

Food and Nutrition Security for Urban Low-income Households in Penang

By Dr Beh May Ting (Programme Coordinator & Senior Analyst, History & Regional Studies Programme)

Executive Summary

- Penang faces significant food security challenges, including rising living costs, income inequality, and limited access to affordable nutritious food. Rapid urbanization and loss of agricultural land have reduced local food production, making the urban poor highly vulnerable to food price fluctuations and supply chain disruptions.
- While long-term solutions such as agritech innovations are admittedly crucial for addressing supply chain disruptions from climate change and geopolitical tensions, this brief focuses on immediate measures to relieve food poverty in urban Penang.
- Countries like Singapore, Indonesia and the Philippines have implemented beneficial urban agriculture programmes, food redistribution initiatives, and targeted food assistance schemes. Singapore's vertical farming, Indonesia's food fortification programmes, and the Philippines' community garden programmes offer valuable models for Penang to address food insecurity in urban areas.
- To improve food security for low-income groups, Penang must adopt a multifaceted approach that includes strengthening social safety nets, expanding food assistance programmes, and ensuring access to nutritious food. By combining best practices from Southeast Asia with tailored local policies, Penang can create a resilient food system that meets the needs of its most vulnerable citizens.

Food and Nutrition Security for Urban Low-income Households in Penang

By Dr Beh May Ting (Programme Coordinator & Senior Analyst, History & Regional Studies Programme)

Introduction

The urban poor in Southeast Asia, despite residing in bustling metropolises, often face significant challenges in ensuring food security. Food insecurity in urban areas is a complex issue influenced by a confluence of economic, social and environmental factors. The urban poor, characterized by limited income and resources, are particularly vulnerable to food price fluctuations, limited access to nutritious food, and inadequate infrastructure.

Environmental factors also play a role. Climate change, urbanization, and deforestation can disrupt food production systems, leading to shortages and price increases. These factors can disproportionately affect the urban poor, who with all likelihood are less resilient to food shocks.

Economic Inequality and Rising Living Costs

Economic growth in Southeast Asia has been uneven, and income inequality remains a significant challenge. One of the primary drivers of food insecurity among the urban poor is the rising cost of living. As cities develop, the demand for land and resources increases, leading to higher prices for food, housing and other essential goods. This makes it difficult for low-income households to afford nutritious food, forcing them to make trade-offs between food and other basic necessities. In cities like Jakarta, Manila and Ho Chi Minh City, the cost of living has risen sharply, outpacing wage growth for low-income populations. With limited income, urban poor households spend a large portion of their earnings on housing, leaving little for other essential needs like food, healthcare and education. Rising inflation, driven by global supply chain disruptions and increasing fuel prices, further exacerbates this problem, forcing families to cut back on food quality and quantity.

Informal Employment and Economic Vulnerability

The urban poor in Southeast Asia are often employed in the informal sector, which offers low wages, limited job security, and no social safety nets. Many informal workers experience irregular incomes, making it difficult to maintain consistent access to food. The Covid-19 pandemic highlighted the precarious nature of informal employment, as lockdowns and economic disruptions left many without work and, consequently, without the means to purchase food. Without social protection measures such as unemployment benefits or food assistance, these households are highly vulnerable to food insecurity.

Urbanization and Loss of Agricultural Land

As cities expand, agricultural land on the outskirts is increasingly converted into commercial or residential developments. This loss of farmland has implications for food production and supply in the region. Urbanization reduces the capacity for local food production, increasing dependence on food imports, which are vulnerable to price fluctuations and supply chain disruptions. This creates a volatile food environment where the urban poor, already struggling to meet their basic needs, are disproportionately affected.

Access to Affordable Nutritious Food

The geography of food distribution in urban areas contributes to food insecurity as well. Many low-income neighborhoods are classified as "food deserts" — areas where access to fresh, affordable, and nutritious food is limited. Convenience stores and fast-food outlets often dominate these areas, offering cheap but unhealthy processed foods. This lack of access to affordable, fresh produce leads to poor dietary choices, exacerbating malnutrition and increasing the prevalence of diet-related health problems such as obesity, diabetes and heart disease among the urban poor.

