million inhabitants—that is, among all but the largest cities surveyed—most were in these early stages of food system engagement: 76 percent of very small- to medium-sized cities (population <1 million) and 69 percent of large cities (population 1–3 million). Several of the region's capital cities also fall into the *reactive* category, although most are deemed *engaged*.

Only 8 percent of the 170 surveyed cities were deemed to be *food-smart*, the designation reserved for the best-rated cities. Cities of every size are represented in this highest category but no city in this category is from a low-income country. Nearly one-fifth of cities qualified as *progressive*. While they highlight patterns and point to a few interesting outliers, these survey results broadly confirm the pre-study hypothesis that many of emerging Asia's cities are lagging behind peers in other regions in relation to food policy initiation and activity.

ASIAN CITIES CAN DO MORE

Even in the face of constrained mandates and resources, there is much more that Asian cities can do to improve the trajectory and outcomes of their food systems. The room for maneuver is quite varied and authorities and others can exert influence over different parts of urban food systems in a myriad of ways. They also may do so for different reasons. Briefly summarized here is a range of motives and approaches spanning four broad categories of intervention: ones relating to overarching urban food system governance, and others targeting consumers, food marketing systems, and primary production.

Building the foundations of city-level food system governance

Possible reasons for engaging with urban food system governance:

- ◆ Creating a space and developing the capacity within government to systematically consider food-related matters across multiple areas of policy making.
- ◆ Engaging strategically and proactively in the urban food system.
- ◆ Coordinating and connecting different food system stakeholders.
- ◆ Gaining more perspective on the food system implications of various policies, and potential tradeoffs implied by food system or other interventions.
- ◆ Creating a touchpoint for the city to connect with non-city stakeholders on food system matters, including higher levels of government and translocal networks.

Cities may be the natural pioneers of food system governance in rapidly urbanizing contexts. For a host of demographic, political, and economic reasons, cities are being propelled to the forefront of the food policy debate and are increasingly needing to and being expected to assume a leading role in food systems' governance. Cities are in a position to lead the transition to, or at least help fashion, healthier and more sustainable food systems—and to do so through more collaborative and integrated policy approaches. Those approaches are tacitly viewed by many as being better equipped than more traditional, centralized, and top-down approaches to place the values of economic performance, public health, social justice, and ecological integrity on more equal footing. Such approaches are also understood to be more accessible to cities, to the extent that they enjoy some proximity to communities and greater administrative agility than higher levels of government. Cities may be the level of government best able to develop and actually pursue an integrated food policy—national government efforts in this direction having not progressed far beyond the agenda-setting stage.

Cities of all sizes and means have an interest in establishing food system governance structures early on, regardless of the depth and breadth of the interventions they aspire to. Although food system governance structures need not precede city action, giving thought to food system governance can help cities establish their scope of intervention, establish transparency around how the public sector is already intervening in the food system, and strategically align public resources with priorities. Determining to intervene minimally is better than not making an explicit decision at all and can help contain the costs of food system interventions in cities that face many competing priorities. Where food system risks are present, preventive action can help minimize city expenditures on food system challenges—one example being the need to respond to overt breaches of food safety.

A growing body of international experience, especially in middle- and upper-income countries, points to important steps that can be taken to establish food system governance. These include (a) formalizing food policy as an area of city focus through laws and strategies; (b) defining institutional responsibilities; (c) determining city priorities, modes of intervention, and performance tracking; (d) mobilizing public resources for all of these; and (e) joining or creating translocal networks of cities sharing experiences and accountability in the area of food system governance, such as the Milan Urban Food Policy Pact. While no single institutional arrangement has emerged to govern food policy at the municipal level, many if not most cities that have explicitly turned their attention to food system governance have appointed a lead agency, new or existing, to oversee a networked governance structure involving a wide range of administrative offices. Most of these structures also entrench the participation of nongovernmental food system stakeholders. In large metropolitan areas, the institutions involved in food system governance structures can span multiple geographically contiguous or imbricated administrative units or jurisdictions.

As in other areas of policy, food system priorities can be established through a combination of data collection and analysis as well as public consultation and involvement. A strong emphasis on deep community involvement—spanning the business and citizen sectors—has been a nearly universal feature of recent city engagement around food policy. While this emphasis reflects emerging best practices in policy and program design, dependence on community input in the arena of municipal food policy also no doubt reflects the major data gaps most cities have to contend with in measuring food system realities. It is never too soon for cities to start collecting data supporting the basic description of the municipal food system, and over time, an increasingly sophisticated assessment of how well the food system is performing.

Downstream interventions relating most directly to urban consumers

Possible reasons for engaging with urban food consumers:

- ◆ Enabling better dietary patterns to prevent the costly rise of diet-related chronic disease
- ◆ Empowering consumers to avoid unsafe food and its negative health impacts
- ◆ Eradicating undernutrition to ensure social justice, social stability, and economic health
- ◆ Ensuring social protection of vulnerable urban populations through functional safety nets
- ◆ Promoting ecofriendly consumption to reduce food systems' environmental externalities
- ◆ Promoting food choices that also support the local food economy

Cities in Asia face significant opportunities to shape food environments and influence consumer food choices and dietary patterns. Cities can leverage their proximity to urban populations—to communities—to develop tailored, user-centered, adaptive interventions, and to support their needs directly. They can utilize social marketing techniques, apply fiscal measures, and also influence dietary choices or patterns directly by influencing how public institutions like schools, hospitals, and workplace canteens carry out food procurement and preparation.

