

BACKYARD AND COMMUNITY GARDENING IN THE URBAN PHILIPPINES: A Case Study from Urdaneta City, Pangasinan

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Abstract

This paper examines recent efforts to promote fruit and vegetable consumption within a provincial Philippine city. In August 2009, the municipal government of Urdaneta launched a comprehensive backyard/community gardening program to address ongoing problems related to community health and household self-sufficiency. Paying particular attention to the sometimes complex interplay between the political objectives of municipal government officials and the subsistence and economic needs of everyday citizens, this work adds ethnographic depth to current understanding about (1) how issues of hunger, food insecurity, and inadequate diet are addressed in developing urban areas, and (2) how these responses variously figure into matters of household self-sufficiency and well-being. Such analysis not only provides new insights into problems now increasingly encountered in cities across the Global South, it also elucidates the efficacy of those strategies that encourage grassroots participation in getting local urbanites to produce and eat more fruits and vegetables.

Keywords

Urban gardening, Philippines, Global South, nutrition

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Introduction

In 2003, the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) of the United Nations launched a joint initiative to address sharp rises in major non-communicable diseases linked to low fruit and vegetable consumption (WHO, 2005: online). Such collaborative efforts reflect growing macro-level concerns about the premature mortalities and losses in global productivity attributable to diets lacking in key micronutrients, fibers, and various non-nutrient substances associated with these kinds of agricultural commodities. While the ill effects of this dietary deficiency have gone largely unrecognised vis-à-vis more high-profile public health concerns like HIV/AIDS or tuberculosis (Farmer, 2005), inadequate fruit and vegetable intake nevertheless ranks among the top 10 selected risk factors for global mortality according to WHO/FAO reports.¹ In fact, recent data suggest that insufficient consumption of these low-energy foods not only accounts for some 2.7 million (4.9%) preventable deaths each year, it also adversely affects the overall productive capacity of populations worldwide as the time lost to illness and disability approaches 26.7 million (1.8%) disability-adjusted life years² (Lock et al., 2004: 402).

Indeed, both the long and near term outlook presented by the WHO/FAO on this matter appears rather bleak. Thanks in part to the rising influence of Western eating habits and nutritional regimes (Popkin, 2008), diverse populations across Africa, Asia, Latin America, and elsewhere now increasingly suffer the deleterious effects of chronic medical conditions such as cardiovascular disease, gastrointestinal cancer, Type 2 diabetes, and obesity (Stix, 2007). This development, coupled with a concomitant shift away from unvaried diets of traditional and mostly simple fare towards more diverse ones based around unhealthy, animal-source, and processed foods containing high concentrations of sugar and fat, emerges as a troubling symptom of accelerating global modernity (Popkin et al., 2002).

As many low and moderate income nations across the Global South grapple with the complexities and contradictions arising from an intensifying nutrition transition (Popkin and Gordern-Larsen, 2004), government policymakers and healthcare

professionals look for new and innovative ways to negotiate the rapidly changing public health landscape. Doubtless, these tasks are complicated by the fact that until recently the healthcare apparatus of most less-developed countries were oriented primarily towards problems of hunger and undernutrition. Implementing approaches that continue to address these long-standing medical conditions while simultaneously meeting the challenges arising from the encroachment of various non-infectious diseases heretofore mainly associated with the Global North seems nothing if not a highly ambitious undertaking. Such efforts emerge as all the more formidable given the extensive undercapitalisation and fragmentation that besets most healthcare systems throughout what was once called the Third World (Matejowsky, 2009).

