

Overview of Urban Agriculture

fact sheet

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Introduction

By 2025, it is estimated that almost 30 per cent of global population will live in urban areas. This is aligned with rapid urbanization and population growth. Urbanization has led to competition for some basic supplies, including food.¹ Recently, urban agriculture has grabbed people's attention. It could contribute to poverty reduction and enhance local households' livelihoods,² reaching local communities and building capacity. The Asia-Pacific region houses over 4 billion people (approximately 60 per cent of the world's population), half of whom live in urban areas. A wide range of stakeholders in the region expect urban agriculture to be one of the pathways towards sustainable agriculture.

Activities such as crop production, floriculture or livestock keeping in small fields and backyards, or on riverbanks and rooftops involve urban citizens in the practice of urban agriculture.³ It has many advantages for societies in terms of food security, food safety, environmental sustainability, economical living, as well as the development of community networks. Its role in supporting food security and better land use are only two of its advantages; it also provides additional income and employment opportunities for marginalized societies in urban areas. The schemes are supplementary to rural agriculture, encouraging the development of the urban local economy.

Understanding urban agriculture

The United Nations Food and Agriculture Organization defines urban agriculture as the activity of plant cultivation and raising farm animals within and around the city.⁴ It can include several different activities, for instance, urban farming in small community gardens utilizing several blocks, indoor hydroponics, revitalization of abandoned areas and urban forests. Urban farming was considered to be a home gardening hobby. However, its role has changed due to sociodemographic challenges and issues of urban poverty, the need for agricultural land and urbanization.

Urban agriculture can be practised in many locations. In general, it is either inside the city (intra-urban) or in the rural-urban transition zone (peri-urban). Specifically, farming may be conducted on homesteads (on-plot), on land far away from housing (off-plot), on private land

¹ Muhammad, R. M. and M. R. Rabu (2015). *The Potential of Urban Farming Technology in Malaysia: Policy Intervention*. Selangor: Malaysian Agricultural Research and Development Institute (MARDI). Available from <http://bit.ly/2xC11FH>

² The Organisation for Economic Co-operation and Development (OECD) (2014). *Urban Green Growth in Dynamic Asia: A Conceptual Framework*. Available from <http://bit.ly/2iguy1W>

³ Tsubota, K. (2011). *Urban Agriculture in Asia: Lessons from Japanese Experience*. FFTC. Available from <http://bit.ly/2yYDcX8>

⁴ Food and Agricultural Organization (FAO) (2017). *Urban Agriculture*. Available from <http://www.fao.org/urban-agriculture/en/>

(owned, leased), on public land (conservation areas, parks, along roads, streams, railways) or on semi-public land (rooftops, schoolyards, hospitals).⁵

Advantages and disadvantages

Beside the benefit in terms of subsistence, urban agriculture also generates economic and environmental advantages. In the context of development goals, it plays a part in poverty alleviation, food security and environmental sustainability.⁶ In addition, it allows people to obtain inexpensive and good fresh produce, to gain personal satisfaction from working with the soil, to expand their networks and to reduce their energy use and carbon footprints in comparison to conventional agriculture. It also provides employment and contributes to open green space for better air quality in urban areas.

The scheme poses its own challenges, such as input constraints of spaces, water and farming management in highly populated areas. Several factors, such as the expense of using ground or surface water for irrigation, low absorption of the drainage system, the quality of city soil and argument over fair sharing of the work could undermine the effectiveness of urban agriculture.⁷ In addition, on a small scale at the household level, methods such as hydroponics or aquaponics may be a costly choice, unless equipment can be made by those involved. A study also revealed that urban agriculture (mostly horticulture practices) would not slow climate change efficiently since it will not replace forms of farming, such as animal husbandry, that have high emissions.⁸

Practices in Asia and the Pacific

Country	Act of Urban Agriculture	Objective/ Background	Other Remarks
China ^a	Conversion of abandoned areas for urban farming	Revitalizing abandoned areas in the city	-
Hong Kong, China ^b	<i>Foodie</i> community promotes rooftop farming, hydroponic, and bugs snacks	Feeding the world in 2050	A social enterprise, <i>Rooftop Republic</i> , has set up 31 rooftop farms around the city.
India ^c	The Telangana Horticulture Department launches a campaign of urban farming 'Own and Produce Your Oxygen'	Increasing green cover, providing organic vegetables daily to the city residents	The Department had created a separate Urban Farming Division to create awareness, provide necessary training and distribute 12 kinds of vegetable seeds.
Indonesia ^d	The Mayor of Bandung intensively promotes urban farming by facilitating agri-markets for urban farming produce	Rejuvenating abandoned land, empowering self-sufficient districts and subdistricts	Some of the produce is distributed to marginalized citizen around subdistrict.