Malnutrition and Health Impacts

Food insecurity leads to a paradoxical situation where the urban poor suffer from both undernutrition and overnutrition. On the one hand, many low-income households consume insufficient calories, leading to stunting among children. On the other hand, the over-reliance on cheap, processed foods high in sugar, fat, and salt contributes to a rise in obesity and diet-related diseases. This “double burden” of malnutrition has long-term implications for public health systems in Southeast Asia, as it increases the demand for healthcare services and contributes to a lower quality of life for affected populations.

The Penang Case

A survey of 433 low-income households in Penang published in August 2024 by UNICEF Malaysia revealed a concerning rise in food insecurity. The survey found that 27.9% of households had reduced their food intake due to financial difficulties, highlighting the intense economic pressure on families to access adequate nutrition. These reductions are not short-term adjustments but reflect an ongoing struggle for survival, particularly among the 40.7% of underweight household heads who reported less food since the pandemic.

The situation for children is even more alarming. In 39.1% of households where children were perceived as underweight, families had reduced their food intake. This poses serious long-term risks for children, including stunted growth, cognitive impairments, weakened immune systems, and a

higher likelihood of chronic diseases. The data reveal that food insecurity disproportionately affects those most in need of proper nutrition, particularly children and the undernourished.

Compared to pre-pandemic levels, many households have replaced meat with eggs as their primary protein source, while carbohydrates and vegetables remain staple foods. Meat consumption dropped by 47.1% in 2022, likely due to affordability issues, leaving many households vulnerable to nutrient deficiencies, particularly in iron and zinc. The rise in egg consumption reflects the search for cheaper protein alternatives, while increased reliance on carbohydrates and instant noodles points to growing food insecurity. Instant noodles, in particular, are high in unhealthy fats and sodium, providing insufficient nutrition.

The prioritization of feeling full after meals by most households, as reflected in 43.2% of respondents focusing on carbohydrates, underscores the deep-rooted challenge of food insecurity among low-income populations. This focus on satiety over nutritional quality highlights a coping mechanism where households opt for calorie-dense but nutrient-poor foods to stave off hunger.

The survey also shows that price is the second most important factor, with 30.3% of households citing it as a primary consideration. This further reflects the economic constraints facing these households, which have forced them to make food choices based primarily on affordability rather than health benefits.

Nutrition, although cited by 17.6% of households, falls behind satiety and cost in the hierarchy of food priorities. This suggests that while some households are aware of the importance of a balanced diet, the economic pressures overshadow their ability to prioritize nutrition. For many low-income families, the trade-off between cost and nutritional quality becomes a survival tactic, where the immediate need to eat enough supersedes the long-term health benefits of a more nutrient-dense diet. Convenience being ranked last at 9%, indicates that time-saving or ease of meal preparation is a lesser concern compared to other factors. This suggests that, despite the challenges they face, low-income households are willing to spend time preparing food if they can afford it. However, the low prioritization of convenience may also reflect the scarcity of time-efficient, affordable, and nutritious food options, leaving households with limited choices.

These findings highlight systemic issues in Penang's food system. With rising food prices and stagnant or declining incomes, many households are forced to choose cheaper and less nutritious options.

Mutiara Food Bank

The Mutiara Food Bank was established in 2017 by the state government with the core mission of reducing food wastage while simultaneously addressing food poverty. The food bank collects surplus

food from various contributors, including supermarkets, restaurants, manufacturers and other food-related businesses. This surplus food, which is still safe and edible but which would otherwise go to waste, is redistributed to low-income households, welfare organizations, and individuals in need in 22 constituencies statewide monthly. Between January to May 2024, the Mutiara Food Bank diverted nearly 95,000 kilograms of vegetables and over 36,500 kilograms of pastries, primarily bread, from landfills in Penang (See, 2024).

At the heart of the Mutiara Food Bank's mission is the conviction that no one should go hungry, especially when surplus food is available. The initiative not only helps bridge the gap between food waste and hunger but also fosters a sense of community by bringing together various stakeholders, including government agencies, private businesses, and volunteers, to support the cause.

In addition to its food distribution efforts, the Mutiara Food Bank also works to raise awareness about food waste and food insecurity. Through educational campaigns, the organization encourages the public to be mindful of food consumption and wastage, while also advocating for sustainable solutions to hunger in Malaysia.

