The potential value and impacts of residential and community food gardening

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Poppy Wise

The Australia Institute
Research that matters.

Grow your own

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TAI

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Summary

Australia's high rate of urbanisation means that most people experience a significant disconnect between their food production and consumption. Over several decades, suburban gardens have ceased to be major sites of food production and Australians reportedly have a declining understanding and appreciation of how their food is grown. Recent years have seen a renewed interest in the quality, provenance, freshness and price of food, driving a companion interest in Australians growing their own food at home or in community gardens.

This paper examines who is currently growing their own food, the motivations and barriers in relation to home and community gardening and the potential for home grown food to deliver benefits such as health and social inclusion improvements and to protect food security. The research is based on a literature review, a survey of 1,390 households across Australia and interviews with experts and community gardeners.

The data suggest that more than half (52 per cent) of all Australian households are growing some of their own food and a further 13 per cent report they intend to start. Yet despite this high penetration of food gardening, yields are relatively low and there is a high turnover of participation.

Health, taste and cost savings are the greatest drivers for households to grow their own food, as shown in the table below.

Reason to grow your own food	% food gardening households
To produce healthier food	71
To save money	62
To produce food that is tastier	61
I enjoy it	57
Gardening is good for the mind and the soul	51

Environmental benefits were lower down the list of motivations; though there is substantial evidence that growing your own food has several direct and indirect benefits for the environment, including reduced food wastage and greenhouse gas emissions.

The link between food waste and greenhouse gas emissions is real. Many people make a connection between growing their own food and food waste. By reducing food waste less food waste is sent to landfill and fewer greenhouse gases are emitted. If 45 per cent of the 4.7 million households growing food wasted only half as much food as the average household, there is a potential saving of two million tonnes of greenhouse gas emissions.

Perceptions of food gardening as requiring lots of time and space represent a key barrier to developing greater participation in home food gardening. Most non-gardeners cited a lack of suitable space and time as stopping them from growing their own food, although Australian dwelling-type statistics suggest this barrier is more perceived than real. Opportunities outside the backyard exist, however, with community gardens and shared spaces in retirement villages and nursing homes providing social benefits to participants.

Introduction

With the industrialisation of the Australian food system, suburban gardens have ceased to be significant sites of food production, and many Australians have become increasingly distant from the source of their food. Australia is one of the most urbanised countries in the world, with nearly nine out of ten people living in cities.[1] Given this high rate of urbanisation, food for most of us is transported from domestic rural areas or from international suppliers. This distance between Australian food production and most consumers, both literally and in terms of personal experience, has driven a decline in the appreciation of the conditions under which food is produced and the transport required between producer and plate.

In recent years there has been a groundswell of interest among Australians in local food production, particularly in urban areas, and the topic has also drawn increasing attention from policy-makers. The Prime Minister's Science, Engineering and Innovation Council Expert Working Group (PMSEIC) in 2010 found that:

> *Australia has become a highly urbanised community with connections to agriculture being eroded and fewer people having direct connections to farming. From this perspective, this would appear to have resulted in a loss of respect for food with resultant waste, declining support for rural communities and lower intakes in agricultural and food technology training programs. The recent droughts and water restrictions in major cities have, however, reignited rural links and presented an opportunity for increasing interest and awareness of agricultural production.*[2]

The growing interest among Australians in the quality, provenance, freshness and price of food, and an increasing demand for food that is locally produced and seasonal, is a persistent trend played out in Australian homes, schools and workplaces. ABC Gardening Australia presenter, Costa Georgiadis, has some ideas as to why this may be the case:

> *I think people are getting more informed about their food and the quality of the food, and they are becoming responsive and reactive to decisions being made about their food.*
>
> *The globalisation and commodification of food has gone to such an extreme that people are concerned because they're seeing what's going on.*

Despite more Australians living in apartments and areas with no garden, there has been a surge of interest in growing food at home, at a community garden or through schools. Importantly, a cornerstone of most school gardening programs is to engage beyond students and include families via after-school programs, cooking demonstrations, holiday watering programs and other activities.

While Australia is generally considered to be food secure,[3] and indeed produces much more food than it consumes, resulting in around 60 per cent of Australia's food production being

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[1] The World Bank (2013), *Urban population* (% of total).

[2] PMSEIC, (2010). *Australia and food security in a changing world*, p. 60.

[3] DAFF (2013), *National food plan: Our food future*.

destined for export markets, supply is only half the picture of food security.[4] [5] Inadequate or unreliable access to food affects a significant proportion of Australians, driven by a range of social, economic, spatial and political factors.[6] In 2012, 16 per cent of respondents in a national survey reported that they were often or sometimes worried that their food would run out before they had money to buy more and four per cent indicated they had relied on charitable sources for food supplies.[7]

While poverty and remoteness clearly undermine the ability of some Australians to access nutritious food, there are a range of additional threats to our relatively successful food system, which have the potential to negatively impact food security. These include the duopoly of major food retailers driving down food prices to the detriment of smaller producers, high exchange rates affecting the viability of food exports, rising food transportation and distribution costs and the potential impacts on food production from climate change.

This paper presents evidence from a survey of 1390 people undertaken in May 2013 examining participation rates and the potential value and benefits of home and community gardening in Australia. Qualitative research findings are also presented, including the results of interviews with experts in the field – ABC Gardening Australia's Costa Georgiadis and Jess Miller of community organisation Grow it Local – and a discussion group with growers from the Woolloomooloo community garden. The experts consulted for this paper provide a range of views on the benefits of participating in food gardening.

1. Quantifying home and community gardening in Australia

The survey found that more than half of Australian households (52 per cent) are growing some food, either at home or a community garden. While food gardens require a financial investment to establish and maintain food production via the purchase of soils, seeds and other inputs, nearly all home and community gardeners (91 per cent) slightly agree or strongly agree that growing their own food saves them money, making domestic food production a substantial policy opportunity for those concerned with the cost of living. To explore policy options to encourage greater levels of home and community food gardening and consequently food security, it is important to understand those who currently grow their own food and the reasons why.

1.1 How many Australians are growing their own food?

One in two Australian households report growing food – including fruit, vegetables, herbs, nuts or eggs – either at home or via a community garden. This equates to 4.7 million households in Australia growing food.[8] The number of people growing food varied slightly by state/territory, as shown in Figure 1. South Australian, Tasmanian and Victorian households are most likely to be growing some of their own food (59 per cent, 59 per cent and 57 per cent respectively), while those in the Northern Territory are the least likely to be involved with food gardening (20 per cent).