One way in which cities can enhance healthy food access and consumption is by teaching and training residents to do better by themselves. They can not only inform residents about dietary health and nutrition, but also help them put that knowledge into practice by giving them the tools they need to shop affordably,

access food safety programs when applicable, cook and store food that is nutritious, healthy, and safe, and so forth. Efforts, to be relevant, need to address the full spectrum of urban consumers. Many cities are in a position to integrate nutrition education into school and various educational curricula. New parents might benefit from learning about what and how to feed their infant in the first year, and children from learning about the benefits of eating fresh fruits and vegetables. People already affected by diet-related chronic disease may benefit from learning how to manage or reverse their specific conditions through diet.

Cities can also take measures to change consumer behavior that may or may not require consumer knowledge and awareness of dietary health. Knowledge is often insufficient on its own to motivate and get people to do even what is in their power to change (economic and otherwise), and in some contexts, unhealthy eating habits are strongly entrenched and buttressed by unhealthy food cultures and commercial interests aligned with these. To get around this and other behavior change challenges, social marketing, branding, and other interventions appeal to principles of social psychology. For example, school programs integrating hands-on experience growing food may increase children's acceptance of or interest in consuming fresh fruits and vegetables. Programs teaching nutrition can be more or less hands on, integrating not only nutritional science but also food shopping, cooking skills, and social elements.

Interventions targeting public or publicly influenced institutions involved in food delivery may be a major avenue for cities to influence dietary health. Institutions potentially involved in food purchasing, preparation, and service include schools, hospitals, offices, universities, and prisons. These institutions' wide reach of consumers gives them the ability to directly influence the diets of many. In addition, the high volumes of food they handle mean that changes in their practices may spill over into the food system more broadly. The hope is that demands placed on suppliers to public institutions, such as restrictions on the use of certain ingredients, or requirements to serve fresh fruits and vegetables and legumes, and meet food safety and quality standards, may lower the cost and other barriers to their replication in less specialized markets. The levers of municipal authorities to shape institutional food procurement are varied and include executive decisions relating to food spending, laws and regulations, contractual and licensing requirements, conditional funding, public recognition, convening efforts, and prizes. Additional program design variables include the pricing, timing, placement, and publicity of services; the focus on upstream measures relating, for example, to cooking and storage facilities, food service staff capacity, and supplier relationships; and the inclusion of complementary food marketing and educational measures.

Cities can also encourage employers to develop worksite wellness programs that increase access to healthy foods and otherwise contribute to healthy eating. Such programs can make important contributions to ensuring employees' access to healthy eating options during work hours. They can, for example, ensure that employees have sufficient time to eat healthily, subsidize healthy food options to make them more affordable, and even support breastfeeding in various ways, allowing mothers to follow through on recommended feeding practices. Cities can offer employers material incentives, or help them implement programs by providing them nutritional guidance and templates that minimize the upfront investment needed to put such programs in place.

Pricing policies including taxation have been found to be an effective approach to reducing noncommunicable disease risk factors such as tobacco and unhealthy diets, and cities worldwide are putting this approach to the test. The range of pricing interventions that cities can undertake is sometimes limited by their authority or capacity to tax or otherwise influence the costs of food. That said, cities have been among the pioneers of food—or rather beverage—taxes, along with a number of national governments. Beverage taxes are reducing disease at a population level. At the same time, they (or other potential food taxes) cannot be expected to solve dietary challenges on their own.

For some issues, including addressing various forms of malnutrition in slums or other underserved areas, Asian cities will need to be willing to experiment. Dietary health interventions targeting residents of slums appear to face a variety of implementation challenges due to the high mobility of target populations, the lack of social services that can be leveraged to administer programs, and low levels of follow-up among participants. Evidence on effective dietary health interventions in slums is also extremely limited.

Although infants and children living in slums face a high risk of malnutrition and stunting, few preventive interventions have specifically targeted these parts of cities, and those that have, have been limited in their range. Furthermore, the implementation difficulties that are specific to slums also make interventions hard to evaluate since a lack of effectiveness may relate less to core interventions than to the inadequacy of measures dedicated to managing participant outreach and retention, and other challenges that are specific to slum contexts.

Interventions relating to urban food logistics and marketing

Possible reasons for engaging with urban food logistics and marketing:

- ◆ Reducing congestion related to the movement of food.
- ◆ Enhancing safe, healthy, and demand-responsive food access.
- ◆ Reducing food loss and waste and managing organic and inorganic waste streams.
- ◆ Ensuring social protection of vulnerable urban populations through functional safety nets.
- ◆ Reducing tax evasion in the informal food economy.
- ◆ Promoting a city's image factoring in aspects such as orderliness, functionality, cleanliness, social justice, poverty, and cultural vibrance.

