The development of a food system monitoring tool for local government areas: one component of a resource to promote the involvement of local government in food and nutrition strategies

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THE DEVELOPMENT OF A FOOD SYSTEM MONITORING TOOLS FOR LOCAL GOVERNMENT AREAS:

One Component of a Resource to Promote the Involvement of Local Government in Food and Nutrition Strategies

A thesis submitted in partial fulfilment of the requirement for the award of the degree of:

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by

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ABSTRACT

The purpose of this project was to develop a pilot proforma for monitoring food systems within local government areas (LGAs). The proforma was intended to be used by local government staff and health professionals working within a local government setting. The content and structure of the proforma was principally based on a review of relevant literature and professional judgement. The project was based on five project principles for wider local government involvement in local food systems, namely, social justice, environmental sustainability, multistrategic involvement, intersectoral collaboration and community empowerment.

Two proformas; 'A' and 'B' were developed to be used in tandem. Firstly, the structure of the proforma was designed based on guidelines derived from considering relevant needs assessment models, the food system monitoring methodology employed in recent studies, Lester's (1994) model of Australia's food system, implications imposed by the proforma target group and professional judgement. The same basic structure, with some minor differences, was developed for both proformas. The content of each proforma was organised into LGA scenarios, namely LGA typologies in proforma 'A' and population subgroup categories of concern in proforma 'B'.

Secondly, LGA scenarios were selected based on their potential to experience a unique combination of food system issues from the literature and using professional judgement. Each scenario category for proforma 'A' and 'B' were defined using Australian Bureau of Statistics (ABS) Libraries Extension Program (LEP) small area data, easily accessible in local council libraries.
Thirdly, the content of proforma scenarios was developed in four stages. These included: identifying potentially existing food system issues within each scenario, identifying data patterns of concern implying such issues, identifying the data used in such patterns and selecting strategies for local government involvement in addressing the presented food system issues. Strategy examples were selected based on their consideration of project principles and classified into three degrees involvement, namely single isolated strategies, multistrategic involvement and strategic involvement as part of policy. This content was derived from literature review of food system monitoring studies of LGA's around Australia and professional judgement.

Fourthly, general measures of diet related morbidity and mortality, nutritional status and nutrient intake were identified for the assessment of population health status in LGA's and health outcomes.

Lastly, the scenario content was incorporated into proforma outlines. A proforma package was developed to be included in a wider project resource package, ready for trial in a variety of local government settings.
CHAPTER 1
INTRODUCTION

1.1. PROJECT RATIONALE

The link between dietary intake and disease has been well established. Some estimates state that diet contributes up to 75 percent to the onset of some diseases (Crowley et al 1992). Moreover, diet related diseases have been found to be the highest contributors to mortality in Australia (Better Health Commission (BHC) 1986, Guest et al 1993).

Strategies employed to reduce the prevalence of diet related diseases have been found to target individual food choice behaviour at the expense of local, longer term, more sustainable structural, population based approaches (Griggs 1988, Davis and George 1993, Duff 1994, Harris 1994). A wide variety of social, cultural and other personal factors have been identified to influence food choices (Fieldhouse 1986, Scott - Kemmis and Currie 1991). However environmental and structural factors, which determine the quality, availability and accessibility of food, are the parameters within which personal factors act.

There has been found to exist differences between diet related disease incidence between residents of defined small and large areas (Eason 1987, Cullen et al 1989, Siskind et al 1992, Taylor et al 1992, Mathers 1995). Differences between the quality of food related environments in different areas may be contributing to such existing diet related inequality. Indeed ‘nonsupportive’ food related environments in small areas have been found to limit the ability of residents to achieve a recommended intake, for example: Penrith- Western Sydney (Brierley et al 1991) and Redfern - Central Sydney (Finlay and Mc Leod 1989, Hodge 1991).
Such nonsupportive food environments are described as: disproportionately few basic food outlets such as supermarkets and fruit and vegetable shops, a lack of public transport, decreasing local agriculture, centralised food processing and manufacturing and a lack of public breast feeding spaces in trading centres to name a few. Moreover, social, cultural, economic and other personal characteristics of residents are exacerbated by such nonsupportive environments, also contributing to diet related, as well as general health inequality.

A food systems schema adequately encompasses these and other food related environments that exist in small areas. The Australian food system has been described as consisting of food production, food processing and manufacturing, food distribution (retailing), food for sale, food intakes and diet related health outcomes (Lester 1994).

Local government is a primary determinant of the structural nature of local food environments where the food choices of local communities are made. There exist many areas of local government responsibility which indirectly or directly impact on local food systems. Moreover, local governments have the capacity to make positive, sustainable changes to local food systems through strategies which involve changes to local infrastructure. Such changes can impact on entire populations in small areas, as well as population subgroups identified to experience a greater incidence of diet related ill health. Such involvement includes creating supportive local environments and rectifying any existing spatial inequality.

Local governments are likely to become involved in wider local food and nutrition initiatives if they are part of the assessment of local food systems and the identification of local food system issues. Local government is in unique position to receive a comprehensive perspective of small areas and identify spatial inequality. Ultimately, food system monitoring can provide
information for goals, objectives and strategic planning for the development of food related policy and the integration of food and nutrition issues within existing local policy.

Comprehensive local food system monitoring provides the opportunity for collaboration between local government individuals, health professionals, members of other private and public sectors, and the local community. Such individuals can work together to collect local food system data, analyse results, identify local food system issues and devise, implement and evaluate strategies for their address.

Moreover there has been found to exist a lack of small area food and nutrition data and no effective mechanism for its aggregation at a state/territory and hence national level. This, it has been argued, handicaps attempts to establish a national food and nutrition monitoring system and evaluate national food and nutrition policy strategies at the local level (Marks 1991, Cashel 1992). Local government areas are a useful geographical unit from which to aggregate such food related data.

To date no guidelines exist for monitoring local food systems within a local government setting. Many national, state and local directives call for the wider involvement of local governments in local food systems. Also, local government have been increasingly accountable for the well being of local communities. This has been demonstrated through their increasing role in providing local community services and conducting regional needs assessments for such services (Commonwealth Department of Health, Housing and Community Services (CDHHCS) 1994b). These two aspects make the development of guidelines for monitoring local food systems in a local government setting timely.
1.2. PROJECT AIMS

The aim of this project was to develop a simple proforma for monitoring local food systems to a standard ready for trial in local government settings.

The objectives of the proforma were to guide local government staff and health professionals working within a local government setting in:

- Selecting relevant feasible data for monitoring food systems within their LGA’s
- Identifying relevant common data patterns of concern
- Identifying issues within local food systems revealed by such data patterns, that are feasible for local government involvement
- Identifying feasible strategies for the address of food system issues by local government

The proforma was intended as part of an education resource for local government with the overall aim of involving local government in the development of an integrated, sustainable local food system.
1.3. PROJECT DEFINITIONS

* Proforma : A format for presenting associated generic stages within a process.

* Local government :

    'A local governing body established by law or under a law of state/territory, other than a body with the sole or principal function of which is to provide a particular service'

    (Australian Local Government Classification Steering Committee 1994: 1)

    AND/

    'A political institution existing in a network of public sector organisation with overlapping and sometimes competing jurisdictions of federal and state governments'

    (Department of Immigration, Local Government and Ethnic Affairs 1988:3)

* Food and Nutrition Monitoring :

    'The continuous description of the components of a food and nutrition system for the purposes of planning, policy analysis, program evaluation and trend forecasting should monitor nutritional status and nutrition related conditions and must have links with decision making processes'

    (Lester 1994: 271)
CHAPTER 2
LITERATURE REVIEW 1: THE CONTEXT FOR LOCAL GOVERNMENT INVOLVEMENT IN LOCAL FOOD SYSTEMS

The literature review section is presented in two important components. The first is a population based structural approach to the reduction of diet related disease, in which local government play an important role in determining the structural nature of local food system environments. Local food system monitoring is proposed as a first step to promote wider local government involvement in local food and nutrition activities. The second chapter outlines food system monitoring areas in LGAs, which indicate feasible areas for feasible local government involvement.

2.1. DIET AND DISEASE

The link between diet and disease has been expressed in terms of a direct contribution to mortality and morbidity. Such information is useful for the measurement of diet related health status in populations and assessing the impact and outcome of strategies on food intakes.

The Better Health Commission (BHC) (1986) was the first to formally recognise a 60 percent contribution of diet related deaths to the total deaths in Australia, leading to the identification of diet related disease as a priority area for intervention in Australia’s ‘Health For All by 2000’ program.

Diet related diseases were identified by the BHC (1986) as; coronary heart disease (CHD), high blood pressure or ‘Hypertension’ (HTN), cerebro-vascular disease (CVD) - ‘stroke’, some cancers, Non-Insulin Dependent Diabetes Mellitus (NIDDM), gall bladder disease,
osteoporosis, dental caries, and liver cirrhosis and related abnormalities. Being overweight and obese also have been found to be strongly associated to diet and an increased rate of diet related disease morbidity and mortality (Lew and Garfinkel 1979, Borkan et al 1986, Loos and Halais 1991).

The implicated dietary factors have been identified to be, excess energy intake from fats (especially saturated fats), refined carbohydrate and alcohol, excess salt intake and the decreased consumption of fibre, whole grain cereals, fruit and vegetables (BHC 1986). Such findings have formed the basis of dietary guidelines for all Australians (National Health and Medical Research Council (NHMRC) 1992a).

Diet has been found to be a strong contributor to the onset and exacerbation of a number of diseases. In their study, Crowley et al (1992) defined a population attributable factor (PAF). These have been described as the proportion of total illness or ill health events in a population that could be prevented if a dietary risk factor was removed from the incidence of disease. PAF values were found to be broad ranging, from 75 percent in HTN, atherosclerosis, NIDDM, gastrointestinal (GIT) conditions, dental caries and iron deficiency anaemia down to 10 percent in some cancers and osteoporosis. Notably, such attempts to measure the impact diet related disease morbidity rely on the information available at the time.

Moreover the Commonwealth Department of Health Housing, Local Government and Community Services (CDHHLGCS) (1994) established diet related health outcome and nutrient intake targets, for strategies related to Australia’s ‘Health for All’ program, acknowledging the impact of diet on disease status. Such targets were developed with a focus on cardio-vascular disease (CVD) but are widely applicable to a variety of diet related conditions.
2.2. INEQUALITY IN THE EXPERIENCE OF DIET RELATED DISEASE

The BHC (1986) found the prevalence of diet related ill health in Australia to be the highest amongst population subgroups with specific demographic characteristics. Such differences in prevalence have been termed ‘inequalities’ and defined as the description of the unequal distribution of some factor in a given population (CDHHCS 1993). These five broad population descriptors are used in the following section to further define population subgroups of concern and assess approaches for improving the nutritional status of the Australian population.

Low Socio - Economic (SE) Groups

Low SE groups have been found to experience a higher prevalence of diet related disease. Recent examples of such evidence includes higher incidences of CVD, CHD, HTN and NIDDM in subgroups with significantly low incomes, educational levels and occupational status (Winkelby et al 1992, Mathers 1994, Murray 1994), a higher prevalence of obesity in low income and overall low SE status (SES), especially low income subgroups (Boyle et al 1993) and a significantly higher prevalence of dental caries in children of parents experiencing low SES (Boulton and Magarey 1988, Glicksman et al 1990, Mathers 1995).

Direct indicators of income have been deemed to be the most significant and practical indicators of SES for the description of diet related disease inequality. Income was formally acknowledged to be an important indicator of diet related ill health by the BHC (1986). It has been defined as the recurring financial receipt on which individuals, households or families depend for daily living (Mc Lennon 1995). Other principle indicators of SES, namely occupational status and education level have produced less significant associations to general
ill health and diet related disease when compared to average household incomes (Broadhead 1986, Taylor et al 1992, Murray 1994).

The potential usefulness of composite indicators of SES is outweighed by their lack of accessibility. Composite indicators of SES describing small areas need to be purchased whereas small area population income and employment status data are available to all local council libraries free of charge through the Australian Bureau of Statistics (ABS) Libraries Extension Program (LEP) (ABS 1995).

Although indicators of SES are useful, they can only estimate the description of diet related inequalities. Calvert et al (1991) warned that variables of SES were not specifically designed for health analyses. Classes of SES have therefore recommended to only be used as estimates in the prediction of relative adversity.

Indeed SE related subgroups found to experience significant diet related inequality have been commonly defined using direct indicators of income. Such subgroups include; low income families and households or independent individuals, residents of rented government housing, the unemployed, recipients of social security benefits, subgroups with a relatively low educational attainment, those with blue collar occupations, the elderly population (aged 65 years and above) receiving pensions and other social security benefits, and physically disabled individuals (Baghurst and Syrette 1987, Finlay and Mc Leod 1989, Hughes et al 1994, Hodge and Finlay 1995, Mathers 1995).
Age:

Age also has been useful in describing diet related disease inequality. Younger age groups have been found to suffer more short term diet related illnesses, for example, infant malnutrition in remote Aboriginal communities, maternal malnutrition in young mothers and dental caries in young children. Alternatively, diet related chronic health complaints have been found to be suffered more frequently by older men and women (BHC 1986).

Sex:

Single elderly women with chronic disabling conditions are suggested to greatly contribute to the prevalence of diet related conditions if combining age and sex factors and earlier mortality among men (BHC 1986).

NESB Population Subgroups

Country of birth also has been found to be a significant descriptor of inequality in the prevalence of diet related disease. Population subgroups from Non-English Speaking Backgrounds (NESB’s) have been found to demonstrate higher rates of diet related disease morbidity with longer residency in Australia (English and Bennet 1985, Eason et al 1987, Powles and Gifford 1990, Luckney and Reznik 1991, Wilson et al 1993, Murray 1994).

Explaining such diet related ill health are studies which have found increased intakes of saturated fat, attributed to higher intakes of meat, and a decreased intake of starch, fruits and vegetables, positively associated with length of residence (Hopkins et al 1980, Powles 1988,
Horie et al 1988, Todd and Gelbier 1988, Mitchell et al 1990). The latter has been termed ‘diet acculturation’ (Fieldhouse 1986), i.e. the adoption of western - anglo saxon patterns of eating. However, in some NESB communities, the contribution of diet previously existing culturally determined food preferences to diet related ill health is unclear. In most cases individuals from NESB’s are therefore encouraged to maintain their traditional patterns of eating.

The nature of each NESB community may significantly vary between areas by virtue of their SES and their locational characteristics. Specific NESB groups should therefore be assessed for unique health trends. NESB subgroups that do warrant generalised concern are newly arrived migrants and NESB groups exhibiting a low proficiency of English due to their experience of greater language and cultural barriers in accessing often more healthier, familiar traditional foods. Interventions which target this population would provide an ideal opportunity to minimise the negative aspects of diet acculturation.