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[4] The UN FAO definition of food security states that, "Food security is achieved when all people at all times have physical and economic access to sufficient, safe and nutrition food to meet dietary needs and food preferences for an active and healthy life". FAO, (2012) *The State of Food Insecurity in the World: Economic crises - impacts and lessons learned*.

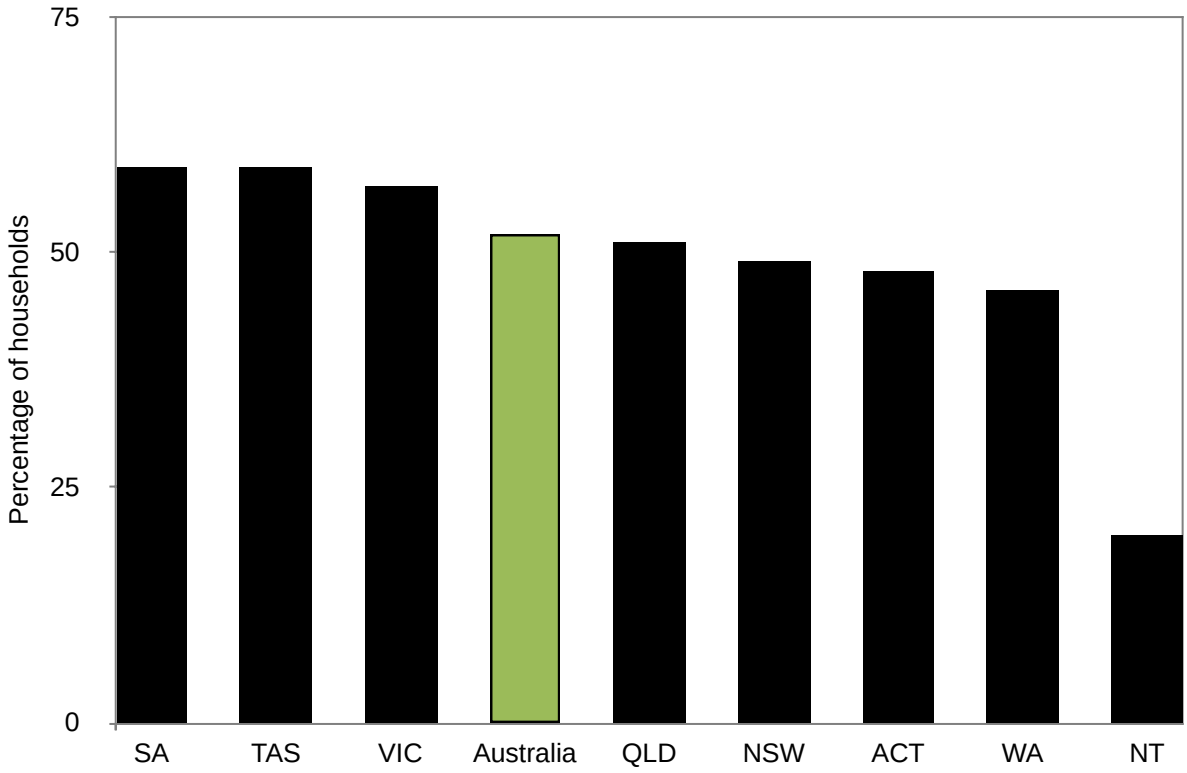
[5] Rose, N, DesFours, L, Pires, V, Barclay, R, Lyons, K, Richards, C & Amati, M (2013). *Urban food security, urban resilience and climate change*.

[6] FAO (2012), *The State of Food Insecurity in the World: Economic crises - impacts and lessons learned*

[7] Lockie, S & Pietsch, P (2012). *Public opinion on food security*.

[8] ABS, *2011 Census QuickStats*

Figure 1 Home and community garden food production in Australia



Several factors are likely to influence these figures, including environmental factors such as climate and soil quality, socio-economic and cultural factors, as well as constraints on space such as higher rates of urbanisation. Unsurprisingly, rural households with more space and potentially more experience with food gardening are more likely than metropolitan households to grow their own food (55 per cent compared to 48 per cent).

The most common type of food garden is a front or backyard garden, with 74 per cent of food gardeners growing food in this way. A further 13 per cent produce food on a verge garden and 12 per cent grow food on their balcony or in a container garden. Given the increasing levels of urbanisation in Australia, these figures indicate the potential for urban gardening to play a greater role in local food production in Australian cities.

Only a small number (one per cent) of food gardeners surveyed produced their food in a community garden. While community gardening remains less popular than growing food at home, the Australian City Farms and Community Gardens Network listed in 2010 at least 212 community gardens in existence, and there are hundreds of edible school gardens in place. School gardening programs are expected to become increasingly popular, with several programs in operation in hundreds of schools across the country. The importance of school gardening was a key point raised during the expert interviews:

> *I think the schools programs have enormous impact. You get kids having a benchmark of understanding about growing fresh food and then there's a really strong connection with home. That kind of baseline is being created by these programs and the impact of that is probably going to start driving the numbers participating in the next couple of years. (Costa Georgiadis)*

In addition to the 52 per cent of Australians already growing some food, 13 per cent reported their intention to begin some form of food production at home or in a community garden over the next 12 months. Reflecting the increasing popularity of home and community food gardening, these current rates and stated intentions indicate nearly two thirds of all Australian households are at least interested in food production.

1.2 What foods are being grown?

As shown in Figure 2, Australians are most commonly growing vegetables, herbs and fruit with smaller numbers producing eggs, nuts or other foodstuffs.

Figure 2 Foodstuffs produced in home and community gardens in Australia

Households growing fruit are more prevalent in the more temperate climates of South Australia, Tasmania and Victoria, compared to their northern neighbours. Despite fruit growing prolifically in the tropics of Western Australia and Queensland, tropical fruits are less common domestic varieties when compared with the citrus, apples, pears and stone fruit often found in temperate climates. Herbs, arguably the easiest foodstuff to grow at home or in a community garden and requiring the least space, are more commonly grown in New South Wales and Queensland compared to other parts of Australia.

Despite the apparent increasing popularity of home and community garden food production, the survey numbers remain consistent with those reported by the Australian Bureau of Statistics (ABS) survey of home and community food production*, 'Home Production of Selected Foodstuffs'*, conducted in 1992 and The Australia Institute's findings from a 2009 report into food waste. The comparison of food gardening numbers in these different studies is shown in Table 1.

