



Regional Principles of Food Security – Project Report

Project Workers

Caitlin Sanders
Elissa Elissa
Karen Szeto
Karyn Chea

Project Supervisors

Laura Newstead
Kelly Naughton
Claire Palermo



Table of Contents

..... 0

Abstract 1

Introduction 1

Methods 2

Results 0

Discussion..... 0

Strengths and Limitations 4

Recommendations for the future 5

Conclusion 5

Appendix I: Literature Review..... 6

Appendix II: Case Study Analysis..... 26

Abstract

Background: A need was recognised to develop a document for: advocating for food security and guiding development and implementation of best practice programs. This need was identified through research that highlighted the Outer East Melbourne Region (OEMR) had a high risk of food insecurity. (1) 'Food security' is defined as 'when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life'. (4) Five Regional Food Principles (RFP) were developed to guide practice and support advocacy in this area. This document aims to explore the literature, and test the application of the RFP by comparing them to current programs in the OEMR.

Methods: A literature search was completed on four databases and results were analysed. Additionally, interviews were conducted to explore programs running in the OEMR. These results were then compared to each principle, to determine if local programs aligned with the principles.


Results: The literature supported the principles, and the case studies demonstrated that some principles were done well, however others can be improved.

Conclusion: The literature supported the principles and provided evidence that the RFP should be used as a basis when planning actions to address food insecurity. Overall, principle one, three and five were addressed well, and programs incorporated many different strategies, which aligned with these principles. However the case studies did demonstrate a lack of implementation around principles two and four, which may be due to difficulty in evaluation of food insecurity.

Introduction

NOURISH is a group of partners that was established in 2008 and was developed to collectively target food related issues. These partner organisations joined to adopt a more coordinated approach to tackling food related issues, to share resources, and align current intervention efforts for a larger impact.

NOURISH recognised a need to develop a document that could be used to advocate for food security and as a resource for partners to develop and implement best practice programs and strategies. This need was identified through research that highlighted the Outer East Melbourne Region (OEMR) had a high risk of food insecurity. (1) 'Food security' is defined by the United Nation's Food and Agriculture Organization as 'when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life' (2). Put more simply, every member in the community has easy access to adequate, affordable, culturally acceptable, nutritious



food on a continual basis. Thus, food insecurity is when one or all of these factors are missing for an individual or community. Food insecurity is strongly linked with decreased mental and physical health (3, 4).

To tackle food insecurity in the region, NOURISH developed a set of five Regional Food Principles (RFP) which can be used to guide best practice and support advocacy in this area. These principles were developed because a more adaptive and integrated approach can help to resolve the issue.

These five RFP are:

1. Action needs to be underpinned by an understanding that food is a human right.
2. Action needs to address environmental and economic sustainability.
3. Action needs to be based on collaborative and cross sectoral approaches.
4. Action needs to be based on the best available evidence and incorporate evaluation.
5. Action needs to be long term and sustainable.

The purpose of this project was to create supporting documents for these RFP. These supporting documents are a supplement to the two page paper developed by NOURISH around the 5 RFP, and should be used to raise awareness of food insecurity as an issue that needs attention and prevent funding cuts to current and future food security programs.


Creating these documents involved conducting a literature review around the evidence that supported the five RFP, as well as exploring current local programs within the OEMR region and developing case studies that analysed how they fit in with the RFP. The project ran for a total of eight weeks (21st of March - 18th of May 2016). The project is of significance as it will help strengthen the work addressing food insecurity and ensure better health outcomes for everyone in the OEMR.

Methods

Literature Review: Key terms were identified and allocated for each principle. Four databases were used to identify relevant papers (Cinahl, Cochrane, PubMed, Scopus). Key themes were identified from the literature and analysed for each principle. This process was done within the first three weeks.

Case studies: A set of eight questions and an extraction template were prepared for the case studies. Supervisors provided contact details of key contacts to conduct interviews for case studies. Emails were

25168428, 24865559, 22053506, 25143026



used to contact and set an agreed meeting date for each interview. Background research was conducted prior to each interview and used to tailor questions more appropriately for each case study. Interviews were conducted on four programs that run within the outer east region between weeks 3-8. Within the 24 hours of each interview, data was transferred to the extraction template.

Results

Notes: Please see appendix 1 and 2 for both the full literature review and case study analysis

Table 1: Themes identified for each Principle throughout the literature

Principles	Key Themes
Principle 1	<ul style="list-style-type: none"> • A better understanding of human rights and the right to food • Address social determinants and create supportive environments • Promote government accountability • Focus on the vulnerable community and address inequalities • Emphasises the importance and role of food and nutrition in health
Principle 2	<ul style="list-style-type: none"> • Consider environmental sustainability in designing programs • Look at the impacts of climate change • Consider land degradation, resource use, water and biodiversity of food consumption patterns • Make use of land and space available. • Consider food waste and compost • Suitability of program to environment • Social and food environment factors
Principle 3	<p><u>Communication</u></p> <ul style="list-style-type: none"> • Clarity of aims, objectives, goals, responsibilities • Understanding about what each partner brings to the partnership eg. Resources • Clear division of responsibility and communication of progress • Informal and formal modes of communication • Continuous feedback • Communication between general public, researchers and decision makers <p><u>Stakeholders and collaboration</u></p> <ul style="list-style-type: none"> • Involvement of general public, government and non-government organisations, researchers and

	<p>private institutions</p> <ul style="list-style-type: none"> • Sharing resources, funding, research and staff • Use of influential or powerful stakeholders • Conflict resolution techniques • Identifying organisations core values and interests, natural leaders/champions and potential problems • Assessing power dynamics • Mutual accountability, transparency and trust <p><u>Environment</u></p> <ul style="list-style-type: none"> • Powerful stakeholder and/or catalyst for action • Supportive or a barrier to communication • Funding • Political agendas
Principle 4	<ul style="list-style-type: none"> • Increased evidence base around effective strategies • Use evidence and knowledge of previous and current food security programs. • Use evaluation and feedback tools • Monitor project impacts and determine outcomes • Address the root causes of food insecurity • Monitor environmental factors, changes in community and food insecurity rates
Principle 5	<ul style="list-style-type: none"> • Focus on long term projects that improve health over time • Empowering individuals and community and build capacity to improve their own health • Have clear goals and vision to work towards • Collaborate and engage with stakeholders • Improve or “piggyback” off existing programs and resources

Table 2: Case Study Backgrounds

Program	Location	Setting & Approach	Description	Key stakeholders	Outcomes
Gardens for Harvest	Knox	Community based – Upstream	Program aims to build knowledge and skills around growing fruits and vegetables. Participants attend numerous workshops and also receive information and resources about gardening.	<ul style="list-style-type: none"> Kevin Gregg-Rowan (Program Coordinator at Healthy together Knox) Sustainability team Knox City Council Public health workers (dietetic background) 	<ul style="list-style-type: none"> Increase in the production of home grown fruit and vegetables in the Knox community Positive impacts on food miles and food wastage
Koha Community Cafe	Yarra Junction	Community based – Midstream	Café is open every Thursday night and provides meals to community members. The café welcomes everyone and people pay what they can afford (donation box).	<ul style="list-style-type: none"> Suyin Chan (café founder) Bendigo bank Volunteers Council 	<ul style="list-style-type: none"> Providing families with meals Equipping volunteers with work experience to get their own jobs Supported community members during crisis Establishing Koha Catering
Bush Tucker Program	Healesville	Community based – Mid-Upstream	Course teaches the community members about their culture and preserving native bush land. Explores the nutritional value of Bush foods and aims to increase knowledge and awareness around healthy and culturally appropriate food.	<ul style="list-style-type: none"> Anne Jenkins (executive officer at HICSA) INSPIRO Yarra Ranges council Ron Barrow (course facilitator) Knox Community social health The local community 	<ul style="list-style-type: none"> Development and publication of “bush tucker food” book. Increased confidence of participants to acknowledge and learn about their native culture and language
Crunch and Munch Lunch-box	Yarra Ranges	School based – Mid-upstream	Program aims to improve healthy eating in children by addressing the eating	<ul style="list-style-type: none"> Raini Nailer Dietetic Staff from Eastern Health 	<ul style="list-style-type: none"> Increased awareness of nutrition and discussion of foods between students,

25168428, 24865559, 22053506, 25143026

Program			culture and ideas around food and the school environment. Activities address food literacy amongst children and parents and aims to make healthy eating fun and enjoyable.	<ul style="list-style-type: none">• Parents, students and staff from Healesville Primary School, Warburton Primary School, Woori Yallock Primary School and Redwood Centre.	teachers and parents <ul style="list-style-type: none">• Implementation of healthy food policies in schools
---------	--	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------

Summary of how Individual programs addressed the Regional Food Principles

Table 3.1 Gardens for Harvest

Principle	Ways the Program addressed the Principle
Food is a Human Right	<ul style="list-style-type: none"> • Engaged with the community to identify their needs and determine what they wanted. • Increased food access by equipping participants with skills and knowledge to provide nutritious food for themselves • Addresses physical barriers to food access • Had a focus on those most in need e.g.. Those without cars and not much money for food (lower SES)
Environment and Economic sustainability	<ul style="list-style-type: none"> • Assessed space availability • Reduced food miles and global footprint • Maximised the recycling of resources produced from the program e.g. Waste management through compost program
Collaboration and partnerships	<ul style="list-style-type: none"> • Partnered with Knox city Council sustainable futures team • Commissioned researchers and used experts and had a clear allocation of responsibilities • Regularly engaged with the community throughout the process • Had clear goals, aims and objectives identified and negotiated with stakeholders to come to a consensus • Identified champions and natural leaders • Shared resources and manpower with partners • Used multiple forms of communication e.g. Social media, pamphlets, WOM, booths
Evaluation and evidence based practice	<ul style="list-style-type: none"> • Collected feedback from participants to inform future practice • Aims to develop the evidence around growing things locally • Used online surveys to assess outcomes and effectiveness of program • Received feedback from community both formally and informally, e.g. Surveys and social media
Long term and Sustainability	<ul style="list-style-type: none"> • Aims to build skills and knowledge around growing fresh fruits and vegetables • Considered the environment and used long term planning • Partnered with organisations that could continue work after the funding was cut • Engaged and empowered the community to improve their own health • Piggy backed of other programs- e.g. using the reputation of successful programs like the Gardens for wildlife

