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CIPOTATO.ORG

Street Address:
PCAARRD, Los Baños, Laguna 4030, Philippines
Tel. +63-49-5368185
Email: cip-manila@cgiar.org

Literature Review: food marketing, the informal sector, and small-scale food processing in Metro Manila

Resilient Cities through Sustainable Urban and Peri-Urban Agrifood Systems

Workpackage 2: building inclusive and sustainable food markets and safeguarding supply chains

Table of Contents

Introduction	4
Food Marketing in Metro Manila	5
<i>Human Ecology and Food Systems: Insights from the Philippines</i>	<i>5</i>
<i>Fill the Nutrient Gap Philippines Summary Report</i>	<i>6</i>
<i>Urban Food Systems</i>	<i>7</i>
<i>The future of food security of the Philippines in the face of climate change and changing consumption</i>	<i>8</i>
<i>Covid-19 and food systems in the Philippines</i>	<i>9</i>
<i>Structural shifts in food basket composition of rural and urban Philippines: implications for the food supply system.....</i>	<i>10</i>
<i>Technological and institutional challenges to food security in the Philippines</i>	<i>11</i>
<i>Urban food consumption in Metro Manila</i>	<i>12</i>
<i>Building Food and Nutrition Resilience in Quezon City</i>	<i>13</i>
<i>Food Industry in the Philippines</i>	<i>14</i>
<i>The Retail Pattern of Manila.....</i>	<i>15</i>
<i>Empowering consumers in selected public markets in Metro Manila: a framework for the development of AgriWatchPH.....</i>	<i>16</i>
<i>Review of the trust situation in agri-food chain relationships in the Asia-Pacific with a focus on the Philippines and Australia.....</i>	<i>17</i>
<i>Local food systems in Cambodia, Myanmar, and the Philippines: perspective from the local communities</i>	<i>18</i>
<i>Assessing parasitic infestation of vegetables in selected markets in Metro Manila, Philippines...20</i>	<i>20</i>
<i>The Farmer Entrepreneurship Program (FEP) Project Case Study: Bridging Famers to the Jollibee Supply Chain Project</i>	<i>21</i>
The Urban Informal Sector	22
<i>Reconfiguring space mobilizing livelihood: street vending, legality, and work in the Philippines..22</i>	<i>22</i>
<i>Street vendors, their contested spaces, and the policy environment: a view from Caloócan, Metro Manila.....</i>	<i>23</i>
<i>Street foods: traditional microenterprise in a modernizing world.....</i>	<i>24</i>
<i>The market in the urban informal sector: a case study in Metro Manila, the Philippines</i>	<i>25</i>
<i>SUEAA profile: street vendors of Manila.....</i>	<i>26</i>
<i>Street foods: informal sector food preparation and marketing.....</i>	<i>27</i>
<i>The Sari-Sari store: informal retailing in the Philippines</i>	<i>28</i>
<i>Measuring the contribution of the informal sector the Philippines economy: current practices and challenges</i>	<i>29</i>

<i>Policy intervention in the street foods trade and its effects on health and livelihood: a case study of Quezon City</i>	30
<i>Social security needs assessment survey for the informal economy in the Philippines</i>	31
<i>Streetfoods into the 21st Century</i>	33
Small-Scale Food Processing	35
<i>Street foods: informal sector food preparation and marketing</i>	35
<i>Policies and strategies for the development of small and medium scale food processing enterprises in the Philippines</i>	36
<i>Street food preparation practices</i>	38
<i>Street vended foods: potential for improving food and nutrition security or a risk factor for foodborne diseases in developing countries?</i>	39
<i>Food safety knowledge and practices of streetfood vendors in a Philippines university campus</i> .	40
<i>Assessment of knowledge, attitude, and practices on food safety and compliance to microbial safety guidelines among vendors of commonly patronized street foods in Poblacion, Batangas City, Philippines</i>	42
<i>Street food vending and nutritional impact</i>	43
<i>The perception of local street food vendors of Tanauan City, Batangas on food safety</i>	44
<i>The effects of consumers' perceived risk and benefit on attitude and behavioral intention: a study of street food</i>	45
<i>Streetfoods in developing countries: the potential for micronutrient fortification</i>	47
Synthesis	49
Discussion	51
Reference List (Alphabetical)	53

Introduction

This literature review will address food marketing, the urban informal sector, and small-scale food processing within Metro Manila to provide a literary background for Workpackage 2 of the Resilient Cities initiative. In the review, literature will be summarized and synthesized through a food security and urban livelihoods lens.

Metro Manila is one of the most densely populated areas in the world, with rapid urbanization and population growth exerting pressure on food security, education, housing, waste management, and employment (Porciuncula, et al., 2001). Growing bodies of literature emphasize the complexities of urban food security, elaborating on the triple burden of malnutrition which includes stunting, obesity, and micronutrient deficiency (predominantly vitamin A, iron, and iodine). These food security challenges disproportionately affect the urban poor, 44% of which suffer from malnutrition in Metro Manila. To address these food security issues, the Filipino government has historically focused on food production and promoting rice self-sufficiency (Bairagi, et al. 2022). However, recent research urges a food *system* approach to food security, emphasizing the holistic importance of the availability, accessibility, affordability, adequacy of foods (Wiskerke, 2015). Food marketing, the urban informal sector, and small-scale food processing are undeniably essential elements of this food *system* in Metro Manila. Understanding *how* and *what kind* of foods reach the urban table is essential in designing effective food security interventions. Therefore, this literature review will cover these elements of the food system as a reference for the Resilient Cities initiative.

Food Marketing in Metro Manila

Food marketing is a broad introduction to how food reaches the urban population in Metro Manila. The literature covered in this section targets the distribution and retail of food in Metro Manila, including insight on food value chains, urban nutrition and diets, as well as the policy environment surrounding urban food security. These subtopics serve to illustrate the food environment in Metro Manila as well as broad challenges in the food system to formulate background knowledge for the Resilient Cities initiative. The literature in this section is organized to flow from broader to more specific insight on food marketing in the Philippines. For an alphabetical list of literature, see the reference list on page 53.

Human Ecology and Food Systems: Insights from the Philippines

Davila, F. (2018, September 6). Human Ecology and Food Systems: Insights from the Philippines. *Human Ecology Review*, 24(1), 23–50. <https://doi.org/10.22459/her.24.01.2018.02>

Keywords: *food security, food sovereignty, smallholder farmers, traditional food systems, indigenous food systems, food production*

This article uses a human ecology framework to analyze food systems in the Philippines. The article is divided into the sections “state of human well-being”, “state of ecosystems”, and “state of institutions” which respectively describe the nutrition, environmental, and policy challenges in the Filipino food system. Some factors discussed include the Spanish colonial era, American occupation, land titles, international trade, climate change, land degradation, and income inequality. Figures 1 and 2 are especially helpful illustrations of food system and human ecology frameworks. It should be noted that the article has a focus towards rural livelihoods and food production. Although links to urban food marketing are not explicitly made, an analysis of perpetuating (rural) poverty and unbalanced food availability provides an insightful background to understanding food security.

Summary:

Davila defines the human ecology framework as “an analytical framework that captures the underlying discourses and associated feedbacks of these [discourses] on institutions, human well-being, and ecosystems”. He uses this framework to reveal and analyze social discourses within the Filipino food system, focusing on nutrition, environmental sustainability, and the policy environment.

The Philippines has a history of being exploited for its natural resources. This pattern began during the Spanish colonialization period and continued throughout the Japanese and American occupation. During Spanish colonialization, the Philippines was established as a hub for timber and cash crop trade. Land was cleared at alarming rates, sold to wealthy Spanish families, and used to grow a selection of cash crops. After the Spanish left, 25% of the country’s forested land was depleted. During the US occupation, land clearing was institutionalized, and the Philippine Trade Act was established to put American elites in control of Filipino cash crops (for the American market). This power perpetuated Western principles of property rights where informal smallholder and indigenous landownerships were labelled “illegal”. Paired with incentives to intensify agriculture, indigenous and

smallholder knowledge systems were marginalized. The US focused on commodity exports of traditional goods such as corn, coconut, and sugarcane; and high-value crops such as bananas, mangoes, and pineapples.

In the modern context, Davila shares an elaborate critique of policies from the Filipino government which focus on staple foods. He argues that not only does this policy orientation reduce agrobiodiversity, but it also limits rural development opportunities, reduces the diversity of livelihoods, downgrades traditional and indigenous local food systems, and ultimately leads to environmental degradation. Despite the many modernization interventions that are linked to these policies, Davila articulates that implied trickle-down benefits rarely reached rural farmers. Furthermore, as agricultural intensification increases the vulnerability of production livelihoods to flooding and drought, smallholder farmers are forced to bear the burden of land degradation. Although there are interventions which address climate adaptation, this support typically focuses on crop protection while disregarding landscapes and people. Davila additionally suggests that socioeconomic and political processes such as “weak governance, corruption, lobbying, and increased human pressures” are linked to the perpetuation of this production-oriented model and environmental degradation. Davila advocates for the need to integrate conservation policies with rural development to prevent further environmental degradation.

Not only does a reduction in agrobiodiversity pose challenges for the environment, nutritional diversity and household food consumption are also put at risk. Unfortunately, food security challenges in the Philippines are (currently) framed as a primarily economic discourse, ignoring issues of “social interactions, equity, gender, and environmental concerns”. Davila contrasts food security with the concept of food sovereignty, which highlights “rights of rural communities to frame and influence their immediate food systems”. Addressing the complex sociopolitical landscape where elite landownership and the disempowerment of farmers are major challenges, Davila argues the food sovereignty perspective is essential in future research and policy action.

Fill the Nutrient Gap Philippines Summary Report

World Food Programme Nutrition Division. (2019, March). *Fill the Nutrient Gap - Philippines Summary Report*. World Food Programme. <https://www.wfp.org/publications/2018-fill-nutrient-gap-philippines-summary-report>

Keywords: *malnutrition, poverty, urbanization, processed foods, staples*

This report by the World Food Programme (WFP) is a detailed introduction to nutrition and food security challenges in the Philippines. The report shares a variety of insightful statistics which are supplemented with ample descriptions to illustrate the nutrition environment within the Filipino food system. The report also demonstrates how food marketing, specifically, affects nutrition, elaborating on the influence of school meals, advertising, and transportation. Ultimately, the report provides extensive background information on nutrition challenges and concludes with recommendations for intervention.

Summary:

33% of children under 5 are stunted in the Philippines. The WFP suggests that this statistic is largely due to “poverty, natural and manmade disasters, low consumer demand for nutritious food, and agriculture policies focused on rice self-sufficiency”. Food prices establish a barrier to a nutritious diet especially for the urban poor. The authors mention that transportation costs in the Philippines are especially high due to the country’s archipelagic geography and complexities in the supply chain. Additionally, rice self-sufficiency policies are criticized for their failure to address the needs for increasing food diversification. In response, the authors emphasize the importance of improving the collective “availability, physical access, affordability, and choice of nutritious foods”.

The Filipino diet is “high in cereals and tubers and low in fruits and vegetables”, regardless of income. At least two meals in a day are rice-based, and 18% of daily consumed foods are processed. Although the World Health Organization recommends only 50% of daily energy intake from staples, staples contribute to 73% of daily energy intake in the Philippines. Furthermore, foods with the greatest micronutrient content are the least consumed, supplemented with the growing consumption of unhealthy snacks. Approximately 85% of advertised foods and drinks are considered unhealthy, complementing the increase in demand for unhealthy foods. The report elaborates on other drivers of unhealthy food demand, including “access, ease of consumption, affordability, and taste preferences”. Subsequently, the WFP warns that unhealthy snacks not only result in an overconsumption of energy, but also increase the cost of a nutritious diet by 40%. The report emphasizes that dietary needs of the population are in more nutrient-dense, not energy-dense foods.

To improve nutrition in the Philippines, the WFP recommends investment in more nutritious school meals, micronutrient supplementation, and fortification of staple foods. The report also encourages the establishment of a sugar tax and conditional cash transfers to vulnerable households. Finally, to promote the diversification and intensification of nutritious foods, the WFP advocates for better investment and social support for smallholder farmers.

Urban Food Systems

Wiskerke, J. S. C. (2015). Cities and Agriculture. In P. Drechsel & H. de Zeeuw (Eds.), *Urban Food Systems* (1st ed., pp. 1–25). Taylor & Francis. <https://doi.org/10.4324/9781315716312>

Keywords: *urbanization, pollution, policy, food security, nutrition transition, climate change, food markets, urban agriculture, city region food systems*

This book chapter gives a general overview of urban food systems, covering a broad range of topics and issues from governance, resource use, inequality, and pollution. The chapter is not written in the context of any specific city, but instead describes general relationships and trends which provide a strong foundation for the Resilient Cities initiative. Wiskerke concludes with a guiding principle for establishing synergies and city-region food systems.

Summary:

Cities consume approximately 75% of the world’s resources, despite only covering 2% of its surface. As urban infrastructure and governance struggle to keep up with rapid population growth, inequalities in wealth, health, and access to resources and services also escalate.

Environmental hazards also arise, including pollution, inadequate waste disposal facilities, and the heat island effect.

Wiskerke emphasizes the importance of food security in urban areas as it affects the local economy, environment, public health, and quality of neighborhoods. “Food security” is described in this chapter as the collective availability, accessibility, affordability, and adequacy of food. The authors elaborate on the challenge of food loss to exemplify the different food security challenges for industrialized and developing countries (food losses in developing economies occur predominantly in the harvest, storage, and transport phases, while in industrialized economies, losses manifest further down the food chain). Pairing food security challenges with the shift in urban diets, Wiskerke stresses the need for research in food *systems*, as opposed to previously production-focused narratives.

Many contemporary food systems, especially at the post-harvest stage, are dependent on fossil fuels, leading to vulnerabilities to changes in oil prices. Street shops are discussed as an important source of urban food security as they offer lower prices, flexibility in buying quantity, access to short-term credit, all within walking distance to the urban poor.

Wiskerke further argues that the current dichotomy between urban and rural policy is responsible for shortcomings in urban food research, policy, and planning, such that (from p.4):

- *Study of food provisioning is confined to rural and regional development*
- *Urban food security failure is seen as a production failure (not distribution, access, or affordability)*
- *Promotes the view of food policy as a non-urban strategy, delaying research*

In the conclusion, Wiskerke emphasizes the necessity to adopt a city-region scale for development as this will implement an integrated and comprehensive solution for a future-proof food system. As part of this solution, Wiskerke suggests strategies to build synergies and resilience such as urban agriculture, linking peri-urban family farmers to food markets, and reusing food wastes.

The future of food security of the Philippines in the face of climate change and changing consumption

Bairagi, S. & Mohanty, S. (2021, November). The future of food security of the Philippines in the face of climate change and changing consumption. In *CGSpace CGIAR*. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Retrieved September 20, 2022, from <https://hdl.handle.net/10568/116413>

Keywords: *food security, economics, climate change, household elasticity, demand*

This report describes food security in the Philippines. The economic analysis in the report shares helpful for statistics and data tables, such as the percent change food consumption table on page 11 and effect of climate change on future consumption on page 13. Although the topics covered in the report are more general, links to food marketing are made in the discussion of rural and urban household demand for different crops. Overall, the research

findings are synthesized to urge the adjustment of current agrifood policies to promote a more sustainable food system.