Table 1 Foodstuffs produced in home and community gardens in Australia

	Households growing fruit	Households growing vegetables	Households growing herbs
1992	36 %	35 %	-
2009	24 %	38 %	35 %
2013	29 %	39 %	35 %

Source: ABS (1992); The Australia Institute (2009); and The Australia Institute (2013).

The majority (57 per cent) of Australian households that grow their own food have been doing so for five years or less. This finding suggests that there is a high turnover in participation in producing home-grown food. Turnover is likely to be driven by changing life stages, perceived availability of space and time and potential frustration with unsuccessful growing attempts.

1.3 Who is growing their own food in Australia?

While growing your own food may once have been considered a pursuit of the retired or characteristic of migrant families in Australia, it is actually very difficult to describe a typical home or community gardener in Australia.

Reflecting the range of motivations reported for growing your own food, a wide range of Australians participate in home and community gardening. Food gardeners are just as likely to be male as they are female, to be young as they are older, to be Labor voters as they are Liberal voters or to be first generation migrants as they are not. The Woolloomooloo community garden participants consulted in the research included gardeners aged in their twenties to their seventies and these respondents were students, young families, full-time professionals and retirees. The only demographic characteristic that clearly delineates food growers is the presence of young children. Table 2 shows a link between having children and being involved in food gardening.

Table 2 Participation in food gardening with children

Age of children	% food gardening households
11 years or younger	61
12-17 years	49
18 years and over	56
No children living in the household	48

Table 2 shows that families with children who are primary school-aged or younger are more likely to be growing their own food. It is probable that the growth of school gardening programs in primary schools and its reported flow-on effects for home gardens contributes to this result.

2. Accounting for domestic food production in Australia

2.1 Motivations to grow your own food

While local food production in highly food insecure nations is often driven by inadequate or unreliable access to food, in Australia the primary reasons to grow your own food appear to be quite different. Australian food gardeners' motivations are well documented in the literature and the qualitative research supports these findings. Motivations can be roughly grouped into the following categories:[9]

- health promotion
- social inclusion benefits
- environmental concern
- connection to nature
- knowledge building, and
- creative expression.

These concerns were echoed by some of those interviewed for this paper:

> *Definitely the biggest group of growers are mums, young mums particularly. There's generally a heightened awareness around health and nutrition and also it's a pretty fun activity for kids. They are interested in educating their kids about where food comes from. (Jess Miller, Project Manager, Grow It Local)*
>
> *Someone else doing it in your street is the biggest advertisement. When people start asking questions, they see how easy it is and are amazed at how quick things grow. (Costa Georgiadis)*
>
> *Food and other things people have made or grown, they are really proud of. It's like adult show and tell. (Jess Miller)*
>
> *When you live somewhere where it's really concreted over, there's something really profound about getting out in the garden, getting your hands in the dirt. (Community gardener, Woolloomooloo)*

[9] Keisling, F & Manning, C (2010). *How green is your thumb? Environmental gardening identity and ecological gardening practices*; NCCARF, (2013).

The issue of food security, both internationally and in Australia, was also identified as a concern in the survey, with half of all Australian households strongly agreeing that they are very concerned about food security. But motivations for home or community gardening food production tended be driven by the lower order needs listed above including health and social and environmental concerns, rather than hunger, as shown in Table 3.

Table 3 Top five reasons to grow your own food in Australia

Reason to grow your own food	% food gardening households
To produce healthier food	71
To save money	62
To produce food that is tastier	61
I enjoy it	57
Gardening is good for the mind and the soul	51

The key drivers behind Australian food gardeners' investment of time, energy and money in food growing cover a range of perceived physical and mental health, economic and taste benefits. Interestingly, while saving money is the second most common reason to grow your own food listed by Australian households, there is little evidence that production yields actually outweigh the investment in materials. Survey data collected for this paper suggest it is not until yields are in excess of $250 a year (only 16 per cent of gardeners), that real financial savings are achieved. The much higher rate of reported money savings suggests gardeners reap other rewards, including health and social benefits, which outweigh any financial losses incurred.

Households with young children are strongly driven by the opportunity to spend time with their kids. Nearly half (48 per cent) of Australian households with children 11 and under report they grow food to spend time with their kids, compared to 29 per cent of households with children aged 12-17 and seven per cent of households with adult children. Young families are also most likely to indicate they grow food in order to get in contact with nature and learn about plants, reinforcing the educative experience of food gardening potentially driven by school gardening programs.

Figure 3 Reported benefits of food gardening

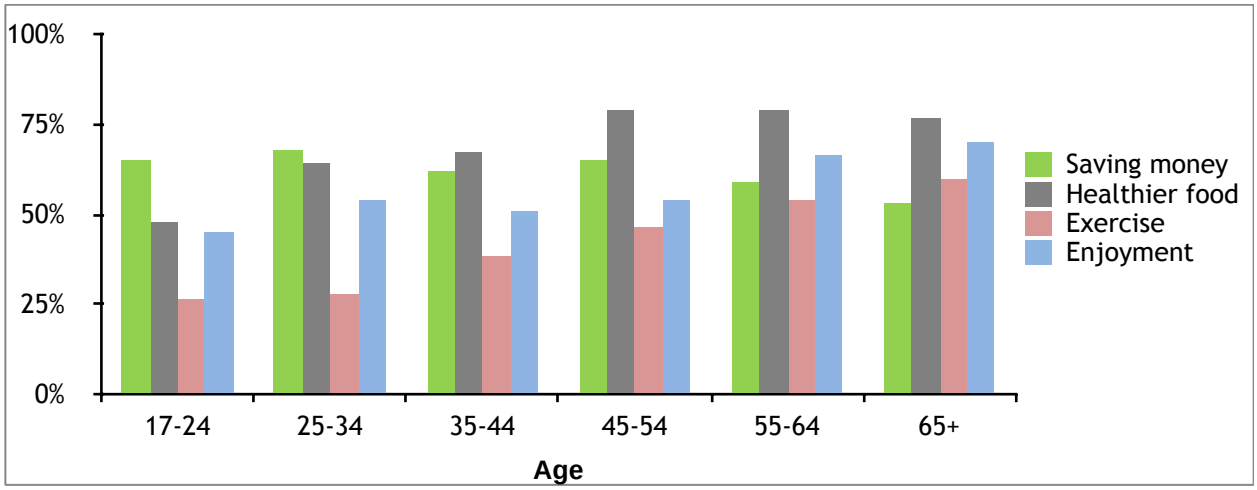


Figure 3 shows the perceived health and lifestyle benefits of growing your own food increase with age. The benefit of healthier food was acknowledged by almost eight out of ten people aged over 55 compared to five out of ten 17-24 year olds. Similarly, the importance of exercise steadily increases as people age with people aged 65 years and over (57 per cent) more than twice as likely to cite this benefit as people aged 17 to 24 years (26 per cent).

