

Agricultural sectors and primary school students find a common ground: building a resilient local food system in rural Tasmania

Stuart Auckland¹, Sandy Murray¹, Caitlin Saunders¹, A King¹, Debbie Reid², Gretchen Long³

¹Centre For Rural Health, TAS; ²Department of Education, TAS; ³Department of Health and Human Services, Tasmanian Health Organisation—North, TAS

Introduction

Dorset is a rural municipality located in North East Tasmania approximately one hour's drive from the regional centre of Launceston. Dorset has a population of 6287 people spread over 40 towns and population centres covering 3,196km squared with a population density of 2.3 people km squared¹. Dorset has experienced social and economic challenges associated with the loss of industries such as forestry and infrastructure such as Simplot, a vegetable processing plant. These social and economic challenges have been further tested in recent years with farmers affected by drought followed by flooding in agricultural areas. 96% of Dorset's population is classified as living in Outer Regional Australia and 4% are classified as living in remote Australia. Dorset has a relatively high level of relative socio-economic disadvantage compared to other regional area and state levels, particularly in the areas of education and occupation with education and occupation being two of the most powerful determinants of health². A recent study undertaken by the Tasmanian Food Access Research Coalition (TFARC) 2011 – 2012 showed Dorset as having many areas classified as food deserts³. Food deserts is a term used to describe a situation in populated areas, usually urban where there is no or limited food outlets stocking nutritious food within walking distance of people's homes or a community. Additionally the study indicated access to food and food knowledge and skills were critical areas of concern for some residents within Dorset. Amongst its findings the TFARC study revealed that food security was a concern at a local level. These critical factors led to the formation of partnerships with the broad agricultural sector and two north east primary schools to explore local food system (LFS) opportunities. Support for local initiatives, appropriate planning and regulatory systems and support for local food systems were all identified by community members as important strategies for supporting food security in Tasmanian communities³. These findings were instrumental in setting the framework for undertaking further research into local food systems in Tasmania. In particular the funding of the Healthy Food Access Tasmanian (HFAT) initiative, from the Australian Government's Department of Health through Tasmania Medicare Local, that has a strong focus on researching opportunities for establishing viable local food systems in the fruit and vegetable growing regions of Tasmania.

This paper concerns itself with the engagement of local food systems from two distinct perspectives; the first, namely the Local Food Supply (LFS) project, which focuses on the broader industry and institutional responses to the establishment of local food systems and the second, Mulching Munchkins agricultural school program, an example of a communities response to fostering a local food system ethos within primary schools in a Local Government Area in rural Tasmania.

Local Food Systems

Local Food Supply systems (LFSs) provide opportunities for communities to reconnect to their food, people and the natural environment. Community interest in LFSs is increasing as awareness of the challenges of food insecurity, as a social determinant of health, intensifies. LFSs are widely regarded as playing a crucial role in strengthening the local economy through creation of additional employment opportunities as well stimulating local business already in existence through local spending. The extent to which LFSs impact on the social, economic and cultural landscape are largely dependent on how LFSs are defined.

Accepting a singular definition of LFSs that is accepted by food producers, marketers and consumers is problematic as it is dependent on the measure or descriptor used to define local. Aside from the geographic descriptor of local food relating to the distance between where food is produced and where it is consumed, local food can also be conceptualised in terms of scale, provenance, and social and supply chain characteristics⁵. For the purposes of the LFS project, the term local food was interpreted from a geographic perspective; specifically the project considered any produce grown in the target study area as local food.

Local Food Systems Project

The LFS project was developed as part of the broader HFAT initiative. As an integral component of the HFAT initiative the LFS project aimed to build a picture of LFS, preferably locally grown fresh fruit and vegetables, from producer to wholesaler/distributors, in the three main growing regions of Tasmania, namely the northwest, northeast and southern regions. The three growing regions comprise 13 Tasmanian local government areas (LGAs).

Through the application of a qualitative inquiry approach the LFS Project sought to acquire information that would inform local solutions to building improved access by local communities to fresh fruit and vegetables. Specifically the LFS Project aimed to:

- Map stakeholders, programs, policies and other activities including the foods grown across local government areas and regions which support making healthy choices easy choices.
- Inform the creation of a resource for future monitoring and surveillance of food access in Tasmanian Communities and a guide to community planning to address health risks.