Summary:

Climate change is expected to “reshape the food basket of the Philippines”. As extreme weather events, population growth, income growth, and nutrition transitions exert pressure on the current food system, global food security and environmental sustainability are expected to see adverse effects. In the Philippines, a 1°C increase in mean temperature is predicted to reduce rice production by 3.6%. Furthermore, each 1°C increase in *minimum* temperature poses greater risk and may decrease grain yield by 10%. These changes in agricultural productivity affect market prices and food security. To conceptualize the impact of food price increases, the own-price and household elasticities of rice are calculated for urban and rural contexts. The calculations reveal that the rural demand for rice is expected to decrease, despite an increase in total rice demand (due to population growth). For both urban and rural contexts, the annual per capita rice consumption is likely to decline, although this trend is greater in urban areas than in rural areas. Overall, the results indicate that the future of food systems is affected both from the demand side (through rapid income and population growth and urbanization) and the supply side (through climate change and scarcity of natural resources).

Covid-19 and food systems in the Philippines

Robins, L., Crimp, S., van Wensveen, M., Alders, R. G., Bourke, R. M., Butler, J., Cosijn, M., Davila, F., Lal, A., McCarthy, J. F., McWilliam, A., Palo, A. S. M., Thomson, N., Warr, P., & Webb, M. (2020, October). COVID-19 and food systems in the Indo-Pacific. In *Australian Center for International Agricultural Research*. Australian Center for International Agricultural Research. Retrieved September 8, 2022, from <https://www.aciar.gov.au/publication/covid-19-and-food-systems-indo-pacific/7-covid-19-and-food-systems-philippines>

Keywords: *nutrition, production, poverty, export, supply chains, bottlenecks, resilience*

This report outlines the different impacts of Covid-19 on food production, domestic and export markets, smallholder farmers, consumer nutrition, and employment. Although the report is written at the national scale, certain sections directly address Metro Manila. Altogether, the report provides unique insight on limitations in the Philippine food system that were made aware in light of the pandemic.

Summary:

The Covid-19 pandemic greatly affected the Filipino food system. Unemployment and underemployment rates rose, leading to a reported 44% of the population with insufficient incomes to meet basic household needs. Women were especially vulnerable to the economic shocks inflicted by the pandemic as they had “smaller cash flow and reserves, limited credit options, less inventory, and a reduced client base”. Even after government-imposed quarantine periods, female businesses struggled to return to business as usual. A similar vulnerability persisted in micro and small enterprises. Farmers, on the other hand, had greater resilience as they faced frequent shocks from variable weather events. Many

farmers had a risk-averse attitude which limited their adoption of high-risk, high-value farming activities. Conservative farming was practiced more by smallholder farmers due to the limited availability of agri-inputs. Despite protecting farmer livelihoods, these production choices negatively influenced the diversity of food crops produced.

Restrictions on transportation and enforced community quarantines affected supply-chain bottlenecks and consumer accessibility to nutritious food. Online options for agricultural trade emerged and grew in popularity, but this was not an affordable option for the majority of the population. Rice supply was protected by the government as rice was purchased directly from farmers and distributed in relief packages. These packages targeted urban areas, mainly Metro Manila, which lacked rice production activity. Other agricultural products, such as the Lakatan banana, did not receive the same treatment. As Covid-19 restrictions complicated inter-island logistics, shipping costs rose and hindered the transportation of food products. Because the Lakatan banana has high spoilage rates of up to 30%, women processed the fruits into banana cakes as a coping strategy. Farmers also shifted production to more fast-growing crops (such as squash) to “ensure continuity in cash flow”. According to the Pinggang Pinoy model for a nutritious diet, food shortages for vegetable and fruit were 92.2% and 59.8% respectively. Conversely, rice, when including imports, had a 24.8% surplus in supply.

Structural shifts in food basket composition of rural and urban Philippines: implications for the food supply system

Bairagi, S., Zereyesus, Y., Baruah, S., & Mohanty, S. (2022). Structural shifts in food basket composition of rural and urban Philippines: Implications for the food supply system. *PLOS ONE*, 17(3), e0264079. <https://doi.org/10.1371/journal.pone.0264079>

Keywords: *diet, urbanization, price elasticity, household spending, education*

This journal article is a highly technical exploration on the impacts of urbanization and changing diets in the Philippines. These diet changes are then translated to implications for the food system and challenges which arise. A discussion on market systems is taken from an economic perspective — theories such as elasticity, consumption, and demand are used to explain household food choices. Much of the paper covers the methodology and calculations of price elasticities for various food products and demographics. Furthermore, differences between household food choices in urban and rural areas over time are examined. Finally, although the paper includes many tables and figures to display calculations, a descriptive analysis is limited.

Summary:

1/5 of the Filipino population is considered poor and 1/10 is considered food insecure. Low agricultural productivity due to limited diversification, climate change, and its impact has made the Philippines historically import-dependent. The Philippines government has approached the issue of food insecurity through economic means of high import tariffs and production subsidies for rice. These policies support rice production, paired with price-stabilizing measures to promote self-sufficiency in rice. Yet, as urbanization and incomes increase, the food basket is expected to diversify, putting pressure on rice-focused

agricultural resources. The authors stress the need to analyze the changing demographics and diets of the Filipino population to implement policies suitable for the future.

To describe the changing Filipino diet, the authors compare price and expenditure elasticities in urban and rural populations. The calculations shared in the article suggest that income growth will lead to greater food consumption and nutritionally diverse diets. Price elasticities for rice (how consumer demand changes as price changes) vary from -0.04 to -2.17, suggesting that changes in demand differ considerably, potentially depending on income, gender, or education. For both urban and rural households, however, expenditure on rice remains to have the highest budget share compared to expenditure on other foods. The report also found that urban households spend 18% of their budget share on eating outside and only 9% eating at home. Compared to rural populations, urban populations spend less budget share on rice, fish fruits, and vegetables. Furthermore, educated household heads spend more on meat and dairy products, implying the benefits of effective nutrition education. Finally, the results demonstrated that expenditure on dairy products is increasing for both urban and rural populations.

Overall, the authors recommend interventions in the non-rice sector to supply nutritious food items at affordable prices.

Technological and institutional challenges to food security in the Philippines

Rola, W. F., Rañola Jr., R. F., Magcale-Macandog, D. B., & Rola, A. C. (2014). Technological and Institutional Challenges to Food Security in the Philippines [E-book]. In U. S. Nagothu (Ed.), *Food Security and Development: Country Case Studies* (1st ed., pp. 57–78). Routledge. <https://doi.org/10.4324/9781315745824>

Keywords: *production, food security programs, degradation, market efficiency, education*

This book chapter describes the status, relevant programs, major threats and drivers, investments, education, and reform practices addressing food security in the Philippines. The section “programs that contributed to food security in the Philippines” from p.61-64 is especially insightful in briefly introducing current policies and interventions. The authors argue that factors which influence national food security in the Philippines are: poverty, population growth, a weak marketing system, weak institutions to deliver food security programs, environmental degradation, climate change, and the conversion of agricultural lands. Although an explicit analysis of market-related influences is limited, the discussions of overall food security and interventions illustrate the complex environment in which food marketing operates.

Summary:

Filipino food policy has historically favored food production over food accessibility, nutritional balance, and food safety. According to the Food and Nutrition Research Institute (FNRI), despite the country having sufficient food supply, 15% of the population still lives below the food per capita threshold. Many Filipinos are nutritionally insecure and struggle with undernutrition, micronutrient deficiencies, overnutrition, and obesity. The authors associate

these challenges to a lack of integrative programs “linking production plans with nutrition security”.

The environment threatens food production through soil nutrient depletion, soil erosion, tropical storms, floods, droughts, and mangrove forest conversion. Furthermore, excessive chemical inputs and soil degradation establish positive feedback loops which reduce agricultural productivity. Demands from population growth and urbanization further exacerbate production challenges as fertile lands are converted and agriculture is forced into marginal, hilly lands with lower yields. In response to these challenges, the authors suggest production-enhancing investments and programs such as agroforestry, intercropping, various extension and farm insurance programs.

In addition to production challenges, food security is threatened from a marketing perspective. The authors argue the current market system is “failing” due to the lack of post-harvest facilities, poor infrastructure support for value-adding and transport, inadequate advocacy, and the lack of timely market information. High rates of spoilage and losses in agriculture and fishery damage the profitability of farming activity. Although the financial barriers and investment challenges of farmers are recognized, many credit and insurance programs fail to encourage their participation.

High yielding varieties, post-harvest technology, efficient food distribution, and nutrition awareness are promising strategies to improve food security in the Philippines. The authors further advocate for investment in crop modelling and early warning systems to mitigate the impact of climate disasters on food production, processing, and spoilage. Moreover, the authors emphasize that to effectively improve food security, locally funded programs and improving market access should be prioritized. A list of policy recommendations includes protecting agricultural land, productive use of land, new approaches to extension and credit, as well as studying the cultural acceptability and palatability of the Filipino diet.

Urban food consumption in Metro Manila

Chakraborty, B. L., Sahakian, M., Rani, U., Shenoy, M., & Erkman, S. (2016, February 17). Urban Food Consumption in Metro Manila: Interdisciplinary Approaches Towards Apprehending Practices, Patterns, and Impacts. *Journal of Industrial Ecology*, 20(3), 559–570. <https://doi.org/10.1111/jiec.12402>

Keywords: *eating practices, home-cooked meals, processed foods, nutrition, metro manila*

This journal article describes the food consumption patterns of different individuals in Metro Manila. Weekly eating activities are described for a range of demographics from large family households, students, and to individuals living alone in Metro Manila. The series of accounts details the variety in food consumption patterns, but also highlights an overarching trend of decreased consumption of home-cooked meals and greater intake of processed foods. The interviews provide detailed insight on activities regarding food provision, preparation, and consumption. The article is especially helpful in sharing “authentic” experiences, which is essential in designing policies to improve nutrition and food security.

Summary:

Chakraborty, et al. (2016) argues that food consumption is “embedded in culturally grounded social systems”. In the Philippines, eating patterns are changing, especially for the growing middle class. From the households interviewed, there is increased consumption of processed foods and restaurant meals. Despite the growth of the middle class from 2003 to 2009, the average income expenditure on food remained constant at 27%. Yet, the annual expenditure on eating food outside the household increased from 17% to 20% from 2003-2009. Especially for the student demographic, eating out is described as both time and budget friendly, providing most of their meals even if “outside food” to be unhealthier. The article also underlines a correlation between household helpers and eating out, such that households without domestic help cooked less at home. In addition, the interviews revealed an increased popularity of processed meats and canned goods. Many individuals and households cited convenience as the main reason consuming these products. Alternatively, other processed items like powdered milk and bottled water grew popular not because of convenience, but because of their perceived health benefits/advantages. Through describing many examples of different household food activities, the article illustrates how socioeconomic factors and cultural perceptions shape food consumption. They further emphasize that the practice of food consumption is “a very local affair”. Lastly, the authors advocate for the importance of addressing these complexities and express the need for greater research in household food waste and policy action in the service industry.

Building Food and Nutrition Resilience in Quezon City

Oyuela, A., EAT Foundation, & UNICEF. (2020, December). Building Food and Nutrition Resilience in Quezon City: A Case Study on Integrated Food Systems. In *EAT Forum*. EAT Foundation. Retrieved October 6, 2022, from https://eatforum.org/content/uploads/2020/12/Case-study_Quezon-City-Food-and-Nutrition-Resilience-EAT-UNICEF-QUEZON.pdf

Keywords: *food security, urban agriculture, Quezon city, policy intervention, NGOs*

This report by the EAT foundation describes an extensive collection of initiatives that address food security in Quezon City. Authors also provide numerous policy recommendations and a clear action plan to deliver these recommendations. The report is especially useful for the Resilient Cities project as an introduction to existing work in food security and relevant actors for potential partnerships. Table 1. in chapter 4 is a particularly helpful reference which outlines how different institutions and partnerships are involved in improving food security in Quezon City.

Summary:

Quezon City is home to a quarter of the Metro Manila population and has the largest share of urban poor in the Philippines. Approximately 20% of the city’s households are moderately food insecure and 15% experience severe food insecurity. The city suffers from the triple-burden of malnutrition (undernutrition, micronutrient deficiencies, overweight/obesity) as there is a lack of access to nutritious, affordable, and sustainable diets. Likewise, increasingly unhealthy diets and sedentary lifestyles also contribute to this challenge. In response, the Quezon City Food Security Task Force (QC-FSTF) identified access and

availability as the two weakest points in the urban food system, suggesting these points for intervention focus.

Many organizations, policies, and government initiatives address urban food security in Quezon City. These include the Good Food Cities Declaration, the EAT-Lancet Commission on Food, Plant, Health, the C40 Food Systems Network, Joy of Urban Farming, Farmer to Consumer Programme, the Sustainable Diner Project, the Community Mart app, Gulaan sa Paaralan initiative, and the Kadiwa on Wheels initiative (these organizations, policies, and initiatives are separately described in the report). Through the descriptions of pre-existing initiatives on food security, the authors address the importance of the *food environment*, emphasizing food affordability, nutrition information, and marketing to drive better consumer choices.

The QC-FSTF established a two-fold food security framework, addressing urban agriculture and food trade/processing to “create an enabling environment” for an improved food system. Although urban agriculture is unlikely to satisfy urban food needs, it has the potential to improve food security and nutrition for the most vulnerable, as well as creating livelihood opportunities and increasing the productivity and spatial quality of urban land. The authors further elaborate that the food system can be strengthened by supporting value-adding enterprises and e-platforms which facilitate trade. In addition, because Quezon City is described as a “food gateway to Metro Manila”, improvements in the city’s food system are argued to also benefit the larger city-region.

To achieve food resiliency, the authors share a roadmap which targets vulnerable and food insecure groups and promotes agri-zones and food-zones. The report then highlights partnership and policy guidelines/suggestions to encourage urban innovation “towards a healthy and sustainable food system”. These include leadership at all levels, integrated programming to address complexity, entering novel partnerships for implementation, and a strong narrative on equitable and sustainable food systems.

Food Industry in the Philippines

Abela, M. S. (2019, November 25). Food Industry in the Philippines. In *Flanders Investment and Trade*. Flanders Investment and Trade Manila. Retrieved October 19, 2022, from https://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/Philippines%20Food%20Industry.pdf

Keywords: *supermarkets, convenience stores, processed foods, food supply*

This report provides a brief overview of the structure of food marketing in the Philippines. There is bias towards the private retail sector, focusing on descriptions of large retail groups such as SM Markets, Robinsons, and Puregold. Wet markets, talipapas, streetfood vendors, or food hawkers are not mentioned in the report, overlooking important food outlets for the urban poor. The descriptions on the commercial food industry, however, elaborate on food processing, different types of products (healthy, prepared, instant, etc.), and cover a small sampling of relevant market regulations. It should be acknowledged that some statements in the report lack consistent citation or register as subjective. Moreover, certain statements contradict or do not fit into messages from scientific literature. Overall, the report covers an

extensive range of topics but is limited in detail and evidence. For the Resilient Cities project, this report may be relevant in describing food-related activities for middle- and upper-income groups.