Compared with the cited health benefits, the perceived ability to save money by growing your own food decreased with age.

Those who choose to produce their own food in a community garden setting versus a home yard, balcony or verge, are driven less by financial savings and more by a desire to belong, make and keep friends and participate in their local community. This sentiment was felt strongly among the community gardeners at Woolloomooloo, who spoke at length about the focus of their garden on social- and community-building as opposed to production yields and financial savings.

2.2 Barriers to growing your own food

Barriers to participation in local food production are less well documented in the literature than motivators. A perceived lack of space, time and knowledge were the key reasons raised by Jess Miller and Costa Georgiadis, along with the disappointment many felt when initial gardening experiments failed:

> *People with a windowsill or a balcony assume that in order to grow food you need a lot of space. Part of Grow It Local is trying to encourage very small space plot gardening, vertical gardening and that sort of thing. (Jess Miller)*
>
> *I think people have this perception it takes a lot of time too – it doesn't. (Costa Georgiadis)*

These barriers were also identified in the survey, as shown in Table 4.

Table 4 Top five barriers to home and community food gardening in Australia

Barrier to growing your own food	% non-food gardening households
Not enough / unsuitable space	50
Not enough time	40
Buying food is easier	23
I wouldn't know what to do	14
Not interested	13

The survey results closely reflect the discussions in the qualitative research, with space and time the key barriers mentioned. Younger people (those under 35) were more likely to indicate time and knowledge as barriers compared to those aged over 35. Fifty-two per cent of younger people acknowledged time as a barrier compared to 34 per cent of those older, while 22 per cent of younger people acknowledged a lack of knowledge to be a barrier compared to ten per cent of those aged over 35.

Addressing these barriers is a clear opportunity in terms of encouraging more local food production and it is interesting to note that while 24 per cent of all Australian households (50 per cent of non-food gardening households) indicate space is a barrier for them, according to the ABS only 11 per cent of Australia's 8.4 million private households are flats, apartments or units - those most likely to have space restrictions.[10] This result likely reflects a lack of knowledge regarding small space and vertical food gardening techniques.

Only 14 per cent of non-food gardening households in Australia indicated knowledge as a barrier for them, although the high turnover of food gardeners (57 per cent producing food for five years or less) suggests knowledge is a bigger issue. While changing life stages and

[10] ABS (2012). *Year Book Australia 2012*.

perceived availability of space and time are likely to play a role in the high turnover rate, frustration with unsuccessful growing attempts due to a lack of knowledge is also a challenge according to experts we talked to:

> *People expect it to be easy and when it's not that can be hard. That's why being connected to other growers through Grow It Local is really important, so you can understand why things aren't working and make changes. (Jess Miller)*
>
> *It can be frustrating, there's a lot to know. But it's a gradual thing, the more you hear and learn, the more determined you become to do things well. (Community gardener)*

The advent of school gardening programs is likely to have had some impact on knowledge levels, although realistic expectations are critical to instilling lasting interest and commitment to local food production.

In addition to these barriers for individuals, the recent National Climate Change Adaptation Research Facility (NCCARF) report noted a tendency for apathy among many Australians toward growing food in urban areas. This result is validated by the 23 per cent of non-food gardeners who indicated 'buying food is easier' as a barrier to growing their own. This is perhaps not surprising considering the popular perception that food production takes place in rural areas and that we are a country that has enjoyed strong food security to date and is likely to continue to do so, when seen in terms of aggregate output.[11]

This tendency for apathy, along with the idea that local food production is misaligned with visions of a desirable city (as reflected in many local government regulations and legislation), poses potential barriers to developing broader community support for local food gardening. There is also evidence, however, that these ideas are changing as a result of the ongoing debate about the nature of sustainable, liveable and resilient cities in the face of global challenges such as climate change.

An example of this evolving picture of a desirable urban landscape can be found within Melbourne's Moreland City Council at the CERES Environment Park, which has provided a physical space for local food gardening and fostered community acceptance of the concept. CERES is a not-for-profit organisation located on four hectares of rehabilitated landfill in East Brunswick, in inner-north Melbourne, which aims to deliver environmental education to surrounding communities. Through its two market gardens, CERES administers commercial market gardens as well as community plots.

3. Benefits of home and community food gardening

The perceived benefits of home and community gardening are well documented in much of the academic and policy literature. Our survey was aimed at measuring these perceived benefits among Australian food gardeners, particularly in relation to the health, social and environmental benefits of producing your own food. This paper aims to provide a broad overview of the benefits of community gardening, rather than measuring the specific economic benefits in terms of production yield, value and contribution to food supply.

3.1 Economic benefits

Growing your own food saves only some growers money. The literature, experts and community gardeners consulted for the project agree that for most home and community gardeners who have low-yield gardens and require inputs to get started, the financial investment associated with purchasing soil, seeds, plants, tools and other materials usually outweighs the financial benefits of the yield.

[11] NCCARF, (2013).

> *You can come here and get one piece here, one piece there, instead of buying a whole bunch. That's a small saving, but it's not about the money. (Community gardener)*
>
> *I don't know if money is a major factor in driving people to grow. To set it up does cost money. Unless you are hyper engaged and have access to soils and compost and seeds, if you decided to make a garden you'd spend $300 … and it takes a while to get that back. (Jess Miller)*

The survey shows 54 per cent of Australian food-gardening households strongly agreeing that growing their own food saves them money, while 37 per cent agreed slightly. Unsurprisingly, households who spend more time in their gardens (more than ten hours a month) are more likely to strongly agree it saves them money compared to those who spend less time on their garden. The results also suggest reaping a financial saving from growing your own food tends to increase the commitment to the practice, with gardeners who strongly agree that their food garden saves them money also more likely to indicate they intend to increase the physical space dedicated to growing food and time spent food gardening in the next year. Conversely, we could expect to find gardeners who had been unsuccessful in achieving a positive financial return as a result of producing their own food to become disillusioned and less likely to continue growing.