Kebun Kita(r)

Kebun Kita(r), launched in 2020, is Penang's first community self-sustaining urban farm. Located at the Digital Library, the 2,000-square-foot farm operates on a fully self-sustaining model that integrates advanced smart systems. These include automated irrigation, vertical hydroponics, solar panels for energy, rainwater harvesting, and a comprehensive zero-waste management system. With an initial investment of RM50,000, the farm channels 60% of its produce to B40 low-income communities, while the remaining 40% is commercialized to ensure operational sustainability.

This project was developed through a collaboration between the Penang state government, which provided the land, Think City, which offered funding, and Universiti Pendidikan Sultan Idris (UPSI), which contributed technical expertise and farm design. Think City's digital platform facilitates the distribution of produce to lower-income families, addressing immediate food needs while supporting the farm's long-term viability.

Kebun Kita(r) also functions as an educational hub, promoting nutrition, food security, and urban farming. It serves as a centre for community-building, entrepreneurship, and capacity-building, offering skills and opportunities to underprivileged communities. With its focus on sustainability and social impact, the farm is helping to reshape Penang's urban landscape and food systems, setting a model for future urban agriculture initiatives.

Food Sovereignty amongst Southeast Asia's Urban Poor

Social Safety Nets and Food Assistance Programmes

Governments in Southeast Asia have been strengthening social safety nets to protect the urban poor from food insecurity. Direct cash transfers, food vouchers, and targeted food assistance programmes help vulnerable households afford basic food items. Programmes such as Indonesia's *Bantuan Pangan Non-Tunai* (BPNT) or Malaysia's food bank initiatives are examples of efforts to provide support to those in need. Indonesia's BPNT is a non-cash food assistance that is now provided as an e-transfer of Rp110,000 per beneficiary household each month. This amount can be used to purchase rice and eggs from e-warongs which are specialized outlets that serve as food distribution agents. In 2017, the BPNT programme was implemented in 44 cities and districts, primarily in urban areas, benefiting approximately 1.2 million households (Sirojuddin et. al, 2020).

One of the most critical aspects of food fortification in Indonesia is its ability to address widespread micronutrient deficiencies. A significant portion of the Indonesian population, particularly children, pregnant women, and the elderly, suffers from malnutrition due to inadequate intake of essential vitamins and minerals. By fortifying staple foods like rice, wheat flour and palm oil, the government has been able to increase the bioavailability of these nutrients, reducing the risk of anemia, stunted growth, and other health complications (UNICEF Jakarta, 2024). The Rice for the Poor Program (RASKIN), a government-subsidized rice distribution scheme aimed at providing affordable food to vulnerable households, plays a crucial role in supporting food security for the urban poor by providing a basic staple food at a subsidized price. By reducing the financial burden of food purchases, RASKIN helps to alleviate food insecurity and enable individuals to allocate their limited resources to other essential needs.

Similar to the Mutiara Food Bank in Penang, the Food Bank Malaysia (PFBM) programme, launched under the Ministry of Domestic Trade and Cost of Living (KPDN) as part of the 'Inisiatif Peduli Rakyat,' aims to assist the less fortunate by providing food, thereby helping to reduce living costs. The programme operates by rescuing surplus edible food from contributors such as supermarkets, manufacturers, food entrepreneurs, hotels, and corporate companies. This collected food is then distributed to identified target groups, including low-income and disabled families, welfare homes, food aid centres, NGOs, and underprivileged university students.

Urban Agriculture

In Thailand, urban agriculture has been implemented in several regions, including Bangkok, Chiang Mai, and Hat Yai metropolitan areas. This approach emphasizes collaboration across various sectors through network-based efforts. It is believed that such networks can serve as an effective tool for promoting sustainable urban food security and act as a safety net to address urban challenges or crises (Paiyarat & Jiawiwatkul, 2024).

Singapore is one of the wealthiest countries in the world, but also one of the most expensive in terms of living cost. The city-state has made significant strides in integrating agriculture into its urban landscape, driven by the need to enhance food security and sustainability. Singapore's government has set an ambitious goal to produce 30% of its nutritional needs locally by 2030, despite having only 1% of its land available for conventional farming. This has led to innovative solutions such as vertical farming, rooftop gardens, and advanced hydroponic systems, which maximize food production in limited spaces.