Summary:

Approximately 80% of the total food supply in the Philippines is domestically produced. The authors suggest, however, that the composition of food supply is expected to change as there is a growing preference and demand for imported products (these include “gourmet and healthy foods, frozen foodstuff, ready-to-cook food, and processed grocery items”). In addition to dietary preference, growing traffic issues are linked to the popularity of prepared foods. Subsequently, the authors describe the “frequent snacking culture” in the Philippines and growth of convenience stores, especially around business centers and residential areas. As of 2019, SM Markets is the lead food retail group with 934 supermarkets and convenience stores across the Philippines. This is followed by Robinsons Supermarket with 615 supermarkets and convenience stores. Other large retailers include Puregold Price Club Inc., METRO Retail Stores Group Inc., and Landers Superstore. Statistics on these stores across the Philippines are provided in greater depth in section 2.1.1 of the report.

Food processing is one of the largest industrial sectors in the Philippines. According to the Philippine Food and Drug Administration, most of the registered food and beverage processors are micro- to medium-sized businesses. While large processors directly import raw goods, smaller processors purchase ingredients through distributors. To regulate the production and marketing of “unhealthy” processed foods, the Republic Act 10963 was established in 2018. This act taxed 6PHP/liter for caloric or non-caloric sweeteners and 12PHP/liter for using high fructose corn syrup in food processing.

The Retail Pattern of Manila

McIntyre, W. E. (1955, January). The Retail Pattern of Manila. *Geographical Review*, 45(1), 66. <https://doi.org/10.2307/211730>

Keywords: *Divisoria market, Sari-Sari stores, parasite stores, talipapas, history, policy*

This journal article provides a general description of the history of different food markets in Manila. Markets of focus include Divisoria Market, parasite retail concentrations, and talipapas. Although commercial/private food outlets are not as discussed, the article provides a broad background on how food is marketed in Manila. Because the article was published in 1955, some dynamics are expected to be different in modern-day. Nonetheless, the historical descriptions provided remain relevant as background information. A noteworthy element of the article is the included map of Divisoria market. Although outdated, such a map is rare in published works.

Summary:

The food marketing scene in Manila is composed of “small eating places”, sari-sari stores, general grocery stores, public markets, and parasite stores. In residential areas, “small eating places” were seen on every block, with the range of customers limited to immediate vicinity. A sari-sari store is the typical “neighborhood shop” and sells miscellaneous things.

In most cases, these stores have a low inventory value of a few hundred pesos. Over time, “small-scale imitations of the American supermarket” developed in wealthier neighborhoods and replaced sari-sari stores. Especially after World War 2, general grocery stores with refrigerated counters became more commonplace.

Most public markets in Manila were built 30-40 years ago, historically located near major churches. These markets were an important food source for the city and became focal points for urban development. The success of a market was heavily dependent on location — more accessible markets prospered and became fixed. However, as the urban population grew, so did the challenges of overcrowding, the lack of cleaning, refrigeration, and sanitation facilities. In coordination with the growth in demand and opportunity, parasitic activity expanded around the market area, including privately owned retail stores.

Divisoria market is the most important market for Manila (and Metro Manila). Its advantageous vicinity to the North Port Area, inter-island shipping docks, and railroad stations promoted food trade and its significant growth and popularity. Products sold in Divisoria were priced lower because of direct access to suppliers. Furthermore, the wide selection of goods sold quickly established Divisoria as a “favored market”. As of 1955, the market housed over 3000 stalls organized into two sets of long counters, divided longitudinally. Vendors preferred outer stalls because these were more accessible to customers. As a result, stalls in market areas furthest from main entrances (M. De Santos and Tabora St.) were often empty.

Parasite stores surrounded public markets to take advantage of its customers. However, sanitary conditions in these areas were often poor. McIntyre defines Talipapa stores as a “small-scale copy of public markets on private property, often spilling into streets”. Often, stall keepers squat without permission. Since 1948, ownership of these stalls was restricted to Filipinos by law, but were still mostly owned and operated by Chinese. Talipapa stores also grew in popularity in Manila after World War 2 as residential subdivisions grew. McIntyre highlights that the growth of Talipapas marked a notable shift in Manila market dynamics: where people once settled near markets, markets now moved towards people.

Empowering consumers in selected public markets in Metro Manila: a framework for the development of AgriWatchPH

Novio, G. L., Cruz, J. A. M., Deinla, J. C. N. S., Rollan, M. J. T., & Fabito, B. S. (2016, November). *Empowering consumers in selected Public Markets in Metro Manila: A framework for the development of AgriWatchPH*. 2016 IEEE Region 10 Conference (TENCON). <https://doi.org/10.1109/tencon.2016.7848426>

Keywords: *mobile application, public markets, consumers, price control, market complaints*

This conference paper describes the potential for a mobile application — AgriWatchPH — to improve communication between market consumers and the Department of Agriculture (DA) as a form of empowerment. Regulatory characteristics of public markets in Metro Manila are described with a focus on market prices and the accountability of vendors. The paper subsequently provides a concise outline of limitations in the public market system such as the mishandling of produce and improper pricing. Although the app is still in its

development phase, its proposed features and their intended impacts are detailed in the paper. Altogether, the links made between market limitations and consumer empowerment reveal the intricacies in food marketing.

Summary:

The growing number of vendors in public markets has led to challenges such as overpricing, product mishandling, hoarding, and stiff competition. Although market prices are “regulated”, mishandling persists. Republic Act No. 7581 (“The Price Act”) guarantees the availability of “basic necessities”, which include corn, rice, root crops, fish, pork, beef, poultry, milk, eggs, vegetables, fruits, sugar, and cooking oil. In other words, the DA is responsible for ensuring the prices for these necessities are reasonable. Current price regulation is appointed by “checkers” in public markets who oversee product prices from 7AM-9AM to determine daily maximum and minimum prices. These prices are fed to and published on the DA website. The authors express that despite these efforts, a mechanism to monitor whether these prices are followed by vendors is lacking. Furthermore, because the website is only accessible by computer, it is not popularly used by consumers (many of whom prefer mobile devices). Because of “tedious” administrative processes to file complaints, many consumers instead post complaints on social media channels such as Facebook. The authors highlight flaws in this system as only some posts will reach proper authorities.

The AgriWatchPH app aims to utilize consumers to help regulate market prices and address flaws in communication. A price check module is proposed to display daily prices shared from “checkers” and the DA. Consumers may refer to these market prices when shopping and file complaints through the app if they find discrepancies. These complaints will then be forwarded to a DA price watch team who will coordinate an appropriate response. The authors elaborate that establishing a direct connection between proper authorities and consumers would enable governing bodies to cater better action.

The paper describes other modules in more detail, including the login, report, check price, budget planner, price checker, accounts management, price adjustment, and market management modules. These additional modules are designed to streamline market information and cater better services to market consumers. The budget planner module, for example, is specifically designed to encourage financial and grocery planning for lower-income households. While the primary purpose of AgriWatchPH is to improve price regulation and the communication of complaints, the additional features aim to enhance the overall shopping experience for consumers.

Review of the trust situation in agri-food chain relationships in the Asia-Pacific with a focus on the Philippines and Australia

Batt, P. J., Fischer, C., & Hartmann, M. (2010, January 1). Review of the trust situation in agri-food chain relationships in the Asia-Pacific with a focus on the Philippines and Australia [Online]. In *Agri-Food Chain Relationships* (pp. 105–118). CAB International. <https://doi.org/10.1079/9781845936426.0105>

Keywords: *smallholder farmers, middlemen, dependence, market prices, trust*

This book chapter explores the relationship between “trust” and agri-food chain mechanisms using an economic lens. The chapter presents a greater focus on theoretical discussion with limited reference to the case studies which are introduced. The authors define and discuss economic theory on trust, satisfaction, communication, personal relationships, reputation, investments, power, and dependence. Succeeding the economic background, the chapter presents results from an empirical study on Australia and the Philippines (this section is most relevant for the Resilient Cities initiative). Although a city or region within the Philippines is not specified in the case, the results share insightful dynamics between smallholder farmers and traders, and how this influences food production and marketing decisions.

Summary:

Research in the Filipino agrifood chain reveals a growing concern that traders are taking advantage of smallholder farmers. Most farms in the Philippines are 0.6 to 1ha in size and are managed by smallholder farmers. These smallholder farmers face challenges to their production and livelihoods from weather events, seasonality, and the perishability of their crops. Often, smallholder farmers also lack direct access to food markets and therefore rely on traders for market linkage and information. These traders have the power to manipulate food supply, access to information, financial capital, credit, and transportation of goods. Although market prices vary from day to day, smallholder farmers have limited power in negotiating prices because of this dependence. Furthermore, high marketing costs can be attributed to “inefficient transport, inadequate cool storage capacity, significant variations in product form, variety, and quality”. The authors suggest that in many cases, traders take advantage of farmers’ limited financial capital by offering credit to lock farmers into trade relationships. In contrast, traders can also establish good relationships with farmers through advising farmers on which crops to grow based on market patterns and profitability. For farmers who grow perishable crops and have limited knowledge on markets, this information is essential.

Because of this dependency of farmers to traders, the authors elaborate on the importance of trust in food chain relationships. The authors argue that traders with good relationships with customers make “higher margins and more efficient exchanges”. In addition, farmers can reduce uncertainty in their business exchanges when there is a greater perception and experience of trust. Finally, results from the empirical study also indicated that to build trust, Filipino farmers valued the “willingness of the market intermediary to advise the grower of supply problems, a close personal friendship, and perception that the buyer had treated the grower fairly and equitably”.

Local food systems in Cambodia, Myanmar, and the Philippines: perspective from the local communities

Espino, A., Monville-Oro, E., Barbon, W. J., Ruba, C. D., Gummadi, S., & Gonsalves, J. (2021, May). Local Food Systems in Cambodia, Myanmar, and the Philippines: Perspective from the Local Communities. In *CGSpace CGIAR (Working Paper No. 356)*. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Retrieved September 20, 2022, from <https://hdl.handle.net/10568/113826>

Keywords: *food security, nutrition, farmers, climate smart villages, food supply chains, consumption, markets*

This working paper under the CGIAR research program on climate change, agriculture, and food security (CCAFS) describes the challenges and drivers for food systems in Cambodia, Myanmar, and the Philippines. The paper describes different aspects of country-level food systems, including but not limited to, production, food environment, and diet. This is followed by an analysis of local-level food systems, where the rural traditional food system in Himbubulo Weste serves as a case study for the Philippines. Although the analysis of the Himbubulo Weste food system is not directly applicable to the urban context of Metro Manila, the description of the broader Philippine food system remains relevant and insightful. The paper includes tables and statistics that are useful references for understanding food marketing (especially in the section of food environment). The following summary is written for sections relevant for context in the Philippines only.

Summary:

Food systems encompass an assortment of activities which collectively constitute four core elements: food supply chains, the food environment, individual factors, and consumer behavior. The seven main drivers of food systems include: “climate and environment, globalization and trade, income growth and distribution, urbanization, population growth and migration, politics and leadership, and sociocultural context”. The authors describe different ways in which the drivers of the food system influence the different four core elements.

The Filipino food system is vulnerable to changes in international prices because of its dependency on international trade to satisfy domestic food demands. Furthermore, despite a focus on increasing rice production, the cereal import dependency ratio continues to rise. In Filipino food supply chains, fragmentation and inadequate storage and distribution facilities result in “significant supply losses for key food commodities”. Food losses are highest for fruits and vegetables, leading to implications in the quality of vulnerable diets. In the food environment, the authors highlight the vulnerability of low-income households to price or income shocks and describe that these groups are more likely to “shift to cheaper sources of calories”, such as cereals and processed foods. This contributes to the growing issue of inadequate nutrition in the average Filipino diet. A detailed table in the “Dietary Intakes” section outlines the intake of different nutrients and foods in the Filipino diet, revealing an overconsumption in sodium and sugar-sweetened beverages, while fruits, milk, and vegetables lack adequate consumption.

In Himbubulo Weste, the food system is characterized as a “rural traditional” food system. Although the village has limited diversity in food choices, shorter supply chains increase the resilience of the food system. The village implements climate smart agriculture to help diversity and intensify agricultural production. Despite improvements in production, farmers still face challenges in distribution as buyers have greater market power and demand cheaper products. Moreover, farmers express struggles such as the “absence of a stable contact market, inadequate storage, distribution and transport infrastructure, and poor economic status”. Local food marketing in this village focuses on small retail stores and food hawkers that sell dry and perishable goods, respectively. The authors emphasize the importance of fresh food hawkers in promoting physical access to foods. The informal and

local government markets in Himbubulo Weste are a source of diverse and voluminous food supply. The authors conclude from their analysis that the distance to markets, mobility of households, and transportation were the main determinants of consumption.

Assessing parasitic infestation of vegetables in selected markets in Metro Manila, Philippines

Mariano, C. M. R., Matti, N. S. A., & Ramos, G. B. (2012, February). Assessing parasitic infestation of vegetables in selected markets in Metro Manila, Philippines. *Asian Pacific Journal of Tropical Disease*, 2(1), 51–54. [https://doi.org/10.1016/s2222-1808\(12\)60012-7](https://doi.org/10.1016/s2222-1808(12)60012-7)

Keywords: *public markets, private markets, lettuce, pechay, parasite contamination, food safety*

This is a short report on food safety in public and private markets in Munoz, Quezon City, and Alabang, Muntinlupa City. Fresh pechay (Chinese cabbage) and lettuce are sampled from public and private markets in these cities and tested for the following parasites: Ascarid, *Ascaris*, *Entamoeba coli*, *E. histolytica*, *Giardia lamblia*, Hookworm, *Trichostrongylus* sp., *E. vermicularis*, *Trichuris trichiura*, insect, slug, unknown specimen. The report presents test results to compare contamination between the vegetables, cities, and type of market. Results from table 1. present the difference in vegetable contamination between private and public markets which may be of particular interest to the Resilient Cities project. Overall, the report shares insightful statistics on food safety and market outlets with a brief discussion of why these results may exist.

Summary:

Food-borne diseases in the Philippines are closely linked to the consumption of contaminated vegetables. In 2004, parasitic worms caused over 78.6 thousand deaths in the Philippines. These parasites are commonly transmitted through poor sanitation and handling practices (especially while working with manure in vegetable cultivation). Results from the study indicate that public markets on average had greater parasitic contamination, with 55% and 50% contaminated pechay and lettuce from Munoz and Alabang, respectively. On average, pechay was more contaminated than lettuce, with 55% and 35% of the samples contaminated respectively. Of the contaminated samples, the most common parasites detected were Ascarid (46.25%) and *Ascaris* (45.00%). The authors express likely sources of the contamination are from issues in sanitation and waste management at the market level. In public markets, vegetables are often handled with bare hands and are subjectively “dirtier” than private markets. Private markets may also have less contamination because vegetables are individually packaged, outer leaves and additional rotten parts are removed, and vegetables are “not exposed to mechanical vectors like flies”. Finally, the authors mention that the presence of *Ascaris* could indicate that animal manure was used as a fertilizer during vegetable production. Given the prevalence of parasitic infestation in these vegetables, the authors conclude with a recommendation for greater caution for infestation and contamination in the production, processing, and sale of food products.

The Farmer Entrepreneurship Program (FEP) Project Case Study: Bridging Farmers to the Jollibee Supply Chain Project

Gueye, G. (2020, September 30). The Farmer Entrepreneurship Program (FEP) Project Case Study: Bridging Farmers to the Jollibee Supply Chain Project. In *Catholic Relief Services*. Catholic Relief Services. Retrieved October 19, 2022, from <https://www.crs.org/our-work-overseas/research-publications/farmer-entrepreneurship-program-fep-project-case-study>

Keywords: *market linkage, smallholder farmers, corporate social responsibility, Jollibee*

This report describes the pilot project: Bridging Farmers to Jollibee Supply Chain, which is part of the Farmer Entrepreneurship Program (FEP). Although the project is more focused on farmer livelihoods and food production, it also exemplifies linkages between rural and urban food networks. Relevant aspects for the Resilient Cities include the potentials benefits both for large food service groups and smallholder farmers with better market linkages.