Central to this approach was the identification of key informants whose knowledge of the production and supply chain of locally grown fruit and vegetables could help to better understand the factors, including enablers and barriers, that may influence what produce is available to local communities. This information would also inform pathways to improved access through identifying local food systems that best reflect the needs of the stakeholders at different points of the supply chain.

Over a period of three months the LFS Project research team conducted over 60 semi-structured interviews from representatives of the following stakeholder groups:

- commercial sector/consultants/state government/academia
- fruit and vegetable producers
- local council employees
- peak grower organisations
- wholesalers/processors.

Participants were asked questions relating to their experience, knowledge, perceptions and attitudes toward production and supply of local fresh fruit and vegetables in Tasmania.

All the interview data was recorded, transcribed and coded. A thematic analysis was conducted to identify patterns (or "themes") or trends within data. A number of overarching themes were identified as primary influencing factors on the design, scale and operation of local food supply/distribution systems. These themes included;

- relationships
- education
- economic sustainability
- economies of scale
- value-adding
- second grade produce and food wastage issues
- food Tourism
- economies of scale
- accessibility
- transport and logistics.

A number of these primary influencing factors on the design, scale and operation of local food supply/distribution systems are closely aligned with some of the guiding principles adopted by the Mulching Munchkins initiative. The Mulching Munchkins program has adopted a collective impact framework with commitment from multiple organisations such as teachers, students, families at local school, community volunteers, the Tasmanian Farmers and Graziers Association (TFGA), Agricultural specialists, Community Nutritionist and the local Primary Health Team to work together for a common agenda. The importance of collaboration was a key finding in the LFS project where the degree of inclusiveness and the processes adopted to determine who is involved in the collaboration was widely regarded as a critical success factor in the development of local food systems.

Similarly the role of education was identified by all LFS project interview participants as one of the key building blocks of effective local food systems. The role of primary and secondary schools was highlighted as vitally important in not only improving **food literacy** but also **local food systems literacy**. Through its engagement with the farming community, peak agricultural bodies and other agricultural stakeholders Mulching Munchkins is educating students on the added dimensions of food production, supply and distribution. Critical elements of sustainable local food systems.

Mulching Munchkins Program

The ultimate aim of Mulching Munchkins was to adopt a LFS approach to food insecurity through development of an agricultural primary school program in the two rural towns of Ringarooma and Bridport, in the Dorset Local Government Area, North East Tasmania. The localities of Ringarooma and Bridport are geographically situated to capture families at risk of food insecurity; not only do they draw students from their immediate environment, both schools draw from the more remote population centres within the municipality. Dorset is a community based on agriculture; a program that would inform people about the breadth of the agriculture industry and reconnect the future generation with farming and food origins was considered critical to food and farming future.

The township of Ringarooma is surrounded by diverse farms including dairy, beef and mixed vegetables. Ringarooma primary school has 86 students. The goal of 'Mulching Munchkins' in Ringarooma primary school was twofold; development of the garden to a level of production which will in part support the Ringarooma community to provide seasonal vegetables and fruit to the local children and their families, coupled with introducing children to the origins of food through active participation in agricultural activities such as crop growing and harvesting. Expanding the curricula to include participation in agricultural activities added value to student and teacher learning.

Bridport is coastal however within 5 kms of the town centre there are many diverse farms including potato, beef, dairy, venison and sheep. Bridport primary school has 135 students. The primary goal of Mulching Munchkins in Bridport was to expose students to a range of career options within the food and agriculture system; thus the prime purpose of the garden beds was a tool for learning about food systems and process through combining theoretical and practical activities relating to soil preparation, mulching, composting, fertilising, food processing, food transport and food miles.

The Food for all Tasmanians grant program (2012) enabled Mulching Munchkins to be established to a sustainable level. Importantly, reliable infrastructure such as rain bank water systems was considered essential. Through the consultation process key stakeholders and partners were identified and a committee was formed. The committee adopted aspects of a collective impact framework⁶, emphasising the essentiality of government and non-government sectors commitment to an agenda that enabled development and coordination of differentiated activities, to achieve a common goal. Mulching Munchkins generated local involvement and interest whereas imposing a 'national one size fits all solution' may not. It is not the intent of the schools to develop gardens to be the main source of food for their communities; however they are an excellent platform to begin learning the process of food origins. Critical to embedding the program across K – 6 was the development of objectives that linked with the Australian curriculum, specifically in the areas of maths, science, literacy and history. This type of learning is sustainable as the knowledge gained will become entrenched, influencing potential change in attitudes that will stay with students long after they have left school, resulting in an overall increase and resilience and the capacity building of these communities to think of and engage in LFS to be food secure.