**Australian Aborigines and Torres Strait Islanders (ATSI ‘s)**

The causes of morbidity and mortality in ATSI populations have been found to be principally diet related, for example, hyperinsulinemia and obesity associated with diabetes morbidity (Guest et al 1993) and Acute Myocardial Infarction (AMI), the largest single contributor to mortality in Australian Aboriginals during 1991 - 92 (Bhatiak and Anderson 1994). ATSI individuals have also been found to exhibit low SES associated to such patterns of ill health (Guest et al 1993).
Geography

There has been found to exist distinct differences between small areas in the prevalence of diet related disease, suggesting contributing locational factors and spatial inequity to health inequality. Significant differences in general and diet related health status have been found to exist between Australian states and territories, and between urban and rural geographic regions (Eason 1987, Cullen et al 1989, Jain 1994).

The additional consideration of SES factors in geographic inequality has been found to further clarify patterns of inequality. Siskind et al (1992) found a higher prevalence of respiratory and circulatory disease in Brisbane suburbs ranked with a lower SES, based on ABS average household income data. Studies have also found employment status, used to define areas with a low income residing population, to produce strong associations with the prevalence of ill health and diet related diseases (Taylor et al 1992, Mathers 1995).

In summary, geographical inequities may exacerbate social and economic factors experienced by population subgroups and contribute to patterns of diet related health inequality. In considering the five presented demographic characteristics such population subgroups of concern are: low income and unemployed individuals and households (especially with young dependents), the low income elderly (especially single females living alone) and other physically disabled individuals, ATSI communities and NESB individuals (especially those with a low English speaking ability and/or newly arrived).

With this said, studies of diet related health inequality need to be interpreted with two important considerations in mind. Firstly, mortality rates do not describe the prevalence of nonfatal diet related chronic and short term ill health. The experience of diet related disease is not completely described by studies which have considered mortality data alone (BHC 1986).
Secondly, the population groups within studies also may exhibit other factors which have contributed to their described health inequality. Some examples of such factors are: genetics in obesity (Allison et al 1995), smoking in cancer (Thornton et al 1994, Kearney et al 1995) and inactivity in osteoporosis (Nguyen et al 1994).

An analysis of ABS LEP data reveals that demographic, predominantly census based data, are available for all statistical small areas for the purpose of identifying residing population subgroups. Census data have been found to be useful for identifying geographic inequality due to the comprehensiveness of data and standardised data collection and management methods. Nevertheless, census data should be used with the understanding that data becomes dated between census surveys, population estimates calculated between census’ are derived based on various assumptions and data are adjusted for various errors (ABS 1992).

2.3. LOCATIONAL FACTORS INFLUENCING DIETARY INTAKE: FOOD SECURITY

Low income groups have been the most extensively studied in terms of the influence of locational factors. Labonte (1987) provided a widely accepted explanation of the interaction of income, residential location and ill health. Poor occupational status or unemployment has been described to contribute to low income and poor housing conditions and area of residence which are all suggested to contribute to ill health and inadequate dietary intake.

Studies have found lower income groups to consume lower intake of micronutrients, namely calcium, iron, zinc and some vitamins (Darnton-Hill and English 1990, Worsley 1990, Buchorn and Phillips 1991, Ingrid et al 1994) and exhibit a higher amount of dietary patterns
strongly implicated in diet related disease. The latter refers to a higher intake of high fat, processed meats and less fruits, vegetables, reduced fat dairy products and cereals (Baghurst et al. 1988, Lee et al. 1994a), a higher intake of snacks and other foods high in total and saturated fat, salt and sugar in children (Bolton and Magarey 1988, Glicksman et al. 1990, Jenner and Miller 1991) and a higher intake of breast milk substitutes in infants (NSAHS 1992, Hughes et al. 1994).

Differences between study groups and diet intake methodology can explain differences in diet patterns found amongst low income study groups. Firstly, study groups defined as low income are described using different descriptor data. An example of this are Crotty et al. (1992) who found single parent, predominantly female subjects to consume small amounts of meat and cheaper alternative sources of protein, namely eggs and beans. Alternatively, Baghurst and Syrette (1987) found predominantly unemployed males, receiving social security benefits, to consume significantly more red meat than higher income subgroups. Secondly, differences in the methods used to collect diet intake data, namely food frequency questionnaires, 24 hour recalls and weighed food records and different dietary analysis methods can also contribute to some discrepancies.

Alternatively, the diets of higher income populations have been found to consist of a significantly higher intake of whole grain bread and cereals and fruit, vegetables and low fat foods (Baghurst and Syrette 1987, Jenner and Miller 1991, Steele et al. 1991).

A variety of social, cultural and other personal factors have been identified as influencing food choice (Fieldhouse 1986, Scott-Kemmis and Currie 1990). Nevertheless, environmental factors, which determine the quality and accessibility of available food, are the underlying factors on which personal factors act. Indeed inadequate dietary intakes have been attributed
largely to meeting energy needs with more available and accessible nutrient sources (Emmons et al 1986, Baghurst et al 1988).

Such environmental issues describe a lack of food security, where food security is defined as ‘all people in a given population obtaining a culturally acceptable, nutritionally adequate diet through conventional food sources at all times’ Ashman et al 1993:9). Ashman et al (1993) described three factors to ensure food security, namely, accessibility to a local food supply (for example, adequate transportation), availability of the food supply (a culturally acceptable, fresh and basic food supply) and affordability, (the presence of reasonably priced food).

Investigating the geographical areas in which such population subgroups reside is warranted to identify any local structural factors that may limit their ability to consume a diet as recommended by Australia’s dietary guidelines. Small area analyses are relevant for the purpose of describing local areas and developing strategies for small areas.

2.4. A STRUCTURAL, POPULATION, SYSTEMS BASED APPROACH TO REDUCING DIET RELATED DISEASE

A Structural Approach

It has been argued that an over emphasis has occurred in targeting changes in food choice behaviour at the expense of structural, ie political or economic related areas for intervention, for example, food production, food supply and food marketing (Griggs 1988, Davis and George 1993, Harris 1994). Frequently nutrition education programs aim to achieve
behavioural change, therefore laying the responsibility for unhealthy food choices entirely on the individual (Grossman and Webb 1991, Duff 1994). Alternate arguments have included the perspective that individual behaviour is strongly determined by local environments (Finlay and Mc Leod 1989) and ‘health inequalities do not often reflect deliberate individual choices (Leeder and Grossman 1991: 3).

Smith (1993) described the need to simultaneously adopt a range of strategies, including education and structural/environmental changes for the successful reduction of diet related ill health. The limited success of behaviourist approaches has been largely attributed to a lack of supportive structural strategies, especially at the local level. Steele et al (1991) suggested continued differences in intake between SES groups are attributable to a greater compliance by higher income and educated population subgroups to health promotion messages. This argument is supported by a National Health Strategy (1991) report which identified low SES population subgroups to be the lowest users of preventative, community based, health promotion programs.

Structural approaches refer to strategies providing infrastructure, predominantly affecting the environment in which people live. Such strategies aim to support community based strategies, promote longer term positive health outcomes and address existing underlying inequities (Mahler 1986, CDHHCS 1993). ‘Inequity’ is defined as the inequality that, once its cause is studied, is found to be unjust and unfair in the context of what applies in the rest of society (CDHHCS 1993, Lester 1994). World Health Organisation (WHO) international directives for health promotion strongly support such an approach (WHO 1986, WHO 1989).
In 1992 Australia’s Food and Nutrition Policy specifically called for wider structural change to the area of food and nutrition (CDHHCS 1992b). ‘Making healthy choices easy choices’ has been the application of such directives in the area of public health nutrition.

A Population Based Approach

A population approach which aims to control the causes of disease in entire populations (Rose 1985), is warranted for four reasons. Firstly, issues of spatial inequity and nonsupportive environments have not only been found in areas with population subgroups identified to experience adversity. Secondly, individuals not identified to experience social, economical and cultural adversity or conflict also significantly contribute to the prevalence of diet related disease. Thirdly, together the commonly identified subgroups of concern, constitute a large proportion of the population. Lastly, through a population approach, those that have been identified to experience significant adversity have the opportunity to benefit the most. A population approach can therefore be a socially just approach able to target all those in need and potentially lift the health status level of the entire population.

A population approach can include strategies affecting small and large geographical populations. Areas with residing populations of concern warrant investigation since they may exhibit the greatest spatial inequity. This approach has been taken in areas exhibiting low SES, for example, low cost food welfare outlets such as ‘The ‘Food Barn’ and ‘Cheap Way Cafe’ (Elizabeth City Council and Health Development Foundation 1993) and community gardens (Ashton et al 1986, Ransen 1993).

Alternatively, other issues that have not been found to be spatially distinct, may require strategies which target entire populations. Examples of broad strategies aiming for structural
change at the local level have included the accreditation of Take Away Food Outlets (TAFO's) programs which involved local council food inspectors and environmental health officers (EHO's) (Russell 1993) and relatively recent multistrategic locality based programs, namely the; 'Elizabeth Food and Health Project' - South Australia (Elizabeth Council and Health Development Foundation 1993), 'Food in Redfern Project' - Sydney, NSW (Finlay and McLeod 1989, Buchorn and Phillips 1990, Hodge 1991) and 'Fitzroy Nutrition and Health Project' - Victoria (Cox 1991).

A Systems Approach to Describing the Environmental Determinants of Food Choice

A food system framework is especially useful to identify food related issues within geographical areas which affect the food choices of residing populations and hence their nutritional status. The analysis of food systems affecting local communities has been suggested for the improvement of the local conventional food supply and other food related environments, rather than heavily relying on the nonconventional food supply or emergency food welfare services (Cohen 1991).

A food system has been defined as the activities which lead to the production, processing and distribution of food and the utilisation of that food to satisfy biological, psychological and social needs' (Heywood and Lund-Adams 1991: 259). Heywood and Lund-Adams (1991), described a food system framework as including the subsystems of food production (agriculture, fisheries and live stock), processing (the manufacturing industry), distribution (food transportation and retailing industries), consumption (food purchase and intake) and nutrition (health outcomes) with consideration for the personal factors influencing food choice, namely, attitudes, skills, knowledge and culture (Heywood and Lund-Adams 1991).
In his food system framework Lester (1994) incorporated the Heywood and Llund-Adams (1991) environmental and psychological determinants of food choice. He also included food security factors such as equity and access to food, including SE factors (education, income level, occupation) and environmental factors (price, transport, housing and hygiene).

Lester (1995) has presented a general summary of food systems for national food and nutrition monitoring which lends itself to applications at the local level (Appendix 3). He summarised four main subsystems from his 1994 model through which to monitor food systems, namely, available food supply, food distribution and acquisition, food and nutrient intakes and nutritional status and health outcomes.

For these reasons Lester's 1994 and 1995 frameworks (Appendices 1 and 2, respectively), served as a basis from which to identify specific local food subsystems for the investigation of potential issues and inequities in this project.

This project has therefore adopted a small area, population, systems based approach to identify the need for structural strategies for the reduction of diet related disease.

2.5. LOCAL GOVERNMENT INVOLVEMENT IN STRUCTURAL, POPULATION FOOD SYSTEM BASED STRATEGIES

Local government has been identified, as local planners and policy makers significantly impact on the nature of local food subsystems and hence are a most appropriate setting for
much needed local structural food system changes. Through their role in advocating for community well being at a political level, local government are best placed to interpret local needs and preferences, enlist community participation in the planning, provision and management of local services and amenities, and develop long term sustainable positive changes through the development of local supportive infrastructure and policy (Milio 1990, Upston and Woods 1992).

Areas of local government responsibility which impact on local food systems have been identified as:

* Town planning and development (including: street construction, tree planting, reserves, public amenities, the local water supply, land use zoning, child care facilities and maternity and child welfare) (DILGEA 1988, 1991).

* The local economy (local employment schemes, LGA food imports and exports and local food production), (South Sydney City Council Food Policy Steering Commitee (SSCCFPSC) 1995).

* Local food services (food and nutrition inspection of restaurants, school, work place and sporting facility canteens, mobile food vendors and other public eating places (Upston and Woods 1992).

Upston and Woods (1992) specifically emphasised local food supply settings as a useful starting point for wider involvement by local government. They suggested expanding local government food safety surveillance functions to include the accreditation of nutritional quality in food outlets and local food services, and greater involvement in local agricultural food production, local hostels, boarding houses and local food markets.

The specific involvement of local government in local food systems has been identified to have many benefits. These include the availability of local context sensitive data, speed of interdepartmental communication at the local level and greater opportunities for community participation and hence the identification of relevant local food system issues of interest to the local community (Grossman and Webb 1991). Local government also are able to advocate for local issues at a state and national level (Local Government Association of Australia (LGAA) 1994).

In a broader context, Labonte (1993) specifically emphasised local government, through intersectoral structural action, to act as overseer of local sectors. In this way local government can ensure the sustainability and equity of the natural, economic and social environment and an equitable social environment. Applied to local food systems, such a vision implies the goal of proactive action by local government whereby local government consider the impact that their decisions have on the food choices made by local populations and their diet related health status.

An analysis of the successful ongoing food related work with South Sydney Council (SSC) documented in Hodge and Finlay (1994) and SSCCFPSC (1995), has revealed three important criteria for the wider involvement of local government in local food systems. Firstly, successful local government involvement is dependent on strong ‘two way’ collaborative networks, namely, local government involvement in health related areas and the
involvement of local health professionals in local government settings. Secondly, advocacy for a public health philosophy and policy development approaches towards ensuring the health of local populations is needed in local health and government sectors. Thirdly, ‘value adding’ to existing areas of local government responsibility is imperative for success. This would ensure feasible local government involvement in local food systems and improvements in the efficiency of local government in managing their LGA.

2.6. DIRECTIVES FOR LOCAL GOVERNMENT INVOLVEMENT IN LOCAL FOOD SYSTEMS

Australia's food and nutrition policy (AFNP) calls local government to action to address and reduce inequity in the local food systems (CDHHCS 1992b). Local government has been called to take: ‘an active role in affirming and implementing AFNP objectives at a local level’ (CDHHCS 1992b:14) with an emphasis on local policy development. Specific issues for involvement are identified as ‘access to supermarkets, land use, food availability and nutrition needs’ (CDHHCS 1992b:17), especially the needs of ‘lower SES groups and older people’ (CDHHCS 1992b:14).

Other directives identify opportunities for wider local government involvement in local food systems. These include;

* ‘Health for All’ (CDHHCS 1993)
* The identified role of local governments in supporting local ‘Land Care’ groups (Campbell and Seipen 1994)
* A local ‘Agenda 21’ environmental policy (Robinson et al 1992 (eds), Cotter 1994)

* The placement of the local government sector amongst other relevant sectors in a commonwealth department (Lester 1994)

* State and territory food and nutrition policy infrastructure and legislation (for example; Victoria (Upston and Woods 1992, Local Government Act 1993)

* Traditional roles of local government in food safety (Upston and Woods 1992, Hodge and Finlay 1995)

* Existing principals of local government area management and planning such as ‘integrated local area planning’, community development and consultation and ‘best practice’ of urban design (LGAA 1994)

* Health area/region community food and nutrition strategic plans, for example; Central Sydney Area Health Service (CSAHS) (Hodge 1994) and Northern Sydney Area Health Service (NSAHS) (NSAHS 1992)

2.7. PRINCIPLES FOR WIDER LOCAL GOVERNMENT INVOLVEMENT

Five principles on which to base wider local government involvement in local food systems were identified from AFNP (CDHHCS 1992a) and the LGAA (1994) agenda for all local governments. These formed major considerations for the development of this project.