Clearly, the chronic disease burden propagated by this dietary deficiency could be significantly mitigated among affected populations if local consumption patterns better adhered to the WHO's recommended minimum daily intake of 400g or five equivalent 80g servings of fruits and vegetables³ per individual (WHO, 1990). Just how realistic these guidelines are for those living in today's Global South appears rather questionable amid the increased economic volatility and soaring food costs⁴ that have rocked global markets over recent years (World Food Program, 2009). Thanks largely to processes of neoliberalism and economic globalisation, food access for millions of those living in less-developed countries is now increasingly contingent upon a reliable cash income. Within this context, the prospects of many households to meet basic food needs are effectively undermined as under/unemployment remains so pervasive across the Global South. Compounding the situation is the continued demise of traditional subsistence farming as more and more tracts of arable land are subject to advancing corporate agricultural interests. In a very real sense, Big Agribusiness' hegemony over contemporary eating habits, food pricing, and cultivation practices has significantly altered access to fruits, vegetables, and other everyday commodities for many households in the Global South.

The sheer scope and complexity of this burgeoning health crisis belies the fact that inadequate fruit and vegetable intake is not something fundamentally intrinsic to the Global South (Lock et al., 2004: 402). It remains a largely modifiable risk factor, as its

ill effects are born primarily out of asymmetries within today's increasingly industrialised and politicised global food system (Pingali, 2007). Even though consumption of these important food groups varies considerably across countries and demographic groups (Lock et al., 2004: 408), it is clear that government- and agency-led interventions that actively involve local communities are essential to strategies designed to effectively combat such adverse health outcomes at the grassroots level. Left unchecked, the overall impact of this dietary failure stands to exacerbate pre-existing health disparities both within less-developed countries and between poorer nations and their more affluent counterparts. Such prospects bode well for neither future economic development nor political stability within the affected societies.

Methodology and Objectives

The realities of dealing with this escalating health crisis are arguably best understood when examined at the community level. In this article I consider recent efforts to promote fruit and vegetable consumption within a specific developing locality. Findings from primary and secondary sources comprise the empirical basis on which this research endeavor is grounded. Primary data for this paper were collected in a major provincial urban center in the Philippines over several weeks in July 2010. Besides the traditional anthropological technique of participant-observation, I relied on structured and semi-structured interviews as a way to document some of the more innovative practices now taking root in city neighbourhoods and households. Discussions with municipal officials, affected urbanites, and other local stakeholders proved particularly revelatory in this regard. Complementing these firsthand accounts is relevant background material gathered from various secondary sources such as regional newspapers and government reports. These publications contained enough detailed information to allow me to trace the development of an intensifying fruit and vegetable campaign first unveiled about a year prior to my summer fieldwork.

Such analysis not only provides new levels of insight into problems now increasingly encountered in towns and cities across the Global South (Shackleton et al., 2009), it

also sheds light on the efficacy of those strategies that encourage grassroots participation in getting local urbanites to produce and eat more of these dietary essentials. Paying particular attention to the sometimes complex interplay between the short term political objectives of municipal officials, on the one hand, and the long term subsistence and economic needs of everyday citizens, on the other, this work adds ethnographic depth to current understanding about (1) how issues of hunger, food insecurity, and inadequate diet are addressed in urban areas of the Global South, and (2) how these responses variously figure into matters of household self-sufficiency and well-being. Although my research findings are more descriptive and data driven than theoretical, they nevertheless highlight approaches aimed at improving public health outcomes and community development through participatory and incentive-based measures. Health issues and related concerns highlighted over subsequent sections are particularly relevant to the Philippines considering that over 60% of Filipinos now reside in urban areas (World Bank, 2002: online).

Fruit and Vegetable Consumption in the Philippines

To better grasp the dynamics informing local responses to inadequate fruit and vegetable consumption, this article examines the recent experience of a provincial city on the main Philippine island of Luzon. The Philippines provides a viable setting for such research as its population is widely recognised as one of Asia's lowest consumers of these indispensable food groups (Cabacungan, 2012). According to the Food and Nutrition Research Institute (FNRI), eating habits nationwide have experienced an ongoing decline in per capita fruit and vegetable intake since the late 1970s when Filipinos consumed approximately 145g of vegetables and 104g of fruits each day (Pedro et al., 2004: online). By 2003, these figures dropped precipitously to 111g of vegetables and 54g of fruits per individual (*ibid*). This downturn can be explained by various socioeconomic and political factors including but not limited to increasing urbanisation, inequitable land distribution, export market development, and rising food prices (Johnson et al., 2008: 19).