Food logistics and marketing are among the key areas in which cities have a comparative advantage in engaging with food systems, and could have significant impact. A combination of regulation, investment, and other support measures could have significant impacts on public health, food-related business development, and livelihoods. Interventions can be aimed at many different actors, ranging from grocery or convenience store chains to small independent fruit and vegetable stands, organized fresh food markets, independent food shops, and other types of food merchants operating within or outside the formal economy. Similarly, supportive measures and investments can take on many forms.

Cities can use urban planning and related investments and regulations to indirectly shape food marketing environments supportive of adequate and healthy diets. Some cityscapes are evidently more conducive than others to the development of fast food chains, convenience stores, and on-the-go eating, just as some are more conducive to the development of traditional markets, small food businesses, and social congregation and eating formats. The width of roads, for example, is a feature of city landscapes that is understood to influence the speed of traffic flow, walkability, and ways in which space is used, all features that have a bearing on food purchases and consumption. Mixed-use zoning that allows food retail to be co-located with residences can also influence shopping and eating patterns. Public transportation systems can similarly condition how, and how fast, people can access food markets, how much time people have to eat, and the nature and size of food retailers. Some cities have deliberately worked to ensure that all residents live within a short distance to a food market.

Asian cities can use zoning and licensing rules to help ensure that healthy food is available and unhealthy food kept at bay, though the scope for using such instruments is limited by the urban food sector's persistent informality in the region. Zoning rules are one lever cities can use to restrict the commercial operation of certain types of business, including ones known to be vehicles of unhealthy ultraprocessed or fast foods. Cities can also use licensing to incentivize food businesses to shape formal food retailers' practices and guide them to supply and promote healthy foods. Licenses can, for example, require that food stores supply and saliently position minimally processed plant-based foods and meet basic food safety requirements, to start or continue operating. In this and other interventions, however, Asian cities have to contend with the reality that much of the food sector lies outside the formal economy. In fact, caution is warranted to avoid inadvertently dissuading or disincentivizing food businesses from operating formally.

Asian cities will need to develop new food wholesale and logistics models able to support the disparate needs of a diversity of food retailers. A common trajectory for cities in high-income countries, as they grow

and mature, is to move wholesale food markets from densely populated parts of the city, where they cause increasing congestion and other problems, to city peripheries. The successful relocation of wholesale markets from more to less densely built-up and populated parts of cities, however, assumes that an adequate number of market users have the capacity to relocate their business dealings to wherever wholesale markets are moved. Inevitably, not all users are able to make the transition and wholesale market relocation can cause a shift in cities' food supply, privileging large and well-organized actors over small ones of more limited capacity and means. Experience with such transitions shows that there are typically winners and losers but that the market adjusts. However, experience with such transitions comes predominantly from cities with high rates of supermarket penetration and formality. Multitudes of small vendors operating informally in Asian cities would lack access to the specialized vehicles and trained staff they need to carry merchandise between their suppliers and customers in the event of wholesale market relocation. And if they did not lack these, their trips would add to congestion problems in cities already overwhelmed by traffic and gridlocks. A failure to foresee and plan around these challenges could contribute to decimating informal food operations and leave large swaths of consumers in Asian cities unable to access affordable healthy food.

Asian cities are generally characterized by a high level of reliance on the informal food sector, and efforts centered on disbanding informal food markets and operations are at a high risk of backfiring or doing more harm than good. Challenges associated with informality include tax evasion, congestion, messy markets and image problems, unsafe food, and unhealthy snack food. Risks of disbanding informal activity, however, include disruptions to food sector livelihoods and safety nets, the loss of affordable fresh and prepared food markets (and their replacement by convenience stores and fast food chains that are conduits for ultraprocessed foods and unhealthy eating habits), and the erosion of local food culture. Many informal street vendors in cities are from low-income neighborhoods and many are organized along ethnic or cultural affiliations correlated with migration patterns to these cities. Given these realities, most Asian cities will benefit socially and economically by finding ways to engage with the informal food marketing sector constructively. Incremental improvements can be sought through a mix of regulatory, training, and other measures, while longer-term measures may involve the formalization of even very small food system operators. In this regard, the historical experience of Singapore is relevant, in the gradual but orderly upgrading and formalization of street vending there culminating in today's community and commercial food courts.

Investments in wet market upgrades may be one way to maintain the relevance of these important food retail venues, enhancing their utility while addressing their downsides. The latter include unsafe food handling, tax evasion, and inefficient or noisome uses of space, which can in turn detract from city image and investment. Municipal investments can address their need for clean water, waste management, transportation and accessibility, energy and cold storage, and 'softer' needs relating, for example, to standards and metrology, dispute resolution, market information, and even professional training and licensing. Support for collective action among small food retailers operating informally—whether independently or in larger wet markets—may open up possibilities for integrating these operators, and the vital functions they serve, into modernizing wholesale marketing systems. The experience of Ahmedabad, India also points to the benefits of working with street vendor associations to design and implement sustainable solutions. At the national level, India has been more proactive than many countries in its efforts to integrate street vendors into policy making processes.