Social Justice

Local government has been benchmarked to maintain equity between small areas within LGAs, thereby ensuring that a state of social justice is achieved. Local governments are able
to ensure this status of equity through their role in determining the quality of the environments in which local communities reside (Keating and Howe 1995). Promoting food security through the reduction of food system spatial and other inequities contributing to diet related inequality, contributes to the achievement of social justice in LGA’s.

**Environmental Sustainability**

Environmental sustainability (ES) has been defined as decreasing the negative impact of economic activity, changing resource use to become environmentally friendly and a long term view of the sustainability of the strategies that are employed to address local issues (Commonwealth of Australia 1992).

Gussow (1992) specifically encouraged the achievement of dietary guidelines with a focus on maintaining sustainable environments. She suggests this can be achieved by: promoting the consumption of locally or domestically grown, naturally occurring food produce, for example, fruit, vegetables and whole grain cereals, (which require minimal processing for their production), priority to those populations without resources needed for good health, proactiveness in shaping the food supply and educating populations on the environmental impact of their food choices.

In a broader context, the United Nations in 1991 specifically called for the sustainable development of human settlements by local government through the provision of appropriate amenities and income opportunities to allow residing populations to purchase nutritionally adequate food (Robinson et al 1992 (eds)).
**Intersectoral Action**

In relation to food and nutrition, Smith (1992) identified working intersectorally as especially important to address the impact of the environment on food choice. Sectors such as education, housing, economics, transport and income policies affect the resources for food choice and contribute to local food environments. By targeting all sectors not just health, the underlying inequity, not just its consequences, has the opportunity to be rectified (CDHHCS 1993). Intersectoral cooperation also refers to collaboration between local government and the community.

**Multistrategic Involvement and the Development of Healthy Public Policy**

A variety of intervention strategies including the development of policy infrastructure is required to effectively address public health needs (Mahler 1986), especially relevant to local food system issues.

**Community Empowerment**

Wallerstein (1992) suggested that local government can empower communities through community consultation in local planning. Fulop (1994) describes this process as the politicization of needs, incorporating community concerns into the context of local politics. Community consultation is suggested to increase community participation, foster a sense of solidarity, competence and control over the future direction of the local environment and community ownership of local policy and other strategies (Wallerstein 1992). The
identification of food related needs experienced by populations within an LGA can provide motivation for local government to consider feasible involvement in local food systems.

2.9. LOCAL FOOD SYSTEM MONITORING: A FIRST STEP TOWARDS EFFECTIVE LOCAL GOVERNMENT INVOLVEMENT

Local governments are more likely to intervene in identified food system issues if they are part of the monitoring process and are also exposed to relevant food system monitoring carried out by other local sectors (Grossman and Webb 1991, Hodge and Finlay 1994). Ultimately such monitoring can provide information for goals and objectives for small area food specific policy (Marks 1991). Locally relevant data are required for strategic planning, most sought in government program and policy planning (Milio 1987). Food and nutrition monitoring also provides opportunities for community consultation and the establishment of collaborative networks between local community services and health staff, health promotion staff and local government staff. It exposes the potential impact of local government decisions on the food choices made by populations residing in LGA’s.

From a local government perspective, monitoring is necessary to adapt service provision to changing community needs, demonstrate that service provision meets goals and objectives, questions the operation, priorities and monitoring systems of service provision and ensure ongoing funding (DILGEA 1988). Monitoring can foster enhanced public relations with local communities by demonstrating concern for a local community need, namely food.

Cashel (1992) strongly concludes that the strategy essentially requires the collection of locally relevant data to evaluate the outcome measurement of existing and future AFNP strategies.
implemented at the local level. Such evaluation would support the AFNP as a working
document resulting in nation wide action (Cashel 1992).

Opportunities for food system monitoring in a local government setting exist in regional
needs assessments used for planning local community services and amenities. A manual for
planning of community services and amenities in local government areas for use by local
government has been distributed to local government (DILGEA 1988). The manual identifies
a needs assessment framework including the development of a community profile and local
service data collection and the role of local government in needs based planning: ‘Local
government has a responsibility to enhance communities capacities to determine their own
needs and priorities’ (DILGEA 1988: 4).

Apart from a general reference to the assessment of the health status of LGA communities and
local community services in the DILGEA (1988) manual. No guidelines for monitoring local
food systems in a local government setting exist to date.

2.10. EXAMPLES OF LOCAL FOOD SYSTEM MONITORING

Recent studies of food system monitoring can be classified into two categories, those which
have examined only one or a few food subsystems together namely, (Brierley et al 1991,
Health Development Foundation and Elizabeth City Council 1993, Dowling et al 1994) and
those which have attempted a more extensive assessment of local food systems, namely:
Melton Shire - Victoria (Mc Claren and Jansen 1992), George Town - Tasmania (George
Town Council 1993), Wyong Shire - Central Coast NSW (Humphry and Mathews 1993),
Moreton Shire - Queensland (Hughes et al 1993), South Sydney Council, NSW (Hodge and
Finlay 1994), Penrith - Western Sydney, NSW (Penrith Food Project Committee 1994), and an international example, Los Angeles (Ashman et al 1993).

The involvement of Penrith and South Sydney councils in local food related policy development have served as models for other LGA's. Since their inception, health professionals have adopted a LGA needs assessment approach to identify local food related issues as a basis for local area food specific policy development, involving local governments.

The reviewed studies have commonly used a wide variety of methods for local community consultation and an assessment of their LGA profile. However, such studies have revealed a lack of a comprehensive approach to food system monitoring. The majority of small area food related monitoring studies have only considered the local food supply subsystem in detail. Few studies have described more than one food subsystem.

Inadequate small area food and nutrition data have been found to exist in Australia. Stickney et al (1994) revealed a significant lack of small area food and nutrition data in NSW in their published catalogue of food and nutrition data. This is supported by the Commonwealth Department of Health and Human Services (CDHHS) (1995) which found a lack of nutritional status population data for small areas.

The lack of a coordinated approach to the collection and dissemination of local food system data in small areas may be a contributing factor. Marks (1991) strongly concluded that such infrequent and irregular comprehensive data collection and analysis handicaps efforts to understand nutrition situations and implement effective strategies to improve the nutritional health of the Australian population.
On a more positive note, the review have revealed that a basis does exist on which to build on the principle of needs assessment previously recommended for use by local governments for the specific purpose of food system monitoring. Recent moves to increase local government accountability for the well being of the LGA population and a regional focus towards addressing community need (CDHHCS 1994b), makes the development of general guidelines for comprehensive food system monitoring and local government strategic involvement, timely.

In conclusion, food system monitoring within a local government setting provides opportunities to fulfil two AFNP strategies, namely a call for wider local government action in local food and nutrition issues and the collection of small area food and nutrition data for a national food and nutrition monitoring strategy. The latter can provide a means by which AFNP strategies can be evaluated and monitored at the local level. Clear opportunities for and principles on which to base local government involvement and sufficient information from recent attempts at comprehensive food system monitoring in small areas, supports the development of a proforma, guiding local food system monitoring in a local government setting.
CHAPTER 3
LITERATURE REVIEW 2: FOOD SYSTEMS FOR MONITORING AND LOCAL GOVERNMENT STRATEGIC INVOLVEMENT

Studies of food systems in small areas have revealed common inadequacies in accessing an affordable, fresh quality food supply and other nonsupportive environments. This chapter presents food systems and associated areas for monitoring and feasible local government involvement. Involvement is presented with the concept of 'value adding' to relevant existing functions of local government (identified in page 19 in the previous chapter).

3.1. INCOME

The relative cost of food for low income earners has been found to be higher than that for higher income earners. Two general contributing factors have been identified. Firstly, the income available to purchase food is relatively less than that for higher SES subgroups (Hill 1989, Mc Lennon 1995). Higher relative costs of housing (public rent and private property land rates and mortgages) and nonfood items (fuel, transport and power) have been found to be a greater proportion of incomes in households of lower SES (Hill 1989, Goodwin 1986, Hollingworth 1988, CDHHCS 1992a). Secondly, the cost of food items has been found to be more expensive in areas populated by low SES populations. This is discussed further in section 4.4.

Relevant areas for structural food system involvement may include intersectoral collaboration in local employment schemes, income subsidies for local food assistance programs and
subsidised food outlets, especially in areas of low average household income and high levels of government housing (Purden and Graham 1992) and affordable housing schemes.

3.2. LOCAL HOUSING

Consultation with boarders has revealed the issue of inadequate access to cooking facilities in communal living conditions for example, boarding houses and nutritionally inappropriate food service meals, for example, women’s refuges (Hodge and Finlay 1995). Other potential housing issues are food outlets supplying expensive, low variety and poor quality food items for sale in and around low income areas, inadequate cooking areas in local rented housing with landlords reluctant to maintain or improve facilities, and inappropriate building specifications for rented housing (Elizabeth City Council and Health Development Foundation 1993). Therefore issues for relevant strategic involvement include improved food retail zoning, inspections of food related facilities, and general building standards in local rented accommodation and food services.

3.3. THE DISTRIBUTION OF FOOD SUPPLY OUTLETS

Number of Basic Food Supply Outlets

Studies of small areas have revealed a significantly lower number of local basic food supply outlets as opposed to take away food outlets (TAFO)'s, clubs, restaurants, public bars and nonfood retailers (Brierley et al 1991, Hodge 1991, Lee 1992, Mc Claren and Jansen 1992, Humphry and Mathews 1993, Dowling et al 1994,). This is of concern since the large
majority of TAFO's and other ready to eat outlets have been reported to not supply more recommended food choices (Anderson 1990, Australian Consumer Association (ACA) 1994a). Most take away, ready to eat foods are found to be high in salt, fat energy (especially high saturated fat energy) and refined sugars, and low in vitamins and fibre (Anderson 1990, ACA 1994a, Mc Pherson 1994), inconsistent with dietary guidelines. From such disproportion it can therefore be assumed, to some degree, that processed food higher in fat, salt and sugar is more accessible than fresher, more recommended food alternatives.

Supermarkets, fruit and vegetable stores, butchers and small grocery corner stores have been commonly considered as the components of a basic retail food supply (Brierley et al 1991, Hodge 1991, Lee 1992). Fish markets selling fresh fish and seafood also are deemed to be part of a fundamental food supply. NESB population subgroups have been found to perceive fresh fish outlets to be part a basic food supply (Mitchell et al 1990). Also, increased fish consumption is recommended in Australia to reduce red meat consumption and protect against heart disease (Shrapnel et al 1992). From a cross cultural perspective, few basic food outlets have been described by Vietnamese newly arrived migrants who have found fruit, vegetables, fresh fish more difficult to access than in their countries of birth (Mitchell et al 1990), implicating the food supply related issue of poor retail mix.

Also, the number of food outlets have been found to be inadequate for the residing population. In their study of Penrith LGA, Brierley et al (1991) found a lower ratio of food outlets per 1000 population in areas of low SES, implying a longer travel route time for the majority of the population to access food. In a similar study by Lee (1992) the total number of food outlets in Shellharbour LGA was found to be significantly lower than many other areas. Lee also found food welfare services in the Shellharbour LGA to be located in areas of high SES and therefore lowest need.
Emergency food and welfare services have an active role in providing nutritious food for disadvantaged groups in the community. Such services are important in enhancing access to a low cost food supply (CDHHCS 1992a). Increasing demand for such services indicate that welfare payments are inadequate to meet the demands of a reasonably healthy diet (Cole-Hamilton and Lang 1986, Elizabeth City Council and Health Development Foundation 1993).

Such trends have been attributed to centralised food retailing by large companies leading to the disappearance of basic food outlets in residential areas, especially the ‘corner grocery store’. Such smaller stores fail to compete with larger cheaper outlets in trading centres (Ashman et al 1993). However local access and availability then become issues of concern, as the use of supermarkets is dependent on availability of transport (public or private).

Areas for local government involvement in this issue have been suggested as the decentralisation of food retailing, retail zoning in residential areas (Grossman and Webb 1992), increased commercial and domestic local fruit and vegetable production, community based food distribution cooperatives (Ashton et al 1994), fruit and vegetable mobile vendors (McClaren and Jansen 1992) and zoning of welfare services, especially food assistance, and improved public transport from such areas, in areas of lowest income.

**Location of Local Food Outlets**

Proximity to basic food outlets from new fringe developed areas has been found to be inadequate. Food outlets commonly have been found to be located together, centralised in urban areas and unevenly distributed, especially in inner city and fringe areas and areas occupied by low SES populations (Brierley et al 1991, Cox 1991, Lee 1992). Moreover, it
has been found that TAFO's, are more common in such areas and stock less varied and more expensive food items (Hodge 1991, Lee 1992).

One important suitable intervention impacting on the local food retail mix that has been suggested to be the development of standards for the zoning of basic food outlets in residential areas (Grossman and Webb 1991, SSCFPSC 1994).

3.4. FOOD FOR SALE

Food Variety and Quality

A lower quality of fruit and vegetable has been found to exist in rural fruit and vegetable outlets (Beaumont 1994). Ashman et al (1993) defines this type of assessment as ‘nutritional’ not ‘cosmetic’ food quality.

Food variety, especially healthier alternatives, also has been found to be lower in low SES food outlets (Mooney 1990, Bonner and Mc Kerras 1992). Hodge (1991) found that stores in low SES areas in Redfern/Waterloo stocked products in limited package sizes and had generally less food product variety. Consultation with shop owners has revealed demand as an underlying barrier to stocking more variety (Hodge 1991). A lack of variety of food products stocked in bulk available in whole sale retail outlets, is another barrier to stocking a variety of recommended food items in such stores.
Areas implicated for intervention related to the food supply, therefore include improved retail zoning, nutrition or food quality accreditation, and the local marketing of food, which can directly impact on the demand for more recommended foods.

Cost of Food (Price)

Two main issues related to food cost have been identified as the existence of relatively expensive healthy alternatives, especially in low income areas (Maggiore 1991, Mooney et al 1991, Bonner and Mc Kerras 1992, Beaumont 1994) and the higher costs of food to lower income earners (previously discussed).

Differences in food prices have been also found between urban and rural areas. Beaumont (1994) specifically found that fruits and vegetables were more expensive in rural compared to urban food outlets. However, she found that prices of commercially prepared products (low salt, low fat, high fibre) in rural outlets were similar or slightly less than in urban supermarkets chains. Ashman et al (1993) found that the price of foods in Los Angeles, a large metropolitan inner city area, to be high, attributed to reduced food retailing competition.

From a cross cultural perspective, consultation with NESB subgroups has revealed the higher cost of fresh fish and seafood in Australia as compared to most overseas countries, as a major barrier to consuming a traditional diet (Hodge and Finlay 1995).