Against this backdrop of shifting national dietary trends, it is important to note that fruits and especially vegetables have never really captured the mealtime imagination of Filipinos in quite the same way as rice, fish, pork, or poultry (Kittler and Soucher, 2007: 314). Preserved meats, especially jarred pork, and later American-style processed foods have long been associated with the status and abundance personified by the landed local elite as well as U.S. military personnel (Coredero-Fernandez, 1992). If anything, vegetables enjoy something of a secondary status during breakfast, lunch, and dinner, where they are primarily utilised as ingredients in various native soups and entrées, but rarely serve as stand-alone fare (Balgos, 2006: 4–5). Suffice it to say, a taste for garden salads or other vegetarian cuisine remains all but peripheral to the constitutive components of local palates (Pabico, 2006). The health implications of this apparent longstanding aversion to vegetable dishes take on added dimension given the fact that per capita consumption of fresh and processed meat has increased significantly over the past three decades (Cabacungan, 2012). Intake of such high protein animal-source foods has risen so much, in fact, that the latest daily consumption figures stand at 61g per individual, up from 23g in 1978 (Pedro et al., 2004: online). Meat's growing centrality within local diets probably owes something to prevailing notions about this more succulent fare's presumed status as a correlative indicator of increased socioeconomic prosperity (Johnson et al., 2008: 18).

For its part, the Philippine government has begun implementing various strategies and initiatives aimed at alleviating the impending health outcomes associated with insufficient fruit and vegetable intake. Perhaps most conspicuous are recent public relations efforts that encourage Filipinos to more fully incorporate these dietary essentials into daily meals (Manila Bulletin, 2011). Such undertakings have, among other things, resulted in the publication of a sleek new paperback by the Department of Agriculture entitled *Oh My Gulay*⁵ (Yap, 2009). This collection of essays, policy recommendations, and basic health tips prominently features glossy black and white photos of Martin Nievera, Mikee Cojuangco, and other popular Filipino entertainers alongside the winning selections of a national vegetarian recipe contest involving high school students from around the islands. Whether or not such efforts at “rebranding” vegetable dishes into something more hip and trendy help bring about

a more informed and health conscious consumer population, it is clear that government officials are now doing more than just paying lip service to the need of everyday Filipinos to alter their current eating habits.

Backyard/Community Gardening in Urdaneta City, Pangasinan (2009–2011)

Notwithstanding the momentum behind the state's newly reinvigorated promotion of increased fruit and vegetable consumption, it is at the municipal level where some of the more innovative and sustainable approaches towards this targeted objective are now beginning to yield positive results. Philippine city governments are increasingly prioritising initiatives oriented towards empowering neighbourhood households both economically and in matters of food security and health. Perhaps nowhere in the islands are such efforts making more headway in this direction than in the urban and peri-urban neighbourhoods of Urdaneta City, Pangasinan.

A tertiary city located some 185 kilometers north of Metro-Manila in the Philippines' third most populous province, Urdaneta boasts a population of nearly 120,000 residents living in approximately 23,000 households spread across 34 municipal districts or *barangays*.⁶ The city not only stands as one of Central Luzon's most populous and important commercial, financial, and educational centers, it also serves a vital transportation hub linking the mountainous regions of Northern Luzon to the rest of the island. Like many other provincial towns and cities, Urdaneta's *población* (city center) is bounded by vast parcels of agricultural land primarily utilised for wet rice cultivation. Similarly, its built urban environment reflects the persistent socioeconomic disparities that continue to characterise much of Philippine modernity, including sleek multi-level shopping malls within close proximity of impoverished settlements of squatter-like housing. Thanks to a recently implemented municipal development project, however, this asymmetrical urban character has assumed a slightly new wrinkle as dozens of backyard and community gardens of varying size and productive capacity have sprung up within the vacant lots and underutilised land tracts of greater Urdaneta City.