Table 3.2 Koha Community Cafe

Principle	Ways the Program addressed the Principle
Food is a human right	<ul style="list-style-type: none"> • Reinforces that everyone should be able to enjoy a good nutritious meal in a dignified manner • Engages with the vulnerable and focuses on the socially, economically disadvantaged • Empowers the community by promoting inclusion and community connectedness • Builds capacity by equipping volunteers with basic skills and knowledge
Environment and economic sustainability	<ul style="list-style-type: none"> • No food gets wasted – leftovers are packaged and given to volunteers and scraps are put in compost. • All meals are made using foods received from gardens and second bite – • Makes use of seasonal produce • Provides only vegetarian meals, which is more environmentally friendly.
Collaboration and partnerships	<ul style="list-style-type: none"> • Worked with Bendigo bank who provided the funds • Worked closely with community members and held fundraisers to keep the café open • Provided meals for the CFA to help get them on board. • Constantly keeps the community and partners informed and updated. • Uses social media and word of mouth to advertise the cafe
Evaluation and evidence based practice	<ul style="list-style-type: none"> • Staff and volunteers receive regular verbal feedback from the community • Surveyed the community prior to opening the cafe to determine whether or not people were in favour of the idea • Café is based on the “lentil as anything” concept
Long term and Sustainability	<ul style="list-style-type: none"> • Established Koha catering to earn income and keep the café running • Held fundraisers and ran a school canteen for a period of time • Created a cookbook and sold it to raise money • Showed community how to grow their own fruit and vegetables and how to make jam. • Focuses on developing new ways to make the café sustainable and keep it open

Table 3.3 Bush Tucker Program

Principle	Ways the Program addressed the Principle
Food is a Human Right	<ul style="list-style-type: none"> • Empower and improve the health outcomes of Aboriginal people • Based on community needs to preserve local history and indigenous knowledge • Improve food access and utilisation by increasing knowledge and skills around culturally appropriate foods
Environment and Economic sustainability	<ul style="list-style-type: none"> • Grow their own plants instead of taking from the wild • Teaches community about local plants to increase knowledge and respect for the environment • Looks at what flora and fauna are in the local area and determines what can be grown
Collaboration and partnerships	<ul style="list-style-type: none"> • Close partnership with INSPIRO • Heavily Involves the community • Partners with Yarra ranges council • Partners with Healesville living and learning centre • Uses informal and formal communication in the form of meetings emails, website and word of mouth • Program is advertised online and by word of mouth
Evaluation and evidence based practice	<ul style="list-style-type: none"> • Receives feedback from participants and uses it to inform the direction of the program • Annual evaluation reports are completed by HICSA • Program is based around a concept of the backyard being like a supermarket and using what is readily available to them
Long term and Sustainability	<ul style="list-style-type: none"> • Aims to build skills and knowledge around bush tucker foods. • Teaches participants how to grow and cook their own plants. • Participants learn about lost culture so they can pass on the knowledge • Program is driven by what the community wants which helps to enhance the longevity of the program.

Table 3.4 Crunch and Munch School Lunch-box Program

Principle	Ways the Program addressed the Principle
Food is a human right	<ul style="list-style-type: none"> • Acknowledges the importance of access to high quality nutritious foods that are beneficial to health • Program is tailored to issues identified in the school and activities aim to build capacity to create healthier environments for students • Addresses issues both in the home and school environment that influence eating culture • Involving parents and teachers by acknowledging the role they have on children's access to food
Environment and economic sustainability	<ul style="list-style-type: none"> • Makes use of school gardens and helps make the connection between the gardens and the kitchen • Aims to improve the physical environment in the school that influences food choices such as canteens. • Tries to get children into the school gardens and develops activities that can be done all year round.
Collaboration and partnerships	<ul style="list-style-type: none"> • Works with Dietetic staff from Eastern Health • Worked with Healthy Eating Advisory Service staff from Nutrition Australia • Formed a new partnership with Inspiro • Worked with parents, teachers and students throughout the program
Evaluation and evidence based practice	<ul style="list-style-type: none"> • Based on evidence around development of eating behaviours early in life. • Collects feedback from Parents through surveys, Interview and meetings • Lunchbox auditing (pre and post program) • Environmental auditing • Final report at the completion of the program
Long term and Sustainability	<ul style="list-style-type: none"> • Aims to build capacity amongst children • Lessons about healthy food • Information sessions for parents • Cooking and gardening activities to build knowledge and skills • Program is tailored according to school needs • Development of sustainability project for each school

Discussion


Principle 1

The literature suggests that food as a human right and the concept of the right to food has not been well understood, which may have been a reason why this has not been addressed as a priority. Therefore this principle is relevant as it emphasises the importance of fulfilling people's right to a minimum standard of living and the highest attainable standard of health. Fulfilling the right to food means creating enabling environments that strengthen people's access to food, and includes understanding political, social and economic determinants that can be addressed or altered to improve people's opportunities to provide food for themselves. All of the programs analysed employed strategies to improve access to healthy food in the community. The literature shows that by addressing these determinants, programs can target the root causes of food insecurity and improve health outcomes. A human rights approach also fosters human development and focuses on building the capacity of people to meet their own needs. Many of the programs focused on skill development which encouraged individuals to take an active role in providing food for themselves. Future programs should continue to empower individuals as it encourages self-reliance and improves food access in a dignified manner.

The evidence also emphasises that programs need to focus on the vulnerable and aim to address inequalities that exist. It highlighted that a way of incorporating this in practice involves engaging with and encouraging participation of those disadvantaged in the community. The programs analysed were very inclusive and aimed to target those with an increased risk of food insecurity. The active engagement and participation of the community in the planning and development process of programs was also evident, which helped to increase effectiveness as they understood and addressed the community's needs. Finally, acknowledging the role food has on an individual's health is fundamental to understanding why food is a human right. It was evident from the case studies that even without the formal acknowledgement that they addressed food as a human right, programs were already addressing elements of the principle.

Principle 2


Evidence from the literature pointed to the importance of environmental factors in tackling food insecurity. There is a two-way relationship between food security and environment. Global warming and climate change have enormous effects on food security as it can threaten food production and provision. On the other hand, intensive agricultural practices have been shown to be detrimental to the environment, and thus should be avoided. From the case studies, this was achieved by the programs through using local



and seasonal produce and refraining from detrimental agricultural practices. This is good as it not only tackles food security issues, but also ensures that they refrain from damaging future agriculture. In addition to intensive agricultural practices, food waste is another aspect of food production that needs to be addressed as they contribute to the emission of greenhouse gasses and the loss of useful resources and water. One of the ways of addressing food waste that was mentioned in the literature was composting, which was put into practice by some of the programs. This is a great way to use what would be a waste of money, ensuring economical sustainability of the programs. The literature also pointed to the social and food environment and their influence on food security issues. Approaches in tackling this area were done in a more varied way, as they were more specific to the nature and location of each program. Supportive food environments, such as infrastructure that enables easier access to healthy food, can help to promote food security in the community. This can be seen through the programs that incorporated transport systems or food access and policies on food provision. Considering the food environment, such as access to supermarkets, can be helpful when designing programs. This will allow for programs to be tailored according to the need of the population and ensure that program will be accepted by the community and sustainable in the long term. Finally, social environment is important as it can influence dynamics between stakeholders and act as a medium in creating supportive environment that promote positive communication. On the other hand, it can also act as a barrier as well, which should be addressed. One example from the case study is when certain groups started to form at dinner time, the staff rearranged the seating to change the dynamics of the groups. These examples show that the programs were already taking into consideration environmental factors when designing and implementing programs. This practice needs to be continued and included in planning and implementing of any programs or policies. For future practices, evaluation of the impact these factors on the success and environmental sustainability should be done. This will be a valuable resource in advocating for the inclusion of this principle when planning and implementing a program.

Principle 3

Principle 3 encompasses the utilization of collaboration between different sectors and organisations. This principle was shown to be strongly supported in the literature, and is already incorporated into many programs, not only in the public health forum but also in other sectors as well. Through the literature it is observed that the principle can be split into three major themes; Communication, Stakeholder Collaboration, and Environment. Local programs addressing food insecurity in the area were also observed to follow at least one aspect of this principle, and more often than not most aspects. Engagement with the local community, and identification of local champions and natural leaders were




things that all the programs were strong in. This is beneficial as it increases the sustainability of the program and builds capacity in the local community. It empowers the local community to have a voice and tailor the program to meet their own needs, as well as enabling community members to develop the skills required to run the program in the future and take on a leadership role. Doing this means that the program is more likely to be effective, more likely to become fully sustainable, and creates a sense of pride and ownership of the program in the community.

Similarly all programs were strong in keeping stakeholders up to date with where the program was at. This is positive as by keeping stakeholders up to date they were then more equipped to jump straight in when they were needed. Although all programs had a division of responsibilities between partners, this was not always as clear cut in the smaller programs, and some did not have a great deal of clarity between partners around their aims, objectives and goals. Due to this smaller programs sometimes had a lack of direction, which could lead to them becoming less effective or efficient, however it also made them more flexible and adaptive to what the community asks for, which can also be beneficial. The smaller programs were flexible enough to quickly change aspects of their program relatively easily as they had no structured plan to follow and the network involved was small enough to collaborative with quickly. However having no aim or structured plan for large programs is detrimental as a larger network is involved and communication is more difficult.

Communication was something that varied between programs a lot, with larger programs such as Gardens for Harvest utilizing many different methods of communication, and smaller programs such as Koha Community Cafe using few. This could be put down to a difference in funding, with larger programs having more funds to allocate to communication, such as the development of pamphlets or running a booth at a local festival, whereas smaller programs are often not as well funded and therefore have less to spend. This may also account for the reason why smaller programs tended to favour cheaper methods of communication, such as email, social media and word of mouth. Despite this all programs included a few different methods of communication, and this was observed to be the most effective way to engage a larger proportion of the population.

Principle 4


The results of the literature review and case studies showed that evaluation of programs needs improvement and the evidence suggest that this is due to limited funding and resources, and difficulties in measuring food security. As a result there is limited evidence demonstrating the effectiveness of many food security programs. To improve this, future programs need to incorporate evaluation into the



planning process. Whilst this may mean dedicating more time and resources to determine what variables to measure and the methods and tools to use, it is necessary in order to ensure all impacts and outcomes of projects get documented. Having a monitoring system in place and a clear goal of what the program aims to achieve from the very beginning can assist with the organisation and collection of data. Collaboration with other key stakeholders can contribute ideas and resources, which can also help with more effective evaluation. Monitoring should also be ongoing and evaluation should be done throughout the entire duration of programs. A number of programs received regular informal feedback however this was often not documented and again highlights the need for more formal evaluation plans. The literature suggests that important components to monitor include environmental factors, changes in the community, food insecurity rates and negative impacts however numerous programs tended to focus solely on community impacts such as feedback from participants, as opposed to the other aspects. Regular monitoring can help keep stakeholders up to date and allows for changes to be made if things are not working as expected. This is important because the environment is always changing and programs need to make sure they are continuously evolving to accommodate the changes, and prevent work from reaching a plateau. Finally, it is important to record all outcomes, both positive and negative; to prevent the same mistakes being made. This will enable organisations to look back at what has worked well and what has not in a range of different settings. Having this information available can strengthen the evidence around food security work and encourage organisations to be creative and build on what is known to be effective instead of using trial and error when designing programs.