Summary:

The main challenges of smallholder farmers in the Philippines (identified by the FEP) include: sustainable production methods, limited access to integrated post-harvest facilities, low business skills, weak marketing links with buyers, and inadequate capital. The FEP found similar challenges while working with Kalasag farmers. The case study illustrated that many farmers had small plots of land, utilized traditional farming techniques, had limited access to production capital, and struggled to find steady markets for their crops. Additionally, the Kalasag farmers were dependent on traders for credit and market access which contributed to their limited bargaining power.

Training from the FEP targets market skills and agricultural financing skills which aims to “build production capacity and enable farmers to produce for institutional markets”. As of 2008, 600 farmers trained by the FEP delivered high-value crops (peeled onions, tomatoes, bell peppers, lemons, chili) directly to the Jollibee Food Corporation (JFC). This contribution covered 25% of the total raw vegetable requirement of JFC. For JFC, this was an opportunity for sustainable corporate social responsibility and the linkage helped adapt to the “rising number of middle-income urban consumers who want high-quality food”. The FEP describes the effects of this collaboration as a “win-win scenario”: JFC had access to higher quality goods, and farmers benefitted from additional income. Farmer communities also saw trickle-down effects in the form of greater capacity and new jobs (especially for women) in activities such as onion peeling, which lead to 20% higher prices.

The Urban Informal Sector

Literature review of the urban informal sector focuses on the role of this sector in urban livelihoods and food supply. Questions such as: how does the informal sector function? How large is the urban informal sector? And the relationship between the informal sector and different levels of government are explored. The literature in this section is organized to flow from broader to more specific insight on the urban informal sector in the Philippines. For an alphabetical list of literature, see the reference list on page 53.

Reconfiguring space mobilizing livelihood: street vending, legality, and work in the Philippines

Milgram, B. L. (2011). Reconfiguring Space, Mobilizing Livelihood: Street Vending, Legality, and Work in the Philippines. *Journal of Developing Societies*, 27(3 & 4), 261–293. <https://doi.org/10.1177/0169796X1102700403>

Keywords: *women, policy, vendor associations, Baguio City, fruit and vegetable vending*

This detailed journal article describes the livelihoods in the urban informal sector through a case study in Baguio City. Experiences of informal vendors are described in detail to provide insight on informality, legality, gender, and policy. Although these experiences cannot be immediately translated to the Metro Manila context, because Baguio is also urbanized and has a vibrant street economy, some general patterns may be transferrable to Metro Manila.

Summary:

Informal activity in Baguio City is largely composed of the sale of fresh produce, manufactured goods, and cooked food. The informal sector contributes greatly to the urban economy; however, is often stereotyped as disorderly, superfluous, interrupts efficient traffic flow, and competes unfairly with larger hygienic establishments. Furthermore, street vending activity is seen by the municipal administration as illegal, rendering street vendors vulnerable to fines, prosecution, and confiscation of goods. Milgram suggests that these conflicts stem from basic differences in vendors' and state workers' understanding of "space". Not only are vendors typically excluded from the urban planning process, but they are also subject to frequent police harassment that results in the destruction of their goods. Vendors argue that they occupy crowded areas to maximize business, but to the police, this occupation requires them to forcibly remove vendors and hold demonstrations.

In 2007, Baguio City passed an anti-peddling law under the "Marikina vision for Baguio City" which withdrew many rights of street vendors. The law exemplified a failure to address the livelihood needs of the poor while attempting to reduce informal activity and minimize congestion/disorder. Several subsequent projects followed the anti-peddling law, such as the 5-point plan, one tray white line policy, and the ID badge project. Vendors struggled as their vending locations were limited to areas with less foot traffic or minimized to "authorized areas" which were not defined. Furthermore, lengthy administrative processes for registering vending businesses for an ID badge worked to "divert vendors' attention from advocating better street working conditions".

In face of these challenges, vendors formed associations and mobilized to mitigate restrictions. Vendors continued their practices and made their best attempt to avoid the police, resulting in a “continuing game of cat and mouse”. Sometimes, the police were more lenient if they had relationships with the vendors, or municipal workers would be paid to mention when the next police “cleanup” would take place. In this manner, the regulations imposed by the municipality created conditions of both illegality and informality.

Some vendors practiced a micro-selling strategy called “tempoc” or “atado” in response to the frequent police “cleanups”. In this strategy, vendors arranged small pyramids of fruits or vegetables on bright plastic sheets. When the police came, they quickly picked up corners of the sheets and relocated to avoid confiscation. Micro-selling also benefitted buyers who often did not have large disposable income and preferred buying in smaller quantities. Buyers also mentioned they did not mind that street vending was illegal, and neighboring storeowners also described it was beneficial to have nearby street vendors as it attracted customers to their business. This exemplifies the “permeable borders between formal and informal enterprise”.

The author ultimately concludes that the informal economy is “not restricted to small-scale and survivalist activities of the poor but are also a sphere of accumulation in which non-poor operate”. Street vending activity is simultaneously formal, informal, legal, and illegal. Vendors also showed agency to take positions of leadership and “overcome barriers of social recognition and livelihood rights”.

Street vendors, their contested spaces, and the policy environment: a view from Caloócan, Metro Manila

Recio, R. B., & Gomez, J. E. A. (2013). Street Vendors, their Contested Spaces, and the Policy Environment: A View from Caloócan, Metro Manila. *Environment and Urbanization ASIA*, 4(1), 173–190. <https://doi.org/10.1177/0975425313477760>

Keywords: *Caloócan, policy, street vending, informal livelihoods, conflict*

This journal article describes the conflicting strategies between informal street vendors, urban planners, and policy makers. The differing perspectives of vendors and policymakers are outlined with a bias towards street vendors. The spatial, legal, and socio-economic challenges to street vending are described in detail and relevant laws targeting the informal sector / street vendors are listed. Helpful statistics on average incomes of street vendors surveyed are also provided.

Summary:

Street vending is defined as “the retail or wholesale trading of goods and services in streets and other related public axes such as alleyways, avenues, and boulevards”. Street vendors are often situated in areas with high foot-traffic, expanding and contracting with dynamic peak hours of different streets. Reasons for street vending are summarized as the need to make money, increase autonomy, learn/practice skills, and socialize children. Despite the livelihood opportunities street vending offer to the urban poor, vendors are often unfairly targeted by planners and policymakers to “wipe the cityscape clean”. Government officials

describe concerns towards informal activity such as traffic and sanitation issues, unfair competition, and tax leakage. On the other hand, the authors suggest that street vending “adds vitality, and contributes to economic activity and service provision”. Rather than a hindrance, informal activity is argued to be a healthy *transition* to the formal.

Because of policymakers’ negative association towards informal activity, the needs and vulnerabilities of street vendors are often ignored. Vendors describe their needs as insufficient institutional support, long work hours, material poverty (many resort to loan sharks due to a lack of financial support), absence of permits, and no office to accommodate concerns. Street vendors are also subject to frequent purges by the municipality. The vendors, however, yield political power such that they negotiate bribes and write formal letters to city hall to protect their rights. In this manner, the informal and formal sectors are also argued to have grey boundaries. The authors comment that while street vendors hold informal, mostly verbal, agreements to rent public spaces, many government officials are also engaged in bribery linked to street vending, “strengthening the culture of informality”.

Street foods: traditional microenterprise in a modernizing world

Tinker, I. (2003). Street Foods: Traditional Microenterprise in a Modernizing World. *International Journal of Politics, Culture, and Society*, 16(3), 331–349. <https://www.jstor.org/stable/20020170>

Keywords: *women, streetfoods, Iloilo, Manila, vendor associations, policy*

This journal article studies street vendors in Iloilo and Manila from a feminist perspective. The case studies highlight the role of women in street vending activity and emphasize street vending as a survival strategy rather than a business operation. In the article, Tinker poses the question: how can governments help the streetfood trade without “strangling” it? Although Tinker occasionally delivers subjective messages, she shares critical insight on women’s livelihoods (a topic with otherwise limited discussion in streetfood research) and clarifies the specific challenges and opportunities women face.

Summary:

Working women in Southeast Asia are usually limited to commercial occupations because of its considered “low status”. Streetfoods, however, provide an opportunity for women to redefine their social roles as both genders work together in the enterprise. Tinker articulates that women’s involvement in streetfood vending also increases their intra-household bargaining power and enhances their value. In the cases studies of Iloilo and Manila, women often made financial decisions for their streetfood business. As a result, more profits from vending were invested in human capital. Money spent on feeding their children was a means to improve nutrition while sending children to school used education as a way out of poverty. If there was leftover profit *after* investing in the household, vendors expanded their sales to dry goods, and gradually converted their business into a “tiny grocery store”. Tinker argues that understanding the purpose and priorities of streetfood vending are important in designing interventions helpful for women. For example, NGOs or vendor associations may offer credit to female vendors, but this does not address their particular needs such as sexual harassment and childcare.

Streetfoods provide an “essential source of inexpensive ready-to-eat food for workers of every class and occupation”. Vendors commonly sold cakes and processed foods and served prepared foods. In Iloilo, approximately 10-12% of the labor force is involved in streetfood enterprise, 4/5 of which are women-owned. Yet, government policies fail to (sufficiently) support streetfood businesses and the informal sector. Regulations such as vending licenses and food safety inspections are inconsistent and often subject to bribery. Additionally, the police operate frequent campaigns to “clean the streets” which subject vendors to harassment and destruction to their vending carts. Anticipating damage to their carts, many vendors are therefore reluctant to improve their workstations, leaving implications for food safety. Vendors also mention that although many have high school or even college educations, they entered the streetfood trade because of “abysmal” white-collar wages. Although there was limited competition with mega-malls, vendors had to fight to keep their vending areas, coming to work even when they are sick to occupy their space.

Given its importance and popularity, Tinker concludes that it is “impossible to suppress streetfood trade”. It is therefore important to empower vendors through training and legitimizing their livelihoods. Tinker also suggests connecting local agriculture with streetfoods, promoting greater use of fruits and vegetables in food preparation. Finally, Tinker advocates for the extension of research from this study to further investigate street foods sold to children and their nutritional value.

The market in the urban informal sector: a case study in Metro Manila, the Philippines

Nakanishi, T. (1990). The market in the urban informal sector: a case study in Metro Manila, the Philippines. *The Developing Economies*, 28(3), 271–301.
<https://doi.org/10.1111/j.1746-1049.1990.tb00185.x>

Keywords: *labor, migration, unemployment, slum, scavengers, sari-sari store*

This journal article is the result of lengthy participant observation spanning from 1985-1990 in the squatter community Sitio Paz. Quantitative data presented may be outdated, but observations and certain patterns may remain relevant. It should be noted that most residents of Sitio Paz were employed in the recycling business as scavengers. The study, however, also investigates sari-sari stores, which is elaborated in the second half of the report. Standards of living, income levels and distribution, migration history, employment, and social interactions are described in detail with supporting quantitative data. Notable tables include table IV “the reasons for migrating,” table VI “occupation of employed persons in Sitio Paz,” and table VIII “labor mobility in the urban informal sector based on job histories of household heads”. For the Resilient Cities initiative, the article provides insightful information on the relationship between poverty and the urban informal sector.

Summary:

Rural-urban migration has a large influence on the slum areas in Metro Manila. Nakanishi argues that in less developed countries, the urban informal sector is a result of limited fluctuation in urban employment despite a growing urban population. Of the migrants surveyed, 78% indicated they moved to Metro Manila moved in search of job opportunities.

Many, however, were unable to obtain jobs in the urban formal sector. Labor mobility between the urban formal and informal sector, as well as within the urban informal sector, was not so active. Most of the migrants in Sitio Paz were landless agricultural workers before coming to Metro Manila, and 54.8% of the population did not finish elementary school. The study found that while most residents were scavengers, migrants who lived in Sitio Paz for longer entered “more productive” occupations such as tricycle driving, sari-sari businesses, and jeepney driving. Many residents worked long hours, so information attainment was mostly through relatives or acquaintances. Thus, one’s social network and “reliability” were the strongest components to labor mobility. Contracts were mostly verbal and labor offers were instable. The author argues that the urban informal sector is not competitive but segmented based on “mutually beneficial interpersonal relationships, which avoid risk arising from imperfect information”.

Owning a sari-sari store was advantageous because family members could be stably employed, and various goods were available for emergency use. The expected income from a sari-sari store was also higher than other jobs in the informal sector. The entry barrier to the sari-sari store business, however, was high: initial capital, management knowledge, and established status in the community are needed. Residents had *suki* relationships with sari-sari store owners: “purchasing goods has the same meaning as paying for using the store as an information station”. The stores surveyed had a net profit of 30 pesos / day. A table with items sold and their values is listed on p.296.

Poverty in Sitio Paz was a significant issue. 70% of homes were made of disused articles (tin, cardboard). Most homes did not have private toilet facilities, nor did they use the public toilet (made of garbage near the river). Instead, many excreted on newspaper and dumped this in the river. Residents in Sitio Paz described it was “next to impossible” to access formal financial facilities, resulting in many residents borrowing money from friends, sari-sari stores, or usurers. Money loans were an especially large part of the scavenging trade as this was often the form of obtaining labor.

Overall, the study finds that interpersonal relationships are strong determinants of labor mobility, but poor migrants still struggle to enter the urban formal sector due to high entry barriers such as education and technical skills. The author argues this labor market mechanism is reason for the vicious circle of poverty experienced by many in the urban informal sector.

SUEAA profile: street vendors of Manila

Neary, J. (2018, October 11). *Street vendors of Manila*. SUEUAA. Retrieved September 8, 2022, from <http://sueuaa.org/blog/street-vendors-manila>

Keywords: *traffic, women, urban poor, city planners, recognition, vulnerability*

This web article by SUEAA provides a broad background on street vending activity in Manila. General descriptions and definitions of street vending are followed by details on challenges vendors face, mainly in terms of recognition and financial capital.

Summary:

Main challenges for Manila are the volume of informal settlements and traffic congestion. Traffic is, in part, affected by the many street vendors in Manila, vending in strategic locations to maximize “footfall”. Fresh produce is often sold by women, while the sale of manufactured goods is not restricted to a particular gender. Street vending is seen as an “intersection between public space, economic activities, and temporalities” which render the activities a “vital part of city society”. The street vending trade is difficult to control and is viewed by many city planners as illegal. In extreme cases, goods sold on the street are sprayed with kerosene to make them unmarketable. Because streetfood vending is not officially recognized, vendors are also vulnerable to fines or prosecution. As a coping mechanism, many vendors seek security through informal payments or agreements with municipal workers. As their financial capital is usually limited, vendors also typically carry out loans. Lastly, the article summarizes the experience of street vendors in Manila as a “negotiation of visibility and vulnerability”. Neary expresses additional interest in the gendered differences of this experience, calling to action the necessity for further research on the topic.