Based on the literature review and qualitative research, the finding that 54 per cent of Australian food gardeners believe their garden saves them money was surprising. Participants in the survey were also asked to estimate the total money saved due to producing their own food and that spent on food gardening in the past 12 months. Survey results suggest there is some degree of overestimation of food gardening as a means to save money. It is possible that the other health, social and environmental benefits associated with producing food influence this positive perception of financial savings.

There is certainly empirical evidence of the potential to reap financial rewards from local food production. In 2011 it was estimated that if the lawn space of the average suburban garden was converted to food production (leaving a 20 metre square open space area), between 800 and 1100 kilograms of fresh produce could be grown per annum, plenty to provide a typical household with a year's supply of vegetables and some fruit.[12] This volume of production would require the significant conversion of lawns and verges into productive food gardening spaces, as well as demanding a level of time, skill and physical effort many suburban residents neither possess nor are necessarily willing to contribute – but the potential yields do provide a picture of the potential economic benefits.

3.2 Health benefits

Previous research has recognised that food gardens offer far more than potential economic value. There is substantial evidence pointing to the physical and mental health benefits associated with gardening of all kinds.

There are several examples in the academic literature of food gardeners reporting that residential or community food production increased their intake of fresh produce in terms of volume, frequency and variety.[13] Growing food at home also increases practical experience and exposure to fresh food in terms of cooking, preserving and understanding seasonality, which all have the potential to impact dietary habits positively. This benefit was discussed in the interviews with experts:

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[12] Gosh, S (2011). *Growing Healthy Local Food: Sustainability Potential and Household Participation in Home Gardens*.

[13] Kortright, R & Wakefield, S (2010). *Edible backyards: a qualitative study of household food growing and its contributions to food security*; Garnett, T (1996), *Growing food in cities*.

> *Fresh food growing connects you to a whole new style of cooking and eating for your family - and it's healthier. It's the hidden pathway that tends to be followed once you start growing. (Costa Georgiadis)*

The survey further reinforced this potential for home and community food gardening to improve dietary habits, with 55 per cent of food gardeners in Australia strongly agreeing that growing their own food helps them to be aware of the seasonality of produce, particularly women respondents. Only 23 per cent of gardeners strongly agreed that growing their food has steered them towards buying more organic food.

The benefits of physical exertion associated with food gardening are most commonly recommended for the elderly. Increased physical activity among those who may otherwise be fairly sedentary was reported in the literature and by gardeners themselves to assist in remaining mobile and healthy.[14] A total of 43 per cent of households who currently garden or intend to start gardening, indicated that the exercise associated with food gardening is a driver for them. This reported health benefit is particularly strong among gardeners aged 65 and over. These benefits were also mentioned in discussions with community gardeners and experts consulted for this project:

> *There's a lot of movement involved. I come down two or three times a week and it's a great form of exercise. And there's the walk here. (Community gardener)*

> *Health announcements and initiatives should be announced in a community garden in a preventative model. Not in a hospital in a cure model. (Costa Georgiadis)*

The survey found the majority of Australia's food gardening households (60 per cent) spent between one and ten hours food gardening in the last month, while 22 per cent spent 11 or more hours. Around a fifth of households (19 per cent) spent very little time growing their own food. Despite the stereotype of retirees and older gardeners spending long hours in the garden, there was little or no evidence of older gardeners spending more time on home or community garden food production. These figures demonstrate the potential for exercise associated with food gardening to improve health outcomes for all Australians.

The mental health benefits of gardening of any kind have spawned an entire field, horticulture therapy, defined as "the use of plants and gardens for human healing and rehabilitation".[15] This discipline is based on the significant evidence that cultivation activities trigger both illness prevention and healing responses, driving the inclusion of gardening in health intervention programs. Australian households support this idea of gardening as healing, with more than half of all households (51 per cent) surveyed, who currently grow or intend to begin growing their own food, indicating that their perception of gardening as good for the mind and the soul is a motivator for them. Qualitative research with gardeners has previously found that 'psychological and healing benefits of gardens were also consistently reiterated, primarily in terms of de-stressing from life and work.'[16]

> *It's a place for my soul. If I'm feeling down I come down here ... (Community gardener)*

> *People get to really check out for a while. If you speak to people who grow, it's fairly repetitious and it forces you to go slow. (Jess Miller)*

The many health benefits associated with home and community food gardening also offer a potential economic upside. While not quantified to date, the nutritional, physical and mental

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[14] Garnett, T (1996).

[15] Community Food Security Coalition (CFSC) (2003). *Health Benefits of Urban Agriculture.*

[16] Freeman, C et al. (2012). *My garden is an expression of me: exploring householders' relationships with their gardens*.; Kortright, R & Wakefield, S (2010).

health benefits associated with food gardening offer the potential to ease the financial burden on the health system via preventative health activities.

3.3 Social benefits

Home and community food gardening offer the opportunity to enhance social inclusion and civic participation, and transcend the individual impacts of physical and mental health improvements. Many of these benefits have been well documented in relation to community gardening – although there is growing evidence of home food gardening also opening the door to increased social participation.

"Growing local produce grows local connections," according to Costa Georgiadis, who cites several examples of gardening fostering neighbourhood ownership and civic participation in home, verge or community gardens breaking down barriers between community members who might not otherwise interact socially.

> *The community value is in the action, not the output. That's the unmeasured community benefit that I see from a simple verge garden. (Costa Georgiadis)*
>
> *As much as I fantasise about having my own plot of land in the suburbs, I know I wouldn't swap it for this. You might not get the community side of things. (Community gardener)*
>
> *With Grow It Local, we wanted to get away from thinking just about gardening. When you pair it with sharing and eating, it removes some barriers – everyone knows how to share and to eat. (Jess Miller)*

In relation to community gardens specifically, the literature provides significant evidence of community development benefits such as building social relationships, promoting active citizenship and reaffirming community identity.[17] This finding was strongly supported by the members of the Woolloomooloo Community Garden, many of whom had formed strong social connections through the garden.