In an effort to address ongoing problems related to community health and household self-sufficiency in and around downtown Urdaneta, the municipal government launched a comprehensive backyard/community gardening program in August 2009 (Maganes, 2009: online). Spearheaded by the mayor's office, under the auspices of the City Agriculturalist, this participatory and incentive-based initiative has its roots in the city's decades' old *Tulungan sa Purok* ("Helping your Neighbour") social relief program. Like earlier municipal efforts to assist disadvantaged locals, the 2009 venture involved meeting the consumption needs of various segments of Urdaneta's population largely through the distribution of food aid. Unlike previous endeavors, however, the city's gardening initiative did not rely strictly on the direct provisioning of everyday food staples such as rice to households and individuals, particularly during times of need. Rather, it was a more broadly conceived program designed to address inter-related issues of hunger, health, household economic self-sufficiency, community development, and environmental conservation.

In many ways, the program parallels recent gardening efforts from other Philippine communities including those practiced in neighbouring Sison, Pangasinan, whereby locals are encouraged to grow high value crops for market sale alongside less profitable fruits and vegetables for household consumption (Maganes, 2009: online). It also shares similarities with the more targeted *Gulayan at Maisan Sa Eskwelahan* ("Vegetables and Corn in the School") project which is sponsored by the regionally influential Abono political party. This latter venture primarily emphasises the growing of white corn for local students and their families (Maganes, 2009: online). Perhaps more importantly, Urdaneta's gardening program serves as a reaction to the insufficient funding associated with the Agricultural and Fisheries Modernization Act which was passed by the national government in 1997 but has, thus far, done little to improve local farming operations.

Urdaneta's backyard/community gardening program made something of a media splash when Mayor Amadeo Perez unveiled it during his annual state of the city address in front of a packed crowd at the Urdaneta City Auditorium. What grabbed attention were not so much the arguable incongruities of a local career politician encouraging his constituents to suddenly transform their backyards into plots of

simple vegetable cultivation, but rather the sizable monetary incentives he announced soon thereafter to drum up public interest for his new pet project. Perez revealed that participating households stood to win upwards of ₱30,000 (approximately US \$555) in select cash prizes if their gardening efforts met a soon-to-be announced set of criteria. Likewise, local *barangays* were eligible to secure up to ₱500,000 (US \$9,250) in funding specifically earmarked for livelihood projects such as new roads, *barangay* hall upgrades, livestock raising, or other neighbourhood improvements. All things considered, the prospects of earning thousands in pesos added a sense of urgency to the project among Urdaneta's 34 *barangays*, where competition for extra support and bragging rights is sometimes fierce.

The need for such a program became immediately apparent some six weeks after Perez's announcement when the Philippines was hit by two super typhoons within one week's time. The destructive impact of Typhoon Parma⁷, in particular, proved especially detrimental to local vegetable cultivators and consumers. Besides significant losses in life and property, vegetable production in Pangasinan and other parts of northern Luzon plunged by 40% as Parma's torrential rains, massive flooding, and high winds cut a swath of destruction across regional farmlands (Sunday Punch, 2009: online). This drop in vegetable supplies triggered, among other things, steep price increases for various agricultural commodities, including many everyday vegetables over subsequent weeks. Ever the savvy politician, Mayor Perez used the disaster as a rationale for fast-tracking the backyard/community gardening program, thereby overcoming any resistance from city council members with rival political affiliations.

Community Gardening

Urdaneta's community gardening program requires participating neighbourhoods to develop agricultural plots within their municipally defined borders specifically dedicated to fruit and vegetable cultivation. This initiative is ideally suited for Urdaneta as most *barangays* include some vacant or underutilised areas suitable for this type of gardening. The transformation of unoccupied tracts into productive green spaces not only promotes alternate approaches to the functionality of urban

and peri-urban landscapes, it also enhances the aesthetics of local neighbourhoods. Indeed, the removal of litter and other debris to accommodate the footpaths, fishponds, and various other built features of these new gardening developments creates for many a welcome sense of refuge from the sometimes fast pace of Urdaneta's bustling city life.