Conversely, some studies suggest that healthier alternatives have been found to be cheaper. Cade and Booth (1990) found canned pure fruit and no added salt (NAS) vegetables to be cheaper compared to fresh produce. Also, Crotty et al (1992) reported that individuals from
low income household describe alternative protein sources, for example, beans and eggs as cheaper than meat. Generic brands have been also found to be cheaper than regular brands (Cade and Booth 1990, Hodge 1991). Alternatively, a National Heart Foundation (NHF) survey has revealed brand name ‘Pick the Tick’ and other more recommended food products, to be significantly cheaper if combined with a healthy diet pyramid approach to food choices (James 1995). Thus healthier alternatives have not always been found to be expensive, implying that the underlying issue is one of inadequate access to basic food outlets, especially supermarkets where relatively inexpensive choices can be made such as canned and fresh fruit and vegetables, pastas, rice, bread and fresh meats.

The lack of available large chain supermarket food outlets and the high cost of food in specific areas (ACA 1991) may be partly caused by the reported low spending power of residing groups exhibiting low SES. Larger retail food outlets situate in areas after a positive assessment of need and profitability (DILGEA 1991). Large supermarket chains that require high turnovers therefore do not situate in low SES income areas. Instead smaller outlets take their place with price mark ups of up to 20 percent attributed to low price competition, the convenience of nearby shopping and the need to cover staff costs and bills (namely, wages and other expenses as a proportion of store turnover) (Hodge 1991). In areas with small demand markets, competition levels between stores is less. This aspect, along with a lower volume of sales, is said to make the cost of each store item greater (ACA 1991).

Also, centralised food production and manufacturing in states and territories can mean long distances for the transportation of food to isolated food outlets. Food retailers in isolated or rural areas may not be willing to pay for speedy transport and better storage facilities, without increasing their prices (Oshaug 1992).
Implicated areas for intervention are therefore food retail zoning and the decentralisation of food retailing, production and manufacturing, (encouraging such industries to establish locally) and the general integration of urban and rural food manufacturing, processing and production sectors (Ashman et al 1993).

Cultural Appropriateness of the Local Food Supply

Negative aspects of diet acculturation may be explained by inadequate access to often healthier and familiar foods. The nature of such foods depend on residing population subgroups. For example, consultation with Vietnamese subgroups has revealed that the underlying issue may be one of the poor availability of fresh vegetables, fruit, fish and seafood stores, a large healthy part of NESB population diets prior to migration (Mitchell et al 1990).

A lack of access to public transport due to language, cultural, social and economic barriers, compounded by a low number of fresh food outlets, can make access to often healthier, culturally appropriate foods limited. NESB communities experiencing particular difficulty in using the existing public transport services include newly arrived and other migrants and those with a lack of private vehicle ownership and poor English language skills (Mitchell et al 1990, Hodge and Finlay 1995).

With respect to rural and remote ATSI communities, local food retailers have been found to stock a high number of more processed ‘western’ food items without promoting such foods as a supplement to more traditional foods (Lee et al 1994a).
Areas for intervention within this issue have been identified as: making adequate provision for fresh food retailers in local zoning plans; maintaining food safety through visual monitoring by food inspectors of fresh produce available for sale and the promotion of ethnic foods in NESB communities (Hodge and Finlay 1995) and foods that are closest to ‘bush tucker’ in remote Australian ATSI communities (Lee et al 1994a).

3.4. REDUCED MOBILITY: FOOD SUPPLY ACCESS ISSUES

Inadequate public transport routes, compounded by a lack of private car ownership have been found to limit the mobility in populations with low incomes. Inadequate public transport routes between fresh affordable food supply outlets (fruit and vegetable stores and supermarkets) and residential areas in low SES have been found to exist in Penrith LGA (Brierley et al 1991) and Shellharbour LGA (Lee 1992). Alternatively a lack of transport also has been found to exist for those populations living in city centres (Finlay and Mc Leod 1989, Hodge 1991). Transport has been found to be inaccessible due to high bus steps, inappropriate destinations and a lack of room capacity for groceries, strollers and devices that assist with mobility (Finlay and Mc Leod 1989).

A national research program into locational disadvantage (1990) has found similar findings. Fringe city and rural low income residents were primarily identified to feel locational disadvantage. Such residents have identified issues of irregular bus services, distant proximity to basic food outlets and inadequate food supermarket delivery services (CDHHLGCS 1990).
The ACA (1991) suggested such trends to be due to centralised marketing and distribution of fresh foods. Moreover, Lester (1994) suggested the rapid urban spread of metropolitan areas to be responsible for fringe isolated outer suburbs and rural areas with limited access to transport and shopping facilities.

Areas for relevant intervention include: community transport schemes; subsidies for public transport to and from basic food outlets; the encouragement of supermarket delivery services; subsidies for supermarket delivery; and rerouting public transport lines. The promotion of public transport serves to increase environment sustainability (ACA 1994b). Local government has financial responsibility for road maintenance and town planning (Australian Local Government Classification Steering Committee (ALGCSC) 1994) making such wider involvement feasible.

3.5. BREAST FEEDING ENVIRONMENTS

Nonsupportive structural environments have been identified to influence breast feeding in public. A lack of appropriate public breast feeding amenities has been identified to exist, inconsistent with the dietary guideline to increase breast feeding in new mothers (Breast Feeding Technical Working Group (BFTWG) 1994). The local marketing of alternative infant feeding products in contravention of the WHO code of breast milk substitutes, also is a significant concern (WHO 1989).

Breast feeding has been described as environmentally friendly, with no costs to the environment in terms of production, packaging and waste disposal (Nursing Mother
Association of Australia (NMAA 1994). Nevertheless, trends in breast feeding have been falling since the 1950’s attributed to industrialisation and many social - cultural reasons (Lester 1994).

Appropriate community facilities and policies that support breast feeding can go a long way towards alleviating the personal concerns of new mothers for breast feeding during visits to public places and changing negative attitudes and cultural norms (BFTWG 1994). Useful interventions include local council policy in the provision of parenting facilities in existing public buildings, increasing education programs for the promotion of such facilities and policies, continuous assessments of parenting needs in LGA’s, (Penrith City Council 1995), ‘Mother Friendly Workplace’ awards (NMAA 1994), local council policy on breast feeding in local work places (BFTWG 1995) and the investigation of strategies to promote breast feeding at points of purchase of infant feeding products, for example local pharmacies (Hughes et al 1991). Local government has financial responsibility for women’s rest centres and health inspection of such premises (ALGCSC 1994).

3.6. LOCAL FOOD MARKETING

One area for investigation is the nature of external marketing of food. One such study has been undertaken by Dowling et al (1994) in the Castlereagh district in far west NSW. The survey found a disproportionate amount of external advertising dominated by foods not recommended by the Australian dietary guidelines. Advertisements for alcohol, high fat ice cream, soft drinks, high fat and salt take away foods and sweets contributed to 95 percent of
all external advertising in the area. The most promoted product was found to be alcohol, contributing to 65 percent of total advertising.

Advertising has been identified as a major influence on food choice. Referring to all types of mass media, inadequate advertising has been specifically identified as a major barrier to healthy eating practices in children (ACA 1990, Hodge and Finlay 1995). Feasible areas for intervention by local government are: the local marketing of food and related products according to dietary guidelines for all Australians; lobbying for appropriate mass media food marketing policy at a state and federal level; the selection of adequate food sponsors and vendors during publicly attended events (Hughes and Stephenson 1992); and the development of local standards for external advertising in LGA's.

3.7. LOCAL FOOD PRODUCTION

Local Food Safety

Food safety concerns have been highlighted in pesticide use in the local production of food and the safety of food items sold in local retail outlets. Water supply quality issues also have been identified as a significant food safety concern (George Town Council 1993). Collaboration between local and state government food inspectors, local environmental health officers and local food producers is implicated in this issue.
Local Food Related Waste Management

The increased manufacturing and purchase of processed and ready to eat foods has resulted in the issue of environmentally friendly package disposal. Local recycling programs, including the recycling of food packaging have served to minimise the adverse effects of a preference for prepacked foods by consumers (Ashman et al 1993). Gussow (1992) suggested other useful strategies, namely the encouragement of domestic composting using food related organic waste and promotion to the public of the impact that the choice of food has on the environment for example, pollution associated with food manufacturing processes and packaging.

Local Food Production

Nonsustainable local food production practices have been identified as an important food related concern. Campbell and Seigen (1994) questioned the ecological sustainability of farming, revealed in trends towards larger farms but decreasing populations in rural towns. The expansion of urban and rural cities and towns in place of land for local food production is of concern. Also of concern are fertilisation and soil regeneration practices which are not environmentally sustainable (Ashman et al 1993).

Suitable intervention issues have been suggested as: the encouragement of local commercial food production through the protection of existing and/or the zoning allocation of new land for agricultural use; the establishment of local fresh fruit and vegetable markets selling locally produced food as a source of revenue for local council (Ashton et al 1986); permaculture with low maintenance fruit and nut trees as options for streets, parks and parking areas (George
Town Council 1993, Ashman et al 1993), community fruit and vegetable gardens associated with horticultural job creation opportunities (Ashton et al 1986) and increased domestic fruit and vegetable production within households (Gussow 1992), particularly in isolated areas (Ransen 1992).

3.8. THE POLICY ENVIRONMENT OF LOCAL FOOD SERVICES

**Local Food Outlet Policy**

The advocacy, promotion and encouragement of local government food service policies and programs in local school canteens, restaurants, sporting venues, local clubs and child care centres, are long term strategies which will affect the local food supply. Other relevant areas for intervention have included the accreditation of local TAFO’s, restaurants, catering companies and other food outlets providing ready to eat food services. This can be achieved through collaboration with local health professionals, private business and local government (Russell 1993). The promotion of food industry innovation awards for the local development of healthy food for sale has been another suggestion (Hodge 1994).

**Local Corporate Food Manufacturing Policy**

Morgan (1993) suggests advocacy for local corporate food and nutrition policies, taking into account the relationship between diet and disease, to guide corporate action in local food production, packaging and promotion.
3.9. SUMMARY OF LOCAL FOOD SYSTEM ISSUES

Issues for local government involvement have been found to exist in a variety of local food subsystems. Many inequities and hence issues for wider local government involvement have been found to exist within the last point of local food distribution, namely, food retailing points of food purchase, including food quality, cost, variety and safety, and the availability of basic food outlets. Other broader supportive environment subsystems also have been implicated including local food production, water supply, food marketing, local food service policy, physical access to the local food supply (ie, transport inadequacies) and ecological and economic sustainability ie, local economic and urban development.

The effect of such issues are potentially exacerbated in areas with a high proportion of identified subgroups experiencing low income, low SES and social, cultural and/or physical difficulties. The distant proximity of food supply, lack of mobility and relatively high food prices can make access to a diet consistent with dietary guidelines almost impossible for such population subgroups. Finlay and Mc Leod (1989), conclude that the opportunities for residents in low SES areas to make healthier food choices and improve their nutritional status is very restricted.

Ashman et al (1993), identified that food is a basic human right, making food security a primary concern for local municipal councils which have a significant impact on the nature of local food systems.

This review has revealed that many opportunities exist for collaboration between individuals from local government, health, other public and private sectors in monitoring local food systems and addressing a wide variety of local food system issues.
CHAPTER 4
GUIDELINES FOR PROFORMA DEVELOPMENT

This chapter presents eleven broad guidelines for developing the structure of the proforma. These guidelines were derived through professional judgement based on the presented literature reviews. The guidelines formed an important basis to the development of the monitoring tool in this project.

4.1. TWO POINTS OF ENTRY FOR MONITORING

A point of entry other than diet related health status measurement is required in the proforma. For the local purposes of local government, monitoring the health status of the LGA population may only be deemed to be an adjunct to support the implementation of food system strategies undertaken by local government and allow the measurement of their health outcomes. By the same token, a lower incidence of diet related disease in some LGA populations does not warrant a complete lack of food system monitoring in such areas.

From a local government perspective, a more tangible, directly relevant, aim of food system monitoring, is to improve the planning and management of their LGA by reducing existing and preventing future, spatial inequity in servicing the needs of local populations.

Guideline (1)

* Include health data and food system data for proforma LGA suggested monitoring but ensure that the point of entry into food system monitoring includes both stages of data assessment.
4.2. LGA SCENARIOS

An examination of such food monitoring examples has revealed that the same types of LGA have the tendency to experience similar food system issues. Specifically, areas of high population growth such as Penrith - Western Sydney, Northern Sydney Area Health Service and Elizabeth - South Australia, have been found to suffer from poor access to basic food supply, especially a lack of transport and other planning and infrastructure problems (Brierley et al 1991, Elizabeth City Council and Health Development Foundation 1993, Hodge and Finlay 1994).

This aspect and the literature review in chapter 2 revealed that the physical profile of small areas and the character of residing populations are important determinants on food intakes. With this in mind, it was decided that two component proformas ‘A’ and ‘B’ were needed which included scenarios of broad LGA profiles and specific population subgroups, respectively.

In the proforma, LGA’s with similar characteristics should therefore be directed to identify food system data that would be specific to the profile of their LGA. This would ensure that proforma structure will be relevant to, and involve, a variety of local government settings.

*Guideline (2):*

*Two proformas should be designed to be used in tandem. Present the proforma content in the form of LGA scenarios, including LGA typologies defined by LGA population based data, and population subgroup scenarios, defined using specific demographic data. Recommended data source: Small area ABS LEP data.*
LGA Scenarios Definitions

Quantitative data describing the profiles of LGA’s are useful to identify the specific nature of local food systems within LGA’s and also provides a basis for comparison with other LGA’s. Oshaugh (1992) suggested the importance of an analysis of the broader context of local communities, namely; social, political, economical aspects and other market forces, in planning the effective management of local community nutrition strategies. This is supported by Hawe et al (1990), who suggested the use of general demographic, health status and SE indicators as descriptors of local populations when planning of health promotion intervention.

It was therefore decided that LGA descriptor categories of local; ‘economics’, ‘broad demography’, ‘political structure’ were deemed to be important in describing the general nature of local food systems. ABS LEP data was deemed suitable for this purpose due to its comprehensiveness and ease of access.

Guideline (3)

* Describe proforma ‘A’ LGA scenarios using broad LGA descriptor data including economic, environmental, broad demographic and political aspects. Describe proforma ‘B’ scenarios using specific demographic data describing subgroups of concern. Sources for data used to define scenarios should be small area comprehensive namely, ABS LEP data.
4. 2. FOOD SYSTEM MONITORING SCENARIO CONTENT

Scenario Monitoring Stages

The process of needs assessment was suggested to be a highly relevant framework for the structure of a proforma for local government food system analysis. The consideration of both a health promotion needs assessment model (Hawe et al 1990) and a local government community service needs assessment model (DILGEA 1988) were deemed relevant to base the proforma structure.