> *I made a friend here I just went on an eight day walk with, so they're real, personal friends, not just acquaintances. (Community gardener)*
>
> *Our garden has become involved with the local school and some local businesses too. (Community gardener)*

Costa Georgiadis in particular spoke of the potential for gardening in common spaces to drive new and unexpected community connections:

> *People are quite surprised by the social element of gardening. Invariably, food gardening attracts people. And sometimes people that have never said anything to each other will stop and chat. There's this sort of connection by virtue of the fact that people see the land as common.*

While the social benefits of participating in a community group such as a community garden are unsurprising, there is evidence that gardeners who grow food in their homes also use food as a way to connect with others. A 2011 study found 40 per cent of home food gardeners shared produce through a church or other community organisation, and instances of food as a means to connect with neighbours or other community members were also reported by community gardeners and experts.[18]

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[17] Garnett, T (1996).

[18] Kortright, R & Wakefield, S (2011).

Interestingly, these social benefits associated with food gardening were not borne out in the quantitative survey. Only two per cent of food gardeners, or those intending to begin, indicated that making and keeping friends or participating in their local community would drive them to grow their own food. These benefits may not yet be realised or are an unintended consequence of food production that could contribute to people continuing gardening.

3.4 Environmental benefits

Much of the available local food production research has focused on the health and social benefits of growing food. There has been very limited focus on the sustainability performance of home and community gardens, despite the potential for environmental improvement through increased biodiversity, waste reduction and the reduced environmental impacts of transporting and distributing food.

The community gardeners and experts interviewed for this project commonly reported the benefits of reduced food miles, defined as the distance that food travels from the point of production to the point of consumption, of home and community food gardening. There is little or no quantitative research available, however, investigating the net benefit in relation to the purchase of soils, plants and other materials.

In addition to minimising transport emissions, local food production builds food system resilience by shortening food supply chains that can be vulnerable to a number of disruptions including fuel shortages, extreme weather events, local transport network failures and economic crises.[19]

While there is little quantitative evidence, the literature as well as the experts and community gardeners consulted suggest the greatest environmental benefit of home and community food production may be in the additional behavioural change that growing food tends to encourage. By growing their own food, people will often develop more knowledge of the food-growing process and a greater interest in it, contributing to a greater awareness of environmental sustainability and increasing the likelihood of changes in behaviour. While it is difficult to directly attribute behaviours such as waste reduction, more sustainable purchasing habits and an engagement with seasonal produce to home and community food gardening, there is strong support for this view in the literature.[20]

Several research participants spoke of new behaviours they, directly or indirectly, attribute to their involvement with food gardening:

> *I bring my kitchen waste down here now, I have a worm farm after learning how they work here. (Community gardener)*
>
> *I am definitely less wasteful in how I buy food now. (Community gardener)*
>
> *It does make me lean a bit more towards organic. I think, "Would I spray my own bok choy and eat it? No". (Community gardener)*
>
> *It takes three years to grow a pineapple. If you realise how much effort goes into growing something, you're then less likely to waste it. (Jess Miller)*

There is also significant evidence from the survey that food gardening influences behaviours in relation to food waste and locally produced food items. Nearly half of all food gardening households strongly agree that growing their own food has encouraged them to waste less food (45 per cent), use most of their food scraps on their garden (48 per cent) and be more inclined to buy locally produced food (46 per cent).

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[19] Gosh, S (2011); NCCARF, (2013).

[20] Deelstra, T & Girardet, H (2000). *Urban Agriculture and Sustainable Cities*.

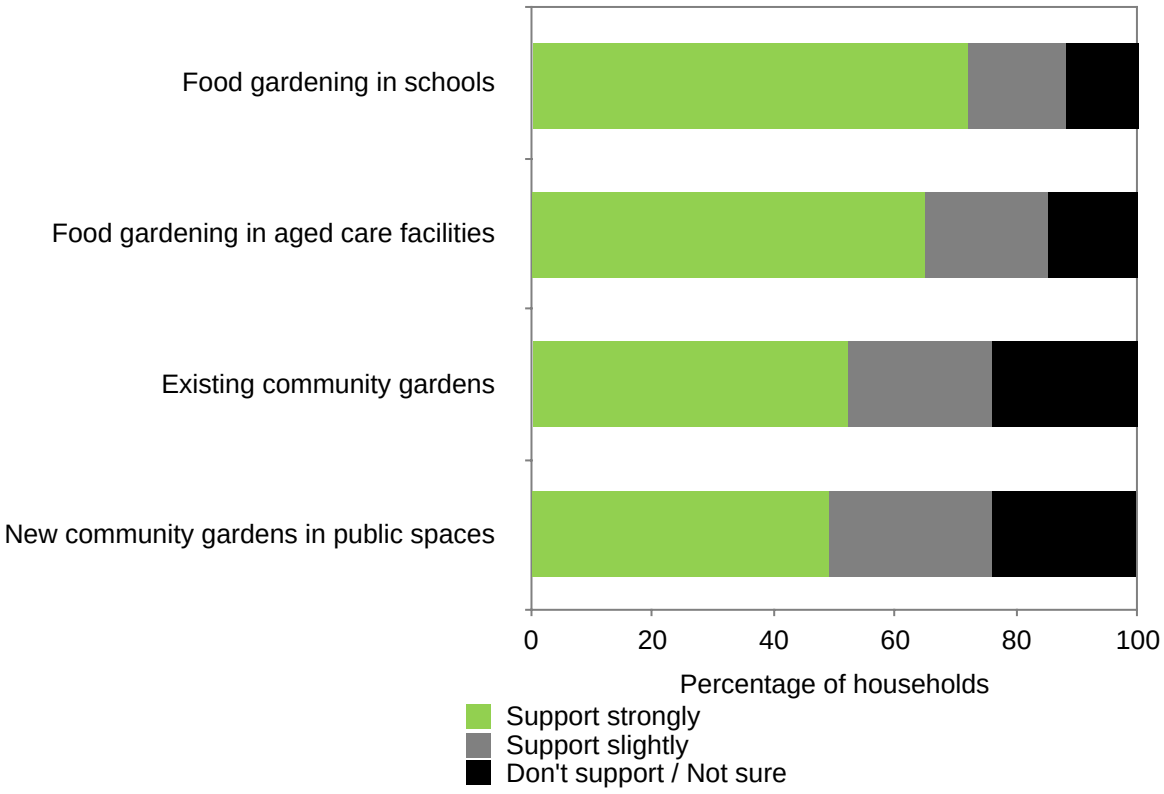
Previous research by The Australia Institute calculated that in 2009 the average household threw away $616 worth of food each year.[21] If 45 per cent of the 4.7 million households growing food are wasting only half as much food as the average, there is an economical benefit of $657 million a year. Reduced food waste also represents environmental benefits from reduced greenhouse gases emitted from food waste sent to landfill.[22] In 2009 $5.2 billion worth of food waste represented 15.9 million tonnes of greenhouse gas emissions. An economic benefit of $657 million a year would therefore equate to a saving of two million tonnes of greenhouse gas emissions.