In accordance with contest rules, community gardens must be accessible to *barangay* inhabitants and cultivated with hand tools such as hoes, shovels, and rakes rather than mechanised implements. Chemical pesticides are similarly prohibited. Crops are protected from insects and other pests through more natural means including the application of pepper and lime extracts as well as sticky powdered soap. Since local residents are able to take as much fresh produce as they need in exchange for their participation, the program entails minimal labour costs for the municipal government. Thus far, the initiative has been pretty well received by local municipal districts, as all 34 *barangays* in Urdaneta have developed agricultural plots for this type of neighbourhood cultivation.

Community gardens are assessed quarterly by a monitoring committee largely comprised of officials from the City Agriculturalist's department for things like agricultural productivity, organisation, and variety. This process is no small undertaking with nearly three dozen *barangays* in the city and thousands of Urdanetans participating in the program. Inspections occur during the growing cycle and culminate with the selection of contest winners in a public ceremony that coincides with the city fiesta each December. Throughout the year, several *barangay* gardening inspections occur, although one was skipped during the lead up to May 2010's national political elections, as municipal workers were focused on other matters. This system of appraisal effectively keeps fruits and vegetables in constant production which helps mitigate issues of local food insecurity.

Compared to their peri-urban counterparts, downtown neighbourhoods and those immediately surrounding the *población* are placed at something of a disadvantage given their comparative lack of fertile garden space. Some urbanites have turned to

container gardening as a viable way to compensate for the limited availability of arable land for fruit and vegetable cultivation (see Figure 1).



Figure 1 – container gardening – photograph by Ty Matejowsky

This versatile type of gardening entails refashioning discarded materials such as plastic bleach bottles or old automobile tires into small growing pots. These soil-filled vessels typically hang from wires along rooflines or stand side by side on bamboo shelves. Container gardening not only effectively utilises the limited growing space of city neighbourhoods; it also reduces the environmental impact associated with plastics and other synthetic materials filling up landfills. In a very real sense, this mode of cultivation has emerged as a showcase feature of Urdaneta's community garden program as it promotes both agricultural productivity and environmental conservation.

It is important to note that the *barangays* participating in Urdaneta's community gardening initiative are not expected to start producing fruits and vegetables from scratch. The municipal government offers training sessions and follow-up workshops through the office of the City Agriculturalist to help neighbourhood residents with this type of cultivation. In fact, according to department head

Bonifacio Farinas each agricultural technician under his supervision is assigned two or three *barangays* to oversee and assist throughout the year. These specialists not only help *barangay* captains strategise about the best ways to implement and maintain local gardens, they also advise those neighbourhood households that participate in the city's backyard gardening contest. The working relationships developed between municipal and *barangay* officials to a large degree determines the success of neighbourhood gardens.

Beyond professional guidance, the city also provides local neighbourhoods various seedlings from a large covered nursery adjacent (see Figure 2) to the newly constructed city hall along the Manila North Road several kilometers north of downtown.



Figure 2 – Urdaneta garden nursery – photograph by Ty Matejowsky

The growing center is staffed by several knowledgeable horticulturists who work with *barangay* administrators to select the most suitable types of fruits and vegetables for neighbourhood gardens. Soil type, space availability, water access, and other relevant factors help inform these decisions. Local officials can choose from an array of plants—string beans, papaya, eggplant, okra, squash, ampalaya (bitter melon), and tomatoes—which are arranged in neat rows along the nursery floor or cling to bamboo trellises. Since these are mostly self-germinating varieties, neighbourhood gardens stand to become increasingly self-sufficient over subsequent growing cycles.