The stages of needs assessment models are also compatible with workplace monitoring tasks and therefore the concept of experiential learning, suitable to the adult proforma target group. Experiential learning was defined by Keeton (1977) as placing the experience of learners as central and using this experience to structure learning situations through the use of simulated workplace task performance. The stages within the proforma should therefore be able to direct food system monitoring work place tasks in a local government and community health setting, using data that is feasible for collection.

It was also decided to use questions to identify food system issues and provide general descriptions of monitoring data and data patterns. Proforma content should be concise, provoke thought and be sufficient to stand alone as a guide to local food system monitoring.

Guideline (4)

*The stages for monitoring food systems in the proforma scenarios should be derived from needs assessment models considering local government and health promotion settings.*
A Literature Review Methodology for Scenario Content

An analysis of LGA food system studies is appropriate approach on which to base proforma content. Milio (1987) suggested that the nature of organisations, key player (service providers, consumers, policy maker) view points, previous relevant strategies employed, the process of involvement in issues and feasibility of such involvement are best understood through an analysis of public documents, reports and other relevant literature, interviews and case studies.

Guideline (5)

* Base scenario content in literature studies of comprehensive attempts at food system monitoring in LGA's as outlined in table 4.1.

Food system categories

It was decided that the presentation of food system data, data patterns, issues and feasible strategies for wider local government involvement should incorporate Lester’s 1994/5 food system categories (Appendix 1 and 2). The grouping of literature examples of issues under their corresponding food system (as in chapter 3) and identifying missing subsystems, revealed nine potential food subsystem categories from which to identify food system issues in each scenario.

Guideline (6)

* Eight food system categories derived from Lester’s (1994) model should form monitoring categories within proforma scenarios. These include: food production, local food
manufacturing and processing, food marketing, food supply (conventional outlets), (food supply nonconventional outlets), physical access to the local basic food supply, food quality, variety and price), other supportive food environments, apparent food intake measures, actual food intake measures and local food waste management.

4.5. SCENARIO MONITORING STAGES

It was therefore decided that the proforma development process should commence with a definition of LGA typologies, then the identification of potential food system issues within each LGA typology, data patterns defining such food system issues and lastly suggested data for monitoring in such data patterns. In terms of presentation it was decided that each scenario would commence with a potential food system issue, followed by a sequence of steps compatible with workplace monitoring tasks, namely suggested data for monitoring and suggested data patterns of concern from such monitoring.

Guideline (7)

* The process of developing proforma content should include identification of potential food system issues and the data patterns that define such issues. Data suggestions to be included in food system monitoring lists for each LGA typology should then be derived from the data used to identify each data pattern.

Feasible Food System Monitoring Data

The data used in previous examples of food system monitoring serve to define the limits of data able to be feasibly collected and analysed in a local government setting. It was decided
that other similar data, deemed useful and feasible to collect, should also be included. Table 4.1 below presents a general inventory of 'feasible' data and collection methods from the literature which served as a basis for proforma data content.

Table 4.1: An inventory of data used in the reviewed studies of local food system monitoring

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Feasible Data Analysis and Collection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LGA DESCRIPTORS</strong></td>
<td></td>
</tr>
<tr>
<td>* Specific Small Area Demographics</td>
<td>*The examination of hard copy and CD ROM versions of ABS census data tables.</td>
</tr>
<tr>
<td>- Population Figures</td>
<td></td>
</tr>
<tr>
<td>eg: Number</td>
<td></td>
</tr>
<tr>
<td>Population sex and age structure</td>
<td></td>
</tr>
<tr>
<td>Population density</td>
<td></td>
</tr>
<tr>
<td>Population growth</td>
<td></td>
</tr>
<tr>
<td>- Household characteristics</td>
<td></td>
</tr>
<tr>
<td>eg: Living alone</td>
<td></td>
</tr>
<tr>
<td>Family type - single parent households</td>
<td></td>
</tr>
<tr>
<td>Young dependents</td>
<td></td>
</tr>
<tr>
<td>*** Indicators of SES**</td>
<td></td>
</tr>
<tr>
<td>Housing type</td>
<td>*Mapping of SES data by suburbs within LGA’s using socio economic indexes for areas (SEIFA) (an especially useful ABS consultancy service).</td>
</tr>
<tr>
<td>(Government rented)</td>
<td>The food systems in the geographical area with the highest prevalence of such population subgroups are examined in detail.</td>
</tr>
<tr>
<td>(Mortgaged)</td>
<td></td>
</tr>
<tr>
<td>(Rented)</td>
<td></td>
</tr>
<tr>
<td>- Monthly mortgage payments</td>
<td></td>
</tr>
<tr>
<td>- Weekly rental payment</td>
<td></td>
</tr>
<tr>
<td>- Proportion of the population earning less than $16,000 annually</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.1: (Cont.)

<table>
<thead>
<tr>
<th>Data Types</th>
<th>Feasible Data Analysis and Collection Methods</th>
</tr>
</thead>
</table>
| - Average household income  
- Car ownership/household  
- Number unemployed  
- Blue collar numbers work force characteristics  
- Number recieving social security benefits  
- Number recieving sole parents pensions  
- Ethnicity  
  *eg: Migrant status*  
  *Newly arrived migrants*  
  *Country of Birth % prevalence*  
  *English proficiency* | *The examination of ABS small area reports of cause of death data and relevant health service region/area morbidity and mortality data pertaining to the LGA under investigation (Brierley et al 1991 Hughes et al 1994).* |
| *Health Status:*  
  - Specific Mortality  
  *eg: Circulatory disorders*  
  Coronary Heart Disease  
  Cancer - Bowel  
  *NIDDM*  
  Hypertensive disorders  
  Chronic liver disease  
  - Specific cause of deaths  
  - Health services location  
  *eg: Community health centres*  
  - Hospital separation data (admissions) | |
| *Nutritional Status*  
  - Percentage of obese individuals within the population  
  - Mean total serum cholesterol  
  - BMI (Body Mass Index) | *Small area population subgroup monitoring (for example (Buchorn and Phillips 1991, Lee et al 1994a).* |
### Table 4.1 (Cont.)

<table>
<thead>
<tr>
<th>Data Types</th>
<th>Feasible Data Analysis and Collection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Economics</td>
<td>*An examination of the economic characteristics of a LGA which are likely to influence local food systems (Finlay and Mc Leod 1989, George Town Council 1993).</td>
</tr>
<tr>
<td>- LGA major industry</td>
<td></td>
</tr>
<tr>
<td>- LGA food production revenue</td>
<td></td>
</tr>
<tr>
<td>- LGA food imports</td>
<td></td>
</tr>
<tr>
<td>- Number of tourists in a LGA annually</td>
<td></td>
</tr>
<tr>
<td>- LGA industrial growth Areas</td>
<td></td>
</tr>
<tr>
<td><strong>LOCAL FOOD SUBSYSTEM DESCRIPTORS</strong></td>
<td></td>
</tr>
<tr>
<td>* Food Retail</td>
<td>*The tally and comparison of outlets in each LGA and suburbs/towns.</td>
</tr>
<tr>
<td>Number of food outlets</td>
<td></td>
</tr>
<tr>
<td>eg: Food Assistance/Welfare Outlets Restaurants TAFO's Supermarkets ♦ Delicatessens Corner/Small mixed food stores ♦ Fruit and vegetable shops ♦ Butchers ♦ Fish markets ♦</td>
<td></td>
</tr>
<tr>
<td>- Location of food outlets</td>
<td></td>
</tr>
<tr>
<td>- Proximity from suburbs (Km) (especially from areas with a high number of the population experiencing indicators of low SES)</td>
<td></td>
</tr>
</tbody>
</table>

♦ = ‘Basic’ food supply outlets

- Financial data
  - LGA major industry
  - LGA food production revenue
  - LGA food imports
  - Number of tourists in a LGA annually
  - LGA industrial growth Areas

- Local food subsystem descriptors
  - Food retail: Number of food outlets eg: Food Assistance/Welfare Outlets Restaurants TAFO's Supermarkets Delicatessens Corner/Small mixed food stores Fruit and vegetable shops Butchers Fish markets
  - Location of food outlets
  - Proximity from suburbs (Km) (especially from areas with a high number of the population experiencing indicators of low SES)
Table 4.1: (Cont.)

<table>
<thead>
<tr>
<th>Data Types</th>
<th>Feasible Data Analysis and Collection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Food Availability</td>
<td></td>
</tr>
<tr>
<td>- Fresh produce quality</td>
<td></td>
</tr>
<tr>
<td>eg: <em>Fruit, Vegetables, Nuts</em></td>
<td></td>
</tr>
<tr>
<td><em>Fish, Seafood and livestock meat</em></td>
<td></td>
</tr>
<tr>
<td><em>Use by dates</em></td>
<td></td>
</tr>
<tr>
<td>- Food variety</td>
<td></td>
</tr>
<tr>
<td>*Food Acquisition</td>
<td></td>
</tr>
<tr>
<td>- Food purchase</td>
<td>*Store sales mix tally data and stock rotation tally of different basic food products (George Town Council 1993, Lee et al 1994b)</td>
</tr>
<tr>
<td>(i) Actual food purchase measures</td>
<td></td>
</tr>
<tr>
<td>eg: <em>Store turnover data</em></td>
<td></td>
</tr>
<tr>
<td><em>Store stock rotation data</em></td>
<td></td>
</tr>
<tr>
<td>(ii) Shoppers habits survey</td>
<td></td>
</tr>
<tr>
<td>eg: <em>Consumer attitudes,</em></td>
<td></td>
</tr>
<tr>
<td><em>Consumer behaviour</em></td>
<td></td>
</tr>
<tr>
<td><em>Consumer place of residence</em></td>
<td></td>
</tr>
<tr>
<td><em>Shopping locations</em></td>
<td></td>
</tr>
<tr>
<td><em>Food purchases</em></td>
<td></td>
</tr>
<tr>
<td>*Food Consumption</td>
<td></td>
</tr>
<tr>
<td>- Diet intake studies</td>
<td>*Food frequency questionnaires (FFQ)s, weighed food records and food purchase records of residents and their nutrient analysis in small areas (Buchorn and Phillips 1991)</td>
</tr>
</tbody>
</table>
Table 4.1: (Cont.)

<table>
<thead>
<tr>
<th>Data Types</th>
<th>Feasible Data Analysis and Collection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Transport</td>
<td>*Mapping bus stops for adequate food outlet destinations and the visual comparison of significant differences between suburbs/towns a LGA LGA (Mc Claren and Jansen 1992).</td>
</tr>
<tr>
<td>- Community bus routes</td>
<td></td>
</tr>
<tr>
<td>- Bus company routes</td>
<td></td>
</tr>
<tr>
<td>- Distance (kilometres) from stops</td>
<td></td>
</tr>
<tr>
<td>eg: To shopping destination</td>
<td></td>
</tr>
<tr>
<td>To bus stops with adequate routes</td>
<td></td>
</tr>
<tr>
<td>Supermarket delivery</td>
<td></td>
</tr>
<tr>
<td>eg: Location of supermarkets with delivery services</td>
<td></td>
</tr>
<tr>
<td>Supermarket delivery zones</td>
<td></td>
</tr>
<tr>
<td>* Other Food System Environments</td>
<td></td>
</tr>
<tr>
<td>Public breast feeding venues</td>
<td>*Face to face interviews with residents regarding their use of and the current suitability of supermarket delivery services (CDHHLGCS 1990).</td>
</tr>
<tr>
<td>eg: Location</td>
<td></td>
</tr>
<tr>
<td>External Food marketing</td>
<td>*Mapping of the vicinity of delivery by supermarkets in areas with a high proportion of residents with a high number of one car households or aged &gt;65 years of age.</td>
</tr>
<tr>
<td>eg: Surface area of advertisement</td>
<td></td>
</tr>
<tr>
<td>Type of advertising food product</td>
<td></td>
</tr>
<tr>
<td>Location of external marketing</td>
<td></td>
</tr>
<tr>
<td>* The examination of such measures, especially in small areas experiencing high natural growth (Penrith Breast Feeding Technical Working Group 1994).</td>
<td></td>
</tr>
<tr>
<td>* An audit of external adverts in local areas. The manual tally of advert by type and a metric estimation of size (m 2 x m 2) Dowling et al 1994).</td>
<td></td>
</tr>
</tbody>
</table>

The data presented in table 4.1 was collected by a variety of individuals which are intended to form the target group. The target group was defined as relevant local government staff namely, town planners, environmental health officers and community services staff and local health professionals with the necessary skills and experience, namely health promotion officers (in health promotion units) and community health staff (for example, community nurses, educators and dietitians) and other allied health staff (for example; social workers and ethnic health workers), volunteer agencies and other members of the private and public sector.
have been involved with local government town planners, environmental health officers and community services staff. Health professionals working within clinical settings were deemed important for the collection of nutritional status data.

**Guideline (8)**

*The data presented in table 4.1 should form a basis to the types of data to be included in proforma scenarios and feasible for collection by the intended target group.*

**Strategic Involvement by Local Government**

An action component should be considered in the proforma. This should promote local government involvement in local food systems and the concept of policy development.

The close examination of feasible strategies for local government involvement in addressing food system issues has revealed three distinct degrees of involvement. By presenting three degrees of strategy examples for local government involvement, the strategies can be applicable to local governments with varying capacities for strategic involvement.

The first degree is classified as one single isolated strategy. This level accommodates those local government settings with minimal resources or with food system issues that are of relatively low priority but that still require address and includes no change to local infrastructure. This type of strategy mainly includes intervention which is a direct function of existing of local government activities, requiring minimal effort.
The second degree was classified as ‘multistrategic involvement’. This option provides the opportunity to address food system issues more completely by including some intersectoral collaboration between implicated sectors.

The last degree was classified as ‘strategic planning as part of policy’. Examples include food specific policy development, or the integration of food related issues within existing council policy and/or the development of specific policy addressing issues within single food systems. This option ensures long term continued involvement and monitoring, permanently placing food and nutrition issues on the agenda of local government planning and decision making processes.

Guideline (9)

*Three stages of involvement should be included, namely a single isolated strategies, multi-strategic involvement and strategic involvement as part of policy. Strategy examples should be presented with the concept of ‘value adding’ to existing local government function within LGA’s, presented within chapter 2 and selected based on their consideration of project principles.

4.6. CONTINUOUS MONITORING

Australia’s Food and Nutrition Policy and the processes of needs assessment and strategy implementation, call for continuous monitoring options within the proforma structure. A cyclic structure incorporating feedback loops was therefore indicated. Firstly, the future viability of the AFNP relies on local level monitoring to assess strategy implementation and its impact on the reduction of diet related ill health, health outcome goal of the AFNP.
Secondly, accurate local food system analysis requires regularly updated food system data and LGA profiles. Planned regular data collection would ensure accurate data availability. Similarly timely, regular attempts of food system surveillance is required to determine the existence of any current problems within local food system.

Thirdly, the process of implementing strategies affecting local food systems requires impact and outcome evaluation to determine if strategies have addressed existing issue/s.

Guideline 10

*The proforma structure needs to provide opportunities for continuous monitoring through feedback loops, namely strategy impact evaluation, health outcome measurement, regular data collection update and regular continuous surveillance.