In most Asian countries, municipal authorities have an important yet often unrecognized role in addressing emerging food safety risks. More often than not, it is municipal departments that are responsible for the inspection and oversight of wholesale and retail markets and food businesses and vendors, and the reporting of foodborne disease among the urban population. However, these functions are often under-resourced. Municipal food safety units commonly focus their day-to-day efforts on policing the limited pool of larger formal sector food enterprises, and otherwise 'react' to food safety outbreaks and other negative events. With a growing recognition of the public health and commercial costs of unsafe urban food, municipalities now need to invest more and more smartly in food safety capacity, to focus more on preventive rather than reactive measures, and to place as much effort on enabling and facilitating improved food vendor and provider practices as on enforcing regulatory infractions.

Interventions relating to urban and periurban agriculture

Possible reasons for engaging with urban and periurban agriculture:

- ◆ Protecting dietary health by protecting the supply of nutritionally vital fresh fruits and vegetables and minimally processed foods to residents (through the protection of cropland).
- ◆ Managing the disruption to the livelihoods and food supply of those dependent on it (through the development of adequate safety nets).
- ◆ Managing and possibly supporting the performance, environmental or otherwise, of de facto urban farming activities (through urban extension and the like).
- ◆ Leveraging farming as an inexpensive way of maintaining pervious space, good for storm water management, the offtake of waste, and (debatably) the upkeep of parks.
- ◆ Preserving farms for edutainment purposes (requiring a much smaller scale).

The near-irreversibility of urban and periurban cropland conversion supports the need for careful analysis—at the city level and above—of its various implications and tradeoffs. For example, national or higher level analysis is needed to understand the contributions of urban and periurban cropland to national and city-specific food security, factoring in geographic differences in cropland quality and potential, the relationships between the geography of production and food access and pricing, the environmental externalities of farming and land-use change, and food trade flows. By reflecting on the near- and longer-term functions of urban and periurban agriculture, cities will be better placed to determine how much space and support is needed. Although the protection of periurban cropland is not the sole responsibility of cities—and cities rarely have full or direct control over periurban land-use change (especially metropolitan ones)—its success generally requires their willing and proactive participation. Decades of experience with land protection policy point to political will and commitment to a course of action as being a stronger factor of success than any particular combination of instruments. Experience also supports that effective cropland protection rests on the use of multiple instruments in combination, including both direct and indirect measures as well as carrots and sticks.

Integrating agricultural considerations into spatial planning is probably necessary, though not sufficient, to ensure that strategic cropland is identified and saved from seeing its economic viability condemned. This can occur when cropland is bisected or atomized by transportation arteries, infrastructure, and other development. The integration of an agricultural perspective into planning can help cities identify and address general urban development policies and practices that may unintentionally be increasing pressure on farmland. Indeed, cropland protection can also be approached through the removal of policies as much as the adoption of new ones. For example, certain municipal policies or practices, including well-intended ones promoting more compact development, may be accelerating the conversion of farmland by inflating urban land and housing prices and fueling urban sprawl. Support from higher levels of government can be helpful or even necessary to protect farmland as has proven the case in China and Japan. One course of action for national governments is to establish incentives for municipal leaders to make cropland protection a higher priority.

For most Asian cities, market forces will inexorably lead to widespread periurban cropland conversion or abandonment. To counteract this, more direct cropland protection policies are needed and these can draw from a well-developed toolbox of instruments. Many instruments involve or derive from zoning rules, and land transfer and development rules more generally. Overall, they function by designating areas, including agricultural ones, in which land development, land market, fiscal, and other rules apply. In other words, they subject agricultural land to special treatment. Examples include right-to-farm laws, agricultural easements, restrictions on the subdivision of land, transfer of development right schemes, preemption rights on the sale of agricultural land, and special tax treatment schemes, among others.

Many urban planning instruments can also be used to make space for and actively support urban agricultural activities. Urban planning can proactively build food production into urban spaces, notably by ensuring that those spaces can efficiently access agricultural inputs (including grey water and waste-based

nutrients and energy) as well as markets. Actual investments in infrastructure supporting urban farming, such as irrigation infrastructure, may take the form of subsidies to enhance the value of these activities or mitigate their externalities. Other examples include urban agricultural extension services, local food procurement requirements for municipal institutions (which provide urban farmers a market), investments in or support for markets and marketing services for local farmers, and the dedication of publicly owned land to farming. Here too, the removal of certain policies is sometimes what is needed for urban food production to grow or thrive. For example, it is common for indoor and rooftop farming operations to be stymied by regulatory restrictions on farming activities in parts of cities not zoned for agriculture or in nonfarm buildings—and to seek exemption from them or their removal.