These seedlings, along with bags of free organic fertiliser, are available for pick up by *barangay* captains throughout the work week. Although resources are plentiful, neighbourhood officials tend not to take more than their fair share since nursery workers keep detailed records of how much plant stock is withdrawn. Once these materials are transported back to local *barangays*, council members must decide how to best coordinate gardening labour tasks amongst their constituents. Indeed, it is the *barangay* council who must continuously ensure that all work associated with the planting, weeding, and irrigation of gardens is carried out. The amount of political sway *barangay* captains have over their constituents is often reflected in the upkeep and condition of neighbourhood gardens.

At no point was this made clearer to me than when I visited the neighbourhood garden of *barangay* Anonas located on the outskirts of Urdaneta proper in July 2010. The newly transformed agricultural space is nestled behind a row of gated residences, occupying less than a hectare of what was previously unused land. Its serene atmosphere stood in stark contrast to the hustle and bustle of most neighbourhoods I had earlier encountered in and around the *población*. Indeed, the garden was really quite impressive in terms of organisation and productivity. Under a lush canopy of mostly palm and banana trees, well-tended rows of leafy green plants stood amid bamboo trellises on which an array of climbing vines vertically spread (see Figure 3).



Figure 3 – community garden – photograph by Ty Matejowsky

During my midday visit, I observed about half a dozen or so local residents casually tending fruits and vegetables that grew in various agricultural plots and recycled containers. Bins of organic waste utilised for composting lined the cinderblock wall of the garden workstation. The nutrient-rich material produced from these vats was downcycled into fertiliser and soil amendment. Beyond small-scale vegetable cultivation, the site also featured a sizable fishpond for simple aquaculture, and various recycling projects, such as the refashioning of common household materials into colorful fiesta decorations. The local *barangay* captain informed me that the community garden had been operational for less than a year but was already yielding ample produce. He noted that the dietary needs of most neighbourhood households were now, if not greatly enhanced by this new food source, then certainly more than adequately supplemented.

This cultivation has proven so bountiful in fact that I was told that Anonas placed first runner-up in 2009's citywide *barangay* gardening contest. In retrospect, perhaps the most striking aspect of the *barangay* garden was not so much the various efforts at sustainability, but rather the overriding sense that the project truly belonged to neighbourhood residents. The communalism that I witnessed among those labouring in the garden suggested that locals were highly invested in this grassroots endeavor. If anything, the garden seemed like an extension of the peoples' homes or backyards, given the ease by which they utilised this productive green space.

Backyard Gardening

Urdaneta's backyard gardening contest differs only slightly from the neighbourhood competition. Household plots are assessed by the same monitoring committee as their *barangay* counterparts, based on a similar set of criteria. Besides variations in scale and productivity, it is the level of compensation and the participation requirements where distinctions truly emerge. An important stipulation for backyard gardens is that all work must be performed by household members, and not collectively by neighbourhood residents. The distribution of monetary rewards to individual households rather than to *barangay* project funds similarly distinguishes the two contests. Up to 10 households, usually selected by local *barangay* captains,

can vie for the chance of winning thousands in cash prizes. First, second, and third place winners receive ₱30,000 (US \$555), ₱20,000 (US \$380), and ₱10,000 (US \$185) respectively, while the next 10 qualifiers collect ₱5,000 (US \$92.50) each. Such earnings can obviously do much to improve the financial status of most Urdanetan households.

The City Agriculturalist's office employs a rather novel approach to stimulate interest in its backyard gardening contest. The agency effectively exploits preexisting food preferences by showcasing a mainstay of local culinary culture that has been consumed by lowland Luzonians for generations. To be eligible for cash prizes, participating households must grow at least five varieties of vegetables commonly found in the traditional *pinakbet* dish. *Pinakbet*, which roughly translates as "shrunk" or "shriveled" in Ilocano, is a popular regional food from northern Luzon comprised of various ingredients including bitter melon, eggplant, tomato, okra, string beans, and chili peppers. The dish is commonly slathered with a salty shrimp paste to accentuate its natural flavors. The popularity of *pinakbet* offers a viable context for promoting simple vegetable cultivation and more varied diets among everyday Urdanetans.