Principle 5

It was evident in the literature that previous food security work has largely involved short-term programs that provided assistance rather than a solution, and consequently food security programs often lacked support from both stakeholders and the community. It was good to see that the programs analysed were thinking long-term and all incorporated some form of capacity building into their program. It is important to keep this up and continue to have sustainability at the forefront of planning and develop ways to target the underlying causes of food insecurity to improve the health of the community over time. The case studies showed that there are many different ways to address sustainability as some programs focused on generating funds to keep the program running, whilst others focused more on environmental sustainability and community empowerment. The literature suggests that sustainable programs need to not only build capacity but also include collaboration and advocacy whilst using evidence-based approaches to target key issues. Engaging with the community can help to determine the root causes of food security and in turn assist with tailoring approaches to meet the needs of the community. Doing this



will ensure programs are appropriate and relevant to the target population. Collaborating with stakeholders and sharing resources can increase longevity of programs by maximising knowledge and resources available. This is where effective communication and a clear vision become particularly important, as it will ensure everyone is on the same page and working towards a common goal. Exploring existing programs and brainstorming ideas to build on past work can increase participation and support from the community especially if they are familiar with the programs.

Lastly, the literature showed how adopting aspects of the other principles contributes to the sustainability of programs, thereby demonstrating the interrelationship and relevance of the principles. Taking time to plan programs and ensure that all principles are addressed will help to enhance sustainability and decrease early termination of programs during times of turmoil. Having a clear goal of exactly what the program aims to achieve is important when applying for funding and engaging the stakeholders and the community. Creating sustainable long-term programs with long lasting effects is needed to help tackle the issue of food insecurity.

Strengths and Limitations


Strengths

All the case study interview questions were tailored according to the findings of the literature review, and were developed specifically for that particular program. This allowed a more thorough exploration of how each program met each principle and what they were strong in. Additionally, it also helped identify areas that could be improved and how and why it could be improved. Moreover, throughout the project the researchers worked closely with stakeholders. This enabled easy access to resources and facilitated a trusting relationship, which allowed a more in-depth view of the programs.

Limitations

One of the major limitations of this project was the limited scope of the case studies. Unfortunately due to the limited time frame of the project and busy nature of the public health workplace, it was only possible to include four case studies, which may not be a true representation of all food security work done in outer east region.

Another limitation to the project was the subjective nature of the literature review. The selection of papers included in the literature review was up to the discretion of the researchers, which may have



created a bias in the review. In addition to this some principles were highly open to the reader's interpretation, for example principle 2, where it is unclear if the principle is referring to the physical environment, such as trees, land and irrigation, or the social and food environment, which may have impacted on the results of the literature review.

Recommendations for the future

It is recommended that the principles be reviewed and altered to be less subjective, which could improve the accuracy of the literature review. Similarly, it is recommended that if this research was to be conducted again in the future, a more systematic approach to be undertaken to reduce the incidence of bias and provide a more accurate conclusion. In addition a more representative sample of the OEMR could be collected for the case studies, involving a wide range of different programs from all areas of the OEMR, which would give a more representative analysis of how programs in the OEMR are aligning with the RFP.

Conclusion

The literature supports the components outlined by the principles and provides evidence that the RFP should be used as a basis when planning actions to address food insecurity. It supports the importance of food as a human right when planning policies and interventions, as social, political and economic determinants all influence access to food. Similarly, the physical, social and food environment have an impact on food security, and is a vital component in planning. By incorporating collaboration and communication between stakeholders and targeting the root causes of food insecurity, this will grow the capacity in the local community and create sustainable change. Continuous evaluation is also an important aspect as this strengthens the evidence around food security work and increase successful outcomes. Throughout the evidence, all five principles are interrelated, and therefore addressing all principles during both planning and implementation will create more successful food security programs in the future. Principle 1, 3 and 5 were addressed well by the case studies and programs incorporated many different strategies, which aligned with these principles. Programs addressed principle 2 by considering the environment when designing programs, however due to lack of evaluation (Principle 4), the benefits of doing so were sometimes unclear. Overall the case studies highlight the practicality and relevance of the principles at a more local level and demonstrate the different ways in which they can, and already are, being incorporated into programs addressing food security

References:

1. Outer East Health & Community Support Alliance. Outer East Community Food Access Research Project: Food Security Assessment & Plans for a Way Forward [Internet]. Melbourne: Outer East Health & Community Support Alliance; 2009 [cited 2016 24 Mar]. Available from: [http://www.oehcsa.org.au/sites/default/files/OEHCSA Food Project %5BVR1%5D_25-5-09_1.pdf](http://www.oehcsa.org.au/sites/default/files/OEHCSA%20Food%20Project%20BVR1%2025-5-09_1.pdf).
2. Food and Agriculture Organization of the United Nations. Declaration of the World Summit on Food Security [Internet]. Rome: Food and Agriculture Organization of the United Nations; 2009 [cited 2016 May]. 24]. Available from: <http://www.mofa.go.jp/policy/economy/fishery/wsfs0911-2.pdf>
3. Russell JC, Flood VM, Yeatman H, Wang JJ, Mitchell P. Food insecurity and poor diet quality are associated with reduced quality of life in older adults. *Nutr Diet*. 2016; 73(1):50-58.
4. Lindberg R, Lawrence M, Gold L, Friel S, Pegram O. Food insecurity in Australia: Implications for general practitioners. *Aust Fam Physician*. 2015;44(11):859-62.

Appendix I: Literature Review

Introduction

Food insecurity has been highlighted as a significant issue in the Outer East Melbourne Region (OEMR). (1) 'Food security' is defined by the United Nation's Food and Agriculture Organization as 'when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life'. (2) Put more simply, every member in the community has easy access to adequate, affordable, culturally acceptable, nutritious food on a continual basis. Thus, food insecurity is when one or all of these factors are missing for an individual or community.

To tackle food insecurity in the region, NOURISH has developed a set of five high-level Regional Food Principles (RFP) which are essentially a set of basic guidelines (3) outlining fundamental beliefs or ideas that serve as a foundation to guide or govern reasoning, behaviour and actions. (4) They can be used to form the basis of any decision making in planning & policy development. (3) Unlike policies which are more rigid, principles can be applied to any problem and can be adapted to work with changes in a dynamic and ever changing environment, (5) making it more applicable and useful to all work in addressing food insecurity no matter the location or setting.

The principles can help to save time and resources in planning and initiating research, policies and programs in different organisations and sectors. They can also be used as a tool to create a communal voice around advocacy for food security issues in the region. The purpose of this paper is to review the literature around food security and explore whether the evidence base aligns with the regional principles.

These five RFP are:

1. Action needs to be underpinned by an understanding that food is a human right.
2. Action needs to address environmental and economic sustainability.
3. Action needs to be based on collaborative and cross sectoral approaches.
4. Action needs to be based on the best available evidence.
5. Action needs to be long term and sustainable.


Principle 1: Action needs to be underpinned by an understanding that food is a human right.

It is mentioned numerous times in the literature, that a food-secure world requires broad acknowledgement and acceptance of food as a basic human right. (6-8) The principle that food is a basic human right is not new. In 1947, the United Nations (UN) adopted the Universal Declaration of Human Rights, which in Article 25 states that “(e)veryone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food ... and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control”, (9) highlighting the right to food as being essential to a minimum standard of living. (10)

In 1975, Australia agreed to be legally bound by the UN International Covenant on Economic, Social and Cultural Rights, which recognises “the right of everyone to ... adequate food”, “to be free from hunger”, and “to the highest attainable standard of health”. (11) It requires that each state party bound by the covenant, must take appropriate steps to ensure that they, to the best of their ability, aim to progressively achieve the rights stated in the covenant by the most ethical means. (11, 12) However, despite commitments made at the global and national level, food security continues to be a concerning public health issue.

The literature suggests that perhaps a reason these goals were not translated into action is a poor understanding of the concept of social and cultural rights. (10) It is a misconception that it implies the government must instantly solve all poverty through direct provision of services, such as through food charity and entitlements. (6, 10) However, this is viewing the issue from a needs-based approach, assuming that people are passive recipients dependant on the government (6, 8, 10) which is not the intention of these rights. (10)

A better understanding of the right to food as a human right is needed for this right to be realized. (8) As explained in the Committee on Economic, Social and Cultural Rights General Comment 12 on the Right to Adequate Food, inherent to any human right is the State parties’ obligation to respect, protect and fulfill that human right. (12) Respecting the right to food means not interfering with or preventing someone’s access to food, while protecting the right to food means to take measures to ensure that third parties, whether individuals or enterprises, also don’t limit people’s access to food. (10, 13)



Fulfilling the right to food means developing environments that build the capacity of people to meet their own needs. The government is only obligated to directly provide food in cases where people are unable to do so themselves, due to circumstances beyond their control.

The right to food means the right for an individual to expect reasonable opportunity to be able to provide adequate nutrition for themselves, and the role of the government is to facilitate these opportunities. (10, 14) Using a human rights-based approach to address food insecurity helps to acknowledge that access to food and nutrition depends on political & legal systems. It acknowledges the social and economic determinants of food insecurity, and focuses on altering the environmental factors that enable people to meet basic needs. The understanding that social & economic determinants can affect an individual's level of food security helps to actively address the root causes of food insecurity. Therefore, a rights-based approach is about creating enabling environments that support individuals to take an active role in providing food for themselves. (10) This also upholds human dignity, since individuals are able to access food in a dignified and socially acceptable way.

The need to frame problems carefully was identified as important, since the way a problem is presented leads to different perspectives or understandings of its cause, which in turn influences the actions used to address it. (13, 15) Framing food insecurity as a human rights issue, emphasises that it isn't just a problem, but a violation of basic human rights which is not acceptable and should not be tolerated. (10, 13) It holds the government accountable as it is their duty and obligation to protect the rights of its people. (13) The literature suggests that having an agency or board in charge of monitoring actions taken to reduce food insecurity can help to keep the government accountable, (13) since "a right without a duty bearer is of little value". (15)

Understanding that food is a human right also emphasises a focus on the vulnerable & the need to address inequalities. (10) When the problem is framed as food insufficiency, it often leads to actions that increase the production of food, however, this does not necessarily translate to an increase in access to food among vulnerable populations, (6, 15) as it doesn't take into account how the food is distributed. (7, 15) Acknowledging the underlying causes of food insecurity, and addressing these causes to improve conditions, will help to resolve this issue. Taking this into account can help to ensure that policies & programs, whether related to food or not, won't further disadvantage already vulnerable groups. (14)

The literature suggests that a way to incorporate human rights into practice is engaging closely with communities and encouraging the participation of those most affected or vulnerable to food insecurity.

(14) Incorporating their input & perspectives in the negotiation and developmental phase of policies & programs will create more effective and targeted programs (14) that address community needs.


Acknowledging food as a human right also takes into consideration the importance of food & nutrition to health & wellbeing. There is a close link between the right to food and the right to health (12) and this is demonstrated through the health consequences that result are associated with food insecurity. (13, 16) In Australia, food insecurity is linked with poor general health, increased use of health care services, increased risk of depression and mental health issues, higher rates of non-communicable diseases such as diabetes or cardiovascular disease, increased nutrient deficiencies and a higher prevalence of hospitalisations. (16) The literature highlights that food security is more than having sufficient quantities of food, but also having quality food that provides adequate nutrition to sustain a healthy and active lifestyle. (15) Malnutrition or inadequate nutrition from a poor diet may lead to health implications that not only have a negative impact on an individual's quality of life, but also places a significant burden on society. (16)

Principle 2: Action needs to address environmental and economic sustainability.