Potential exists for home and community gardeners to deliver broader environmental benefits. For example, food gardens provide ecosystem services (providing habitats for pollinators, pest regulators, seed dispersers and reducing the heat island effect in urban locations) although this impact has not been fully explored or measured to date.[23]

4. Support for local food production

In order to promote greater levels of local food production as a means to improve wellbeing, increase food security and potentially improve environmental sustainability, it is important to understand not only current practices and attitudes, but also the level of support for a wider adoption of food production in local communities. Figure 4 demonstrates the widespread support for greater local food production among all Australian households.

Figure 4 Support for local food production activities in local communities



Most Australian households strongly support the inclusion of food gardening in schools (72 per cent) and aged care facilities (65 per cent), indicating a healthy level of community acceptance and belief in the benefits of these programs for those involved.

[21] Baker, D, Fear, J & Denniss, R (2009). *What a waste: An analysis of household expenditure on food*.

[22] Baker, D & Denniss, R (2011), "Wasteful Consumption".

[23] Jansson, A (2012). *Reaching for a sustainable, resilient urban future using the lens of ecosystem services*.

Support for programs in schools was particularly strong among households with children aged 11 or under compared to those with older children or no kids, most likely reflecting the positive experiences of young families already involved in or keen to be involved in the wave of school programs in place.

Interestingly, support for school and aged care food gardening initiatives was equally strong among those who currently grow their own food and those who do not, demonstrating the belief in the benefits of food gardening even among those who do not currently grow themselves.

Weaker support exists for both established community gardens (52 per cent) and identifying suitable public space for new community gardens (49 per cent). These relatively weaker levels of support for local food production when they involve public spaces may reflect planning issues in increasingly crowded cities and are a potential barrier to developing strong support for community food production.

Conclusion

Over half (52 per cent) of Australian households are growing some food themselves, predominantly at home, with a further 13 per cent intending to start growing food in the next 12 months. In addition, school gardening programs now capture hundreds of schools nationally and opinion leaders in the field believe the impact of these programs is yet to be realised in terms of local food production. These results indicate the growing potential for local food production in Australia to deliver health and social benefits in the short term as well as potentially lay the foundation for achieving financial savings and environmental improvements in the future.

Despite the increasing popularity of home or community garden food production, the numbers of Australian households growing their own food have remained steady for the past 20 years. The high turnover of participation in food gardening is driving this result, with most food gardeners (57 per cent) having been doing so for five years or less. There is a clear opportunity to address the real and perceived barriers that drive food gardeners to give up producing their own food.

Food insecurity is not currently a major issue for Australians, with less than a fifth (16 per cent) of Australians reporting some form of insecurity. But with a very high proportion of our urban population located in areas likely to experience the substantial impacts of climate change, this situation is likely to alter in the coming years.

> *The urban relocation of food growing, if well managed, could boost certain fresh food supplies while complementing rural crops, in addition to encouraging new urban food-related services, introducing urban food models and change in roles from consumer to producer for citizens. Urban agriculture could also reduce vulnerability to food supply disruptions or extended emergency supply situations by providing diverse sources of perishable food supply*.[24]

Australian food gardeners tend to be driven not by food insecurity but by health, financial concerns and taste. While it is difficult to precisely quantify the benefits of growing your own food, there is evidence that this endeavour positively influences dietary habits and many Australian households attribute exercise and financial rewards with growing their own food.

The key barriers reported in relation to growing your own food are a lack of suitable space and time, although opinion leaders tend to suggest these barriers are perceived rather than real given the ease of growing some low maintenance crops such as herbs and the potential of small space and vertical styles of food gardening.

[24] Edwards, F et al. (2010). *Climate change adaptation at the intersection of food and health*, p. 24.

While environmental concerns were not a key factor in Australian households growing their own food, there is evidence that local food production influences environmental engagement more broadly, potentially creating lasting positive environmental change in terms of reducing food waste and driving preferences for locally produced food.

Based on this research, some directions for policy reform are apparent.

First, the research revealed there is no typical food gardener in Australia. Australians of all ages, genders, education levels and political persuasions are growing their own food. Despite this, home and community garden food production is still viewed as the domain of retirees, first generation migrants or a 'green' affluent minority. If local food production is seen primarily as a hobby of these minorities, then it will not be able to make a more significant contribution to greater food security and urban resilience.

Second, there is an opportunity to harness the current engagement with health and wellbeing among many Australians. In a health-focused society, home and community gardening has a strong story to tell in terms of the potential physical and mental health benefits. Importantly, any communications regarding health benefits need to be directed to all Australians, particularly less affluent Australians currently battling, with the high expense of fruit and vegetables, to maintain healthy lifestyles. Awareness does not, however, equate to action, so any communication will need to be carefully considered in terms of achieving real and lasting behaviour change.

Third, the research evidenced strong community support for food gardening programs in schools and aged care facilities, although there is less support for new and existing community gardens in public spaces. This presents an opportunity to develop, measure and communicate the benefits of sustainable, urban landscapes that challenge traditional notions of Australian city and suburban landscapes.

Finally, while retailers including department stores, supermarkets, garden stores and gift shops enthusiastically promote growing your own food – for example herb pots, tomato plants, sprouters – it is vital that gardeners are provided with ample advice and preparation to promote successful and lasting food gardening behaviours, which extend beyond gardening to reduced food waste and increased awareness of environmental issues related to food production. Behavioural change, which provides economic, environmental and social benefits, is not just good news for food-gardening Australians, but for their families, friends and even the planet.

Appendix A - Method

Comprising a literature review, a discussion group with members of a community garden, two expert interviews and an online survey, this project was designed to explore the current and potential value and impacts of home and community food gardening in Australia. This paper presents findings regarding current rates of home and community food gardening and the motivators and barriers to local food production and outlines the economic, health, social and environmental benefits associated with participation in home and community food gardening.

A review of academic and policy literature was undertaken, focusing on current participation in local food production and the perceived benefits of home and community food gardening in Australia.

A discussion group was conducted with the Woolloomooloo Community Garden on Sunday 28th April. A total of ten current members and three prospective members were involved in the discussion, which was guided by a thematic discussion guide. Two in-depth interviews were conducted between 16th and 18th of May with leaders in the field of local food production (Jess Miller, Project Manager of Grow It Local[25] and Costa Georgiadis, the ABC's Gardening Australia presenter), also guided by a semi-structured discussion guide.