THE WAY FORWARD: BUILDING STRONG CITIES WITH “RICH” FOOD SYSTEMS

Recent developments including non-negligible losses of periurban agricultural land, the rise in incidence of foodborne and diet-related disease, the surge in food-related e-commerce platforms and sales, and widespread food market disruptions associated with the COVID-19 pandemic, have raised stakeholder awareness of the growing challenges and opportunities associated with urban food systems in emerging Asia. The pandemic has highlighted the underlying fragility of food systems and the consequences of limited food diagnostics and governance in many Asian cities. Already strained arrangements for food logistics, food safety oversight, the food security of vulnerable populations, and food waste management have sometimes buckled under the weight of supply and livelihood disruptions, movement restrictions, and market closures associated with the pandemic and responses to it.

As the countries of emerging Asia rein in the pandemic and transition to post-pandemic recovery, the region’s cities will be left facing an even more complex food agenda than before, including heightened concern about food insecurity and public health. For many cities across different size categories, food-related matters will represent some of their most prominent risks as well as economic opportunities of the coming decade. For the many cities that have been approaching food system matters in a reactive, firefighting mode, a business-as-usual approach is itself a risky strategy. In the absence of more effective agrofood policies and governance, those cities may well find themselves overwhelmed by a cocktail of land conflict, nutritional insecurity, food contamination, and environmental degradation problems. As for the many other cities still in early stages of developing and implementing integrated and inclusive food policies, they will need to deepen and accelerate their efforts to get the most impact.

Raising urban food system aspirations

Aspirations for urban food systems need to become better aligned and commensurate with the broader economic development and societal aims of emerging Asia’s fast-growing cities. The majority of Asian cities lack explicit policy goals that relate to their food systems. When they do, those goals often mimic national ones (those relating to food security) and do not relate to the specific circumstances of individual cities. Otherwise, stated goals tend to focus simply on the avoidance or reduced impacts of disruptive shocks related to weather, food prices, food safety outbreaks, and so on. Goals of this nature can be useful for risk mitigation purposes yet say nothing about the opportunities available to cities through food system and dietary advancement. While there are examples of positive outliers, it is uncommon for Asian cities to articulate high aspirations for their food systems. It is even rarer for food-related goals to be commensurate with cities’ typically lofty aims relating to fiscal and economic strength, job growth and innovation, resilience, greenness, safety, and livability.

Over the longterm, strong Asian cities will be those with “RICH” food systems, or food systems that are:

- **Reliable (R)**—ensuring basic food security, provisioning an adequate and stable supply of food that is resilient to shocks. This characteristic relates to broader city goals of social stability, resilience, and disaster preparedness.

- **Inclusive (I)**—serving the least well-endowed residents of cities, freeing themselves of food access and nutritional health inequality, and making positive contributions to a dynamic and fair local economy. This characteristic relates to broader city goals of social stability, poverty reduction, and social justice.
- **Competitive (C)**—contributing to innovation, economic dynamism, and economic diversity, and attracting businesses and investors of various sizes and origins. This characteristic relates to broader city goals of economic vibrance and recovery, job creation, and fiscal health.
- **Healthy (H)**—realizing a safe and nutritionally sound diet while being environmentally benign and a net contributor to the health of the local economy. This characteristic relates to broader city goals of greenness, wellness, livability, and fiscal health.

Stepping up urban food analytics and knowledge-sharing

Suitable and measurable indicators for each of these dimensions of urban food system performance can be developed at the individual city level, yet with guidance from national, regional, or other networks of like-minded cities. Over time, such indicators can be used to gauge the influence and effectiveness of major city interventions in their food systems and relative to their consuming residents. Chapter 5 proposes up to a dozen metrics for each of the RICH performance categories. Some of them can make use of existing data or periodic surveys that are already undertaken. Others would require new surveys or additional ways of gathering the requisite information on a timely or regular basis. It is unrealistic to expect individual cities, especially smaller and less well-resourced ones, to invest heavily in urban food data gathering and analytics. Much of the effort may need to be led at a national level or be pursued through a coordinated regional program.

Indeed, improved food system performance monitoring would need to be part of an expanded multiyear program of urban food analytics in emerging Asia. This study found that urban planners and policy makers in the region face significant information gaps pertaining to the structure and performance of urban food systems. On many food system topics, up-to-date and representative data are not available or not adequately disaggregated between rural and urban areas. Even when aggregate level urban data are available, they generally cannot be used to distinguish patterns or trends in smaller versus larger cities. Accurate data pertaining to the (often very large) informal parts of urban food systems are almost nonexistent. Systematic but nimble survey work will be needed to address these and other knowledge gaps in a rapidly evolving context. Recourse should also be made to big data analytics, crowd sourcing, and other emerging techniques.

The practitioner community is also at an early stage of data collection and analysis relating to the institutional arrangements shaping urban food system governance in Asia and the portfolios of policies and programs being deployed by cities. The limited survey work carried out for this study is, to the best of our knowledge, the first attempt to gain a systematic picture of the status of urban food policy within the Asia region. Most prior work consists of individual case studies documenting positive experiences and best practices. More detailed analysis of our survey results will be possible, but we did not endeavor to gather systematic data on food-related outcomes in the surveyed cities. Hence, relationships between action (or inaction) and results cannot be analyzed at this time. At a regional level and for cities of different sizes and characteristics, we are not yet able to draw definitive conclusions about what works, and what does not. Doing so will require a program of applied research and strengthened knowledge management, particularly to learn more from the experiences and realities of small- and medium-sized cities.