The need to address human sustainability, which includes food security, has already been addressed in 1972 at the UN conference of the human environment. (17) Despite having identified and addressing the matter through various approaches, 900 million people were still hungry in 2012. (17) This suggests that the matter of food insecurity is resistant to the proposed solutions. To add into this matter, the projected growth of human population to over 9 billion people in 2050 will lead to an increase of demand of food. (17-19) This will exacerbate the issue of hunger and lead to an unsustainable human civilisation. One major element of food security that has been widely discussed in the literature is the environment.

The environment has substantial influence on food security. Currently, ~90% of food is produced from agricultural related activities, whereas the other ~10% is provided by fisheries. (20) Both industries are directly catered and/or influenced by the environment.


Unfortunately, global warming and climate change pose threats to the environment and hence, they are also threatening food security. Findings from past research have highlighted the major effects of climate change on food security. (18, 21) For example, land degradation has lowered productivity in more than a fifth of cultivated lands. (20) Heat stress is also known to decrease milk production between 10% to 40% in extreme heatwaves. (22) In addition to affecting food production, climate change can also drive



extreme weather events, such as cyclones, droughts, and extreme weather changes, which have major effects on agriculture. The devastating destruction caused by Cyclone Larry in 2006 led to an increase in price of bananas by five-fold. (22) This raised the issue of food security as well as export and economy setback. These examples illustrate how the environment has major influence on food production.

On the other hand, it is also well documented that agriculture is often environmentally intensive. (23) Such a conclusion is expected, as agricultural practices often require mass usage of external input, such as pesticides and fertilizer, water, and more. (24) For instance, in the developed world, the largest quantity of water is utilised for rice production, (23) with a 2014 report showing that eight gigalitres of water was used for irrigation in Australia each year. (22) In addition, modernisation and progress to human civilisation has led to urbanisation of people's diets, which includes the increased consumption of meat and the limited variety of edible plants. (21) Meat production requires more resources for its production. For instance, to produce 1kg of animal protein, producers need 100 times more water compared to amounts needed for the production of plant protein. (24) On top of that, despite the report showing that only 32 million hectares is needed to grow crops, the total land area for food production is equivalent to 450 million ha. To put it into perspective, that is an equivalent to more than 50% of the continent. Taking into consideration that land is a limited source, intensification to increase yield is often the focus of strategies addressing food security. (19, 21) Although this strategy has generally succeeded in providing more food, it only addresses the quantity of food and not other aspects of food security such as access to food. (25) Besides, the intensification of crops often takes the form of industrialised agriculture, which is notorious for its detrimental long-term effects on environment. (21) Finally, the nature of modern agriculture that relies on a small proportion of edible plants lead to reduced biodiversity and increased strain on environmental sustainability. (19) In addition to agricultural practices, food waste is another aspect that is related to food security and environmental problems. A report in 2014 by Sustainability Victoria (26) shows that annually, Victorians produce 250,000 tonnes of food waste, which is equivalent to \$2200 per household. The reported amount also contributes to 400,000 tonnes of greenhouse gas each year. Keeping in mind that the amount reported was only taking into consideration avoidable food waste, it is a problem for food security and environmental sustainability as is a waste of food and resource, including water, landmass, and money. These examples show that attempts in ensuring food security and/or production have strong influence to the environment. Thus, agricultural sustainability should also be addressed in tackling food insecurity to prevent further damage.

Many articles have supported the benefits of incorporating environment in food security programs. Firstly, sustainable agriculture will ensure a strong foundation for food production. (20) Moreover,



sustainable food production ensures job opportunities for over the next 40 years. (20) These factors support growth in the economy sector and potentially generate more income. Additionally, addressing the low biodiversity of the agricultural industry is also likely to increase the resilience of crops to unexpected events. (19) This is the concept of '*sustainagility*', which supports food security, as it provides a more steady and secure supply of food. Finally, attempts in addressing food waste such as composting, is shown to increase nutrient in soils and increase water retention, which in turn can lead to more sustainable agriculture. (27)

In addition to the physical environment, the papers also highlighted the importance of the social and food environment on food security. Firstly, it is important to consider the suitability of the program to community's food environment. (28) To illustrate, a suitable example of this is the Food Stamp program in the US which provides supplementations to low income families. (29) Research showed that those in need of the food stamps often lived in areas that had a low number of fresh food supermarkets and grocers and high number of fast food outlets, (29) and therefore the program did not reach its full potential as the setting was not taken into account. Moreover, the food environment can also affect food security directly. For example, a limited transportation and distribution system is detrimental to food security, as it can reduce people's access to the food supply and increase the likelihood of food insecurity. (30) Additionally, areas with low income household tend to have less number of supermarket and variety of food. (30) These examples shows how the environment can affect various aspects of food security, such as food access, as well as the suitability of the food. Lastly, the social environment can also influence stakeholder dynamics. (31) The social environment may help to create power plays between stakeholders, or provide a medium for miscommunication which can lead to conflict. (32, 33) It is crucial to develop an environment that is supportive of factors that promote collaboration, such as a transparent process, strong leadership and a relationship of trust between stakeholders. (31, 34)

All in all, there is a strong relationship between the environment and food security. Damage to the environment can be detrimental to food production and thus, can raise food security issues. On the other hand, approaches to increase production in maintaining or achieving food security often damages the environment. Additionally, the food environment has also been shown to influence food security level. Therefore, this principle is important not only for environmental and economical sustainability, but also for addressing food environment to support food security.

Principle 3: Action needs to be based on collaborative and cross sectoral approaches.


As food security is such a large multifaceted issue there is not one stand-alone solution to the issue, (28, 33, 35) therefore it cannot simply be solved by one organisation on their own, (28, 34) as each individual organisation has different priorities, values, resources and support. (35) There are many different determinants that influence food security such as physical environment, income, housing, knowledge and health status. (28, 33) Developing an intervention that will target only one determinant has proven to be ineffective (33, 35) and many research papers call for a multifaceted approach, (28, 32, 33, 36) stating it is needed to address the majority of the influencing factors if the intervention is to be successful. (28, 29, 33) The targeting of such a diverse range of different determinants requires the collaboration of many different institutions and organisations, including government, non-government and private. (28, 32-34) By joining forces these organisations can bring together their research, expertise, novel ideas, funding and resources to address different aspects of the issue, (28, 33) and thus can devise a more effective intervention and have a wider reach. As food insecurity is a constantly evolving issue, due to changes in major players, environmental and political conditions, policies and challenges, (35) collaboration between many different organisations to create novel ideas and structures is vital. (28, 32, 33, 35)

When analysing this Principle, throughout the literature there were many key themes that were recurring, which highlight the importance of partnerships but also analyse the methods of successful implementation. These themes were communication, environment and stakeholder collaboration, and will be further discussed in detail below

Communication

Communication was highlighted as a key component to successful interventions and partnerships in all analysed papers. (28, 29, 31-36) Clear communication was highlighted as vital to achieve a reduction in conflicts and a smoother and more effective intervention implementation. (28, 29, 31-36)

Many articles addressed the need for an agreement of primary agendas between partners at the beginning of the partnership, with a clear division of responsibilities, clarity of goals, aims, objectives and the problem being addressed. (29, 31-34) They also discussed the need for a clear understanding about what each organisation brings to the partnership, including resources, ideas, other partnerships and funding. (29, 31-34)



Having clarity around aims and responsibilities from the beginning reduces the risk of conflict later on, and it also makes the program more efficient as each partner knows exactly what they are expected to do and what they aim to achieve. (29, 31, 32) By having clear goals and aims, this gives the partner organisations something to work towards and can help to sustain motivation and momentum, as well as making evaluations easier.


Developing an understanding around each organisation's' values before the program is created is also a crucial factor for success. (32, 34) This can be used to identify potential problems in the future, to tailor the program to the organisation's' strengths, or to even identify the suitability of the organisation for the program. (32, 34)

Papers also identified that work should be split evenly depending on the capacity and resources of each organisation. (29, 31, 33, 34) Clear communication about what each organisation is doing and what they have achieved so far is important, since this reduces the risk of inter-organisational conflicts about workload and performance, while providing clarity about what has already been done and what needs to be done. (29, 32)

The need for both formal and informal modes of communication is also highlighted in some papers. (32) For example this could be formal meetings between organisations, or facebook posts for the public. Applying both informal and formal methods should be more effective at reaching a higher proportion of the population as it utilizes different mediums. (32) It can also make the project seem more relaxed and foster inter-organisational relationships.

Provision of continuous feedback should also be conveyed through both these formal and informal methods, as it creates an environment that is constantly improving and evolving, which not only encourages best practice but also reduces the likelihood of conflict and provides momentum for self-improvement. (31)

Before, during and after implementation of the program it is important that research is shared between organisations, to reduce the amount of time and funding spent on research topics that have already been researched, and to facilitate the development of new and novel ideas. (29, 32, 33, 35) Similarly it is important that there is clear communication between the researchers and experts in the field with key decision makers. (32, 33, 35) This will allow best practice evidence to influence policy and decision making and will allow for a more effective and efficient program. (32) Likewise it is crucial to involve the local population, as they often have a strong and thorough understanding around the issue, and may know effective ways on how to combat it. (34) Research has shown that engaging the general public in program




planning can help researchers understand the problem better, as well as understand what the public want and how programs would affect them. (34) It can help researchers to understand why previous programs were ineffective, and by incorporating these views can show how the program can be improved now and in the future. (34) Effective communication with decision makers, researchers, and the general public was also identified in the literature as vital, as it can also inform evaluation tools, which are important to ascertain the efficacy of the intervention and allow for continuous improvement. (29, 32, 34, 35)

Stakeholders and Collaboration

When developing partnerships it is important to look at what type of stakeholders you need to collaborate with. This could include; the general public, Government organisations, non-government organisations, the public, researchers and private institutions. (32)

It is important to involve the public in decision making as research suggests they can provide valuable insight into the issue and may be able to provide innovative or novel solutions to the problem. (32, 34, 35) They are also highly adept to know how the intervention is going to affect or benefit the community, and can identify possible future problems or suggest possible alterations to increase efficacy. (34)

Collaboration between organisations in the community is important, particularly when addressing food security, (28, 32, 33, 36) as many different organisations often work in the same areas with the same populations while addressing different but connected issues. (29, 35) They often do this without even knowing the other organisation is even there. If these organisations were to partner together and adopt a collaborative approach they could share research, resources, funding and staff to provide a more efficient and effective way to address the problem overall, rather than focusing on one aspect of the problem. (28, 29, 32-36) Research done in South Africa in 2008 showed that initiatives that targeted one aspect of a problem were not effective enough in addressing the issue, as they were fragmented and do not address the size and complexity of the problem. (35) The study as well as others also found that communication and leadership between different organisations was significantly lacking. (32, 35, 36) In contrast, a study done in America clearly showed the benefits of collaboration between different sectors. (29) In the study it was ascertained that community development organisations and health care workers were often working in the same areas on the same populations without even knowing about each other's involvement. (29) Once informed they realised they could make a larger impact if they joined forces, and combined their resources and expertise to address the multiple different factors that were contributing to the issue. (29)