Street foods: informal sector food preparation and marketing

Barth, G. A. (1983). Street Foods: Informal Sector Food Preparation and Marketing. In *Equity Policy Center* (No. 18143593). Equity Policy Center. <https://agris.fao.org/agris-search/search.do?recordID=XF2015017071>

Keywords: *Iloilo, nutrition, women, credit, food preparation, handling, policy, suki*

This is the final report for the Philippines portion of the international research project on streetfoods by the Equity Policy Center. Other case studies of the project include Bangladesh, Indonesia, and Senegal (other additional cases were added in later years). Although the focus of the Philippines study is on Iloilo City (Western Visayas), the national context of streetfoods and nutrition is also illustrated in the report. Furthermore, because Iloilo (despite not being in Metro Manila) is an urban area with an active streetfood scene, case-specific conclusions may be potentially comparable to the Metro Manila context. In short, the report is the result of lengthy research and provides extensive insight on the economic characteristics of streetfoods, livelihood importance of streetfood enterprises, consumer demand, health implications, and policy recommendations.

Because of the extensive coverage of the report, different chapters are relevant for the “Urban Informal Sector” and “Small-Scale Food Processing” sections for the Resilient Cities literature review. The relevant chapters will be summarized for the “Urban Informal Sector” literature review: “Chapter 1: Introduction” and “Chapter 2: Street Food Establishments”.

Summary:

Malnutrition is prevalent throughout the Philippines because of insufficient caloric and nutritional intake. Poor sanitation, limited healthcare facilities, inadequate income, limited nutrition knowledge, and uneven intra-household food distribution also contribute to the malnutrition challenge. While the domestic market for rice received the greatest development attention, the market system for fruits, vegetables, legumes, root crops, and fish was left underdeveloped. Despite government programs to boost food production, Barth

describes that “farmers will not increase production significantly unless they believe they can sell the increased production at a profit”.

The urban food market in the Philippines consists of “stores, marketplaces, and food sellers operating without permanent selling structures”. In Iloilo City, many small-scale vendors were part of associations which protected their rights and livelihoods. Although stall fees in the market were usually paid, other requirements such as business permits and licenses were often ignored. Furthermore, because many stallkeepers are not formally registered to their stalls, they are prevented access to credit programs. The greatest legal challenges are for non-permanent sellers as they struggle to obtain proper operating licenses. In Iloilo City, these sellers were usually tolerated as long as they “did not cause major obstructions”. However, this level of tolerance depended significantly on the administration.

In the survey on Iloilo City, 83% of the respondents’ households relied on street vending as a primary source of income. As informal workers typically earned below the minimum wage, many pursued a “mixed occupational strategy”. Permanent streetfood enterprises were found to earn more in sales of both meals and snacks compared to non-permanent enterprises. Furthermore, 79% of the streetfood vendors surveyed in Iloilo city were women, who were found to also have greater control over business decisions than their male counterparts. The survey also revealed that 85% of respondents obtained items such as “fruits, vegetables, fish, and milled rice” from Iloilo City’s nearby surroundings. Garth also highlights a trend in the replacement of locally-produced goods such as shoes or candy by large Manila-based corporations.

Suki is a relationship between a buyer and seller in the Philippines. Although the term is commonly used, it has varying uses. In general, a *suki* relationship consists of regular contact and credit. Garth describes that especially in the Philippines where “capital is relatively scarce,” credit transactions are critical. *Suki* sellers may provide a small reduction in market price or offer better quality goods to *suki* buyers. Forms of bargaining included *ayo* (discussion on the amount to be paid) and *paaman* (selling a larger quantity at the same price). Garth also explains that bargaining and credit decisions are a key aspect to the success of street food businesses.

Many street sellers were exposed to the business from a young age, usually through a family member. Although low capital investments allow an ease of entry, Garth argues that the experience and skills involved in street vending raise the qualifications needed for a successful business. Contrary to literature that suggests self-employment in the informal sector is temporary until workers find formal work, Garth describes that many migrants do not enter self-employment until they have lived in the city for longer. Garth therefore highlights that the skills and experience of the workers should be “utilized to encourage economic development”.

The Sari-Sari store: informal retailing in the Philippines

Chen, K. J. (1997, October 1). The Sari-Sari Store: Informal Retailing in the Philippines. *Journal of Small Business Management*, 35(4), 88–91. <https://www.proquest.com/docview/221008670/648E041B6E34418PQ/3?accountid=4047>

Keywords: *sari-sari, informal, urban poor, coping mechanisms*

This article describes livelihoods in the Sari-Sari store business with a focus on Metro Manila. Written in 1997, the description of formal and informal sectors is arguably outdated. However, survey and interview results describe how these stores operate as well as introducing the complicated relationship between Sari-Sari stores, legalization, and marketing officials. It should be noted that although Sari-Sari stores are not often associated with retail of fresh foods (with the exception of stores that combine Carinderia activity), Sari-Sari stores are an important source of pre-packaged and dry foods (as well as household goods), especially for poorer populations.

Summary:

Gatchalian et al. (1986) describes to the informal sector as a “coping mechanism” for urban populations in response to an economy which “failed to support them”. The informal sector is an important aspect of the Filipino economy which directly serves the needs of the large, impoverished population. In the Philippines, this informal sector is characterized by “small-scale production and service activities that are individual- or family-owned and use labor-intensive and simple technologies”. Individuals and households involved in the informal sector often work long hours and lack access to public services such as “electricity, water, drainage, transportation, and educational and health services”.

Sari-Sari stores are described as a retail operation selling a variety of consumer goods packaged in small sizes. The stores are seen as mechanisms that “cushion the impact of high prices” because of their ability to sell in smaller quantities. Within Metro Manila, Sari-Sari stores comprised of approximately 71% of active outlets (as of 1997). 92% of the Sari-Sari stores surveyed did not formally report their economic activity, and as a result did not have access to “lawful privileges and benefits”. Only stores that were in highly visible areas obtained a permit to legally operate. Of the storeowners, 36.7% used savings, 52.2% borrowed money, and 11.1% used a mix of both strategies as a source of capital. Most sales were made with credit which was tracked with a *listaban* system (similar to a credit log for each customer). Within this system, the credit limit of customers depended on their *palabra de honor*, accounting for how financially dependable the customer was. 72% of the Sari-Sari stores applied a base markup of 5-6% to store goods. Ultimately, despite their “illegal” operation, Sari-Sari stores are an accepted and popular form of retailing that will “remain a medium of distribution as long as there are clusters of low-income Filipinos”.

Measuring the contribution of the informal sector the Philippines economy: current practices and challenges

Bersales, L. G. S., & Ilarina, V. R. (2019). Measuring the Contribution of the Informal Sector to the Philippine Economy: Current Practices and Challenges. In *International Monetary Fund* [Paper]. <https://www.imf.org/-/media/Files/Conferences/2019/7th-statistics-forum/seventh-imf-statistical-forum-lisa-bersales-presentation.ashx>

Keywords: *economy, data, agriculture, industry, services, employment*

This conference paper provides an economic and statistical analysis of the informal sector in the Philippines. The informal sector is divided into the categories agriculture, industry, and services. The informal food sector is mentioned as part of the “services” category but does not receive explicit analysis. Criteria to identify the informal sector is followed by detailed calculations using data from censuses and surveys from the Philippine Statistical System. The paper is highly technical with limited qualitative commentary. Many statistics, although helpful to economists, need to be further processed for publishing to a general audience.

Summary:

The informal sector is defined as household unincorporated enterprises which consist of both informal own-account enterprises and enterprises of informal employers. The unorganized sector is described as the sector not covered by establishment surveys of the Philippine Statistical System. As of February 2019, 68.7% of recorded establishments in the Philippines were informal. 62.8% of employed persons above 15 years of age were in the informal sector, and 66.7% and 56.4% of males and females were involved in the informal sector respectively. Between 2006 and 2016, the unorganized agriculture and industry sector grew, while the unorganized service sector decreased in terms of nominal GDP. Overall, there was an increasing gap between organized and unorganized sectors in the Philippines.

Policy intervention in the street foods trade and its effects on health and livelihood: a case study of Quezon City

Yeung, D. S. (1977, June). *Policy Intervention in the Street Foods Trade and Its Effects on Health and Livelihood: A Case Study of Quezon City* [MA Thesis]. University of British Columbia.

Keywords: *policy, streetfood, Quezon City, urbanization, Metro Manila, nutrition*

This master’s thesis provides a detailed description of the street food trade through an extensive collection of surveys and interviews conducted in both Quezon City and Metro Manila (although there is more information presented on street food vendors operating near Quezon City Hall than in Metro Manila). Survey results cover a wide range of topics from demographics, financing, household dependence, training, consumers, and policy. The results are displayed in a number of tables, each accompanied with extended discussion. Because a diversity of topics is covered, the study serves as a strong resource to understand street food vending from both a livelihood and policy perspective. The statistics shared from the survey are also clear and helpful references.

Summary:

The informal sector is characterized by an ease of entry, small-scale, low capital investment, little technology or skills required, use of readily available materials, and mobility of operations. Yeung, however, argues the term “informal” masks the importance the sector, “cutting off formal government support such as the provision of labor laws”. As of 1992, informal activity accounted for 50% of all economic activity in Metro Manila. Interestingly, what is considered regular business at the village level is often tagged “informal” in the urban

setting. Informal activities are usually unregulated with messy or absent bookkeeping. Contracts and employee benefits are rare, paired with improper tax contributions. 60% of vendors studied in Quezon City obtained permits, while in Metro Manila this was only 36%.

Approximately 70% of the Metro Manila informal sector is involved in the provision of sari-sari stores, and 25% in preparing raw and cooked foods. Street foods can supply a daily energy intake of 2100-2700 calories and with enough financial means, they can also provide adequate nourishment. Popular streetfoods include “fried snacks, beverages, soups, ices, native cakes, and assorted barbecued items”. Because there is minimal or simple preparation in streetfoods, nutrients in the foods are better retained. Furthermore, streetfood processing often reflects local/traditional food preparation methods, serving as a vector of cultural preservation. Customers surveyed also indicated a preference towards buying traditional Filipino streetfoods because these take more time to prepare.

Streetfood vendors are described as permanent/semi-permanent, mobile, or invisible. Within these categories, mobile operations are the most “physically risky and prone to harassment”. Mobile operations sold more ready-to-eat snacks while permanent operations sold heartier meals. Permanent vending is preferred and corresponds with higher profit margins. These were often located around offices and schools and had a more regular clientele. By contrast, ambulant vending is common near bus stops, taxi stands, and pedestrian overpasses with a more itinerant clientele. Ambulant vendors were observed to travel furthest from their homes and relied more on borrowed finances. The “five-six” rule is a common loan system in the informal sector, where a loan of five pesos in the morning is repaid as six pesos in the evening. Despite many vendors in impoverished conditions, many shared contempt with government neglect because policy changes were thought to negatively impact their financial practices. Furthermore, interviewed vendors feared eviction and harassment and shared that over-regulation would only increase bribing activity. Several vending businesses are unofficially controlled by “turf bosses” who collected “rent”; however, as these rent collectors were sometimes workers in city hall, complaints were difficult to file.

Streetfoods and unsanitary vending practices are linked to illnesses such as botulism, hepatitis, parasitic infections, and cholera. Yet, only 12% of consumers in Metro Manila expressed concern for streetfood health. Yueng argues that “until customers demand more sanitary food handling practices and are willing to pay for it, these practices will continue”. From the vendors perspective, access to water and garbage pickup services were the most pressing concerns. Vendors currently bring water from their homes, which is challenging with longer commutes and restricts the volume of water available.

Lastly, Yueng advocates to use policy as a “means of rendering informal sector activities compatible with urban growth management”. Suggested interventions include access to credit programs, improving working conditions, and better skills training programs.

Social security needs assessment survey for the informal economy in the Philippines

Batangan, D. B., & Batangan, M. T. U. (2009, January 1). Social security needs assessment survey for the informal economy in the Philippines. In *International Labour Organization*.

International Labour Organization. Retrieved September 15, 2022, from https://www.ilo.org/manila/publications/WCMS_125339/lang--en/index.htm

Keywords: *employment, income, social security, poverty, statistics*

This lengthy report characterizes the informal sector in the “Greater Manila Area”. The authors describe challenges in defining the informal economy, as well as mentioning the implications due to the lack of proper classification. Subsequently, the report establishes a specific and detailed definition for the informal economy which is utilized in their survey research. The survey targets “poblacion,” “adjacent,” and “remote” barangays (delineated based on distance from the “town plaza”) from randomly selected municipalities in Quezon City, Tacloban City, and Cagayan de Oro City. Extensive data is extracted from these barangays and cities, covering topics from sources of livelihood and household characteristics, to farming activity, income, and insurance. It should be noted that data from the three cities is consolidated to represent the barangay categories “población,” “adjacent,” and “remote”. Therefore, data on specifically Quezon City, for example, is not available. Overall, the extensive information presented throughout the report are helpful not only in presenting the social security needs (such as insurance and micro finance) of the informal economy, but also in providing extensive contextual information on these urban areas.

Summary:

Social security benefits are critical in poverty reduction. It is therefore essential to “extend social security coverage to the working population in the informal economy”. The authors describe that challenges in developing effective policies and interventions is rooted in the poor understanding of the informal sector. Many studies share varying definitions of the informal sector which lead to inconsistencies in, for example, measuring the economic contribution or analyzing the activities of the sector. Through an exploration of what is necessary in properly defining the informal sector, the authors establish the definition: “enterprises operated by own account workers, which may employ unpaid family workers as well as occasional/seasonal hired workers ... [and] may employ less than 10 employees on a continuous basis”.

The informal sector is a major source of employment for the Philippines. However, many individuals in the informal sector earn very little income, have limited medical benefits, and lack retirement insurance. Additionally, many informal workers struggle to sufficiently feed their households or send their children to school. Many workers also avoid seeking medical treatment because of its financial burden. Furthermore, because of the lack of retirement insurance, many individuals are forced to work at old age to continue supporting their livelihoods.

Results of the survey on randomly selected barangays in Quezon City, Tacloban City, and Cagayan de Oro City indicate that financial capital was a key driver to both insurance coverage and participation in microfinance projects. Out of all the respondents, 62.1% indicated that they “did not have any form of insurance coverage”. Furthermore, when respondents experienced unexpected problems, borrowing money from family members or “others” was the main response in all barangay categories. Of the respondents who *did* have insurance coverage, the most common type was health insurance, followed by life/death and illness insurance. The least common were livestock and vehicle insurances.

Interestingly, despite a common desire to *have* insurance coverage (approximately 81% of all respondents), most participants were not interested in *acquiring* insurance due to their “inability to pay for the premium or contribution”. Subsequently, the survey found that 91.5% of all participants were not involved in microinsurance or microfinance programs. Again, at high costs were identified as the main barrier to access these resources.

Streetfoods into the 21st Century

Tinker, I. (1999). Street foods into the 21st century. *Agriculture and Human Values*, 16(3), 327–333. <https://www-proquest-com.ezproxy.library.wur.nl/docview/214180163?accountid=27871>

Keywords: *cities, streetfoods, microenterprise, poverty, globalization*

In this journal article, Tinker describes what the future of streetfoods may look like by drawing insight from her experiences in streetfood research both independently and with the Equity Policy Center’s “Street Foods” study. In the article, Tinker describes the influence of urbanization (and globalization) on streetfood businesses. However, it should be acknowledged that this insight is illustrated primarily through examples of streetfoods in industrialized economies (eg. streetfoods in New York City). Therefore, readers should be critical when applying conclusions from the article to the streetfood landscape in the Philippines. Nonetheless, some broader patterns are still applicable to the Philippines, and small segments in the article also directly address developing economies. A such discussion that is relevant to the Resilient Cities initiative is the section which explores the suitability of streetfoods as a strategy out of poverty.