Mainstreaming food in urban policy making and acting in priority areas

Although Asian cities will be able to draw upon an accumulating wealth of international experience addressing food system matters through urban policy, they will nonetheless be called upon to develop their own “recipes.” As noted, the scale, rapidity, and nature of changes reshaping urban Asia—and of course

the diversity of the region—mean that Asian cities face a unique set of circumstances. In fact, that uniqueness, combined with evidence limitations on what works and why, presents urban leaders with a dilemma. To what extent should they privilege approaches that are more tested and possibly thought or known to be effective yet limited in their reach, or rather, focus on more pioneering yet less studied ones with more potential to be game-changing at the system level? The way forward will be for individual cities, countries, and groupings thereof to determine, in line with the paths best suited to their circumstances.

The analysis in this study, especially in Chapter 4, indicates that the menu of potential urban food policy instruments for emerging Asia is very long. For many cities, there is scope for doing much more to influence the trajectories and outcomes associated with consumer choices and behavior, food marketing and logistics, and primary agricultural production. And as discussed in the study, doing more can take multiple forms, including advocacy campaigns, regulation, investment, or facilitation of investments and services provided by the private sector, Nongovernmental Organizations (NGOs), or others. The appropriateness of different forms of action will depend on local circumstances, including the structure and complexity of local food markets, city demographics, and the availability of financial, human, and institutional resources. Some efforts can target specific population groups or geographic areas while others might seek to influence investments, behaviors, and outcomes on a city-wide basis. Each city or cluster of cities should develop their own strategy and action plan, ideally resorting to extensive multistakeholder consultation.

Table 0.1 identifies a dozen action areas for Asian cities to intensify their pursuit of a RICH food system. This is an illustrative rather than a comprehensive list and most of these interventions serve multiple purposes, potentially contributing to more than one higher-level food system aspiration.

Table 0.1: A Dozen Promising RICH Food Agenda Items for Cities in Emerging Asia

	Reliable	Inclusive	Competitive	Healthy
Protect prime urban and periurban cropland, potentially through planning and zoning measures, land-use restrictions and prescriptions, land market measures, programs to increase the local residents' appreciation of local farmland, or other means.	***	*	*	**
Make space for urban farming in its multiple forms. This could be on public land, rooftops, near public institutions, and in underutilized public spaces.	*	*	*	*
Provide infrastructure and services to support sustainable agricultural activities. Anticipate environmental hazards and enable access to technical and financial services.	***	*	**	**
Invest and partner in modern horticultural parks to support residents' access to fresh produce, create jobs, and manage urban waste streams.	*	*	**	**
Invest and partner in agrofood incubation and training programs to support innovation in sustainable agriculture, nutritious food business development, and youth entrepreneurship.		*	**	**
Invest in market system strategic planning and partner with private sector in locating and developing modern (gateway) wholesale markets with multiple services such as cold storage, logistics, and market information.	**	*	***	*
Upgrade and develop the infrastructure and management of community-level fresh produce markets to ensure broad access to healthy foods and address environmental and food safety risks.	*	***		***

	Reliable	Inclusive	Competitive	Healthy
Leverage public food procurement for public or regulated institutions such as government agencies, hospitals, schools, and corrections facilities to support the provision and consumption of healthy and sustainable foods (that is, diverse, minimally processed, and primarily plant-based or low-foodchain items).	*	*	*	**
Facilitate multistakeholder programs and interventions to improve nutrition and dietary diversity especially among women, infants and children in poor households and informal settlements.		***		***
Increase awareness of nutritional health among members of the public as well as food system and public health professionals through public education, professional licensing, and campaigns.				***
Develop programs to induce upgrades in farming, food handling, and food preparation practices to reduce food safety and other biosecurity risks from farm to fork. Undertake interventions such as enhanced food safety hazard surveillance and food facility inspections using risk-based approaches.	**	*	***	***
Facilitate neighborhood or city-wide food loss and waste partnerships and initiatives, including ones supporting preventive measures, secondary food use, composting, and the bioeconomy.	*	*	*	**

Note: Contribution to RICH objectives: Substantial (***), Moderate (**), and Minimal (*)

CALLS TO ACTION FOR DIFFERENT STAKEHOLDERS

Asian cities have considerable room for maneuver to impact the trajectory of their food systems but this does not mean that they can or should act alone in this endeavor. In some areas, cities will need to be better guided or empowered to act on food matters by national and state institutions. To design and implement successful plans and programs, some Asian cities may require technical and financial assistance, and most would benefit from peer-to-peer experience sharing. Indeed, many stakeholders within and beyond Asia's cities have potentially very important roles and responsibilities in advancing the urban food agenda in emerging Asia.