However when stakeholders are working together it is vital that there is a clear division of responsibilities that is relevant to each partner's capacity and resources. (32, 34) This can increase efficacy and efficiency and will reduce the likelihood of conflict later on. (32) Similarly it is also key that these stakeholders have a clear line of communication, and a clear knowledge of aims and goals, as miscommunication can often lead to conflict. (32, 34)


Due to this, strong conflict resolution skills were also highlighted in the literature as being vital to effective collaboration between stakeholders and organisations. (31, 33) There can often be conflicting values and interests between organisations, which can lead to problems, but there can also be a clash of personalities. (31, 32) Power dynamics between stakeholders can often play a role in conflict and conflict resolution as well, so it can be important to identify early on potential problems, natural leaders/champions and address potential differences in goals and organisational values. (31, 32, 34)

Key themes highlighted between the literature suggested that interest in a shared goal that they cannot achieve on their own, as well as mutual accountability, transparency and trust between stakeholders was crucial to effective collaboration. (31, 33) Both parties must be invested in the program on a similar level, and both must be equally accountable for the program. (32, 34) An inequality in accountability between stakeholders can lead to conflict (32) and potential disinterest, as can a lack of trust and transparency between stakeholders. (31)

The literature also highlighted the potential problems that could occur with collaborations between organisations. Firstly a strong individualistic nature dominates western culture, which could also be supported by the prevalence of hierarchical models within western society. (31) This may stagnate the development of partnerships between large or powerful organisations, or the smooth running of the partnership. The physical location of the different partners may also cause issues for communication and coordination of the development or implementation of projects. (31, 33) Finally there is also the possibility that private stakeholders or organisations may use the partnership and its assets for personal gain, or the partnership may be influenced by political agendas. (31-33) Despite this the use of powerful stakeholders can be beneficial, as they can be the driving force behind the program, and can sometimes have more influence with governments and other organisations, which can provide funding, resources or further support. (31, 34)

Environment

The papers also highlighted that consideration of the environment is also important when engaging in partnerships (29) A powerful stakeholder, for example an international organisation such as the UN, may



help to drive the program forwards and become a catalyst for action. (34) It provides pressure for the program to be completed successfully. Incorporating a powerful and influential stakeholder into the partnership can be beneficial to motivate partners, and get more media attention, funding and engagement from government and private institution. (31, 34)


Funding can greatly influence the power of the program, including the timeline of the project, the staff and the resources available. (28, 33, 34)

It is also important to consider how environmental factors can also influence stakeholder security and political agendas, for example natural disasters or the current political environment. (31, 33)

This can influence the need for collaboration between partners, as evidence suggests that turbulent environments, such as countries with unstable governments or ones that have recently experienced a natural disaster, are more likely to promote collaboration between stakeholders. (31) Similarly a history of failure without collaboration and the use of strong mechanisms to link partners together, for example; powerful sponsors, existing programs or networks, and an agreement on clear goals and objectives; all promote the use of collaboration between organisations. (31, 33, 34)

Principle 4: Action needs to be based on the best available evidence.

This principle is particularly important, as evaluation of food security projects in the past have not been done well due in part to limited finances and resources. (37) Measuring the impacts of food security programs in a community can be quite difficult especially when participation is based on individual choice. (28) A review of food security interventions showed that many case studies did not effectively evaluate their programs and therefore it is unclear whether the outcomes could be attributed to the interventions or other external factors. (38) As a result, there is currently limited evidence regarding what interventions work best in improving food security which highlights that evaluation needs to become a key priority of future programs. Monitoring the work being done can help to track progression and this is useful for keeping project managers updated and allows for changes to be made if something is not working as expected. The literature also highlighted that case studies that did incorporate evaluation tended to be those targeting agricultural production and productivity, whilst those involving policies and changes to the food system often did not get evaluated as they can also be quite difficult to measure (2). (38)




Evaluation will also help to strengthen the evidence around what approaches are the most successful and therefore should be implemented. Using evidence from existing programs to determine effective strategies will also help enhance the sustainability of future programs. (37) Collecting data on the outcomes of projects also enables organisations to highlight food insecurity as an issue and provide evidence of their achievements to stakeholders, which is particularly beneficial when it comes to applying for funding. (39) Evidence from previous projects has highlighted that programs need to address the root causes of food insecurity as opposed to traditional food relief programs that use the “band-aid” approach which has limited evidence to show that they help to improve food security and self-sufficiency in communities. Programs need to be evidence-based and target factors such as housing conditions, unemployment issues and mental health. (40) Determining the impacts that interventions have on the community and environment will help with the planning of more effective food security programs.

Evaluation should also be ongoing as the environment and circumstances are constantly changing and thus programs need to be able to adapt to accommodate these changes. Having a good monitoring system in place will help keep things organised and increase successful outcomes. (37) As mentioned before, monitoring has been difficult in the past due to limited resources and the evidence shows that a collaborative effort is required to implement effective monitoring systems. (37) There are a number of different components that need to be monitored throughout the duration of programs. Examples of monitoring include environmental factors such as the growing conditions of food crops and weather conditions that affect the availability of food. (37) This key information will determine whether changes need to be made to programs to account for these environmental effects. Assessing the outcomes of food security programs should form a key part in food security programs. Useful data to evaluate include changes in food insecurity rates, negative effects that may have occurred and participation rates of the community. (39) The literature around evaluating interventions showed that the most effective studies compared the impact of the intervention against a control group and also looked at before and after data in each group. (38) Despite recognising the importance of evaluation, there are few programs that actually evaluate their work properly. Therefore this principle is necessary as it emphasises the importance of keeping track and recording outcomes of all food security work. This will help to build the evidence around effective approaches and increase the effectiveness of future programs.

Principle 5: Action needs to be long term and sustainable.


This final principle highlights the need for food security action to be sustainable and focus on addressing the underlying factors that influence food security in order to improve the health of communities. The



literature shows that in the past, the majority of work done to address food insecurity has involved short-term strategies such as food relief programs, and although these are useful, they provide assistance rather than a solution and are therefore often short-lived. The evidence showed that that not only are they ineffective in improving food security but the programs often have limited funding and resources and hence are not sustainable. (41) Early termination of projects is unwanted as it can often cause a lack of support from the community. (42) It is therefore important that future work focuses on longer-term projects that address the root causes of food insecurity to improve the health of the community and the environment over time. (43) Having said that not all programs necessarily need to be carried out over extended periods of time particularly if the issue has been resolved or a more effective strategy has been developed. Therefore short-term action should include approaches that help to empower individuals and equip them with knowledge and skills to improve health. (42)

The literature provides evidence to show that all food principles need to be addressed in order to create sustainable outcomes. There is evidence around existing food security frameworks as well as priority areas that programs acknowledge need to be addressed to create sustainable outcomes. They are not explicitly referred to as principles however the content of these frameworks support the use of principles to guide work being done around food security. (43) When planning long-term strategies, it is important to think about the goals of the program and how this will be achieved. Sustainable programs need a balance of resources, motivation and capacity to be successful. (42) The review of literature provided examples of elements of sustainable programs. The evidence suggested that programs that have a clear understanding of the issue, offer incentives, encourage participation and have clear tangible benefits to the community will help sustain programs. (42) A review of food security programs suggested that strategies should aim to build capacity of the community, include collaboration and advocacy and use targeted approaches that are evidence based which again supports the development of the food principles. (41)

There are many benefits to having long-term strategies that are sustainable. Long term planning will mean that projects have a clear vision that organisations can work towards and highlight to stakeholders when applying for funding. Collaboration will also allow for input from the community and a range of health professionals, which will mean a broader range of knowledge and perspectives from different areas of expertise. The evidence also shows that long-term programs encourage organisations to be creative and develop innovative ways to address food security issues. Future strategies can draw on the evidence from past projects and build on work that's already been done. This will help to create changes that delve



deeper and try to resolve root causes rather than short-term actions that prove relief but are not sustainable. (44)

In order to develop longer-term food security programs more research is required to determine the most effective methods and the resources required to address food security problems. As mentioned earlier, collaboration with other organisations working in the community will help with the process. Although long-term action requires a lot more time, they will provide long lasting benefits that can help reduce the overall prevalence of food insecurity among communities. (44) The literature also brought to light that an effective approach might be improving existing short-term programs by combining them with other agriculture programs to enhance sustainability. By doing this the programs will not only provide relief but also help empower communities to improve their own health. Equipping individuals with the skills, knowledge and resources to do so will help increase their capacity to eat healthily instead of relying solely on programs. (43)

Conclusion

In conclusion, the literature supports the components outlined by the principles and provides evidence to show that these principles should be used as a basis when planning actions to address food insecurity. Because social, political and economic determinants all influence access to food, taking into consideration food as a human right when planning policies and interventions is important. The physical, social and food environment all have an impact on food security, which emphasises the importance of considering these factors when developing programs. Work in the food security sector should also incorporate collaboration and strong communication between different sectors and organisations, in order to create an efficient program that targets all contributing aspects of the issue. Continuous evaluation is also important as this will help strengthen the evidence around food security work and increase successful outcomes. Targeting the root causes of food insecurity will help to create changes with long lasting effects in the community that build capacity of individuals to improve their own health. It can be seen through the evidence that all five principles are fundamentally interrelated, and therefore addressing all principles during both planning and implementation will create more successful food security programs in the future.

References:

1. Outer East Health & Community Support Alliance. Outer East Community Food Access Research Project: Food Security Assessment & Plans for a Way Forward [Internet]. Melbourne: Outer East Health & Community Support Alliance; 2009 [cited 2016 24 Mar]. Available from: [http://www.oehcsa.org.au/sites/default/files/OEHCSA Food Project %5BVR1%5D 25-5-09 1.pdf](http://www.oehcsa.org.au/sites/default/files/OEHCSA_Food_Project_%5BVR1%5D_25-5-09_1.pdf).
2. Food and Agriculture Organization of the United Nations. Declaration of the World Summit on Food Security [Internet]. Rome: Food and Agriculture Organization of the United Nations; 2009 [cited 2016 May]. 24]. Available from: <http://www.mofa.go.jp/policy/economy/fishery/wsfs0911-2.pdf>
3. Tandon Y. The principles of food security [Internet]. Washington D. C.: World Hunger Education Service; [updated 2016 Mar 28; cited 2016 Mar 29]. Available from: <http://www.worldhunger.org/articles/08/editorials/tandon.htm>.
4. Oxford University Press. Oxford Dictionaries [Internet]. Oxford: Oxford University Press; c2016 [cited 2016 Mar 29]. Available from: <http://www.oxforddictionaries.com/definition/english/principle>.
5. Institute of Chartered Accountants in England and Wales (ICAEW). Principles versus Rules Debate | Professional Ethics | ICAEW [Internet]. London: Institute of Chartered Accountants in England and Wales (ICAEW); c2016 [cited 2016 Apr 1]. Available from: <http://www.icaew.com/en/technical/ethics/ethics-in-business/general-ethics/principles-versus-rules-debate>.
6. Anderson MD. Beyond food security to realizing food rights in the US. *Journal of Rural Studies*. 2013 Jan 29;113-22.
7. Chen RS, Kates RW. World food security: prospects and trends. *Food Policy*. 1994 Apr;19(2):192-208.
8. Florencio CA. Rights-based food and nutrition perspective: 21st century challenge for dietetics. *Journal of human nutrition and dietetics : the official journal of the British Dietetic Association*. 2001 Jun;14(3):169-83.
9. United Nations. The Universal Declaration of Human Rights [Internet]. New York: United Nations General Assembly; 1948 [cited 2016 Apr 12]. Available from: <http://www.un.org/en/universal-declaration-human-rights/>.
10. Chilton M, Rose D. A rights-based approach to food insecurity in the United States. *American journal of public health*. 2009 Jul;99(7):1203-11.