In the Philippines, urban farming has emerged as a practical response to urban poverty and food insecurity. Metro Manila is home to numerous community garden initiatives, typically driven by grassroots efforts, with support from local government units in the form of land and resources. These gardens not only provide food but also act as educational hubs, teaching urban residents about sustainable practices and promoting nutritional awareness (Isabedra, 2024).

The Government of the Philippines' eight-point socioeconomic agenda places a strong emphasis on food security and nutrition, as outlined in the Philippine Development Plan (PDP) 2023–2028 (World Food Programme, 2024). The promotion of food production in non-agricultural areas, such as urban farming, vertical or rooftop gardening, and school and community gardening, are intensified to ensure subsistence supply and accessible food sources, especially during disruptions in traditional food supply chains. Households and communities are encouraged to cultivate idle or vacant lots for food production. The government supports this initiative by providing production inputs like seeds, soil, compost, and starter livestock (such as small ruminants, chickens, and ducks), along with skills training in areas such as seed sowing, composting, and pest management.

Community-based organizations

Vietnam's consistent economic growth and poverty reduction since the 1986 economic reforms, which integrated the former socialist nation into the global market, have often been hailed as a development success. Food security in Vietnam has greatly improved in recent decades. However, despite these advancements, many urban residents still depend on private charity initiatives for their daily sustenance. Food charities in Ho Chi Minh City play a vital role in supporting food security by offering accessible meals to individuals facing socio-economic hardship (Faltmann, 2024).

The Philippines is globally recognized as the country most at risk from disasters, facing exposure to a range of high-intensity hazards such as typhoons, floods, earthquakes, landslides, volcanic eruptions, droughts, and rising sea levels. Sustained collective efforts by community-based organizations in the country, both before and during the pandemic, enabled urban poor communities to establish strong organizational structures and mobilize resources. These resources included support from local

government alliances, NGOs, CSOs, and private sector groups (Porio, 2022). During the pandemic, the private sector and civil society introduced initiatives like community pantries and soup kitchens, which not only provided food to those in need but also offered financial support to small restaurants. These efforts helped address immediate hunger while sustaining local businesses during challenging times (Philippine Development Plan, 2023).

Policy Recommendations

While Penang has initiated various efforts to enhance food security for the urban poor—such as the Mutiara Food Bank, Kebun Kita(r), food aid and subsidies, cash assistance, and the active involvement of civil society organizations through food banks and soup kitchens—a comprehensive, multifaceted approach is needed to address both immediate needs and long-term challenges. Below are some policy recommendations:

1. Expand Social Safety Nets and Urban Farming Initiatives

Strengthening social protection measures such as targeted cash transfers, food vouchers, and subsidies for low-income families would improve access to affordable, nutritious food. These programmes can offer vital financial support, particularly during periods of economic hardship or food price fluctuations. Additionally, promoting urban agriculture can enhance Penang's self-sufficiency in food production. Rooftop gardens, community farms, and vertical farming projects in urban areas can boost access to fresh, locally grown produce. Designating areas within low-cost housing schemes, such as PPRs (Program Perumahan Rakyat), for community vegetable gardens would further strengthen these efforts. Community-based food cooperatives and food-sharing programmes can help distribute surplus food to low-income households and reduce food waste. These initiatives not only improve food security but also encourage community engagement and promote sustainability.

2. Strengthen Partnerships with the Private Sector

Beyond the Mutiara Food Bank, Penang should establish public-private partnerships with supermarkets, restaurants, and food manufacturers to redistribute surplus food and offer discounts to low-income families. The state could facilitate food redistribution by implementing a system for collecting surplus food from these businesses and distributing this to low-income families and communities in need. This can be achieved through partnerships with food banks, soup kitchens, and community organizations. Private companies should be encouraged to offer discounts and promotions on food items to low-income families. This can be done through targeted marketing campaigns, coupon programmes, or partnerships with government assistance programmes.