To spur further interest in the competition, the office has also developed a somewhat humorous way of breaking the ice with potential backyard gardeners. This approach basically relates to everyday Filipinos' longstanding love of ornamental or decorative houseplants. With few exceptions, most low to moderate income households have potted plants on display either on their front porches or somewhere indoors. This penchant for simple greenery is arguably as much about aesthetics as it is the satisfaction of caring for such living things. Playing off of this houseplant affinity, officials ask would-be cultivators a series of questions such as "Do you grow ornamental plants? Do they require much work? Can you eat ornamental plants?" Since all Urdanetans answer no to the last question, the opportunity to promote backyard gardening becomes relatively easy.

Urdaneta's City Agriculturalist, Bonifacio Farinas, reckons that those households with backyard gardens save anywhere from ₱100 (US \$1.85) to ₱200 (US \$3.70) each day by growing their own fruits and vegetables. While this figure may sound comparatively insignificant, it actually represents important savings for those low-income families targeted by the program. Considering that these estimates relate only to food, they do not take into account the time and money saved by not having to travel downtown to buy produce from local market vendors. Since household marketing tends to be done on a daily basis, such minor savings can steadily accrue within household budgets. Farinas also notes that, thus far, Urdaneta's vegetable traders have not complained about any loss of business or undue competition arising from households producing their own fruits and vegetables. Whether or not this kind of harmony will persist in the years to come is largely contingent on the success of the backyard/community gardening program.

Critical Implications

The complex range of socioeconomic and political factors preventing adequate fruit and vegetable consumption at the community level precludes the possibility of any real quick fix solution for the Global South. It is probably unrealistic to expect much progress in reversing the adverse health effects of diets lacking in these important food groups without a more coordinated and systemic approach (Lavelle and Garber, 2008: online). National and international public health actions (Lock et al., 2004: 408), alongside macro-level efforts that target the various root causes of deteriorating global dietary patterns including but not limited to endemic poverty, inequitable land distribution, and climate change, would surely go a long way towards addressing this burgeoning health crisis. Until such time as a more comprehensive big picture strategy emerges, the coping capacity of vulnerable populations will likely remain tenuous.

It is for this reason that targeted approaches implemented at the local level may prove more effective in alleviating some of the health urgencies now associated with insufficient fruit and vegetable consumption. While the Philippine government's recent attempt to "rebrand" these dietary essentials into something more hip and

trendy does raise awareness about such foods' nutritive value, this national public health campaign does little or nothing to improve local access to fruits and vegetables. It is probably premature to label local gardening efforts an unqualified success seeing as they were only implemented in August 2009 and have not yet fully taken root at the neighbourhood level. This fairly recent launch, coupled with the disruptive effects of Typhoon Parma in October 2009, makes any definitive assessment of the program problematic at this stage. Without more independent and quantitative results corroborating the contributive value of backyard and community gardening to the health and overall wellbeing of everyday Filipinos, various uncertainties remain. Future ethnographic research in Urdaneta including participant-observation and follow-up interviews with local stakeholders would surely do much to elucidate the program's overall efficacy.

That said, Urdaneta's gardening initiative does appear to have the makings of a viable model of grassroots development that can positively contribute to public health and household economic self-sufficiency in various urban and peri-urban contexts. In terms of health benefits, the program's emphasis on consuming locally grown and nutrient rich fruits and vegetables can greatly enhance the health outcomes for participating households and individuals. Such eating practices can not only result in a more balanced diet—something that is especially desirable given Filipinos' increased intake of fresh and processed meats over recent years (Pedro et al., 2004: online)—they can also help reduce the risk of various non-communicable diseases including heart disease, obesity, diverticulosis, and hypertension. Moreover, this type of gardening effectively alleviates food insecurity and hunger as low and moderate income Urdanetans have more direct access to vegetables and fruits. Such availability works to diminish the specter of intermittent or chronic food shortages, easing the pressures of meeting food needs primarily through a reliable cash income.