11. Office of the United Nations High Commissioner for Human Rights (OHCHR). International Covenant on Economic, Social and Cultural Rights [Internet]. New York: OHCHR; 1996 [cited 2016 Apr 27]. Available from: <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>.
12. Food and Agriculture Organization of the United Nations. SUBSTANTIVE ISSUES ARISING IN THE IMPLEMENTATION OF THE INTERNATIONAL COVENANT ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS: GENERAL COMMENT 12 [Internet]. Geneva: Food and Agriculture Organization of the United Nations; 1999 [cited 2016 May 24]. Available from: http://www.fao.org/fileadmin/templates/righttofood/documents/RTF_publications/EN/GeneralComment_12_EN.pdf.
13. Dowler EA, O'Connor D. Rights-based approaches to addressing food poverty and food insecurity in Ireland and UK. *Social science & medicine*. 2012 Jan;74(1):44-51.
14. Chilton M, Rabinowich J, Council C, Breaux J. Witnesses to hunger: participation through photovoice to ensure the right to food. *Health and human rights*. 2009 Jan 01;11(1):73-85.
15. Pinstrup-Andersen P, Herforth A. Food Security: Achieving the Potential. *Environment: Science and Policy for Sustainable Development*. 2008 Oct 01;50(5):48-61.
16. Lindberg R, Lawrence M, Gold L, Friel S, Pegram O. Food insecurity in Australia: Implications for general practitioners. *Australian family physician*. 2015;44(11):859-62. PubMed PMID: 26590630.
17. Food and Agriculture Organization of the United Nations. Towards the Future We Want: End hunger and make the transition to sustainable agricultural and food systems [Internet]. Rome: Food and Agriculture Organization of the United Nations; 2012 [cited 2016 Apr 18]. Available from: <http://www.fao.org/docrep/015/an894e/an894e00.pdf>.
18. Gregory PJ, Ingram JS, Brklacich M. Climate change and food security. *Philosophical transactions of the Royal Society of London Series B, Biological sciences*. 2005 Nov 29;360(1463):2139-48.
19. Kahane R, Hodgkin T, Jaenicke H, Hoogendoorn C, Hermann M, Keatinge JDH, et al. Agrobiodiversity for food security, health and income. *Agronomy for Sustainable Development*. 2013;33(4):671-93.
20. United Nations Environment Programme (UNEP). Avoiding Future Famines: Strengthening the Ecological Foundation of Food Security through Sustainable Food Systems [Internet]. Nairobi (KE): United Nations Environment Programme (UNEP); 2012 [cited 2016 Apr 18]. Available from:

<https://mahb.stanford.edu/wp-content/uploads/2013/02/2012-UNEP-Avoiding-Famines-Food-Security-Report.pdf>.

21. Pretty JN, Morison JIL, Hine RE. Reducing food poverty by increasing agricultural sustainability in developing countries. *Agriculture, Ecosystems & Environment*. 2003 Apr;95(1):217-34.
22. Hughes L, Rice M, Pearce A, Will S. Feeding a Hungry Nation: Climate change, Food and Farming in Australia [Internet]. Potts Point (AU): Climate Council of Australia; 2015 [cited 2016 Apr 18]. Available from: <https://http://www.climatecouncil.org.au/uploads/7579c324216d1e76e8a50095aac45d66.pdf>.
23. Mushtaq S, Maraseni TN, Maroulis J, Hafeez M. Energy and water tradeoffs in enhancing food security: A selective international assessment. *Energy Policy*. 2009 May 15;37(9):3635-44.
24. Pimentel D, Pimentel M. Sustainability of meat-based and plant-based diets and the environment. *The American Journal of Clinical Nutrition*. 2003 September 1, 2003;78(3):660S-3S.
25. Godfray HC, Beddington JR, Crute IR, Haddad L, Lawrence D, Muir JF, et al. Food security: the challenge of feeding 9 billion people. *Science*. 2010 Feb 12;327(5967):812-8.
26. Sustainability Victoria. Sustainability Victoria Annual Report 2014–15 [Internet]. Melbourne: Sustainability Victoria; 2015 [cited 2016 Sep]. Available from: <http://www.sustainability.vic.gov.au/-/media/resources/documents/who-we-are/business-plan-and-annual-report/sustainability-victoria-annual-report-2014-15.pdf?la=en>.
27. Sustainability Victoria. Composting [Internet]. Melbourne: Sustainability Victoria; 2014 [cited 2016 May 23]. Available from: <http://www.sustainability.vic.gov.au/services-and-advice/households/waste-and-recycling/composting/>.
28. Olson CM, Holben DH. Position of the American Dietetic Association: domestic food and nutrition security. *Journal of the American Dietetic Association*. 2002 Dec;102(12):1840-7.
29. Braunstein S, Lavizzo-Mourey R. How The Health And Community Development Sectors Are Combining Forces To Improve Health And Well-Being. *Health Affairs*. 2011 Nov 1;30(11):2042-51.
30. Garasky S, Morton LW, Greder K. The Food Environment and Food Insecurity: Perceptions of Rural, Suburban, and Urban Food Pantry Clients in Iowa. *Family Economics & Nutrition Review*. 2004;16(2):41-8.
31. Montoya LA, Montoya I, Sanchez Gonzalez OD. Lessons from collaborative governance and sociobiology theories for reinforcing sustained cooperation: a government food security case study. *Public health*. 2015 Jul;129(7):916-31.

32. Charlebois S, Sterne RH, Buhr M. Sharing and preparing: cross-institutional, food security-based knowledge in Canada. *Int J Sustainable Development & World Ecology*. 2014 Nov 2;21(6):532-9.
33. Hay RW, Rukuni M. SADCC food security strategies: Evolution and role. *World Development*. 1988;16(9):1013-24.
34. Wakegijig J, Osborne G, Statham S, Issaluk MD. Collaborating toward improving food security in Nunavut. *International journal of circumpolar health*. 2013;72.
35. McLachlan M, Hamann R, Sayers V, Kelly C, Drimie S. Fostering Innovation for Sustainable Food Security: The Southern Africa Food Lab. In: Bitzer V, Hamann R, Hall M, Griffin-El WE, editors. *The Business of Social and Environmental Innovation: New Frontiers in Africa*. Cham: Springer International Publishing; 2015. p. 163-81.
36. Pronyk PM, Muniz M, Nemser B, Somers MA, McClellan L, Palm CA, et al. The effect of an integrated multisector model for achieving the Millennium Development Goals and improving child survival in rural sub-Saharan Africa: a non-randomised controlled assessment. *Lancet*. 2012 Jun 9;379(9832):2179-88.
37. Suresh B EA. A framework for evaluating food security and nutrition monitoring systems. *African Journal of Food Agriculture and Nutritional Development*. 2005 2005;5(2):27p.
38. Ministry of Foreign Affairs of the Netherlands. Improving food security: a systematic review of the impact of interventions in agricultural production, value chains, market regulation, and land security [Internet]. The Hague (NL): Ministry of Foreign Affairs of the Netherlands; 2011 [cited 2016 Apr 19]. Available from: <http://www.oecd.org/derec/49558328.pdf>.
39. Levinson FJ HA. Monitoring and Evaluating the Food Security and Nutrition Effects of Agricultural Projects FAO and WHO [Internet]. Rome: Food and Agriculture Organisation of the United Nations; 2013 [cited 2016 Apr 19]. Available from: <http://www.fao.org/3/a-as568e.pdf>.
40. Martin KS, Wu R, Wolff M, Colantonio AG, Grady J. A novel food pantry program: food security, self-sufficiency, and diet-quality outcomes. *American journal of preventive medicine*. 2013 Nov;45(5):569-75. PubMed PMID: 24139769.
41. British Columbia Ministry of Health. Core Public Health Functions for BC: Evidence Review Food Security [Internet]. Victoria (UK): British Columbia Ministry of Health; 2013 [cited 2016 Apr 19]. Available from: <http://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/public-health/healthy-living-and-healthy-communities/food-security-evidence-review.pdf>.

42. Kim SS, Rogers BL, Coates J, Gilligan DO, Sarriot E. Building evidence for sustainability of food and nutrition intervention programs in developing countries. *Advances in nutrition*. 2013;4(5):524-6. PubMed PMID: 24038245. Pubmed Central PMCID: 3771137.
43. McCullum C, Desjardins E, Kraak VI, Ladipo P, Costello H. Evidence-based strategies to build community food security. *Journal of the American Dietetic Association*. 2005 Feb;105(2):278-83. PubMed PMID: 15668689.
44. Winne M, Joseph H, Fisher A. Community food security: A guide to concept, design and implementation: Community Food Security Coalition [Internet]. Medford: The Community Food Security Coalition; 1997 [cited 2016 Apr 19]. Available from: [http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/pdf/projects/FPN/how to guide/getting started/CFS A Guide to Concept Design and Implementation.pdf](http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/pdf/projects/FPN/how%20to%20guide/getting%20started/CFS_A_Guide_to_Concept_Design_and_Implementation.pdf).

Appendix II: Case Study Analysis

Introduction

Food insecurity has been identified as an issue in the Outer East Region and many programs exist to combat this issue. The literature review supported the regional food principles and demonstrated that they can be used as a tool to guide food security work. The purpose of the case studies was to explore the work being done in the food security space and determine if local programs aligned with the principles. Interviews were conducted with partners in the Outer East to find out how each of the programs addressed the principles and identify areas that could be improved. Case studies programs were selected to include a range of different backgrounds, settings and approaches across the public health spectrum in order to get a better understanding of how the principles can be applied across a range of different settings.

Background

A total of four case studies were included and these were:

- **Koha Community Café (KCC)** - Community-based Cafe located in Yarra Junction that provides meals to community members using a “pay as you can” basis (donation box). The cafe operates every Thursday nights and is volunteer run.
- **Bush Tucker Program (BTP)** - Small program running in Healesville that teaches community members about bush tucker foods and the importance of preserving native bush land. Targets mainly the Aboriginal and Indigenous community and classes are run once a week.
- **Gardens for Harvest (G4H)** - Government run gardening program based in the city of Knox. Program aims to encourage and equip the local community to grow their own fruits and vegetables at home.
- **Crunch and Munch an Awesome Lunch: School Lunch-Box Program (C&M)** - Based in the Yarra Ranges, the program is run in primary schools and aims to improve healthy eating in children by addressing behaviours and ideas around food and the school environment.

