RSIS S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Nanyang Technological University, Singapore

RSIS COMMENTARY

www.rsis.edu.sg No. 158 – 2 November 2021

Community Gardens: Singapore's "Fourth Food Basket"?

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SYNOPSIS

Can community gardens be a potential "basket" in Singapore's food security strategy? As a "Fourth Food Basket" community gardens can complement imports, commercial domestic production, and overseas production, especially through the use of digital technologies.

COMMENTARY

SINGAPORE'S '30-by-30' food security strategy is under pressure from three global challenges of climate change; supply chain disruptions induced by COVID-19; and a growing global demand for food. Can it leverage unconventional means to produce more food locally, through a "fourth basket", and if so, what would that be?

In Singapore's 30-by-30 food security strategy, the country has set an ambitious target of locally producing 30% of its nutritional needs by 2030. It is envisaged that this will be achieved by expanding supplies from local vegetable, egg and fish farms, new investments in alternative proteins such as plant-based protein and cultured meat, and new technologies to create food from waste. All these represent one of the three "baskets" for food security for Singapore, i.e., the local production basket.

Community Gardens: Potential "Fourth Basket" for Leafy Vegetables

For leafy vegetables, imports make up the largest food basket, contributing 86% of local vegetables supplies (about 80,000 tonnes). Two other baskets, namely imports and potentially growing overseas, contribute the remaining 14% of the country's leafy vegetable supplies.

Will these three food baskets be adequate to meet Singapore's food needs in the face

of climate change (as in the Inter-Governmental Panel on Climate Change's 6th Assessment Report), COVID-19 induced supply chain disruptions, and growing global demand for food? Can it produce more food locally, through a "fourth basket" consisting of community gardens in available spaces?

The imperative is to shorten food supply chains to buttress against growing production and supply-chain risks and uncertainties. Singapore's food resilience can potentially be boosted by significantly upscaling the amount of local production within unused spaces, through community gardens.

Community gardening is counted as a "non-commercial" source of food in Singapore, unlike typical commercial farms such as Sky Greens and Comcrop, which are run as corporate entities. Community garden initiatives include growing food on public estates, private estates, institutions/organisations (schools, hospitals).

An earlier study showed HDB rooftops can provide 661 hectares of space for farming purposes, while the National Parks Board (NParks) has also allocated more than 2,000 plots (2.5 square metres each) of allotment gardens in over 23 parks/gardens. There is further scope to expand the use of unused spaces like interim land and industrial spaces.

However, community gardens' contributions to national food security have not been substantial in adding to the base level of national vegetable production. There is no category in Singapore Food Authority (SFA) reports that outlines the contributions of community gardens to food availability in Singapore.

Chicken-and-Egg Problem?

Locally produced vegetables are mostly from private companies/brands, as in NTUC Fairprice's website (Singapore's largest retailer). We argue this is plausibly because published guidelines in the SFA's "industry guide" for selling products are currently tailored to commercial farms. Individuals setting up their own commercial farms go through a long series of steps, which take up to 12 weeks to accomplish, including coordination with potentially 11 government agencies in Singapore.

Therefore, hobby farmers within community gardens they need to undergo the same process of receiving the licence and certification as commercial farmers to sell their products, even if they do not ordinarily have the commensurate organisational capacity to comply with the complexity of such requirements.

A further challenge is from the perspective of low levels of productivity within non-commercial community gardens. It is understandable that, given their limited time and investments, hobby farmers will not be as productive as the commercial farmers.

However, low productivity is not unrelated to the regulatory challenges in selling their produce. If community gardeners are unable to market their products, owing to their lack of organisational capacity to comply with the requirements, then there is also no incentive to boost their productivity levels.

A “chicken-and-egg” problem therefore exists of low productivity levels reducing the investments of time and resources by community farmers in growing food, and in turn, low productivity levels occurring as a result of these low time investments. Further issues include limited farmer expertise and limited marketing information on crops and pricing.

Potential Solutions: “Kampong” Clusters and Digital Technologies

One way forward in addressing these challenges is through organisational innovation, or by encouraging communities to cluster together within their neighbourhoods (“kampongs”) to form a corporate entity. Individual members can help share the time and resources required for registering their farms and receiving the licences to sell their products.

This is not completely novel, as there are ad hoc approaches that are already in play. The Open Farm Community (OFC) is a restaurant that taps community produce, to the extent feasible, combined with commercially sourced products, while the Edible Garden City (EGC) provides space for farmers to grow their food, and helps market them to over 220 dining establishments across Singapore.

Another potential approach is by leveraging digital technologies in transforming how community gardening is done, reducing the time and resources required of community farmers in growing food while boosting productivity.

These include digital farmer advisory applications to guide farmers in improving productivity and addressing crop pests/diseases; automated irrigation to make farming less tedious while increasing water use efficiency; satellite and drone imagery to help monitor crops; digital labelling for food safety; and e-commerce for marketing products.

However, these digital technologies too are currently tailored to commercial farms, and not readily available to community gardeners. To bridge this gap, food-related agencies can potentially commission “digital-readiness assessments”. These can be on community gardeners’ farmer attitudes towards digital technology adoption; the openness of the private sector to cater to community gardeners; and private capacity to provide such services.

While many community gardeners may not be farming for profit but do so as a lifestyle activity, it is worthwhile exploring how community gardens can contribute to Singapore’s vegetable supply given the extensive presence of unused space, and the income generation potential of this initiative. However, this requires no less than a mindset change on the part of regulators, the private sector, and the gardeners themselves.

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