3. Enhance Nutrition Education and Public Awareness

Educating urban communities on nutrition, food safety, and budgeting can empower households to make healthier choices within their means. Public awareness campaigns that highlight the benefits of a balanced diet, along with practical skills like meal planning and gardening, can significantly improve food security at the household level. Schools, community centres, and local NGOs are essential in delivering these programmes. By teaching sustainable food choices and resourceful meal planning, public campaigns can help families maximize nutrition within their budgets. Additionally, hands-on training in gardening and food budgeting can empower households to make healthier, cost-effective decisions.

Conclusion

Food insecurity among the urban poor in Penang is a pressing concern exacerbated by factors such as rapid urbanization, rising living costs, and economic inequality. To address this challenge, Penang needs to prioritize initiatives that strengthen social safety nets, promote sustainable urban agriculture, and implement targeted food policy reforms.

By doing so, Penang can create more resilient cities and ensure that all its citizens have access to nutritious and affordable food.

REFERENCES

- Faltmann, N. K. (2024). Eating at the Margins: Negotiating Food Safety and Food Security in Ho Chi Minh City's Charities. *The Asia Pacific Journal of Anthropology*, 25(4), 275–292. <https://doi.org/10.1080/14442213.2024.2370783>
- Isabedra, C. (2024). Cultivating cities: The rise of urban farming in Asia and its global echoes. *Asia Food Journal*. Available at <https://asiafoodjournal.com/cultivating-cities-the-rise-of-urban-farming-in-asia-and-its-global-echoes/>
- Paiyarat, O., & Jiawiwatkul, U. (2024). The development process of urban agricultural networks to ensure urban food security in Hat Yai City, Songkhla Province, Thailand. *International Journal of Urban Sustainable Development*, 16(1), 129–143. <https://doi.org/10.1080/19463138.2024.2344539>
- Philippine Development Plan 2023-2028. (2023). Subchapter 3.1: Ensure Food Security and Proper Nutrition, pp. 75-86. Available at [https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/#:~:text=Philippine%20Development%20Plan%20\(PDP\)%202023-2028.%20The%20PDP%202023-2028%20is%20a](https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/#:~:text=Philippine%20Development%20Plan%20(PDP)%202023-2028.%20The%20PDP%202023-2028%20is%20a)
- Porio, E. (2022). Urban Poor Community Strategies: Towards a Resilient Recovery from Natural Disasters and the Covid-19 Pandemic in the Philippines. In: Fritz, J.M., Rhéaume, J. (eds) *Community Intervention. Clinical Sociology: Research and Practice*. Springer, Cham. https://doi.org/10.1007/978-3-030-93695-2_12
- See, B. (2024, 20 May). Food bank saves essential items from going to waste. *The Star*. Available at <https://www.thestar.com.my/metro/metro-news/2024/05/20/food-bank-saves-essential-items-from-going-to-waste#:~:text=SINCE%20January,%20Mutiara%20Food%20Bank%20has%20rescued%20close%20to%2095,000kg>
- Sirojuddin, et. al. (2020). Strategic Review of Food Security and Nutrition in Indonesia: 2019–2020 Update. World Food Programme. Available at https://docs.wfp.org/api/documents/WFP-0000119830/download/?_ga=2.182098343.1277934733.1727666162-1924200123.1727666162
- UNICEF Jakarta. (2024). Landscape Analysis of Large-Scale Food Fortification in Indonesia. Available at <https://www.unicef.org/indonesia/media/20376/file/Landscape%20analysis%20large-scale%20food%20fortification.pdf>
- UNICEF Malaysia. (2024). Families on The Edge, Penang. Available at <https://www.unicef.org/malaysia/reports/families-edge-penang>
- World Food Programme (2024). Philippines country strategic plan (2024-2028). Available at https://docs.wfp.org/api/documents/WFP-0000155609/download/?_ga=2.71005909.415197153.1727857877-1924200123.1727666162

Managing Editor:
Ooi Kee Beng

Editorial Team:
Tan Lee Ooi and Nur Fitriah (designer)

PENANG
INSTITUTE
making ideas work

10 Brown Road
10350 George Town
Penang, Malaysia

Tel : (604) 228 3306
Web : penanginstitute.org
Email : issues@penanginstitute.org

© Copyright is held by the author or authors of each article.

The responsibility for facts and opinions in this publication rests exclusively with the authors and their interpretations do not necessarily reflect the views or policy of the publisher or its supporters.

No part of this publication may be reproduced in any form without permission.