⁵ RUAF Foundation (n.d.). *Urban Agriculture: What and Why?* Available from <http://bit.ly/1OhFAeN>

⁶ FAO (2008). *Urban Agriculture for Sustainable Poverty Alleviation and Food Security*. Available from <http://bit.ly/2z4bhFA>

⁷ Quora (2016). What are the advantages and disadvantages of urban farming? Available from <http://bit.ly/2xwGVyX>

⁸ Shanker, D. (2017). Urban farming won't save us from climate change. *Bloomberg*, 21 June. Available from <https://bloom.bg/2rVa7bd>

Country	Act of Urban Agriculture	Objective/ Background	Other Remarks
Japan ^e	Government's plan of new tax and leasing incentives to keep urban farmland (productive green space) under cultivation	Preventing land conversion into housing	The demand for rented farmland has increased as community gardens in Japan's cities increased up to 3,360 in 2015 (30 per cent increase from 2006).
Malaysia ^f	Started from individual balcony-farming, a community develops two plots of edible gardens, <i>The Pharm Hut</i>	Creating community and practising healthy eating	Urban farming was a common activity 40 years ago that family growing their own chillies, <i>pandan</i> leaves, etc., but it was lost when people relocated to smaller houses or apartments.
Philippines ^g	Mayor of Cebu, Tomas Osmeña, introduced 'Tom's Newspaper Technology' for urban farming	Promoting food security in order to reduce dependence upon Mountain Barangays' agricultural produce	The technology uses newspaper to contain the soil, a pipe for watering and a box for seedlings.
Singapore ^h	More citizens signed up for workshops and courses on techniques in urban farming	Having control of self-consumption	Courses' topic includes aquaponics, hydroponics and mushroom growing. Most participants had concerns about food safety.

^a United Nations, Economic and Social Commission for Asia and the Pacific (2017). *Urbanization and Sustainable Development in Asia and the Pacific: Linkages and Policy Implications*. Sales No. E/ESCAP/73/16. Available from https://www.unescap.org/commission/73/document/E73_16E.pdf

^b Bray, M. (2017). Hong Kong quest for the Tesla of food, so world can still feed itself in 2050 by changing diets and farming more sustainably. *South China Morning Post*, 14 September. Available from <http://bit.ly/2i4SN4F>

^c Phaniharan, V. R. C. (2017). Urban farming new mantra. *The Hans India*, 19 August. Available from <http://bit.ly/2gtRwAq>

^d Istiqomah, Z. and E. Yuwanto (2017). Emil dorong warga tingkatan budaya urban farming (Bandung Mayor, Emil, encourages urban farming to the citizen). *Republika*, 8 October. Available from <http://bit.ly/2gmpVUW>

^e Nikkei (2017). Japan to keep urban farmland green with new incentives. *Nikkei Asian Review*, 6 September. Available from <http://s.nikkei.com/2i0AqgV>

^f Mok, O. (2017). Starting a farming community in the city. *The Malay Mail Online*, 22 September. Available from <http://bit.ly/2yYcsGf>

^g Awit, J. G. (2017). Special Report: DIY farming for urbanities (Last of two parts). *Sunstar*, 30 August. Available from <http://bit.ly/2yamtkv>

^h Wee, L. (2017). Grow your own food: urban farming craze sprouting in Singapore. *The Straits Times*, 22 September. Available from <http://bit.ly/2gaZPnJ>

Lessons learned from Malaysia

In 2010, the Malaysia's Department of Agriculture formed an Urban Agriculture Division to enhance agricultural activities in the cities. The government is motivated to reduce the living cost of urban households. In 2014, about 58 per cent of Malaysians lived in urban areas; this is forecast to increase up to 60 per cent by 2025. Furthermore, dependence upon imported products has been a concern triggering the need for urban agriculture. Among the varied techniques of urban agriculture, rooftop farming is one of the most favoured techniques due to its quickness and simplicity. A form of vertical farming that is suitable for flat dwellers and applicable for the urban poor has also been developed and designed by the Universiti Putra Malaysia.⁹

⁹ Shamsudin, M. N. (2017). Farming in the city. *New Straits Times*, 21 July. Available from <http://bit.ly/2i5wkEA>

Other government support for the programme was indicated through policies such as the National Agro-food Policy (NAP) 2011-2020, the National Green Technology Policy and the Green Earth Program. The Government Administration Center of Putrajaya has even introduced 'edible gardens' and 'community gardens' to generate awareness and responsibility within the urban community. Although Malaysia is still in the early stages of urban agriculture and is facing the dilemma of dividing urban space between human living or for food production, it is progressing because of government aid, as well as the increasing number of community initiatives created independently (e.g. *Poptani*,¹⁰ *the Pharm Hut*).

Conclusion and recommendations

Examples from Asia-Pacific countries suggest that urban agriculture could strengthen urban food systems through improving supply, enhancing food security and food safety, utilizing urban space productively, using urban waste, providing employment and generating income, reducing carbon footprints and engaging the community. In addition, urban farming practices are captured in several Sustainable Development Goals (1: end poverty; 2: end hunger; 12: ensure sustainable consumption; and 15: protect biodiversity).¹¹ Thus, urban agriculture can be a useful tool to provide win-win solutions to many development challenges, to achieve multiple goals in a synergetic way and to build a healthier population.

Asia-Pacific countries practising urban agriculture have demonstrated that the involvement of policymakers and stakeholders is crucial to the success of urban agriculture. Policymakers can improve government's urban planning and urban governance, to integrate economic policy in urban areas ensuring inclusive development and equality, to support and accommodate urban agriculture communities, and to enrich urban infrastructure and services. All stakeholders ought to help to promote the scheme as an environmentally friendly practice to secure sustainable growth of Asia and the Pacific.

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¹⁰ Poptani, (2017). *About Poptani*. Available from <http://www.poptani.asia/#>

¹¹ Game, I. and R. Primus (2015). Urban agriculture. GSDR 2015 Brief. State University of New York College of Forestry and Environmental Science. Available from <http://bit.ly/2q4GeHV>