Summary:

Tinker defines globalization as “the development of a global economy that impacts on and privileges trade among countries and so affects prices of energy, food, and manufactured goods everywhere”. In terms of food and nutrition, globalization has changed dietary practices and increased the popularity of imported foodstuffs and grocery stores. Urbanization, on the other hand, is linked to the expansion of streetfood vending as the development of slum housing (that lack kitchen facilities) encourages outside consumption.

Research in streetfoods is crucial in understanding the nutritional status of a country. Streetfoods are consumed by a range of socioeconomic groups, but especially by the urban poor. As of 1999, approximately 15% of the labor force in the Philippines was involved in streetfood enterprise. Where an average of 51% of the household income was spent on food, this statistic reached 77% household food expenditure for the poorest quartile in the Philippines. Because of financial barriers, their consumption habits are typically characterized as “frequent snacking” or “grazing”. In some countries, streetfoods are also mashed and fed to babies, indicating the importance for streetfoods to be nutritious and safe. In the Philippines, some notable nutrition interventions include the addition of legumes to cassava cookies and the introduction of vitamin-enhanced fishballs. Tinker elaborates that the key to effective intervention is to design a “culturally appropriate” approach which does not lead to an increase in price.

A major limitation in current streetfood analysis is the fixation in the economic paradigm that defines growth as an essential attribute of entrepreneurship. Streetfood businesses contradict this paradigm as they operate on “fundamentally different values”: instead of aiming to expand vending business, the purpose of streetfood enterprises is to provide a livelihood for the family. Tinker links this discrepancy to the harassment of vendors, introducing the larger issue of “big business versus the common man”. In addition, many studies on “streetfoods” only target the visible aspects of the trade, overlooking the importance of “invisible streetfood”. These include foods that are prepared directly for customers, often prepared in women’s’ homes and eaten as lunch by the working population. Evidently, the streetfood trade is “an intricate network of traders, processors, and producers”.

The involvement of women in streetfoods is complex. As women balance both household chores and streetfood businesses, they are described to have a “double day”. Because of their external responsibilities, women often earn less than their male counterparts, despite potentially earning more *per hour*. Still, involvement in streetfoods is linked to women empowerment, increasing bargaining power, and reducing domestic violence. Because women are found more likely to invest in the household than men, the benefits of women in streetfoods expands to the household level. Yet, when microfinance initiatives target women, the efficacy of these interventions is questioned as “women often funneled money to enterprises controlled by their husbands”. Tinker recommends greater research into this dynamic to improve female-targeted streetfood interventions.

Ultimately, Tinker predicts that streetfoods will “flourish” in the 21st century. The demand for streetfood is likely to increase, and vendors will “adjust the food to suit new palates and higher customer standards for safe handling”. Through this transition, however, it is essential for governments to work *with* vendors and economists to acknowledge the context-specific definition of “success” in streetfood enterprise.

Small-Scale Food Processing

Literature review on small-scale food processing targets food processing especially by micro-enterprises and streetfood vendors in Metro Manila. In contrast to the review on the informal sector, small-scale food processing uses a nutrition and food safety lens to gain insight on the linkages between street foods and public health. The literature in this section is organized to first describe small-scale food processing / streetfood processing, then to highlighting the challenges and potential interventions in the streetfood trade. For an alphabetical list of literature, see the reference list on page 53.

Street foods: informal sector food preparation and marketing

Barth, G. A. (1983). Street Foods: Informal Sector Food Preparation and Marketing. In *Equity Policy Center* (No. 18143593). Equity Policy Center. <https://agris.fao.org/agris-search/search.do?recordID=XF2015017071>

Keywords: *Iloilo, nutrition, women, credit, food preparation, handling, policy*

This is the final report for the Philippines portion of the international research project on streetfoods by the Equity Policy Center. Other case studies of the project include Bangladesh, Indonesia, and Senegal (other additional cases were added in later years). Although the focus of the Philippines study is on Iloilo City (Western Visayas), the national context of streetfoods and nutrition is also illustrated in the report. Furthermore, because Iloilo (despite not being in Metro Manila) is an urban area with an active streetfood scene, case-specific conclusions may be potentially comparable to the Metro Manila context. In short, the report is the result of lengthy research and provides extensive insight on the economic characteristics of streetfoods, livelihood importance of streetfood enterprises, consumer demand, health implications, and policy recommendations.

Because of the extensive coverage of the report, different chapters are relevant for the “Urban Informal Sector” and “Small-Scale Food Processing” sections for the Resilient Cities literature review. The relevant chapters will be summarized for the “Urban Informal Sector” literature review: “Chapter 5: Street Foods and Health”. It should be noted that this chapter highlights calorie deficiencies as the major challenge in Filipino food security, which contrasts with more recent papers that suggest micronutrition deficiencies are critical. Sections of Chapter 5 which are especially helpful for the Resilient Cities initiative include “Food Preparation and Handling” and “Nutritional Significance of Street Foods”.

Summary:

The streetfood environment has many potential sources of contamination which pose risks for food safety. Food safety risks are commonly associated with illnesses such as “diphtheria, hepatitis, tuberculosis, gastroenteritis, dysentery, typhoid fever, and cholera”. These risks have become so commonplace such that “frequent mild bouts of diarrhea and illnesses ... are accepted as a way of life”. Common sources of contamination include utensils, cooking equipment, glasses, dishes, vendors’ hands and nails, soil dust, flies, rodents, nearby garbage, and water. Paired with the temptation to cut costs, preparation and handling practices in the streetfood sector do not meet “acceptable standards”. In this report, the studied forms of streetfood operations include *carinderias*, barbecue stands, fried nuts

stands, and native cake vending. These operations have different food safety risks (detailed in pg.81-83) linked to their distinctions in handling practices.

This report includes a laboratory analysis of Salmonella, Shigella, cholera organisms, and coliform bacteria conducted for samples of popular Iloilo streetfoods. All samples (excluding the donut samples) tested negative for coliform organisms when tested within a few hours of cooking. However, after six hours since cooking, all samples tested positive for intermediate coliform organisms (even if they were recooked). The report recommends that to prevent diseases, food handlers must be “subject to some type of supervision”. That said, Barth warns that food handling practices will not improve unless there is also greater public awareness and concern over sanitary conditions. Key opportunities for intervention include providing heating devices powered by solar energy to boil water and cook foods. This aims to keep energy costs low while also encouraging vendors to cook foods more frequently.

Rice a staple food in the Filipino diet, consumed more than once a day. This is followed by fresh fish or seafood, which is consumed approximately once a day. In an evaluation of household food consumption, nutritionists found that 50% of households had poor nutritional diets. This is argued to be partially due to the lack of knowledge regarding a “proper diet”. Table 5.4 and 5.5 provide informative values on the nutrient content and cost per peso for streetfood “meal dishes”. Overall, meat dishes were the highest in calories and proteins, while vegetable dishes were highest in iron, vitamin A, and ascorbic acid. Yet, the 214 calories per peso of rice is unmatched by any other primary ingredient of meat, fish, or vegetables. This explains the popularity of the food, and highlights challenges as many essential nutrients are lacking in rice.

Snacks are introduced as foods which may potentially reduce calorie-protein deficiencies. A single serving of “snack food” is estimated to contribute 11% of daily required calories and 10% proteins. Survey responses also share that snacks are a popularly consumed food, especially for younger customers. Snacks can be an important food especially for those lacking calories; however, snacks may also drain the budget that could otherwise be spent on more nutritious foods. Barth suggests the introduction of locally grown low-cost nutritious foods which can supplement streetfood snacks and meals for improved diets. A highlighted opportunity is in incorporating more soybeans and soybean products, which has proved popular in Manila.

Policies and strategies for the development of small and medium scale food processing enterprises in the Philippines

Digal, L. (2014). Policies and strategies for the development of small and medium scale food processing enterprises in the Philippines. In *Policy measures for micro, small, and medium food processing enterprises (MSFMEs) in the Asian region* (pp. 177–240). Food and Agriculture Organization.
<http://econ1.upm.edu.my/~fatimah/FAO%20SME%20ASEAN%202014.pdf#page=187>

Keywords: *food processing, employment, value-adding, manufacturing, imports*

This chapter is part of a larger report from the FAO Regional Office of Asia and the Pacific on food processing enterprises in Asia. This chapter on the Philippines describes the

employment, challenges, and contribution of food processing enterprises of different scales. It should be noted that the intricacies of micro, small, and medium scale enterprises are discussed in greater detail than large scale enterprises. However, large processing enterprises are listed and briefly described in the section “Key SMFE players”. Although the linkages between food processing and retail are described, there is a bias towards formal retail and processing establishments. Finally, the detailed recommendations described in pg.197-198 are an especially helpful resource for designing the vendor business schools for the Resilient Cities initiative.

Summary:

Population growth and an increase in the number of dual income households in the Philippines are linked to the rise in local demand for processed foods. Combined with increasing international demand for processed foods, increasing income, and liberalization policies from the Filipino government, the food processing sector in the Philippines is expanding. The impact of these changes is described as “restructuring” agrifood markets and popularizing convenience stores and supermarkets. Alongside these formal establishments, the informal sector in the Philippines is estimated to contribute to approximately 17% of the national GDP. Enterprises in this sector are mostly in vending and selling various food goods, miscellaneous items (sari-sari store), and tailoring.

Food processing enterprises are classified in the chapter as micro-, small-, medium-, or large-scale enterprises based on the size of assets and number of employees. Within the processed food industry in the Philippines, micro-, small-, and medium-scale enterprises (MSMEs) comprise of 99.6% of the enterprises, of which micro-enterprises represent approximately 92%. These MSMEs contribute to approximately 60% of the country’s exports, where the most common products are Cavendish bananas (17%), canned and frozen tuna products (11%), desiccated coconut (7%), and prepared/preserved pineapples (7%). The chapter further specifies that 68% of MSMEs are based in Luzon, and Metro Manila alone contains 25% of the MSMEs in food processing.

Within the food processing sector, the Philippine Standard for Industrial Classification delineates 10 subsectors, covering the processing of meat, dairy, rice + corn milling, starches, animal feed, beverages, bakery products, sugar, crude coconut oil, and others. 85% of micro- and small-scale enterprises are involved in the rice + corn milling and bakery subsectors; however, these enterprises struggle to sell products at the national level, selling mostly at the provincial scale. Moreover, micro- and small-scale enterprises in the food and beverage sector are typically more labor intensive than their larger counterparts. As a result, these smaller enterprises typically face smaller revenues and limited value addition.

Challenges in the productivity of smaller enterprises are linked to concerns in “the business environment, access to finance, access to markets, and productivity and efficiency”. Strict requirements, slow processing, inadequate financial statements, and lacking information on credit facilities act as barriers to adequate funding for smaller enterprises. Banks are also reluctant to provide financing to smaller enterprises because of perceived “high risks”. Furthermore, in contrast to large enterprises, smaller enterprises lack a consistent supply and quality of raw materials. Because of poor product packaging and limited or lacking certification, products struggle to expand to new or international markets. Digital also

highlights that in the processed meat subsector, high costs, limited knowledge of quality raw material, and inadequate technologies and facilities are major issues. Likewise, in the fruit and vegetable processing sector, pressing issues include erratic supply, increasing input costs, poor product branding, limited shelf life, and difficult accreditation.

Overall, the chapter emphasizes that despite the significant contribution of MSMEs to the Philippine economy and food environment, these enterprises face many challenges which restrict their expansion and development. It is therefore important for the government and private sector to support MSME development. Digal outlines key recommendations to develop MSMEs: encouraging clustering of MSMEs to improve linkages with larger firms, investing in value-adding and market-orienting activities, developing of credit facilities that are suitable for micro-enterprises, and prioritizing inclusive growth to alleviate poverty.

Street food preparation practices

Buted, D. R., & Ylagan, A. P. (2014). Street Food Preparation Practices. *Asia Pacific Journal of Education, Arts and Sciences*, 1(2), 2362 – 8030. <https://oaji.net/articles/2015/1710-1440057959.pdf>

Keywords: *Batangas, sanitation, streetfood, perception, food preparation*

This article describes a study which uses questionnaires, interviews, and literature to quantify and describe popular streetfoods, handling practices, and perceptions of sanitation in Batangas, the Philippines. The literature review section of the article introduces the role of streetfoods in urban livelihoods both in the Philippines and across the globe. Subsequently, results from the questionnaire and interviews are presented and briefly discussed. The discussion of results from the questionnaire and interviews, however, is limited and the conclusion fails to fully cover the scope of the conducted research. It should also be noted that throughout the article, there are multiple instances of improper English or typing errors which risk miscommunication. Despite these limitations, the authors describe Filipino street food culture in authentic detail and insight from the literature review may be relevant for the Resilient Cities initiative.

Summary:

Streetfoods in the Philippines are an important aspect of Filipino culture, inexpensive food supply, and job opportunity. The popularity of streetfoods is rooted in Filipino snacking culture. Filipinos typically eat three meals a day, supplemented with “*merienda*”, a generic term for snacks. Although streetfoods are an essential aspect of urban livelihoods they are also linked to rural agriculture and local enterprises to supply traditional ingredients. Furthermore, the authors describe that even as the commercial retail sector grows, the cultural significance of streetfoods in the Philippines remains. Recently, new developments of indoor malls even include a recreation of street-food style establishments.

At the same time, streetfoods are also associated with public health concerns. Challenges in streetfood hygiene include inadequate toilet and washing facilities, insufficient disinfection, the presence of insects and rodents, and a lack of organized sewage disposal. Moreover, refrigerated storage is either limited or nonexistent and foods may contain a variety of additives and contaminants. While some researchers suggest that regular

consumers of streetfoods may develop immunity to common contaminants, the authors note that especially when these foods are consumed daily, poor sanitation and food practices pose substantial risks to public health. The Department of Health in the Philippines therefore urges consumers to avoid vendors without proper health permits. However, many consumers, especially the urban poor, continue to frequent street vendors. The authors reveal that for poorer communities who depend on streetfoods, individuals prioritize convenience and affordability over the “safety, quality, and hygiene” of streetfood vending. Streetfood vendors also demonstrate a similar attitude, where volume and price are prioritized over freshness and cleanliness when purchasing raw materials.

The questionnaire on streetfoods revealed that in Batangas City, isaw was the most popular streetfood, followed by balut, fishballs, tokneneng, and kikiyam. Responses from consumers also found that although consumers believed the working area of streetfoods were adequately hygienic, the food preparation *practices* of vendors were a source of food safety concern. Consumers emphasized certain areas of concern, which included the lack of ensuring whether foods were free from fly eggs, the non-use of hair nets or gloves, and double-dipping of foods. The authors note that the use of single-use plates and utensils were not a large source of food safety concern.

Ultimately, the authors conclude that streetfoods have the potential to “improve civic life”. The article advocates for local governments to provide and organize training and seminars to share knowledge on food safety and sanitation procedures.

Street vended foods: potential for improving food and nutrition security or a risk factor for foodborne diseases in developing countries?