4.7. PROJECT PRINCIPLES

Proforma content and structure must satisfy principles of local government involvement identified in chapter 2. Qualitative data collected through community consultation is needed to engage communities and therefore increase the effectiveness of local programs and policy. Social justice is required to ensure that spatial inequity is rectified. Multistrategic involvement is needed to promote local policy development supporting public health. Intersectoral collaboration is required to provide opportunities for contact between relevant sectors. Lastly ecologically sustainable development is required to ensure strategic involvement in local food systems by local government has a sustainable ecological and environmental focus.

Guideline (11)

*Proforma content and structure must provide opportunities to satisfy the five project principles for local government involvement in local food systems.
CHAPTER 5
PROJECT METHODS

5.1. METHODOLOGY

Proforma content was principally based on a literature review of existing attempts of food system monitoring within a local government area setting, presented in table 5.1 below.

Table 5.1: Studies of comprehensive attempts at food system monitoring in LGA’s in Australia

<table>
<thead>
<tr>
<th>Region</th>
<th>State</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penrith - Western Sydney</td>
<td>NSW</td>
<td>(Brierley et al 1991)</td>
</tr>
<tr>
<td>Melton</td>
<td>Victoria</td>
<td>(Mc Claren and Jansen 1992)</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>California - USA</td>
<td>(Ashman et al 1993)</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>South Australia</td>
<td>(Elizabeth City Council and Health Development Foundation 1993)</td>
</tr>
<tr>
<td>George Town</td>
<td>Tasmania</td>
<td>(George Town Council 1993)</td>
</tr>
<tr>
<td>Wyong</td>
<td>NSW</td>
<td>(Humphry and Mathews 1993)</td>
</tr>
<tr>
<td></td>
<td>- Central Coast</td>
<td></td>
</tr>
<tr>
<td>Moreton</td>
<td>Queensland</td>
<td>(Hughes et al 1993)</td>
</tr>
<tr>
<td>Castlereagh</td>
<td>Central West NSW</td>
<td>(Dowling et al 1994)</td>
</tr>
<tr>
<td>South Sydney</td>
<td>NSW</td>
<td>(Hodge and Finlay 1994)</td>
</tr>
</tbody>
</table>
5.2. PROJECT STAGES

The steps used to develop the proforma are summarised in table 5.2 below and discussed in the sections that follow.

Table 5.2: Stages undertaken for the development of a proforma for monitoring food systems in LGA’s

<table>
<thead>
<tr>
<th>Project Stages</th>
<th>Stage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE I: PROFORMA OUTLINE</td>
<td>The design of a generic proforma food system monitoring outline adapted to:</td>
</tr>
<tr>
<td></td>
<td>- Broad categories of LGA’s - Proforma ‘A’</td>
</tr>
<tr>
<td></td>
<td>- Specific population subgroups within LGA’s - Proforma ‘B’</td>
</tr>
<tr>
<td>STAGE II: LGA CATEGORY AND POPULATION SUBGROUP DEFINITION</td>
<td>The definition of LGA and population subgroup scenario categories using the literature and data from the Australian Bureau of Statistics (ABS) Libraries Extension Program (LEP)</td>
</tr>
<tr>
<td>STAGE III: POTENTIAL FOOD SYSTEM ISSUES</td>
<td>The identification of potentially existing food system issues within each LGA typology and community category scenario using the literature and professional judgement</td>
</tr>
<tr>
<td>STAGE IV: DATA PATTERNS OF CONCERN</td>
<td>Listing food system data patterns defining the identified food system issues using the literature and professional judgement</td>
</tr>
<tr>
<td>STAGE V: SUGGESTED FOOD SYSTEM MONITORING DATA</td>
<td>The identification of qualitative and quantitative data used to define data patterns</td>
</tr>
<tr>
<td>STAGE VI: STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT</td>
<td>The selection of strategy examples for the address of identified food system issues from the literature and other feasible suggestions</td>
</tr>
<tr>
<td>STAGE VII: DIET RELATED HEALTH STATUS MONITORING DATA</td>
<td>The definition of suggested diet related health status monitoring data for LGA population health status assessment and the measurement of health outcomes</td>
</tr>
</tbody>
</table>
Stage I: Proforma Outline

Six guidelines formed the basis from which the structure of two proformas 'A' and 'B' were designed. These were derived through professional judgement regarding the local government setting for using the proforma, the target group and small area food system monitoring methodology employed in the literature. Proforma structure was also based on a local government needs assessment model for community services and amenities (Department of Immigration, Local Government and Ethnic Affairs (DILGEA) 1988), a health promotion needs assessment model described by Hawe et al (1990).

Stage II: LGA Category and Population Subgroup Definitions

In proforma 'A', five LGA typologies were developed from ABS quantitative data sources and existing classification criteria for local governments in Australia and NSW. Firstly LGA's within the reviewed studies were classified using the Australian Local Government Classification Steering Committee (ALGCSC) (1994) criteria. Three LGA categories were derived using this method. Two other LGA's deemed to experience unique food system issues then were identified through professional judgement and other classifications identified by the ALGCSC (1994).

The five LGA typologies were defined using small area quantitative descriptive data accessible to local governments through the Australian Bureau of Statistics (ABS) Libraries Extension Program (LEP) and existing criteria for the classification of local government areas, devised by the ALGCSC (1994) and the Grants Commission of NSW (1994). The selected data used to define LGA typologies were classified into four broad data groups for

In proforma ‘B’ four population subgroups deemed to experience similar food system issues were identified from a literature review of diet related disease inequality. Data sources for the definition of population subgroups included specific demographic census data categories from an inventory of relevant small area ABS LEP data (Appendices 3 and 4).

Stages III, IV AND V: Potential Food System Issues, Data Patterns and Monitoring Data

Potentially existing food system issues within each of the five LGA typologies in Proforma ‘A’ and those experienced by each of the four subgroup categories in ‘Proforma B’, were identified based on the literature and professional judgement.

Data patterns of concern defining such issues were then identified based on the results of LGA food monitoring in the literature and professional judgement. Finally data identified in such data patterns were included as LGA typology and subgroup category monitoring lists in proforma ‘A’ and ‘B’ respectively. The criteria for selecting monitoring data was ‘feasibility’ for collection within small areas based on an inventory of data used in previous studies of food system monitoring within a local government setting and professional judgement. Food system monitoring data, data patterns of concern and potential food system issues formed the food system monitoring component of the proforma. This developed monitoring content was collated in a composite table, one for each typology and subgroup scenario category.
Stage VI: Strategy Examples for Local Government Involvement

Local government strategies addressing the identified food system issues were then selected from proposed or implemented strategies described in the literature and strategy suggestions based on professional judgement. Criteria for the selection of strategies included the capacity of strategies to accommodate project principles for local government involvement, namely: social justice, community empowerment, intersectoral collaboration, multi-strategic involvement and environmental sustainability. Strategy selection criteria also included direct relevance to existing local government areas of responsibility and the promotion of the concept of ‘value adding’ to existing functions of local government. Strategies for local government involvement in addressing identified food system issues, formed the action component in proforma ‘A’ and proforma ‘B’.

Strategies were classified into three degrees of involvement by local government in addressing local food system issues. These were ‘A single isolated strategy’, ‘Multi-strategic involvement’ and ‘Strategic involvement as part of policy development’. The three degrees were derived from a literature review of proposed or implemented strategies for local government involvement in local food systems.

Proforma ‘A’ and ‘B’ food system issues and their data patterns, suggested monitoring data lists and strategies for local government involvement were presented under eight food system categories derived from Lester’s (1994) model of Australia’s food system (Appendix 1) and his (1995) framework for food system monitoring in Australia (Appendix 2). These were derived by classifying each food system issue under Lester’s 1994 and 1995 models of Australia’s food system. An additional food system category, namely ‘supportive environments’ was developed to cater for issues not identified within the models. The food intake subsystem was included only in proforma ‘B’.
Diet Related Health Status Monitoring Measures

The health outcome and nutritional status subsystems were included in a separate proforma stage for the purpose of measuring baseline and outcome diet related health status. Small area diet related mortality and morbidity, nutritional status and nutrient intake data were suggested as measures of small area diet related health outcomes. Suggested health outcome measures were derived from the Commonwealth Department of Health, Housing and Community Services (CDHHCS) (1994), studies of dietary intake and small area diet related mortality data from the ABS LEP (Appendix 5). Criteria for selecting health outcome measures included appropriateness, the accessibility of existing data in small areas and the feasibility of collecting such data.

Food system monitoring and strategy proforma content were summarised and incorporated into proforma ‘A’ and ‘B’ outlines. Food system issues were presented in the form of questions and placed as leading captions within LGA typology and population subgroup scenarios in the presented proforma. Data suggested for monitoring local food systems were then presented, followed by data patterns and strategy examples.

The completed proforma content was then presented along with the LGA typologies and subgroup criteria, diet related health status monitoring suggestions and an instruction information sheet in a package (Appendix 6) ready for trial in local government settings.
CHAPTER 6
THE DEVELOPMENT OF PROFORMA OUTLINES

It was decided that an outline of the proforma structure and content was needed to structure and coordinate the development of the proforma content. This chapter presents a description of each stage of the proforma 'A' and 'B' structure that was developed with reference to the guidelines for proforma development identified in the previous chapter.

6.1. STAGES WITHIN THE OUTLINE OF PROFORMAS ‘A’ and ‘B’

The proforma outline was developed in three steps based on the implications of needs assessment models, the target group and studies of food system monitoring.

Scenario Monitoring Stages

The first step was the identification of the order and content of workplace food system monitoring tasks accomodating guideline (1).

The order and content of the derived workplace food system monitoring tasks is presented in table 6.1 overleaf with reference to the relevant needs assessment stages within the two models outlined in guideline (4).
Table 6.1: Needs assessment steps considered in developing food system monitoring stages in the proforma

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*Data Collection</td>
<td>STAGE 1(a): Diet related health status of LGA population HealthComponent)</td>
<td>*Investigation (i) Community Profile: - Health status of the LGA population</td>
</tr>
<tr>
<td>(Community characteristics</td>
<td>- in PROFORMA ‘A’ - Demographic data - Social indicator data</td>
<td>(Cont.) - Demography, - Economics,</td>
</tr>
<tr>
<td>- Health status</td>
<td>STAGE 1(b): Profile of the LGA - in PROFORMA ‘B’ STAGE 1(b): Population subgroup demographic profile (Local government component)</td>
<td></td>
</tr>
<tr>
<td>*Community Consultation</td>
<td>STAGE 2: Suggested local food system monitoring data</td>
<td>(ii) Service inventory</td>
</tr>
<tr>
<td>*Data Analysis (implied step)</td>
<td>STAGE 3: Data patterns of concern</td>
<td>(iii) Deficiencies, gaps ...</td>
</tr>
<tr>
<td>*Problem Identification (implied step)</td>
<td>STAGE 4: The definition of existing food system issues</td>
<td>(iii) (Cont.)...and problems in the provision of services and amenities by council within the LGA</td>
</tr>
<tr>
<td>*Health Promotion Program Planning</td>
<td>STAGE 5: Suggested strategy examples for local government involvement</td>
<td>(iv) Strategies, priorities and actions</td>
</tr>
<tr>
<td>*Impact Evaluation</td>
<td>STAGE 6: Continuous monitoring option (i) - monitoring data selected to identify data patterns of concern</td>
<td>*Implementation</td>
</tr>
<tr>
<td>*Outcome Evaluation Measurement of the attainment of a health related goal</td>
<td>STAGE 7: Continuous monitoring option (ii) - monitoring changes in diet related health status for health outcome assessment</td>
<td>*Objectives and Policies (ii) Monitoring and evaluation in terms of satisfying council objectives and policy</td>
</tr>
<tr>
<td></td>
<td>STAGE 8: Continuous monitoring option (iii) - Regular update of LGA profile and food system data</td>
<td>*The review of community service needs over time (implied in feedback loops within the model (as above)</td>
</tr>
<tr>
<td></td>
<td>STAGE 9: Continuous monitoring option (iv) - timely food system surveillance</td>
<td></td>
</tr>
</tbody>
</table>
The stages within proforma scenarios were presented in the order listed except for stage 4: 'Food system issues'. This stage was presented as the first step within proforma scenarios in the form of questions, in order to provoke investigation or 'food system monitoring' into a potential problem existing within LGA's. The latter addressed the primary motivation for food system monitoring by local government discussed in the previous chapter, namely the improved management and planning of the LGA.

Stage 1(b) was separated into two areas of LGA profiles, as was recommended in guidelines (2) and (3).

Stage 2 data includes data to be collected within the food subsystems outlined in guideline (6).

Food intakes were excluded in proforma 'A' stage 2 since it was deemed to be too specific for the description of broad LGA profiles. Only apparent intakes (purchase measures) were included in proforma 'A' which can be gleaned to some degree by using store turnover within small areas.

Strategies for Local Government Involvement

Stage 5 presents feasible strategy options for local government involvement in addressing local food system issues. Stage 5 includes strategies in all three degrees for local government involvement derived in the previous chapter, accommodating guideline (9).
Continuous Monitoring

Four opportunities for continuous monitoring of local food systems were included in stages 6, 7, 8 and 9, accommodating guideline (10). The numerical order of the feedback loops is not intended to imply the sequence of monitoring in time. Stage 7 outcome measurement is expected to be assessed over a long time period. Stages 6, 8 and 9 are intended to be conducted in the shorter term.

The specific timing of monitoring stages 6, 8 and 9 depend on the local government setting. The DILGEA (1988) suggested a monitoring schedule to be devised by local government for the regular needs assessment of community services within their LGA. This is suggested to promote the regular collection of local data (particularly through community consultation methods), and the identification of any existing gaps in service provision. Such a schedule is expected to determine the timeliness of stages 6, 8 and 9.

A local food system monitoring schedule is recommended to promote the monitoring of relevant food systems by local government and collaboration with local health, private and other public sectors responsible for monitoring other aspects of the local food system.

The Consideration of Project Principles for Local Government Involvement

Proforma content was designed to provide opportunities to incorporate the five project principles for local government involvement described in chapter 2, accommodating guideline (11)
Intersectoral Collaboration

Collaboration and networking is included for all stages of the proforma. In stage one it is proposed that the collection of data be undertaken in conjunction with area health allied health professionals, for example community nutritionists, social workers, other local community service professionals and local government staff (environmental health officers and community services council department staff), together forming a multidisciplinary data collection team. Data can be stored at different sites, requiring regular collaboration for data use.

In Stage 3 ‘Data patterns of concern’, statisticians and other professionals may be required to process and analyse data selected for monitoring and to define data patterns. Also, a team approach is implied in stages 3 to 5 in a team approach to identify community food and nutrition related issues and for the development, implementation and evaluation of local government strategies addressing food system issues.