Below is an in-depth exploration about how the programs incorporated each of the regional food principles.




Principle 1: Action needs to be underpinned by an understanding that food is a human right.

Principle 1 recognises that food is a basic human right, taking into account the importance of: addressing social and economic determinants to create enabling environments, addressing issues of access, building the capacity of communities and individuals, maintaining human dignity, addressing the vulnerable (and encouraging their participation), and health outcomes. All of the programs analysed focused on improving access to healthy food in one way or another, either through changing the environment, improving physical access or building skills that encourage self reliance to the provision of nutritious food. All programs analysed were very inclusive and welcoming to anyone willing to participate, which is important when addressing this principle.

By teaching people to maintain their own vegetable garden, G4H equips them with skills and confidence, building the capacity of people to be able to provide food for themselves. The G4H program also addressed the barrier of physical access to fresh food by using the under-utilised space in people's front and backyards to produce food. They identified that a large community garden may not be accessible by all, especially where distance or public transport could be an issue. Therefore the program was designed in such a way that allows it to target the more disadvantaged sub-populations in the area which may be at a higher risk of food insecurity, such as the elderly, isolated or those who do not have enough money for transport or food. Having an edible garden where they lived also helped to ensure a steady flow of food and encouraged the consumption of fruits and vegetables, which is important for good health.

Similarly, the BTP builds capacity as it aims to empower and improve the health outcomes of Aboriginal people living in the Yarra Ranges area by increasing their knowledge of nutritious and culturally appropriate foods. The program was initiated based on what the community identified they wanted, which was to preserve local history and Indigenous knowledge as well as learn about bush tucker. This demonstrates how the program is not just providing the community with food but working to improve food access and utilisation by also addressing the needs of the community. The activities not only help to improve their cultural awareness but enable participants to learn gardening skills, and cook and enjoy local Indigenous foods which they may not have been familiar with. The BTP also encourages the sharing of knowledge between members, and facilitates the building on each other's existing knowledge to strengthen the community.



The C&M program aims to build the capacity of schools to create healthier environments that encourage and support children to eat more healthily, and acknowledges the importance of increasing access to high quality nutritious foods that are beneficial to health. It embraces the ideology that healthy children have healthy futures and thereby the program focuses on establishing healthy eating behaviours amongst the children from a young age. As well as addressing psychosocial factors such as changing the eating culture and norms around food (through education and involving the students in designing key messaging programs), it also identifies issues in the school and home environment that may be contributing to an undesirable eating culture. The program actively involves parents and teachers as it acknowledges that they are strong influencers of children's access to food and play a role in shaping eating habits and behaviours around food. The program identifies specific areas to address in the school environment to create more opportunities for healthy eating, through strategies such as changes to the school canteen or its policies, introducing breakfast clubs or utilising a school vegetable garden. This is important because it ensures that the program is relevant to each school and has a better chance of addressing the root causes of the issue. By tailoring activities to each individual school, the C&M program is able to create environments that not only facilitate healthier eating but empowers parents and children to take the necessary steps to improve their own health.

KCC also addressed this principle as it provides low-cost nutritious meals in an environment that promotes inclusion and community connectedness. By operating on a pay as you can basis, it reinforces food as a human right and that everyone should be able to enjoy a good nutritious meal in a dignified manner, not just people that can afford it. The cafe was opened with a vision to help the economically and socially disadvantaged, whether they are homeless, alcoholics, suffering from domestic violence or mental health issues, or the average family, everyone is welcome to come and eat in a non-discriminatory and supportive environment, and this helps the cafe to engage them with the rest of the community. KCC also provides opportunities for skill development as it equips volunteers with work experience and teaches them basic skills that can increase their potential for employment opportunities in the future. This again highlights the importance of improving food access in a dignified way by creating enabling environments that empower individuals to take charge of their own health.




Principle 2: Action needs to address environmental and economic sustainability.

Principle two covers the physical environment, economical sustainability, and the social and food environment. This principle is addressed in all of the programs analysed. There are three common themes related to the physical environment that emerged from the case studies, which are recycling, optimising local and seasonal produce, and striving for sustainable agriculture. The social and food environment was addressed differently by each program.

Firstly, recycling is used to maximise the usage of resources, products, and waste. For example, composting is used to handle waste by G4H and KCC. KCC separates their food waste to ensure the right materials are processed into compost. This is supported by evidence, which points to composting as a way of making use of food scraps that would otherwise have been a waste of money. Additionally, any leftover food at the end of the service is given to their volunteers, as a way of handling waste and giving back to the community.

Furthermore, the use of local and seasonal produce is a part of all the programs analysed. KCC used local seasonal fruit and vegetables, while BTP attempts to increase knowledge of and revive or protect local plants. Moreover, G4H acknowledges the limited agricultural space available in Knox and aims to utilise this space to grow their fruit and vegetables. This will result in not only increased seasonal fruit and vegetables, but also a reduction in food miles, which was identified as one of the program aims. One of the projects ran by the C&M program was to address the desire expressed by the community to better utilise the school garden in Warburton Primary School.

Lastly, all programs strived to minimise environmental impacts from intensive agricultural practices. All meals served at KCC are vegetarian, which uses less water and resources to produce. They also mentioned that using meat is not only more expensive but also requires stricter food regulations in regards to handling and storage. The BTP focuses on growing their own produce instead of harvesting current plants that are already endangered. This is done to prevent further damage and relieve and revive some of Australia's native plants. In addition, the usage of local and seasonal produce demonstrates approaches that can be used to increase food access and production without the intensification of agriculture practices. This is beneficial for long-term environmental sustainability, which is supported by the literature.



In addition to addressing the physical environment, programs also addressed the importance of food and the social environment on food security. For example, G4H identified that transportation is one of the barriers for people in the community to accessing healthy food. Thus, the program tackled this by using the available land space to plant food, which can be easily accessed without transport. Similarly, C&M changed the food environment by altering the food available at school canteens so that students have access to healthier foods. Likewise, KCC was set up in the community centre that was easily accessible by members of the community. Another important factor identified in the literature is the suitability of the program to the community's food environment. This can be seen in KCC, who surveyed the community before they opened and found that they were in favour of the idea of the project. Similarly, BTP was driven by the demand from the community to respect and learn more about native Australian flora and fauna. As such, not only were they tackling food security issues, but also targeting approaches to ensure they were suitable to the community. Finally, social environment was clearly addressed and taken into consideration by KCC. The cafe environment utilised strategic planning such as changing the seating arrangement to facilitate inclusion. The case studies demonstrated that there is a large variation in the strategies used to address social and food environment. This is due to the specificity of programs to the community, and thus it is appropriate to have programs with different approaches.

There were some limitations that arose during the case studies when exploring this principle. Firstly, although environmental factors were included in the programs, there was a lack of evaluation to validate the effectiveness and influence on both the success of the programs and the sustainability of the environment. Therefore, evaluation of the impact these factors have, needs to be explored to determine their effectiveness. Secondly, the term 'environment' is open to interpretation and is not defined clearly by the principle, which became evident during various case studies. It was unclear whether the principle refers to the physical environment, such as weather, plants, water source; or other aspects such as the social and food environment. Therefore, this principle could benefit from a clearer definition of which "environment" is being referred to.

Overall, the case studies show that efforts have been made to address environmental and economical sustainability in their programs. The programs addressed this in ways that can be grouped into three common themes (recycling, optimising local and seasonal resources, and striving for sustainable agriculture). On the other hand, attempts to address the social and food environment were demonstrated by the programs in more diverse ways, as the factors that needed addressing were specific to the communities in which the programs were held. In the future, evaluation as well as a clearer definition of the term 'environment' will increase understanding and adoption of this principle.

Principle 3: Action needs to be based on collaborative and cross sectoral approaches.

Principle 3 encompasses the utilization of collaboration between different sectors and organisations. This comprises of three main themes: Communication, Stakeholder collaboration, and Environment.


Communication involves the clear and consistent communication between all partners and stakeholders. Stakeholder collaboration focuses on the engagement of various partners, such as government and non-government organisations, private institutions and community groups, and getting them to collaborate together effectively. Finally the environment includes the working environment, and how it influences effective collaboration and the implementation and running of programs. All of the programs analysed followed at least one and usually most aspects of this principle.

Communication

Each program strongly incorporated the views of the community throughout the process. For example in the C&M program, the program instigator talked to both parents and teachers to find out what they thought the school needed, and as each school identified something different, the program was tailored to focus on these issues. KCC also engaged the community to see what they wanted and whether the stakeholders were willing to support. The program also included different aspects, such as community garden development and an all-male cooking class, as these were identified by the local community as being something they would like to do. Similarly, the BTP also focused strongly on what the community wanted throughout the program, and responded by adding in activities such as cooking workshops.

Many programs kept stakeholders and the community informed about the progress of the project as this was identified as something that was important. This was demonstrated throughout the design and implementation of KCC. The program instigator kept stakeholders and the community up to date on the progress, so that once the cafe was up and running they were ready to immediately contribute and become involved. This led to a large amount of interest from the community right from the beginning, which was very beneficial for the program. A similar strategy was also incorporated by the G4H program, who kept all parties involved in the project aware of its progress throughout development and implementation.

Different programs utilized different modes of communication. Smaller programs tended to use more social media, email and verbal communications, whilst larger programs, such as G4H, had the resources to employ different modes simultaneously, such as verbal communication, physical pamphlets, booths and




stalls, in addition to those mentioned above. G4H also commissioned a community engagement officer to analyse the most effective way to engage with all members of the community, particularly with those sub groups identified as most vulnerable. Social media was used by many groups and was identified as useful as it provided an instant way to engage with a larger number of the population, and also provided an informal source of evaluation and feedback from the community. However many programs specified that they used multiple modes of communication in order to engage with the most amount of the community possible.

Having clarity around the goals, aims, objectives and responsibilities of each partner was identified in the literature and by some stakeholders as an important aspect in the development and planning of a program. The G4H demonstrated the application of this aspect by developing clear goals, aims and objectives early on in project planning. They also kept clear documentation about the plan and negotiated between stakeholders to come to a consensus on the plan outline so that everybody was on the same page from the beginning. They also allocated key responsibilities to different partners, based on their strengths and resources. The C&M program also followed this method by making sure there was clear communication between stakeholders about what had already been done, and about what needed to be done. They allocated responsibilities to each partner and kept up communication between progresses. The BTP and KCC both also had a clear division of responsibilities between stakeholders.

Stakeholders and Collaboration

All of the programs partnered with different organisations and groups that provided different support such as funding, manpower or resources. The BTP, lead by HICSA, partnered with INSPIRO, Knox community social health, the Yarra Ranges Council and the Healesville Living and Learning Centre. Each partner brought a unique benefit or resource to the program, for example the Healesville Living and Learning centre incorporated certificate accreditation for those involved in the program, HICSA incorporated cultural support and leadership, INSPIRO provided guidance for the program, while others provided funding and further resources. HICSA also supplied an experienced facilitator, who was both culturally respectful and knowledgeable. He was able to bring guidance, knowledge and experience with him, but also importantly he was able to engage influential members of the community, the local indigenous Elders, who brought credibility and further local knowledge to the program.