Imathiu, S. (2017). Street Vended Foods: Potential for Improving Food and Nutrition Security or A Risk Factor for Food borne Diseases in Developing Countries? *Current Research in Nutrition and Food Science Journal*, 5(2), 55–65. <https://doi.org/10.12944/CRNFSJ.5.2.02>

Keywords: *developing countries, urban, nutrition, food safety, microbial hazards, chemical hazards*

This article outlines the importance, challenges, and opportunities in the streetfood trade in developing countries. The article does not specify patterns related to any single country, rather maintains a broad scope in the discussion of nutrition security and food safety. However, the description of food safety challenges is especially insightful as risk factors such as different chemical interactions in foods and food handling equipment are detailed. These factors and their descriptions are unique to this article as other analyses of food safety tend to focus on hygiene and bacterial/microbial contamination. Because the article covers a range of topics, it provides a strong, albeit general, foundation on streetfoods which can then spur additional research for the Philippines and Metro Manila.

Summary:

Streetfoods are an important food source for city-dwellers as industrialization compels greater out-of-home consumption. Unique flavors and traditional preparation techniques also establish the cultural significance of streetfoods for both locals and tourists. As

employment opportunities in the formal sector fail to keep up with rapid urbanization, more households turn to streetfood vending as a livelihood strategy. Still, despite their importance and popularity, streetfood vending in developing countries lack official recognition, regulation, and protection.

Streetfoods are a “variable, but significant” part of consumers’ daily diet and nutritional requirements. The type of foods prepared and ingredients used not only differ per country, but also between vendors. The article further describes that streetfoods may be centrally processed foods from the formal sector, processed by small-scale processors, or processed by vendors themselves. Because of the diversity of and lack of documentation in the streetfood sector, there is insufficient data on the nutritional value of streetfoods. As micronutrient deficiencies (most prominently vitamin A, iron, and iodine deficiencies) in developing countries grow more severe, Imathiu emphasizes the need for research in the dietary and nutritional contribution of streetfoods. The article also highlights that interventions in streetfoods, such as possible micronutrient fortification, may alleviate these “hidden hungers”. In the Philippines, for example, the intervention of vitamin-enhanced fishballs illustrates the opportunities and successes in culturally appropriate improvement of common foods. Finally, Imathiu also advocates for research especially on *children’s* consumption of streetfoods as they are more prone to deadly food-borne diseases.

The poor microbial and chemical quality of streetfoods is a hazard to food safety. Examples of hazardous food handling practices include using unsafe raw materials (harvested from contaminated waters or containing pesticide residues), using non-food grade materials in cooking (can lead to heavy metal contamination), and re-using frying oil (can promote the formation of polycyclic aromatic hydrocarbons and acrylamide). Many streetfood sites also lack basic provisions such as “running potable water, washing facilities, toilets, and organized waste disposal”. Imathiu also elaborates that where cereals and legumes are a large component of traditional diets, chemical substances such as glycoalkaloids, phytic acid, and tannins may reduce the nutritional benefits of food products.

Weighing the benefits and challenges of streetfoods, Imathiu urges the necessity to officially recognize streetfoods, implement guidelines and regulations on food safety, and provide training to both vendors and consumers for a safer and healthier food environment.

Food safety knowledge and practices of streetfood vendors in a Philippines university campus

Azanza, M. P. V. (2000, July). Food safety knowledge and practices of streetfood vendors in a Philippines university campus. *International Journal of Food Sciences and Nutrition*, 51(4), 235–246. <https://www.proquest.com/docview/216489154?accountid=27871>

Keywords: *Quezon city, streetfood vendors, students, policy, food safety, sanitation*

This journal article provides a helpful description of common food handling practices by urban street food vendors. The article explores the gaps between the knowledge and practice of food safety through literature review, observation, and a survey on street food vendors in an unspecified university campus in Quezon City. The survey results are helpful for case-specific statistics on the knowledge and practices vendors take towards food safety.

However, because these vendors are in a university campus setting, it should be acknowledged that their experiences may differ from vendors in city/street settings. These differences are briefly explored in the paper. The topics covered in the food safety assessment include: health and personal hygiene, good manufacturing procedures, food contamination, waste management, and food legislation. Findings from the case study are supplemented with literature and broader theoretical information delivering a strong overview of food handling practices from the perspective of food vendors.

Summary:

Street foods in this study are defined as “anyone selling ready-to-eat foods and drinks in streets and public places”. The study describes different forms of processing found in the streetfood trade, delineating the categories:

- Processed: completely packaged, not requiring additional handling except chilling bottled drinks
- Semi-processed: processed foods which require additional cooking (eg. fishballs, pork dumplings)
- Vendor-prepared: foods cooked by vendors starting from raw materials

Streetfoods are a very popular and important food source for many people; however, they are also a known vector for food-borne illnesses such as cholera, hepatitis A, dysentery, and typhoid fever. To safeguard the quality of foods, the Sanitation Code of the Philippines (PD856) was established to restrict street vending to only packaged food, drinks, biscuits, and confectionaries. However, Azanza argues this code is unrealistic and limits the livelihoods of many street vendors. In reality, the case study reveals that the code not strictly followed or controlled.

In the sample of vendors surveyed, most were female, married, without an education beyond high school, and between the ages 30-50. The average daily gross income of these vendors was P100-500. Because many families rely solely on streetfood vending as an income source, many times they will continue their businesses despite ill health, potentially directly or indirectly transferring their illnesses to customers. The interviews also reveal that many vendors take leftovers home for family consumption, which may cause food-borne illnesses within the household (and spread to customers the following day).

For food safety practices such as personal hygiene, most vendors were aware of best practices. The gap between knowledge and practice, however, was strongly tied to the availability and vicinity of public sanitation facilities (such as washrooms). This was partially the case for waste management, where survey results found that despite the knowledge that waste accumulation near vending sites was unsafe, many vendors left open plastic bags on the side of push carts which were disposed only at the end of the day.

Subsequently, many vendors took “shortcuts” in food safety practices, believing their culinary techniques and expertise could control risks in their food preparation. The study revealed that vendors commonly prioritized the price and volume of food purchases over expiration dates or evidence of damage, compromising food safety. Furthermore, although many vendors expressed a general understanding of campus-level food regulations, very few were aware of food regulations at the municipal/city level. Azanza suggests this is largely

due to the more frequent interactions with and monitoring from campus police as opposed to city officials.

Overall, the results from the survey suggest that while there is adequate knowledge towards health and personal hygiene, manufacturing procedures, and food contamination, knowledge on legislation and waste management was lacking. Furthermore, even when vendors were aware of food safety practices, there was a significant gap between knowledge and practice mainly due to financial and infrastructure constraints. Azanza reasons that if vendors had greater financial capital, food safety would improve. Azanza advocates for the organization of safety net funds to address financial challenges and better provisions for basic utilities, infrastructure, and facilities (with an emphasis on handwashing stations and proper garbage disposal facilities). Finally, the article concludes with an additional recommendation for training and seminars on food safety to encourage and facilitate the translation of knowledge to practice.

Assessment of knowledge, attitude, and practices on food safety and compliance to microbial safety guidelines among vendors of commonly patronized street foods in Poblacion, Batangas City, Philippines

Argente, M., Gordoncillo, N., Africa, L., Barba, C., & Dizon, J. (2021, April 27). Assessment of Knowledge, Attitude, and Practices on Food Safety and Compliance to Microbiological Safety Guidelines among Vendors of Commonly Patronized Street Foods in Poblacion, Batangas City, Philippines. *Journal of Human Ecology*, 9(1), 56–70. <https://ovcre.uplb.edu.ph/journals-uplb/index.php/JHE/article/view/526/503>

Keywords: *grilled pork intestine (isaw), pork barbecue, grilled coagulated chicken blood (betamax), microbial contamination, waste management, food preparation*

This journal article follows a case study in the Poblacion (town center) of Batangas City, a city south of Metro Manila in the CALABARZON region. The study investigates the food preparation practices of three common street foods in the area: grilled pork intestine (isaw), pork barbecue, and grilled coagulated chicken blood (betamax). Interviews with street food vendors indicate common practices and attitudes towards food safety, which are paired with laboratory testing of food samples for *E. coli* contamination to quantitatively measure food safety risks. Insight from this article may be helpful for the Resilient Cities initiative in terms of understanding the technical and social interactions of specific streetfood examples. Because isaw, pork barbecue, and betamax are also popular streetfoods in Metro Manila, the conclusions from the article may be extended to this context.

Summary:

Streetfoods play a significant role in Filipino food culture. The streetfood environment is known for its “diversity, mobility, and temporary nature” and provides an important livelihood option for the urban poor. However, there is growing attention on issues of the streetfood environment such as food-borne diseases and a lack of adequate food safety practices. Common diseases are diarrhea, cholera, typhoid fever, and food poisoning, typically from microbial contamination. The article further shares that major sources of contamination

involve the place of preparation, cooking and serving utensils, raw materials, cooking time, and personal hygiene of vendors.

Most of the vendors in Batangas City had limited education and did not receive formal training or education on the streetfood trade. The income of vendors sampled varied significantly, ranging from PHP5000-23300 per year. Of the total vendors, 69% of which were female, the majority lacked access to running water or hand washing facilities. The authors elaborate on poor personal hygiene practices such that vendors did not regularly wash their hands and often coughed or sneezed directly over vended foods. Furthermore, although trash bins were available, waste was not segregated. Researchers observed that food stalls in Batangas City all had display cabinets or covered containers for food. However, they warn that foods were still prone to smoke and dust contamination from passing traffic. Especially during peak hours, vendors described it was difficult to maintain cleanliness.

From the administered questionnaire, none of the vendors exhibited “poor attitude towards food safety,” however, researchers noted inconsistencies in food safety *practices*. Most vendors purchased raw materials from the public market, 86% of which were purchased daily to maintain freshness. However, the respondents shared that they did not inspect their purchased ingredients because of their *suki* relationship with suppliers (characterized by trust and loyalty). Testing the pork barbecue, isaw, and Betamax samples in the lab, the researchers found a 29%, 54%, and 74% E. coli contamination respectively. These discrepancies were suggested to be correlated with the ingredients and preparation practices specific to the food item. For example, the preparation of Betamax involved chicken blood which was often purchased at the market already processed (as opposed to isaw and pork barbecue where more processing was done at the vendor-level). Betamax vendors explained that purchasing pre-processed ingredients was more convenient for their business, but they knew little of the quality of ingredients or processing practices that occurred at the market level. Researchers also found an association between the environmental condition of vending and E. coli load.

The article concludes that greater attention is needed towards streetfoods to protect consumer health. The authors advocate for food safety trainings (offered every 6 months), the allocation of vending spaces more conducive to food preparation and selling, and better health regulations and sanitary permits.

Street food vending and nutritional impact

Blair, D. (1999). Street food vending and nutritional impact. *Agriculture and Human Values*, 16(3), 321–323. <https://doi.org/10.1023/a:1007580507131>

Keywords: *EPOC study, health, nutrition, urban*

This journal article is better described as a review of the *Street Foods* study by Irene Tinker with the Equity Policy Center (EPOC). Much of Blair’s article summarizes findings of Tinker’s study, describing general patterns within the *Street Foods* study (the study covers cases in Indonesia, Thailand the Philippines, Egypt, Bangladesh, Senegal, and Nigeria). It should be noted that some generalizations made, for example regarding the improving relationship between informed officials and streetfood vendors, are not supported by articles specific to

the Philippines. Blair elaborates on the Indonesia case, in which she discusses nutrition and potential interventions. Given their geographic proximity / some similarities in food culture, interventions suggested may be applicable to Metro Manila. Reading the original EPOC study is suggested for greater detail of the cases and insight specific to the Philippines.

Summary:

Streetfood vendors across the globe face common issues: “sanitation problems, competition among pedestrians, vendors, and cars for road space, crowding and police harassment, difficulty, especially for women, in acquiring the time, hands, and capital needed to vend on a remunerative scale”. Poorer families tend to spend a greater percentage of their food budget on streetfoods. Blair elaborates that because streetfood businesses have the advantage of wholesale purchases, streetfoods are sometimes less expensive than home-prepared foods. Streetfoods also pose an advantage for households that have limited or insufficient time to prepare foods. In this way, “street food vendors help preserve the more labor-intensive local food traditions”.

In the discussion of food safety in streetfoods, Blair highlights the biases in Western standards which are applied to “food safety”. As illustrated in Tinker’s study, many locals consider streetfood safety “typical of home preparation”. Within the wide variety of streetfoods, Blair mentions that foods “boiled or fried just before serving are most sanitary”.

Streetfoods provide an opportunity for improving the nutritional status of urban dwellers through vitamin A, vitamin C, and fat consumption. Blair mentions that vitamin A is linked to reducing blindness and severity of childhood infections. Additionally, iron consumption is linked to reducing anemia and stunting. Where household food consumption is lacking in fats and oils, fried streetfoods can improve this deficiency. Furthermore, Blair argues that “vitamin A absorption may be improved by the deep fat fried street foods” and that vitamin C is essential in “improv[ing] iron availability from phytate containing foods”. To realize these benefits, Blair recommends incorporating local crops such as ripe mango, papaya, and leafy greens (which are rich in these nutrients) into streetfood preparation.

The perception of local street food vendors of Tanauan City, Batangas on food safety

Aquino, J. P. L., Pedalgo, C. C., Zafra, A. R. N., & Tuzon, T. P. (2015, September). The perception of local street food vendors of Tanauan City, Batangas on food safety. *LPU–Laguna Journal of International Tourism and Hospitality Management*, 3(1), 1–22. <https://lpulaguna.edu.ph/wp-content/uploads/2016/08/1.THE-PERCEPTION-OF-LOCAL-STREET-FOOD-VENDORS.pdf>

Keywords: *food safety, food handling, city policies, food vendors*

This journal article analyzes the perception different streetfood vendors on food safety practices. The analysis consists of a survey covering 55 streetfood vendors, accompanied with observation of streetfood kiosks. Data collection and analysis is done in reference to a conceptual framework which emphasizes the relationship between demographic profile and perceptions of food safety practices. The survey results rank various practices by perceived

importance in the categories: food safety practices, vendors' hygiene, and food preparation. The results are further processed to rank variation in response based on age, gender, educational background, monthly income, and working experience. It should be acknowledged that although the results are briefly described, there is limited discussion on *why* these results occur.

Summary:

Streetfoods in the Philippines are strongly influenced by the cuisine of neighboring countries such as Japan and China. Most vendors are unlicensed, untrained in food safety, and work in unsanitary conditions to prepare street foods. Unsafe food handling practices include "inadequate storage and reheating of food before sale, insufficient handwashing, and inappropriate cleaning of cooking utensils". In addition, streetfood vendors typically practiced improper food storage and refrigeration methods. The authors highlight, however, that food safety issues also stem from poor city planning/management. Because streetfood vending is not legally recognized, city authorities hesitate to invest in proper infrastructure for a healthier streetfood environment. Furthermore, city officials reason that because vendors do not pay city taxes, they are not entitled to legitimate support. The article indicates the lack of proper garbage collection facilities are especially concerning. The accumulation of waste near streetfood vending sites results in an increase in pest populations and risk of food contamination.