Multistrategic Involvement

Stage 5 provides the opportunity for the presentation of a wide range of strategies for local government involvement in addressing food system issues. Strategies can range from small additions to the existing roles of staff, strategic planning as part of policy development. Moreover, the opportunity exists for identified strategies to be used on their own or teemed with other strategies within local government and from the local health sector. Single isolated strategies and multistrategic strategies may be combined for the comprehensive address of food system issues. Changes to existing local government and food policy development is included as the optimal option in stage 5.
**Environmentally Sustainable Development (ESD)**

Strategies with consideration for ESD were intended to be given priority for selection in stage 5.

**Social Justice**

The proforma promotes the monitoring of food system components, the identification of any spatial disparities in accessing healthier food choices and the existence of non-supportive environments. The proforma emphasises the role of local government in rectifying and preventing such spatial inequity within LGA’s through local planning and management.

Continuous monitoring stages 6, 7, 8 and 9 also ensure the achievement of social justice. Stage 9 describes the process of continued surveillance of the local food systems which promotes stage 6, the regular update of locally relevant data. Also, stages 7 and 8 ensure respectively, that implemented strategies address the food system issue of concern and that local government involvement contributes to the improved health of the local population.

Finally, the presentation of strategy examples to rectify identified food system issues in stage 5 ensures local governments are made aware of opportunities that exist to rectify food system issues. Stage numbers in the outlines pertain to monitoring tasks presented in table 6.1.
Community Empowerment

This aspect was incorporated into stages 2 and 5. Within stage 2, community consultation provides the access of primary data through public surveys and forums. Also, within stage 5 strategies empowering local communities to make healthy food choices leading to sustainable change are given priority. The creation of supportive environments and the reduction of adverse environments in healthy food choices serve to reinforce and support individual food choices.

Criteria for selecting stage 5 strategy examples were intended to satisfy project principles for local government involvement. The selected strategies must therefore empower local communities, be sustainable, involve intersectoral collaboration, promote social justice and be multistrategic (if appropriate).

Dual Point of Entry

It was decided that health assessment stage 1 (a) was to be presented as a separate component of LGA profiles and not to be included within LGA typologies as was suggested by DILGEA (1988), accommodating guideline (1).

Individual proforma ‘A’ typology and proforma ‘B’ subgroup outlines are presented in figures 6.1 and 6.2 overleaf.
STAGE 1 (a): LGA PROFILE (HEALTH STATUS ASSESSMENT)

STAGE 1 (b) LGA PROFILE

STAGE 2: SUGGESTED LOCAL FOOD SYSTEM DATA MONITORING LIST

STAGE 3: DATA PATTERNS OF CONCERN

STAGE 4: POTENTIAL FOOD SYSTEM ISSUES

Local Food Manufacturing and Processing Measures

Local Food Supply/Service Measures (including Local Food Welfare Outlets)

Measures of Other Supportive Environments

Apparent Food Intakes: Purchase Measures

Measures of Other Supportive Environments

Food Waste Management Measures

STAGE 5: STRATEGY EXAMPLES OF LOCAL GOVERNMENT INVOLVEMENT

STAGE 6: STRATEGY IMPACT EVALUATION

STAGE 7: LOCAL DATA UPDATE

STAGE 8: LOCAL DATA UPDATE

Figure 6.1: Generic outline of a LGA typology scenario in Proforma 'A'

KEY:
= Single Isolated Strategy
= Multi-Strategic Involvement
= Strategy is suitable as part of Local policy
Figure 6.2: Generic outline of a population subgroup category scenario in proforma ‘B’
6.2. COMPOSITE PROFORMA STRUCTURES

A composite outline of proformas 'A' and 'B' were developed as part of the proforma package (Appendix 6) to allow users to understand the context of the individual scenarios and therefore identify other useful food system data for monitoring within other scenarios. Proforma 'A' was intended to be a principal proforma on which to base food system monitoring. Additional monitoring using data presented in other LGA scenarios and proforma 'B', is recommended for those local governments with additional interest and adequate resource capacity.

Composite proformas also were developed to allow the user to move to other relevant typology and population subgroup scenarios to investigate other potentially existing food system issues that may require address within their area. It also was considered that a LGA can change its characteristics with time and may require the examination of another scenario in the future.

The content of some scenarios may be similar but in such cases the specific nature of the data presented for monitoring, data patterns and presented strategy examples were not expected to be the same.
CHAPTER 7
THE DEVELOPMENT OF LOCAL GOVERNMENT AREA TYPOLOGIES AND MONITORING CONTENT FOR PROFORMA ‘A’

This chapter presents five LGA typologies that were developed from examining the available food system monitoring studies. These were developed in four stages. Also presented is the development of LGA typology scenario food system monitoring content according to the outline of proforma ‘A’ presented in the previous chapter.

7.1. LGA TYPOLOGY DEVELOPMENT

Stage 1: Classifying LGA’S Within the Literature

Firstly, LGA’s examined in reviewed studies of local food system monitoring, were classified using a national local government classification system (Australian Local Government Classification Steering Committee (ALGCSC) 1994).

This classification of literature LGA’s allowed the exposure of LGA characteristics which are significant in determining the nature of food systems and therefore the issues likely to exist. ALGCSC (1994) classification criteria were not used as the sole criteria for typologies due to their reliance on broad demographic LGA profile data unsuitable to describe the nature of local food systems within LGA’s.

It was revealed that most LGA’s within the available studies of LGA food system monitoring were classified as urban ‘fringe’, ‘regional’ or ‘capital city’. It is speculated that significantly less resources in rural areas explains the few food system studies conducted within rural LGA’s.
Stage 2: The Development of Preliminary Broad LGA Profiles

The second stage involved the identification of general characteristics from the LGA's reviewed in the literature. The classification of reviewed studies revealed three main types of LGA scenarios useful for defining distinct LGA food system scenarios. These were defined according to criteria for classifying LGA's as urban and rural by the ALGCSC (1994). These three LGA typologies and their ALGCSC defining criteria are presented in table 7.1 below.

Table 7.1: Three preliminary LGA typologies revealed through classifying the LGA's examined in the reviewed LGA food system monitoring studies.

<table>
<thead>
<tr>
<th>LGA Preliminary Categories</th>
<th>Preliminary Defining LGA Characteristics from (ALGCSC 1994)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Urban Fringe</td>
<td>* Population density predominantly high</td>
</tr>
<tr>
<td></td>
<td>* Population distribution mainly urban</td>
</tr>
<tr>
<td></td>
<td>* High population growth rate</td>
</tr>
<tr>
<td>(2) Urban Central</td>
<td>* Population urban distribution</td>
</tr>
<tr>
<td></td>
<td>* Small distance from major developed metropolitan centre</td>
</tr>
<tr>
<td>(3) Rural Regional LGA</td>
<td>* Predominantly rural population distribution</td>
</tr>
<tr>
<td></td>
<td>* Primary production economic interests</td>
</tr>
<tr>
<td></td>
<td>(for example: Agriculture and Mining)</td>
</tr>
</tbody>
</table>

NB/ The described LGA characteristics are relative to other LGA’s
Stage 3: Outstanding LGA Typologies in the Literature

Two other general LGA categories were found to be outstanding. These were defined using professional judgement and other LGA's classified by ALGCSC (1994). These are presented in table 7.2 below.

Table 7.2: Other LGA typologies deemed to be outstanding in the reviewed studies

<table>
<thead>
<tr>
<th>LGA Category</th>
<th>Preliminary Defining Characteristics</th>
</tr>
</thead>
</table>
| Rural Remote LGA      | * Mixed or no defined economic interests  
|                       | * No defined centre  
|                       | * Rural  
|                       | * Includes remote ATSI communities                                                                   |
| Urban Regional LGA    | * Distinct geographical boundaries or a significant distance separating the LGA from metropolitan centres  
|                       | * Large LGA part of a region of councils which act together in joint ventures  
|                       | * Moderate - low population density  
|                       | * A mix of rural and urban population distribution                                                   |

NB/ The described characteristics of LGA's are relative to other LGA's

The urban regional LGA was a LGA typology well known to the researcher but not included in the LGA’s that were examined in the literature, namely the Wollongong LGA /Illawarra region. The remote rural LGA identified a small remote LGA typology with resident Australian ATSI communities, for example Northern Territory regions investigated by Lee et al (1994b).
Five general LGA categories therefore were deemed suitable to describe the nature of specific LGA typologies likely to result in distinct local food systems. These broad LGA categories served as a basis for further refinement.

**Stage 3: Other Specific LGA Defining Criteria**

Specific criteria were then applied to the five general LGA scenarios that were derived. Specific criteria was selected from relevant statistical data identified in the Australian Bureau of Statistics Libraries Extension Program (ABS) (LEP) and classification criteria used in other criteria used to classify local governments by the NSW Local Government Grants Commission (1994).

An inventory of relevant ABS LEP was conducted (presented in Appendix 3) from which specific LGA descriptor data were taken. ABS data were used to define broad demography (nonspecific population related data and distance to nearby areas), economic data (agricultural use, labour force components, local retailing industry, tourism) and political structure (revenue capacity, federal funding, local government structure).

Criteria from the NSW Grants Commission (1994) classification system was also used to derive LGA descriptor data for proforma ‘A’ scenario profiles. Road types and lengths criteria used by the NSW Grants Commission (1994), revealed additional useful specific LGA descriptors. Local government has responsibility for local road and transport systems which are also a significant descriptor of local food systems and important determinants of federal funding. It was found that urban central LGA’s areas exhibited road lengths zero to 200 kilometres, less sealed roads than other LGA’s and more roads within the LGA trading centre. LGA’s classified as regional urban and rural LGA’s were found to have approximately 500 - 1000 kilometres road length, mostly sealed within LGA centres and rural localities within the LGA. Lastly, rural areas were found to have
significantly less road lengths in LGA centres, more unsealed roads and the longest total road length (kilometres) (approximately greater than 1000 kilometres).

Stage 4: Clarifying Definitions for Terms Used in LGA Typology Titles

Two main distinctions, namely, 'local' and 'broad' political structure and 'urban' and 'rural' general demography, were made in LGA typology titles. These were deemed to impact the most on the character of local food systems within LGA's and therefore the types of potentially existing food system issues.

'Local' referred to local shires and councils that have jurisdiction over a few surrounding suburbs or townships. This was the level of local government deemed closest to the local community and therefore a more likely candidate for collection of community consultation data and smaller area based food system intervention.

'Broad' referred to those local governments that are characterised by being part of a region of councils which manage sectors which impact on a large number of surrounding shires and councils within LGA's, for example, the local water supply, agricultural production and other environmental issues. These were typically deemed to be LGA's with both rural and urban characteristics and a few LGA centres as in the rural and urban regional LGA typologies described in tables 7.1 and 7.2.

'Urban' was defined according to ALGCSC (1994), namely a collection of census districts where greater than ninety percent of population reside in LGA centres and the nature of surrounding LGA's are urban. LGA's also are classified as urban where the population number is greater than 20,000 or the population number is less than 20,000 with a population density of greater than thirty persons per kilometre squared. Such characteristics are said to create a predominantly urban nature of local council issues.
'Rural' also are classified according to ALGCSC (1994). Rural was defined as LGA’s dominated by one to two economic interests, with a low population density, low population number and where less than 90 percent of the population resides in the LGA centres.

7.2. LGA TYPOLOGY CONDITIONS FOR USE

Users are intended to choose a typology or typologies that coincides most with the criteria experienced by their respective LGA. Typologies are not intended to be mutually exclusive. More than one LGA typology may adequately describe a particular LGA. One example may be some urban fringe LGA’s that may be classified as agricultural LGA’s with intensive agricultural land use. To consider a typology adequate, the majority of criteria should be applicable or one or two specific criteria are deemed to describe the LGA very well.

Defining data for proforma ‘A’ LGA typology sceanrios presented in this chapter was summarised and presented in the proforma package in Appendix 6.

7.3. LGA TYPOLOGY CONTENT

Food system issues, data patterns, monitoring data content and strategy examples were developed in that order. Within each section two steps were conducted, namely examining the available food systems monitoring studies and inferring additional plausible ideas based on the literature, using professional judgement. This scenario content was collated in a summary table for each typology. The same process was conducted for all five LGA typologies.
**Food System Issues**

Firstly, those studies that describe food systems in LGA's classified within one of the five LGA derived typologies, were examined to identify the food system issues that have been found to exist. Potential issues were then inferred from the criteria used to define each typology and the literature review of broad food system issues for local government involvement, presented in chapter three.

A judgement was made as to the most suitable food system under which to categorise the identified issue. Some issues may be adequately described under several food systems.

The issues selected for presentation were limited by their feasibility for their address by local governments. This feasibility was defined according to the literature review of relevant areas of local government responsibility identified in chapter 2.

Food system issues implying a specific type of LGA community profile were not included. Such issues were considered within proforma ‘B’ content.

**Food System Monitoring Data Patterns**

Secondly, data patterns used to define food system issues in the literature were identified. Other plausible data patterns implying the presented food system issues then were identified. The selection of data patterns was limited by the feasibility of data collection and analysis within a local government setting, based on an inventory of food system related data that has been collected in the literature. This was presented in chapter 4.

Special care was taken to differentiate food system issues from data patterns implying such issues. For example, the food system issue of inadequate physical access to basic
food supply outlets is described by data patterns of a low ratio of basic food outlets to the residing population compared to other retail outlets, and few transport routes and times to access nearby basic food outlets.

**Food System Monitoring Data**

Thirdly, the food system data used to identify each data pattern was listed in the summary table.

An example of one section from the proforma ‘A’ food system monitoring content summary table content is presented in table 7.3 below for typology (1); ‘Urban Fringe LGA’.

**Table 7.3:** Examples of potential food system issues, their data patterns and monitoring data derived for Typology (1): ‘Urban Fringe LGA’.

<table>
<thead>
<tr>
<th>Food Subsystem</th>
<th>Potential Food System Issues</th>
<th>Data Patterns of Concern</th>
<th>Monitoring Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOOD SUPPLY: (CONVENTIONAL OUTLETS)</td>
<td>*Are the numbers and types of food retail outlets (retail mix) adequate?</td>
<td>*Great distance from suburb geographic centre to the nearest basic food outlet (Km)</td>
<td>*Density of basic food and other food outlets within the LGA namely; the number of basic and other food outlets as ratio of the residing population (1000 residents)</td>
</tr>
</tbody>
</table>

**Strategy Examples for Local Government Involvement**

Lastly, strategies to address the presented food system issues by local government were identified from proposed or implemented strategies in the literature. Other plausible
strategies for local government involvement also were proposed, based on areas for local
government responsibility identified in the literature review chapter 2.

Strategies were classified into the three degrees of local government involvement
identified in chapter 4. Strategies were classified as 'single isolated strategies' based on
the lack of planning and intersectoral collaboration required for their implementation and
their direct relation to existing areas of local government function. Strategies were
classified as 'multistrategic' based on their suitability to be used in tandem with other
strategies within local government and/or the health sector, the involvement of some
change to infrastructure and intersectoral collaboration. Lastly strategies were classified
'as part of policy' if they described major infrastructure change at the local level, involved
more extensive intersectoral collaboration and required local government to apply its
function in ways not directly related to current local government activity.