Student pathways and Learning Linkages

Grade 5/6 Bridport Primary students participated collaboratively in the Mulching Munchkins program. Collectively they completed a unit of work based around soil preparation including the use of fertilisers, crop growing and harvesting through to the final stage of farmgate or supermarket sales. This supported the development of a deeper understanding of sustainability of the food basin in the North East. The National Curriculum for biological sciences was the starting point for student learning, and the ongoing development of this unit of work.

The agricultural and farm specialists involved with food production and supply in the North East were engaging and became wonderful knowledge sources for a richer understanding of crop growing and food source. The students were able to communicate on a multifaceted level more than what was possible with teacher only input. This phenomenon of specialists offering students this rich level of understanding has been pinpointed within the Education Department as being critical to student learning as teachers in primary schools cannot be highly skilled in all areas of the science curriculum. Hence the collaborative nature of this project has been highly successful on many levels.

Conclusion/public policy recommendations

There are several central learnings that emerge; with the issue of food security gaining momentum a sophisticated understanding of LFS is essential to guide community driven initiatives. Adopting a collective impact approach links the school curricula with the agriculture sector and enables action on the root cause of not only food security but health inequities overall. It will also improve health for people who are commonly referred to as 'hard to reach' as well as fostering sustainable and viable production of fruit and vegetables. The findings from both projects support a policy framework based on LFS mechanisms. Applying these findings in future public policy would be advantageous as the findings are directly applicable to public health and health equity.

References

1. ABS. (2012). Average Weekly Earnings, Australia, Feb 2012 – TABLE 11F. Average Weekly Earnings, Tasmania (Dollars) – Trend. Cat no 6302.0. Retrieved 18th June 2012 from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6302.0Feb%202012?OpenDocument>
2. DHHS. (2009). Department of Health and Human Services – Service and Community Profile: Dorset Local Government Area Profile Retrieved 30 August, 2010, from http://www.dhhs.tas.gov.au/_data/assets/pdf_file/0018/48222/2009_Dorset_LGA_profile.pdf
3. Le Q, Murray S, Long G et al. 2013. Tasmanian food access research coalition TFARC: research report: Tasmanian Food Access Research Coalition, Hobart.
4. Larsen K, Gilliland J. Mapping the evolution of 'food deserts' in a Canadian city: Supermarket accessibility in London, Ontario, 1961-2005. International Journal of Health Geographic's, 2008; 7, -. doi: Artn 16
5. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2010. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.
6. Kania J, Kramer M. Collective Impact. Stanford Social Innovation Review Winter 2011; 36-41.

Presenters

Stuart Auckland is the Program Coordinator for the Community Health Development Program Area at the Centre for Rural Health at the University of Tasmania. Stuart holds a Bachelor of Agribusiness Degree and a Master of Applied Science in Rural Community Development. Prior to working in Rural Health Stuart was employed in the agricultural and natural resource management sector. Stuart has extensive experience in rural community development and is involved in a number of food security action research and evaluation initiatives. The scope of his food security research work ranges from small scale community projects to larger scale multi sectoral initiatives. Stuart also has a strong interest in rural health partnership models and community based governance structures.

Debbie Reid is a Grade 5/6 teacher at Bridport Primary School, in the North East of Tasmania. Debbie holds a Bachelor of Education Degree and has a heart for working extensively within her community. Prior to working in education, Debbie worked as an Interior Designer, and gradually made links through her creative skills, and her passion for student learning, by engaging classes in extra-curricular activities in Bridport. Once her degree was in hand, Debbie pursued her passion for student links within the community. With the demands of the Science area of the Australian Curriculum, Debbie found it invaluable for her classes to make links with the local farming area and health and nutrition sectors, seeking applicable opportunities and projects. This has led further to Debbie making a rural health partnership, and engaging students in learning about food supply from the ground up. As well, Debbie has ensured that students become aware of the sustainability of food in their rural area.