The G4H program was developed by Healthy Together Knox, who partnered with the Knox City Council's Sustainable Futures team. This enabled them to share resources, funding, and staff, but also allowed the program to be continued by the Sustainable Futures Team when the Healthy Together Knox program was eventually disbanded. The G4H program also commissioned researchers to explore different ways that the



whole community could be engaged and communicated with. Similarly they also hired trained facilitators to run the programs, and used them to identify natural leaders and champions in the community, who could be used to build capacity and thus increase the sustainability of the program in the future. Both stakeholders identified early on the values of their different organisations, and what they could bring to the program. The direction and plan of the program was developed early on and negotiated between the partners to reduce conflict and problems later in the program.


The KCC also partnered with many organisations to gather funds and support. Primarily they partnered the local Bendigo Bank, who provided funding for the program. They also partnered with the local Op shop, cafés and schools to gather further resources, funding and support long term. They did this through running fundraisers in local cafés, and developing a catering service to help support the Community Café financially in the long term. The Community Café also engaged influential members of the community, such as the local CFA, by inviting them to have a free dinner at Café to help gather support for the program.

Finally, the C&M Program had some support from the Healthy Eating Advisory from Nutrition Australia, which provided canteen audits for them and brought different strengths and areas of experience to the program. The program also worked to incorporate the views of the parents, teachers and children into the program, and partnered with them to develop a more effective program. Through incorporating their views they were then able to develop a plan that the schools were able to sign up to before the program was initiated, making them more likely to participate in the program. The founder of the program also engaged conflict resolution techniques throughout the program, such as engaging local champions and leaders in the school to run the program, as well as assessing the readiness of the community to change before the program's implementation. This meant that the schools were more likely to follow the program as they felt they had more influence over it, and the program was tailored to the readiness of the community.

It was highlighted that it is important to let stakeholders know what your strengths are and what you can bring to the program and collaboration and that in a partnership you "should make each other stronger, not work against or over the top of each other" .

Environment

When developing the programs, the working environment was also considered. The BTP created a space that could be set up as a central meeting place that included room for discussion. They also included influential members of the community such as local elders, who provided cultural knowledge and helped




develop trust amongst the community for the program. The KCC invited influential stakeholders to their dinners, such as the local members of the CFA, where they could eat for free. The G4H program worked in an office with some of their partners, which made communication and resource sharing a lot more efficient. Additionally, the C&M program engaged principals, teachers and parents. All of the programs looked to get funding from different areas, such as from local community organisations, corporations such as banks, and all the way up to funding from the State or Federal Government.

Principle 4: Action needs to be based on the best available evidence.

This principle highlights the importance of evaluating the work being done to address food security, as it will help to strengthen the evidence around effective strategies. Evaluation will help to determine community and environmental impacts and outcomes of the program and allow for changes to be made if necessary. The findings from the case studies showed that evaluation is an area that can be improved. Whilst all the programs analysed included some form of evaluation, future programs need to work towards having some form of an evaluation plan set in place. For example, being quite a small community based program, KCC did not have any evaluation set in place, and however staff and volunteers receive regular verbal feedback from community members. The cafe also receives ongoing feedback via social media on their Facebook page, which is updated regularly. Whilst this feedback is not written and recorded, staff members take the feedback on board and make changes where necessary to ensure they are meeting the needs of the community. The café was based on the “lentils as anything” (pay as you can) concept and before the café started up six and a half years ago, a survey was completed to find out if the community was in favour of the idea. KCC has a very unpredictable nature where participants vary each week, which makes it difficult to continuously monitor. Food security in itself is hard to measure and this particular case study shows how evaluation can be quite difficult given the nature of some programs.


The BTP is similar to KCC in that regular informal feedback from participants is received and taken into account moving forward. Participants have shared their love of the program and the importance of learning about the Indigenous culture. The program is based around a concept of the backyard being the supermarket, teach participants to trace back their roots, and make use of what is readily available in the local area. Annual evaluation reports are completed by HICSA highlighting key achievements of the program such as the development of a book about bush tucker plants. This is important as it allows the community to celebrate and shows stakeholders some outcomes of the program.



It was evident during the case studies that the smaller community run programs had less formal evaluations set out whereas larger government initiatives and programs run in schools had clear evaluation plans to follow from the beginning. The G4H program by Healthy together Knox incorporates evaluation in order to determine effectiveness of the program and develop the evidence around growing fruits and vegetables locally. Surveys were used to assess outcomes and get feedback from participants. This was useful in determining the direction of the program and assessing if the idea was something that the community was in favour of. The survey also found that after the program, skills and knowledge about gardening improved as well as the proportion of participants growing their own fruits and vegetables. The G4H program shows how evaluation is necessary in order to strengthen evidence around different approaches to food security. This information is also useful to show stakeholders when applying for funding as it proves that the work being done is effective.

The C&M aims to address beliefs around healthy foods. The program is based on evidence that highlights eating behaviours develop early in life. It incorporates activities that promote lifestyle changes in children, which is important for helping to reduce food related disease and illness in the future. The program has clear evaluation methods in place to monitor changes and collect data. Feedback from parents is collected through surveys as well as verbally during meetings and interviews. One of the key components of the program is pre and post lunchbox auditing and environmental auditing that shows outcomes as well as areas that need more attention. Once the school has completed the program activities, a final report is made highlighting the outcomes along with recommendations for each school. Three weeks after the final report is released, the schools are visited for a policy and facility review. The information gathered from these processes demonstrates the achievements of the project and can be used to increase participation and support amongst stakeholders.

The case studies suggest government run and school based initiatives have clearer evaluation methods set out and describe exactly what aspects of the program are being monitored whereas smaller community based programs tend to informally evaluate the program and make changes as they feel necessary. A major barrier to evaluation that was identified is the nature of programs, and limited resources and support to implement evaluation tools into the program. Another key finding is that the methods of evaluation and the types of data being monitored vary quite significantly depending on what the intervention is. This is important because it highlights that there is not one specific way that programs need to evaluate. Instead, programs need to ensure that they are keeping track and documenting all program achievements whether it be formally or informally. Future work should also monitor environmental factors and changes in the community and adapt accordingly. Making sure this information




is clear and available to all stakeholders is key to strengthening the evidence and increasing success of future food security work.

Principle 5: Action needs to be long term and sustainable.

The final principle relates to creating sustainable programs that have long lasting effects. In order to achieve this, programs need to have clear goals and work in partnership with organisations and people to create programs that address the root causes of food insecurity and aim to build capacity of communities to improve their own health. As with the other principles, each program that was studied addressed this principle and it was found that sustainability was a key priority and strength of the programs. The case studies highlighted how a range of different strategies are being implemented to increase sustainability across different settings. The G4H program had a goal set out to build capacity of the community by equipping individuals with the skills and knowledge to grow their own fruit and vegetables. The program also partnered with the Knox City Council Sustainable Futures team which turned out to be significant as it meant the program could continue after funding was cut during the change in government. This highlights the importance of partnerships and how they can help to improve the sustainability of programs during times of turmoil. The project also formed ideas from a previous successful program “Gardens for Wildlife” and this helped with drawing in the community and gaining support. Using a similar name created familiarity and gave the community confidence in the program and resulted in a lot of individuals signing up to participate. By empowering the community, the G4H project is able to create long-lasting benefits amongst individuals as it increases their capacity to improve their own health in the future once they have finished the program.

Similar to G4H, the BTP aims to build skills and knowledge around native Australian plants and respecting and honouring Aboriginal and Indigenous culture. The program teaches the participants to grow their own plants from seeds rather than taking from the wild as a means of preserving the land and enhancing environmental sustainability. Through learning about lost culture, participants can pass on the knowledge to others once they have completed the course. The program also includes sessions about the nutritional value of native foods and teaches the participants about the different health benefits of the plants that were grown. An important aspect of the program is demonstrating the different ways bush tucker can be prepared so that the participants can go away and cook the foods for themselves. This is a valuable and fun experience as it brings the participants together to taste and experiment with different plants and foods. The program is driven by what the community wants and activities are developed accordingly. This




has greatly helped to keep the community engaged and has been a real key to the success of the program over the past three years it has been running for.

The C&M program also uses strategies to build capacity including lessons about healthy foods, information sessions for parents and hands on activities in the kitchen and school gardens. Aside from these, the program also has some different approaches that help to create long-term effects in schools. The program is tailored according to the needs of the school which helps to ensure that key issues are being addressed. A key element of the program is the development of a sustainability project for each school which is included in the final report once the program is completed. The projects aim to support the schools and encourage them to continue to encourage healthy eating amongst the children. Examples of some sustainability projects created include reviewing canteens, holding breakfast clubs and creating more opportunities for education and advocacy of healthy foods. By doing this it helps to ensure that once the C&M program is finished, the school will be able to build on the work that was done and create supportive environments for children to eat healthily and run the project without continuous support from the program.

In contrast, KCC has a major focus on developing ways to generate funds in order to make the cafe sustainable and allow it to keep running. The most recent and significant success is the establishment of Koha catering which is a major source of income and enables the cafe to continue providing food to the community. They have also held fundraisers in the past selling their own cookbooks and ran a school canteen for a period of time. The cafe has also provided experience for young volunteers and equipped them with skills to be able to get jobs and earn income for themselves. Aside from generating funds, the cafe has also run cooking classes for the community to equip them with basic cooking skills to prepare meals for themselves. They also had opportunities for the community to learn how to grow their own fruits and vegetables and how to make their own jam. Similar to the other programs, these extra activities are really important as it encourages the community to improve their own health and not be reliant on the programs. Another aspect of sustainability that the cafe addresses is food availability. The cafe receives food from second bite and every week different meals are prepared according to what is available to them and in season. By not having a set menu, the cafe is able to avoid added expenses from lack of ingredients to create specific meals. The cafe has remained open for six and a half years and shows how smaller scale initiatives that provide food to communities can still be successful when they are working towards sustainability and empowering individuals to improve their health.

This principle was addressed well and all programs included some form of capacity building by implementing strategies to increase knowledge and skills to improve overall health amongst the



community. An area that could be improved is ensuring that smaller community based programs have a clear vision from the very beginning. This can help to increase support from stakeholders and participation from the community as they will be more aware of the benefits and purpose of the program. Future programs should also focus on collaborating with organisations and working together with people. This can strengthen programs by bringing together a range of knowledge from different areas of expertise as well as spread out the workload. Overall future work should continue to have sustainability at the forefront of planning and focus on how the program is going will provide long lasting benefits and reduce food insecurity over time.

Conclusion

Each program incorporated different aspects of the principles in different ways, however it is important to remember that these principles were not published when these programs were initially developed. Principle 1, 3 and 5 were addressed well by the case studies and programs incorporated many different strategies, which aligned with these principles. It was found that programs addressed Principle 2 by considering the environment when designing programs, however due to lack of evaluation (Principle 4), the benefits of doing so were sometimes unclear. All in all the case studies highlight the practicality and relevance of the principles at a more local level and demonstrate the different ways in which they can and already are being incorporated into programs addressing food security.