National government entities have important roles to play in support of proactive and well-designed food system interventions at the city level. Many city-level actions in the food space will need to be enabled and guided by national laws, regulations, standards, and plans. Individual cities can be creative in how they apply these to best fit local circumstances, but individual cities cannot always be left to act on their own as their food and agriculture systems are still part of a national whole. National rules, regulations, or administrative procedures that are outdated or lack clarity may inhibit effective city-level action in some cases, for example, affecting whether urban farming can be promoted in city spaces. National-level data collection may be critical for cities to make informed decisions relating to the food system. National data on the loss of periurban cropland and its contributions to food supply and good nutrition, for example, would help both cities and higher-level authorities intervene appropriately and coherently. Some city-level interventions may not be possible without financial support from higher levels of government. Financial resources, either from national programs or provided on a competitive basis, may be needed to enhance city-level action. National government agencies can also play important roles where initiatives extend across multiple jurisdictions, for example, involving multiple municipal and rural authorities in multiple surrounding provinces or agricultural clusters around a big city.

Multicity or “translocal” networks can play a vital role in raising the profile of urban food problems and opportunities by increasing awareness of them among city leaders and fostering experience and resource sharing. Multicity networks include those already dedicated to food matters (such as the network of Milan Urban Food Policy Pact cities), those aiming to promote the application of “smart city” principles (such as the ASEAN Smart City network), and those more generally supporting sustainable urban development (such as Local Governments for Sustainability [ICLEI] and the C40 Cities network). Those mentioned here are international and regional networks, yet it will also be beneficial to utilize *national* networks of cities or municipal leaders to strengthen awareness and experience sharing on food-related problems, opportunities, and interventions.

It will take broad mobilization by a diverse set of actors to meaningfully pursue the RICH food agenda, and so, examples of actions that specific groups of stakeholders can take to engage more proactively in urban food-related matters are offered below. These calls to action are offered for city leaders and policy makers, urban planning professionals, national ministries (such as ministries of agriculture, health, commerce, and environment), large food companies and food industry associations, civil society organizations, academic institutions (research and education), and international development partners.

Urban planning professionals

- ◆ Develop a vision of how food culture, food production, and food-related business can better contribute to the near- and long-term competitiveness and economic development goals of the city and how food-related commerce and hazards or costs will impact the city’s fiscal health, under different scenarios.
- ◆ Integrate considerations of food availability, affordability, and quality into assessments of horizontal and vertical urban expansion, paying particular attention to the need and scope for protecting periurban agricultural land. Quantify, at the local level, future competition among agricultural, residential, industrial, and other uses of land, water, and resources, and specify the associated policy options and tradeoffs for municipal and national decision makers.
- ◆ Explore alternative options to create space for urban agriculture, whether through the zoning of municipal public land, the designation of land for community gardens, or the availing of rooftops and other structures for agricultural production. Outline program and policy options for realizing this potential.
- ◆ Develop short- and longer-term strategic plans pertaining to the maintenance, upgrading, or conversion of community or traditional food markets, taking into account demographics, food shopping trends, current and future transportation requirements, and other factors. Position this assessment so that decisions can be made on a city-wide basis rather than for each traditional market, one by one.
- ◆ Integrate considerations of food waste, food packaging, and food-related effluents and pollution into municipal strategies for waste reduction or management and environmental management.
- ◆ Integrate considerations of food availability, affordability, quality, and culture into city-region plans to promote domestic and international tourism, where such potential exists.

Asian city leaders and policy makers

- ◆ Develop clear messaging and regularly communicate to constituents how food, food commerce, and dietary matters relate to the broader goals, problems, and opportunities facing the city (and its hinterland)—with emphasis on factors affecting resilience, inclusiveness, competitiveness, and (human, environmental, and fiscal) health.
- ◆ Lead or empower others to lead a process of dialogue among key stakeholder groups to define priority areas for short- and medium-term city investment, facilitation, and advocacy, to foster healthier and more sustainable urban food systems.
- ◆ Advocate among national leaders and technical agencies to reform national laws and regulations and strengthen specific national guidelines to better enable or facilitate actions at the city-region level.
- ◆ Develop or strengthen the institutional arrangements for improved coherence of food-related policies and for improved coordination of food-related initiatives in the city-region. This may involve a combination of temporary committees and more permanent structures.
- ◆ Allocate sufficient resources for public investments and institutional operating costs to effectively pursue food system opportunities and manage the food system risks deemed to be most significant for the city-region. Monitor the (cost-) effectiveness of these expenditures and make adjustments as needed.
- ◆ Use public investments and programs to leverage private investment and incentivize other activities that will strengthen food system capacities and improve food-related outcomes.
- ◆ Participate in multicity global, regional, and national networks that provide learning and experience sharing opportunities relating to urban food policy and good practices.