The survey on the perceptions of streetfood vendors indicates different food safety priorities in the categories of food safety practices, food cooking processes, vendors' hygiene, and food preparation. While detailed results are described in the article, notable findings include handwashing was perceived as the highest ranked indicator of vendors hygiene. While the cleanliness of utensils were ranked highest in the food preparation category, results also shared that there was the combination of raw and cooked foods were ranked the lowest (meaning this received the least attention/worry with regards to food safety). The respondents also indicated their desire for better access to and maintenance of water resources. Vendors further described that although they prefer to maintain sanitary vending conditions to protect their reputation with customers, financial constraints limit their investment in the working area. To maintain a clean workspace, researchers noted that many vendors used cheap cleaning products which often contained hazardous chemicals.

Ultimately, the authors recommend developing a simple and informative checklist of hygienic practices to share with streetfood vendors. The checklist aims to "emphasize the implementation of good hygiene standards" and also guide policymakers in designing effective programs for food safety.

The effects of consumers' perceived risk and benefit on attitude and behavioral intention: a study of street food

Choi, J., Lee, A., & Ok, C. (2013). The Effects of Consumers' Perceived Risk and Benefit on Attitude and Behavioral Intention: A Study of Street Food. *Journal of Travel & Tourism Marketing*, 30(3), 222–237. <https://doi.org/10.1080/10548408.2013.774916>

Keywords: *perception, intention, food safety, consumers, streetfood*

This article shares a broad literature review on consumption choices of streetfoods and presents results from a study on Seoul and Gyeonggi Province in Korea. The literature review offers a unique perspective which emphasizes the role of consumers in the streetfood scene. It should be acknowledged, however, that the review is partial to streetfoods in more industrialized economies. The study in Korea is technical and utilizes abstract variables to quantify perceived risks and benefits of consumers. For the Resilient Cities project, the literature review is more relevant as the study in Korea caters consumption choices in the context of an industrialized economy. Nonetheless, the article exemplifies the interactions between consumers and the streetfood trade, an essential perspective that is otherwise limited in research.

Summary:

Streetfoods offer unique, bold flavors with simple preparation. Despite isolation from the restaurant sector, streetfoods boast traditional, local cultures and authentic cuisine, rendering the enterprise a cultural icon and, often, a tourist attraction. Streetfoods can materialize in different environments, such as hawker centers, night markets, or street stalls. Despite the importance of streetfood vending to local livelihoods, “streetfood trades are often viewed as a nuisance”.

Streetfood vendors typically sell processed meals and snacks in public spaces. A common characteristic of streetfoods is the sale of these goods for immediate consumption; however, this feature is increasingly associated with environmental issues such as the overuse of disposable service ware. Other issues in the streetfood trade include health risks, illnesses from Salmonella, Shigella, E. coli, Listeria, and symptoms like diarrhea, cramping, vomiting, and nausea. Additionally, the frequent consumption of streetfoods can contribute to unhealthy diets and an overconsumption of fats and inferior ingredients. Despite growing research in food safety, the authors highlight that the “dimensionality” of streetfood risks and benefits are lacking in research attention.

The study uses the “perception of risk and benefit” framework to analyze consumer choice in Korean streetfoods. It is well documented that affordability and convenience are popular reasons for purchasing streetfoods. The authors question, however, whether the value consumers receive in streetfoods are “what the consumer wants”. This is described as perceived benefit: “a consumer’s belief about the extent to which he or she will become better off from the purchase and/or use of an object”. In short, the framework covers the influence of social risk, psychological risk, physical risk, on the purchase and consumption of streetfood. The questionnaires administered for the study highlight five dimensions of risk perception (socio-psychological, hygienic, financial, environmental, and health risk) and seven dimensions of benefit perception (taste, affordability, serving size, prompt service, convenience, accessibility, and food variety). The results indicate that hygiene is the “most critical determinant of the users’ perceived risk, followed by health risk and environmental risk”. Common concerns included “unsanitary utensils, poor handwashing, improper food storage conditions, ingredients that are not fresh, and insufficient water supply”. Finally, affordability, serving size, and convenience were the most influential factors towards perceived benefit.

November 2022

The authors conclude that food safety training and regulation is important to lower the risk perception of consumers. To realize this, the authors emphasize the necessity of an “encouraging relationship” between government and vendors and further research into tourist customers.

Streetfoods in developing countries: the potential for micronutrient fortification

Draper, A. (1996, April). Street Foods in Developing Countries: The Potential for Micronutrient Fortification. In *U.S. Agency For International Development*. U.S. Agency for International Development. Retrieved September 14, 2022, from https://pdf.usaid.gov/pdf_docs/PNACJ872.pdf

Keywords: *fortification, streetfood, micronutrient deficiency, vendors, vulnerability, urban livelihoods*

This two-section report covers first the street food environment in the Philippines from a nutrition and livelihood standpoint, and in the subsequent section describes a more technical outline of further research needed for different kinds of fortification. For the Resilient Cities project, the first section is more relevant as it provides a detailed description of streetfood characteristics and challenges as well as the livelihoods of those involved in streetfood production and consumption. The final argument of the first section profiles the potential suitability of streetfoods as a vector for micronutrient fortification due to its regular and consistent consumption by people from many social classes (but mainly the urban poor). The second section elaborates on this conclusion and describes different considerations for various forms of micronutrient fortification (including vitamin a, b, c, iron, etc.). Draper concludes that to design an effective micronutrient fortification plan, further research on consumption requirements, chemical requirements, and acceptability is essential.

Summary:

The street food trade is large and complex. For many of the urban poor, it is an innovative strategy in response to exclusion from formal employment. Typical characteristics of the streetfood trade and the informal sector include, among others, “ease of entry, family/household ownership of enterprise, high labor intensity, operating in unregulated and competitive markets”. Draper describes that the streetfood trade is ingrained in the whole food *system*, not just retail. Vendors are linked to suppliers for ingredients and ready-made foods. Additionally, 75% of the vendors in the Philippines process some or all of the foods they sold. In other words, urban street food provides an “outlet for products of rural-agro processing”.

Streetfoods are often cheaper than foods prepared at home and pre-packaged processed foods. In a sample of streetfoods in the Philippines, a meat-based dish was found to have 193Kcal and 16g protein. Vegetable dishes had less energy but greater iron, vitamin A, and vitamin C content. Competition with other vendors keeps prices low but may also lead to purchasing inferior materials that compromise food safety. Draper notes that hazards such as microbial contamination, pesticide residues, transmission of parasites, use of unpermitted chemical additives, and environmental contamination are prevalent in streetfoods. However, food cooked in poorer households often pose similar health risks. Draper further stresses

the necessity to use proper salts, spices, nitrates, and sugars to prevent food spoilage and to avoid using cheap ingredients from unauthorized suppliers. Although regulation is needed to control food safety, Draper warns that over-regulation risks repressing the informal sector and further marginalizing the urban poor (and reducing their access to cheap food).

Most streetfood vendors describe a lack of capital as their main constraint. Few have access to formal credit facilities and resort to lending money from family, colleagues, and informal money lenders. In addition, human and physical capital such as business skills, access to water and waste disposal systems, and recognition by the local administration jointly influence the insecurity and vulnerability of streetfood vendors. Draper mentions that the lack of official recognition has led to numerous cases of vendor harassment. Furthermore, women, who comprise of approximately 63% of all streetfood vendors in the Philippines, are often left out of streetfood interventions because they have less time and other responsibilities (such as childcare).

Streetfoods are a promising vehicle for micronutrient fortification because they are: inexpensive and available foods, an integral part of urban diets, consumed regularly and consistently across income groups, and particularly consumed by urban poor and children. However, the challenges for micronutrient fortification in streetfoods include the heterogeneity of foods and livelihoods involved in the trade, the large number of suppliers linked to production of ingredients, the lack of reliability in delivery systems, microbial safety, irregular consumption, and cost.

Synthesis

To reiterate, this literature review covers food marketing in Metro Manila, the urban informal sector, and small-scale food processing. As the selection of literature indicates, these topics are interconnected and collectively contribute to the food security and livelihoods in Metro Manila.

Food security is defined as the combined availability, accessibility, affordability, and adequacy of foods (Wiskerke, 2015). Recent literature emphasizes the complexities involved in food security, and the importance of understanding issues as part of a larger food *system*. In the Philippines, food security issues have been approached as a *production* issue, with a focus on rice self-sufficiency. Argente, et al. (2019) criticizes agricultural policies associated with enhancing rice production as associated agricultural intensification contributed to the reduction of traditional food production practices, overuse of chemical inputs, and environmental degradation. This contributes to the vulnerability of food production to climate events, resulting in fluctuations in food supply and price. Nutrient-rich crops such as fruits and vegetables are especially vulnerable to spoilage due to their perishability and long value chains. These qualities are linked to the imbalances in food nutrient consumption. Nutrition deficiencies in the Filipino population highlight that especially for the urban poor, access and affordability of *nutritious* foods are a key issue (World Food Programme Nutrition Division, 2019).

Literature on food marketing highlights the complex food provision system in Metro Manila. Because there is limited food production in Metro Manila, the region is dependent on rural food production and imports to meet growing food demands (Espino et al., 2021). As the Covid-19 pandemic revealed, this rendered the urban food system vulnerable to shifts in both national and international food dynamics (Robins et al., 2020). Batt et al. (2010) also reveals that the long value chains of fresh produce establish inefficiencies in the food trade. Because farmers lack market linkages and information, they are dependent on traders for advice on which crops to grow and have limited power in negotiating farmgate prices. At the urban scale, this may have implications of higher food prices or greater food spoilage as the financial challenges of farmers restricts them from investing in their harvest.

Food reaches the urban population through outlets such as public and private city markets, talipapas, large grocery chains, convenience stores, streetfood vendors, online stores, sari-sari stores, restaurants, and more. These outlets are a mix of informal and formal establishments, catering to the diverse and changing diets of the urban population. Abela (2019) and the World Food Programme Nutrition Division (2019) link urbanization to the growing number of convenience stores and consumption of processed foods. Interestingly, despite the growth of commercial food outlets, Tinker (2003) reveals that this has limited competition with the streetfood trade. For the urban poor and even the growing middle class, streetfoods remain an important food source because of its affordability and convenience. Paired with a national food culture of frequent snacking, streetfoods are a significant contributor to the Filipino diet (Buted & Ylagan, 2014). Researchers warn, however, that the significant and regular consumption of streetfoods, especially by the urban poor, calls to attention the necessity to better understand the nutrition and safety of these foods.

An abundant body of research reveals the hazards related to streetfoods in the Philippines, highlighting issues such as microbial contamination of Salmonella, Shigella, E. coli, and

Listeria. These challenges are linked to poor vendor hygiene, inadequate vending environments, the use of inferior ingredients and non-food-grade equipment, and the lack of proper sanitation and garbage disposal infrastructure. Literature suggests that although some of these practices/issues are linked to the lack of food safety knowledge of food vendors, in many cases, food safety challenges are a result of poor institutional support and financial barriers.

The inadequate provision of institutional support is linked to the complicated relationship between the government and informal sector. Because streetfood vending often lacks formal recognition (and does not pay tax), municipal halls are reluctant to invest in and provide proper infrastructure (Aquino et al., 2018). To policymakers, streetfood vending is seen as a “nuisance” rather than an important livelihood and food source (Recio & Gomez 2013). As a result, this sector is often left out of policymaking, despite its size and significance in Metro Manila. Furthermore, frequent police campaigns to “clean the streets” subject vendors to harassment and the destruction of their vending area (Tinker, 2003). These negative perceptions of the streetfood trade not only challenge vending activity, but also the livelihoods of the urban poor. As many households rely solely on street vending as a source of income, the challenges which face the streetfood trade affect the ability to feed the household and send children to school. Additionally, as harassment and other livelihood challenges add to the financial burdens of vendors, coping strategies such as purchasing inferior ingredients or the inability to invest in their vending business create hazards for food safety. In other words, this exemplifies the linkages between the adequacy of streetfoods and challenges of the informal sector.

Despite the challenges streetfood vendors face, Tinker (2003) emphasizes that these vendors are not without agency. It is important to recognize that streetfood vending as a survival strategy, not a business strategy, and means out of poverty. As profits from vending activity are funneled back into the household, streetfoods are utilized as a strategy to invest in human capital before the expansion of the business.

Ultimately, through the broad exploration of selected topics, this literature review explores the linkages between challenges in nutrition, how food reaches and is distributed within Metro Manila, to the livelihood challenges of the informal sector, and to issues in food safety. These challenges, while associated with food security and urban livelihoods, are also undeniably connected to the pressures of urbanization and population growth. It is important to therefore acknowledge the underlying issues of limited employment opportunities and social and physical infrastructure that motivate the urban population to navigate and reconfigure their livelihoods.

Discussion

Limitations in this review include the bias towards the urban poor in the discussion of food security and livelihoods. Although the prevalence of obesity is briefly mentioned, the review focuses on micronutrient and caloric deficiencies. Furthermore, this selection of literature contains limited discussion on formal/commercial establishments such as malls, supermarkets, and convenience stores. There is an inherent assumption that research focus is less needed to support the food-sensitive development of these establishments. However, as researchers advocate for market linkages between micro-, small-, and large-scale enterprises as a means of livelihood support and poverty alleviation, an additional assessment of formal/commercial enterprise research is necessary. Subsequently, as the literature on small-scale food processing reveal, there is minimal research on the nutritional contribution of streetfoods. Blair (1999) argues that the Western food standards dominate the research agenda and warns readers to realize the impact of cultural predispositions on intervention design. Finally, a further limitation in this review is the diversity of case studies and scope that is included, despite a research focus on Metro Manila. Even though many examples remain within the broader context of the Philippines, it is cautioned that the conclusions drawn may not be immediately transferrable to the Metro Manila context.

Nonetheless, the sample of literature shares numerous intervention and policy recommendations which have the potential for implementation in Metro Manila. In addition to recommendations such as microfinance for streetfood vendors, greater research in the eating habits of children, or micronutrient fortification of streetfoods, the literature also shares recommendations that are helpful in designing effective **vendor business schools** for the Resilient Cities initiative. Overarching considerations include the challenge of including women in vending interventions. Tinker (2021) describes that because women in streetfood enterprises balance business and household responsibilities, limitations in time restrict their participation in intervention programs. Furthermore, even when training and capacity building benefits their business, their specific livelihood challenges such as sexual harassment and childcare are not addressed. It is recommended that because, as an abundance of literature indicates, women compose of a significant portion of the streetfood sector, interventions should be tailored to their gendered experiences and needs.

In the example of Baguio City, vendor associations were identified as a successful strategy to protect the rights of streetfood vendors and facilitate communication between vendors and government bodies. Digal (2014) further describes that for small-scale food processing enterprises, forming associations improves linkages with larger enterprises and expands their market reach. Yeung's (1977) study on streetfood vendors in Quezon City, however, describes that despite the available opportunities to join vendor associations, many were hesitant to join due to financial constraints, administrative hassles, or the lack of perceived benefits. It is recommended to address these challenges both in the implementation of vendor business schools as well as financial or institutional support. For communities where vendor associations are active, intervention can further support these groups in sharing information on how to access microfinancing or loan schemes, understanding vending rights, and food safety practices.

It should be acknowledged that “administrative hassles” appear frequently as a barrier for lower-income communities to organized support. This is, for example, the case with

November 2022

microfinance schemes, insurance services, and the registration of street vending / informal businesses. This pattern highlights that training or capacity-building in administrative skills may improve the ability of these communities to utilize available support. However, these limitations also imply the greater issue of purposefully tedious or lengthy administrative processes to prevent these groups from accessing support. Further research should address this issue to both hold organizations accountable for the accessibility of support and facilitate the improvement of these service systems.

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November 2022

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