In an online survey, Australians were asked about food they grow and their attitudes and behaviour in relation to food production at home or in a community garden. This paper presents findings about the financial value of household food production as well as the additional non-monetary benefits.

The survey of 1,390 Australians was conducted during May 2013. The households included in the survey were representative of Australian households by size, with roughly even numbers sought in each state and territory to enable meaningful comparison. Sample categories were representative of the number of people living in each house and whether they were related or living in a group/share arrangement.

The survey questions are listed at Appendix B.

[25] Grow It Local is a community organisation aimed at encouraging backyard, balcony, community and window-sill farmers.

Appendix B - Survey questions

The following questions are about the production of food either at home or as part of a community garden. Please think about your whole household when answering.

1.Does your household currently produce any food including fruit, vegetables, herbs, nuts or eggs either at home or at a community garden?

1. Yes, at home
2. Yes, at a community garden
3. Yes, at both home and a community garden
4. No

2.Please indicate the types of food your household produces either at home or in a community garden ... [MARK ALL THAT APPLY]?

1. Fruit
2. Vegetables
3. Herbs
4. Nuts
5. Eggs
6. Other, please specify _____

3.Please select the best description of your MAIN food garden below ...

1. A balcony or container garden
2. A front yard / backyard garden
3. A verge garden
4. A community garden

4.In the last month, please estimate the approximate number of hours your household has spent food gardening (either at home or in a community garden) ...

1. Less than 1 hour
2. 1-10 hours
3. 11-20 hours
4. 21-30 hours
5. More than 30 hours

5.Over the next 12 months, does your household intend to spend more food gardening?

1. Yes
2. No
3. Don't know

Please estimate the total size of your garden dedicated to producing food...

1. Less than 1 square metre

2. 1-5 square metres
3. 6-10 square metres
4. 11-20 square metres
5. More than 20 square metres
6. Don't know

6.Over the next 12 months, does your household intend to increase the size of your garden dedicated to producing food?

1. Yes
2. No
3. Don't know

7.Over the next 12 months, does your household intend to increase the variety of food produced in your garden?

1. Yes
2. No
3. Don't know

8.Thinking about the past 12 months, please estimate the original cost (if purchased through your usual outlets) of the food your garden has produced...

1. Less than $5
2. $6-$20
3. $21-$50
4. $51-$100
5. $101-$250
6. $251-$500
7. More than $500
8. Don't know

9.Thinking about the past 12 months, please estimate your household spend on food gardening including soil, seeds, seedlings, pots, fertilisers and other materials.

1. Less than $5
2. $6-$20
3. $21-$50
4. $51-$100
5. $101-$250
6. $251-$500
7. $501-$1000
8. More than $1000
9. Don't know

10.How long has your household been involved in producing food either at home or through a community garden?

1. Less than 1 year
2. 1-2 years
3. 3-5 years
4. 6-10 years
5. 11-20 years
6. More than 20 years
7. Don't know

11. Thinking about the next 12 months, does your household intend to begin producing any food including fruit, vegetables, herbs, nuts or eggs either at home or at a community garden?
    1. Yes, at home
    2. Yes, at a community garden
    3. Yes, at both home and a community garden
    4. No
    5. Don't know

12. Which of the following describe why you currently produce food, or intend to begin producing food, either at home or through a community garden? [MARK ALL THAT APPLY]
    1. To save money
    2. To produce food that is healthier
    3. To save food miles
    4. Gardening is good exercise
    5. Gardening is good for the mind and the soul
    6. To have a sense of belonging
    7. To make and keep friends
    8. To get in contact with nature
    9. To participate in my local community
    10. To produce food that is tastier
    11. To reduce food waste
    12. To grow foods I can't buy
    13. I don't have space at home
    14. It is better for the environment
    15. To reduce fertiliser / pesticide use
    16. To learn about plants
    17. To spend time with my children/children
    18. None
    19. Other (please specify) _____
    20. Don't know

13. Please indicate how much you agree with the following statements regarding growing your own food ... (don't agree, agree slightly, agree strongly, not sure) [ROTATE ORDER]
    1. It saves me money
    2. It helps me be aware of the seasonality of produce
    3. I use most of my household food scraps on the garden
    4. It gives me a greater appreciation of what it takes to grow fresh produce
    5. It has encouraged me to waste less food in my household
    6. It makes me want to buy more organic food
    7. It makes me want to buy more locally produced food
    8. It makes me think more carefully about where I buy food

14. Which of the following describe what has stopped you producing your own food in the past? [MARK ALL THAT APPLY]
    1. Not enough space / unsuitable space
    2. Too expensive
    3. Not enough time
    4. I wouldn't know what to do
    5. Not interested
    6. Buying food is easier
    7. No community gardens in my area
    8. None
    9. Other (please specify) _____
    10. Don't know

15. Please indicate how much you support the following... (don't support, support slightly, support strongly, not sure) [ROTATE ORDER]
    1. Food gardening programs in schools
    2. Existing community gardens
    3. Identifying public space suitable for new community gardens
    4. Food gardening in aged care facilities
    5. Food gardening as part of school curriculums

16. [SPLIT SAMPLE, ASK OF HALF] Please indicate how much you agree with the following statements... (don't agree, agree slightly, agree strongly, not sure) [ROTATE ORDER]
    1. I am very concerned about climate change
    2. I am very concerned about the amount of food that is wasted in this country
    3. I am very concerned about the amount of food that is wasted in my household
    4. I am very concerned about food security in Australia
    5. I am very concerned about food security globally
    6. I believe food supply where I live could be under major threat in the next five years
    7. Recent rises in the price of foods have changed which foods I regularly purchase

17. [SPLIT SAMPLE, ASK OF REMAINING HALF] Please indicate how much you agree with the following statements... (don't agree, agree slightly, agree strongly, not sure) [ROTATE ORDER]
    1. I am not at all concerned about climate change
    2. I am not at all concerned about the amount of food that is wasted in this country
    3. I am not at all concerned about the amount of food that is wasted in my household
    4. I am not at all concerned about food security in Australia
    5. I am not at all concerned about food security globally
    6. I do not believe food supply where I live will be under major threat in the next five years
    7. Recent rises in the price of foods have not changed which foods I regularly purchase

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