National technical ministries—notably of agriculture, health, commerce, and environment

- ◆ Update regulatory frameworks in relation to agricultural land protection and tenure, land-use zoning, the commercialization and use of agricultural chemicals and veterinary drugs, and other rights and responsibilities pertaining to primary agricultural production.
- ◆ Quantify, at the national or subnational level, future competition among agricultural, residential, industrial, and other uses of urban and periurban land, water, and resources, and specify the associated policy options and tradeoffs for municipal and national decision makers.
- ◆ Update regulatory frameworks relating to freight, logistical services, and e-commerce, to reflect the specific needs and challenges of food distribution and logistics.
- ◆ Provide technical guidance for cities to apply risk-based approaches to the management of food safety, animal health, and environmental protection, and specifically to surveillance, assessment, regulatory enforcement, and risk communication.
- ◆ Make adaptations to sectoral censuses (farm, enterprise, and labor ones) and other national-level data gathering instruments to generate more and better information about urban food system realities.
- ◆ Develop national plans for public agricultural and food market infrastructure development (including wholesale markets) to enable city- or province-level initiatives to be assessed and financed as part of a cohesive national system of marketplaces (hierarchical or networked).

Large food companies and food industry associations

- ◆ Participate in processes to assess and prioritize city-regional food system challenges and opportunities, and chart out longer-term goals and roadmaps for realizing them with an emphasis on improving the enabling environments in which food-related businesses operate.
- ◆ Play active roles in city-regional crisis response committees and for a convened to address biosecurity problems, food safety outbreaks, adverse weather events, or other shocks to the local food system, whenever these occur.
- ◆ Plan and participate in public-private initiatives to address urban food insecurity and promote affordable access to healthy foods, especially among poor and vulnerable groups.
- ◆ Organize joint action to strengthen food operator awareness of food safety risks, facilitate the adoption of good agricultural, manufacturing, and food handling practices, and support programs to improve food and pathogen traceability and transparency.
- ◆ Work with municipal units to develop a system of regulations, incentives, industry codes of practice, and support programs to reduce urban food waste and contribute to the local bioeconomy.
- ◆ Initiate and implement programs to improve the nutritional profile of processed foods and beverages through product reformulation, new product development, or other means. Collaborate with city and national government entities on programs to improve the nutritional profile of foods consumed in school, enterprise, and other institutional canteens.
- ◆ Partner with municipal authorities and stakeholders to develop agrofood innovation hubs, horticultural parks, and other venues to test and apply emerging technologies and address emerging risks. In larger cities and regional hubs, collaborate with local universities or others to create agrofood incubators or accelerators for businesses and social enterprises.

Academic organizations (research and education)

- ◆ Undertake and disseminate research addressing knowledge gaps and emerging trends relating to the structure and performance of food systems, consumer perceptions and behavior, food and nutritional security, food system risks and other matters relating to Asian urban food systems.
- ◆ Undertake evaluation and impact assessments on urban food policies and programs and recommend measures to improve targeting, cost-effectiveness, and equitable outcomes.
- ◆ Train the next generation of agrofood entrepreneurs and managers/technicians in sustainable food production and distribution systems.
- ◆ Assist national and municipal governments in designing advocacy programs and other communications to bring about behavior changes among farmers, consumers, food vendors, and others.

International development partners

- ◆ Facilitate city-level multistakeholder dialogues leading to priority-setting, strategic plans, and investment or program planning pertaining to food systems.
- ◆ Help strengthen the empirical basis for food-related decision making by cities by commissioning or cost-sharing consumer and other stakeholder surveys, food and nutritional security analyses, environmental and food safety risk assessments and other diagnostic work.
- ◆ Support multicity networks and other modes of knowledge management for the sharing of experiences and lessons on “what works” and “what doesn’t” in terms of cost interventions.
- ◆ Assist individual cities to (i) integrate food system matters into their broader approaches and institutions for municipal governance, (ii) undertake feasibility studies and eventually finance public investments supporting (peri)urban food production and market infrastructure, and (iii) implement other programs requiring regulatory capacity building or stakeholder behavior changes from farm to urban fork.

Civil society organizations

- ◆ Participate in processes to assess and prioritize city-regional food system challenges and opportunities, and chart out longer-term goals and roadmaps for realizing them with an emphasis on consumer and environmental protection, and the interests of poor and vulnerable stakeholders in the urban food system.
- ◆ Advocate for the rights of urban and periurban farmers and farmland protection, providing legal support when necessary.
- ◆ Advocate for the protection of urban consumers, including school children, from food-related fraud or misrepresentation, food safety mismanagement, food crisis profiteering, and more, providing legal support when needed.
- ◆ Advocate for the rights and safe working conditions of food microenterprises and market and street food vendors, and facilitate programs to improve the working conditions and operating practices of such entities.
- ◆ Assist municipal and national authorities and stakeholders to implement targeted programs that address food insecurity, low-quality diets, and unsafe food in low-income neighborhoods and informal settlements within cities.

Food and food system performance are critical to the human and environmental health, competitiveness, and resilience of all cities. In Asian cities, food ought to have the full attention of urban leaders as food system challenges and opportunities become more complex. RICH Food, Smart City offers us a first food system-themed survey of Asian cities and shows that, in much of the region, a food system perspective is still in early stages of being integrated into urban policy and planning while an urban perspective is largely lacking from national food policy.

RICH Food, Smart City identifies the contours of an Asian urban food policy agenda and provides practical guidance on how Asia's urban leaders can set and pursue food system goals more commensurate with their aspirations to build strong, resilient cities.