Urdaneta's backyard and community garden initiative has other significant advantages beyond those related to public health and nutrition. The program's use of cash prizes to incentivise locals to produce and consume more fruits and vegetables appears to hold potential in the Philippines and elsewhere. This innovative approach not only materially benefits winning households and *barangays*,

it also promotes community-building within city neighbourhoods as residents work together for weeks and months to meet a defined objective. Such communal bonds doubtless intensify as rival municipal districts vie for funding specifically earmarked for neighbourhood livelihood projects. The prospects of securing *barangay* hall improvements or new government vehicles, coupled with the exclusive bragging rights related to winning entries, may be enough to rally sustained grassroots support for community gardening.

No less significant for Urdanetans are the program's environmental implications. Organic and recycled materials play a central role in local backyard and community gardening, as the example of *barangay* Anonas makes clear. Practices that promote conservation such as refashioning plastic receptacles and other everyday items into growing pots (e.g. "container gardening") not only minimise municipal waste, they also reduce the harmful gases and smoke associated with burning household trash, a common practice in today's Philippine neighbourhoods. Moreover, the potentially adverse effects of gardening with chemical fertilisers and pesticides are largely avoided through a reliance on organic products. Incorporating non-synthetic inputs into local gardening practices serves as a sustainable and cost-effective option for *barangay* residents, as the conventional farming methods of more highly capitalised ventures involve significant financial outlays and risk groundwater contamination through the gradual buildup of nitrogen in the soil.

Conclusion

When considered altogether, Urdaneta's backyard and community gardening appears a rather promising approach to tackling longstanding issues of community health and household economic instability in and around the city center. Significantly, the program addresses these persistent problems with minimal financial and labour costs to local governments and households. The fact that gardening efforts can become increasingly self-sufficient over time not only adds to their appeal as sustainable grassroots development, it also bodes well for the health and well-being of participating individuals. This latter point is especially vital as the Philippines' health profile begins to more closely resemble those found in

populations of the Global North. If the program has any conceivable drawbacks, they probably relate to its status as a pet project of a local career politician. Whether or not the initial enthusiasm for the initiative by municipal officials like the City Agriculturalist can be sustained as the influence of long-serving Mayor Perez begins to wane is something that remains largely undetermined. Like other towns and cities in the Global South, the priorities of municipal Philippine governments can easily shift as new administrations assume power. Thus, it may be the personalities and political objectives of future office holders that ultimately determine the fate of Urdaneta's community and backyard gardening program. Until such time, however, local *barangay* residents will continue to enjoy improved access to fruits and vegetables with various health and economic benefits arising from this expanding availability.

Endnotes

¹ WHO estimates suggest that worldwide such dietary deficiencies cause approximately 19% of gastrointestinal cancer deaths, nearly 31% of ischemic heart disease deaths, and almost 19% of ischemic stroke deaths (Lock et al., 2004).

² Daily adjusted life years assess the overall disease burden expressed in the number of productive years lost to ill-health, disability, or early death. Essentially, daily adjusted life years measure the gap between current health status and an ideal health situation whereby an entire population lives to an advanced age free of all infirmities and ill-health.

³ These recommendations exclude starchy tubers such as potatoes (WHO, 1990).

⁴ The late-2000s financial crisis has dramatically altered food price stability throughout the Global South. This volatility is not expected to abate anytime soon as numerous structural factors including low stocks, slow productivity growth, global climate change, and increased biofuel demand continue to drive up costs. Exacerbating this situation is the increased food demands stemming from the rising affluence of highly populous India and China (World Food Program, 2009).

⁵ *Gulay* is the Tagalog word for vegetable.

⁶ *Barangays* are the smallest governmental units within the Philippines. Somewhat like municipal districts or wards, these administrative divisions are overseen by an elected group of captains or council members headquartered in a local *barangay* hall.

⁷ Typhoon Parma was known locally in the Philippines as Typhoon Pepeng.

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