Some strategy examples selected for proforma 'A' are presented in table 7.4 below for
LGA typology (1).

Table 7.4: Strategies for local government involvement in addressing food system issues
in LGA typology (1): Urban Fringe LGA’s

<table>
<thead>
<tr>
<th>Local Food System</th>
<th>Degree of Local Government Involvement</th>
<th>Strategy Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL FOOD PRODUCTION</td>
<td>(PS)</td>
<td>*Land zoning for local community gardens based in local community health and neighbourhood centres. The use of local community volunteers, agriculture/horticultural students and the unemployed for garden maintenance.</td>
</tr>
<tr>
<td></td>
<td>(PS)</td>
<td>*Land packages to community groups for the development of local community gardens</td>
</tr>
<tr>
<td></td>
<td>(MSI)</td>
<td>*Support for ‘edible environments’. Using local permaculture in public spaces including low maintenance fruit and nut trees and vegetable and herb vegetation.</td>
</tr>
</tbody>
</table>

SIS = Single Isolated Strategy  MSI = Multi-Strategic Involvement  PS = Policy Strategy (Strategy part of policy)
7.5. CONSIDERATIONS WHEN USING PROFORMA ‘A’ FOOD SYSTEM MONITORING CONTENT

It is expected that not all food system issues will be applicable to all local governments that identify themselves as belonging to one particular LGA typology. For example, in LGA typology (3) - ‘Regional Rural LGA’, fresh food production may be low in some LGA’s that have a centre for mining and tourism. Alternatively, other rural regional LGA’s with a large agricultural industrial sector may have widely available farmers’ markets whereby local produce is sold directly to the community from the primary producer and not all the food produced is exported to other LGA’s. Moreover in the latter, local production may include only a small variety of produce requiring other produce to be imported and sold through a few local food outlets.

Also, some food system issues have been commonly described for more than one LGA typology but it is expected that the significance of such commonly described issues will vary between typologies. For example, it is plausible to expect that existing food production issues will be a higher priority within typology 3: ‘Rural Regional LGA’s than typology 5: ‘Urban Regional LGA’s’. Although in the latter, some significant food production is expected to occur.

In some of the above cases, the data patterns and types of data in proforma ‘A’ vary slightly to accommodate differences between LGA settings. For example, principal recipients of food welfare in ‘Rural Regional LGA’s are expected to be drought affected farmers and their families residing a great distance from the LGA centre as well other members of the community. Recipients of food welfare in the Urban central LGA’s are expected to be community members receiving social security benefits or a significantly low income that is inadequate to meet their needs.
The food system monitoring content for each LGA typology was then summarised. LGA typology food system monitoring content and suggested strategy examples were then presented in proforma ‘A’. The completed draft proforma ‘A’ is presented in Appendix 6 as part of the proforma package for trial.
CHAPTER 8
THE DEVELOPMENT OF POPULATION SUBGROUP CATEGORIES AND PROFORMA ‘B’ CONTENT

This chapter presents the development of subgroup category definitions, food system monitoring data and strategy examples for Proforma ‘B’.

8.1. PROFORMA ‘B’ SUBGROUP CATEGORIES

Firstly, subgroup categories were identified through those population subgroups described in the literature to experience significant adversity in achieving a recommended intake and higher incidences of diet related ill health. The subgroup categories were then defined using an inventory of specific ABS small area demographic data available through the ABS LEP (Appendix 4). The descriptor data within each subgroup category were selected on the basis that the individuals identified by each descriptor were deemed to experience similar food system issues.

The derived proforma ‘B’ specific LGA demographic categories are presented in table 8.1 overleaf.
Table 8.1: LGA population subgroups of concern and their defining variables

<table>
<thead>
<tr>
<th>Population Subgroup Category</th>
<th>ABS Small Area Demographic Descriptor Data (Appendix 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category (1)</strong></td>
<td></td>
</tr>
<tr>
<td>Low Income Families with Young Dependents</td>
<td>*High number of household type: single parent with young dependents</td>
</tr>
<tr>
<td></td>
<td>*High number of household type: double parent with young dependents</td>
</tr>
<tr>
<td></td>
<td>*Age of dependents: zero to four years of age</td>
</tr>
<tr>
<td></td>
<td>*High numbers of housing type: Public (government rented)</td>
</tr>
<tr>
<td></td>
<td>*High number of vehicle per household: zero to one</td>
</tr>
<tr>
<td></td>
<td>*High number of households with a low average annual income</td>
</tr>
<tr>
<td><strong>Category (2)</strong></td>
<td></td>
</tr>
<tr>
<td>Older and Other Physically or Intellectually Disabled Individuals Recieving Social Security or Another Source of Low Income</td>
<td>*High proportion of the population aged &gt;65 years of age</td>
</tr>
<tr>
<td></td>
<td>*High numbers of recipients recieving social security benefits</td>
</tr>
<tr>
<td></td>
<td>*High number of household type: Living alone, aged &gt;65 years of age and with a low annual household income</td>
</tr>
<tr>
<td></td>
<td>*Low average household income in areas with residents greater than 65 years of age</td>
</tr>
<tr>
<td></td>
<td>*High percentage of social security recipients &gt;65 years of age</td>
</tr>
<tr>
<td></td>
<td><em>High number of physically disabled individuals (</em>)</td>
</tr>
<tr>
<td><strong>Category (3)</strong></td>
<td></td>
</tr>
<tr>
<td>Unemployed Individuals, Especially ATSI Australians and Independent Youth in General</td>
<td>*High unemployment numbers and rate in the &lt; 25 years of age population group and of Aboriginal and TSI heritage</td>
</tr>
<tr>
<td></td>
<td>*High percentage of residing Aboriginal and TSI Australians</td>
</tr>
<tr>
<td></td>
<td>*Significant numbers of households with residing members &lt;25 years of age</td>
</tr>
<tr>
<td><strong>Category (4)</strong></td>
<td></td>
</tr>
<tr>
<td>Individuals From NESB’s, Newly Arrived and With a Low Proficiency of English</td>
<td>*High percentage of residents with NESB country of birth</td>
</tr>
<tr>
<td></td>
<td>*Low level of English proficiency of NESB residents</td>
</tr>
<tr>
<td></td>
<td>*Significant numbers of newly arrived individuals from NESB’s</td>
</tr>
</tbody>
</table>

NESB = Non English Speaking Background  SLA = Statistical Local Area  ATSI = Aboriginal and Torres Strait Islanders

(*) Data also available from local health service/department
It is expected that some individuals will be described by more than one category for example, category (1) can include a family of Non-English Speaking Background (NESB) or Aboriginal background. Similarly, elderly individuals may be of ATSI background or NESB. Such individuals are deemed to potentially experience cumulative adversity. It is recommended that LGA's with a high proportion of such population subgroups consider the food system monitoring data within all relevant sections in proforma 'B'.

Proforma users are intended to consider the subgroup criteria which coincide most with the specific demographic trends experienced by their area. It is expected that more than one population subgroup category may be of interest to the user. Moreover, it is expected that the number of LGA individuals within demographic subgroup categories is dynamic. This was based on the fact that most LGA's experience some population demographic change due to migration in and out of the area and changed LGA boundaries over time.

8.2. CONTENT DEVELOPMENT PROCESS

The process used to derive proforma content for LGA population subgroup categories was that used to develop proforma ‘A’ typology content with the exception of three considerations.

The first difference was a more detailed definition of food system issues with applications to the subgroup of concern, to avoid duplication with proforma ‘A’ content and tailor the content specifically to monitoring and targeting the subgroup of concern. As one example, the food supply (conventional outlets) food subsystem was not included within proforma ‘B’ content for low income parents in category one. Although an inadequate retail mix in local areas can contribute to difficulties accessing to a basic food supply for low income
parents with young children, strategies addressing inadequate retail mix were presented in proforma ‘A’. Hence it was decided to include monitoring of physical access issues tailored to the problems of low income parents.

The second difference was the selection of strategies based on an additional criteria, namely that they targeted the subgroup of concern to some degree.

Lastly, food system monitoring included actual intakes of population subgroups of concern, discussed in previous chapters.

Examples of the derived food system monitoring content is presented in table 8.2 below for population subgroup (1)

Table 8.2: Examples of potential food system issues, their data patterns of concern and monitoring data derived for proforma ‘B’ population subgroup category (1): ‘Low income families with young dependents’

<table>
<thead>
<tr>
<th>Potential Food System Issues</th>
<th>Data Patterns of Concern</th>
<th>Suggested Monitoring Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL FOOD SERVICES: LOCAL CHILD CARE CENTRES AND PRESCHOOLS</td>
<td>*Meal choices high in fat (not relevant if under two years of age), sugar and salt and low in fibre and vitamins and minerals (calcium and iron)</td>
<td>*Number of meals offered high in fat, salt and sugar and low in fibre, vitamins and minerals (calcium and iron)</td>
</tr>
<tr>
<td>*Are the foods available at local child care facilities adequate?</td>
<td>*Low quality of fresh foods offered</td>
<td>*Number of meals offered low in fat, sugar and salt and high in fibre vitamins and minerals (calcium and iron)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Rating of food safety, and nutritional quality of the foods offered</td>
</tr>
</tbody>
</table>

Some examples of strategies selected for category (1) low income parents with young dependents in table 8.3 overleaf. The strategies are presented under the relevant food system and classified in a degree of local government involvement.
### Table 8.3: Strategy examples of local government involvement in addressing food system food issues for population subgroup (1) ‘Low income families with young dependents’

<table>
<thead>
<tr>
<th>Food System</th>
<th>Degree of Local Government Involvement</th>
<th>Strategy Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL FOOD PRODUCTION</td>
<td>(PS)</td>
<td>*Incorporate fruit and vegetable garden land use zoning within school grounds. Garden development and maintenance can be incorporated as part of the school science curricula.</td>
</tr>
<tr>
<td></td>
<td>(MSI)</td>
<td>*Incorporate permaculture around public housing blocks. Choose low maintenance fruit and nut trees and herb and vegetable plants</td>
</tr>
<tr>
<td>LOCAL FOOD SERVICES: LOCAL CHILD CARE FACILITIES AND SCHOOL CANTEENS</td>
<td>(SIS)</td>
<td>*Provision of information to local school canteens and child care centres encouraging safe food handling practices, fresh food quality, nutrition and food and nutrition policy development. Collaboration between child care officers and (environmental health officers and local health health professionals is needed.</td>
</tr>
</tbody>
</table>

SIS = Single Isolated Strategy  
MSI = Multistrategic involvement  
PS = Policy strategy  
(Strategy part of policy)

The proforma content for each category was presented in the category outlines presented in chapter 6. The completed proforma ‘B’ is presented in the proforma package in Appendix 6.
CHAPTER 9
LGA HEALTH STATUS MEASURES

This chapter presents examples of suitable measures for LGA population and subgroup diet related health status assessment and health outcomes measurement in stages 1(a) and 7, respectively.

9.1. POPULATION BASED DIET RELATED DISEASE STATUS MEASURES

Diet Related Disease Morbidity and Mortality

Diet related diseases suggested for assessment in stages 1(a) and 7 are those diet related disease categories presented in cause of death data for small areas, which is available through the ABS LEP, and those disease categories formally recognised to be associated to diet by the BHC (1986). A suggested mortality data source is therefore the ABS LEP.

Suggested morbidity measures include biochemical parameters identified as health targets by the CDHHCS (1994a) and population subgroup monitoring in Australia, for example the Australian Aboriginal community (Lee et al 1994b).

Examples of population based diet related disease categories and their mortality and morbidity measures, are presented in table 9.1 overleaf.
Table 9.1: Examples of suitable measures for diet related disease morbidity and mortality for small areas (BHC 1986, CDHHCS 1994a, Lee et al 1994b).

<table>
<thead>
<tr>
<th>Diet Related Disease Category</th>
<th>Mortality Measures (ABS Cause of Death Small Area Data)</th>
<th>Population Based Morbidity Measures (Biochemical Parameters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Heart Disease (CHD)</td>
<td>Heart attack (HA), Acute/Myocardial Infarction (A/MI), Ischaemic Heart Disease (IHD) and Cardio-Vascular Disease (CVDa)</td>
<td>• Total Serum cholesterol &lt;5.5 mmol/L • LDL Serum cholesterol • Blood pressure 125/80 mmHg</td>
</tr>
<tr>
<td>Cancer</td>
<td>Bowel, Colon, Colorectal, Breast, Gall Bladder, Stomach, Oesophageal</td>
<td>• N/A</td>
</tr>
<tr>
<td>Chronic Liver Disease (CLD)</td>
<td>Chronic Liver Disease (CLD)</td>
<td>• N/A</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Non Insulin Dependent Diabetes Mellitus (NIDDM)</td>
<td>• Glucose tolerance test (3 - 6 mmol/L) • Fasting insulin</td>
</tr>
<tr>
<td>Stroke</td>
<td>Cerebro - Vascular Disease (CVDa)</td>
<td>• (as for CHD)</td>
</tr>
</tbody>
</table>

N/A = Measures were not found to be available for the assessment of population morbidity in this disease category.

An inventory of diet related disease status data for small areas (Appendix 5) revealed ABS cause of death data to be the only comprehensive small area diet related health status data available. No comprehensive small area diet related morbidity data was found to be available. Morbidity measures from the CDHHCS (1994a) are therefore suggested to be attained from local clinical settings and area/region health services.
9.2. NUTRIENT INTAKE MEASURES

It was decided to include relevant nutrient intake values as health status assessment and health outcome measurements. This was decided based on three reasons. Firstly, some diet related disease morbidity measures are not feasible for population based assessment, for example, the bone density measurement of at risk elderly for osteoporosis. Secondly, some diet related diseases are not directly related to mortality, for example osteoporosis and anaemia. Thirdly, nutrient intakes provide a direct link to nutritional status and diet related disease morbidity, useful to assess the types of foods consumed by local populations.

Table 9.2 overleaf presents examples of nutrient intake measures and targets for stage 1 (a) and 7 in LGA populations. The presented nutrients and their target values are established measures identified in the Dietary Guidelines for All Australians (NHMRC 1992) and Health Targets for All Australians (CDHHCS 1994a)
Table 9.2: Examples of population based measures for the assessment of the dietary intake of LGA population subgroups

<table>
<thead>
<tr>
<th>Dietary Intake Parameter</th>
<th>Recommended Dietary Intake</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sodium</td>
<td>• &lt; 2300 mg/day or 100 mmol/day</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td>• Total dietary fat energy</td>
<td>• &lt; 30% total daily energy intake</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td>• Saturated fat energy</td>
<td>• &lt; 10% total energy intake</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td>• Dietary fibre</td>
<td>• &gt; 30 g/day</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td>• Alcohol</td>
<td>• &lt; 10 g/day (female)</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td></td>
<td>• &lt; 12 g/day (male)</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td></td>
<td>• Nil g/day during pregnancy</td>
<td>CDHHCS (1994a)</td>
</tr>
<tr>
<td>• Calcium</td>
<td>• 800 mg/day male</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 800 - 1200 mg female</td>
<td>NHMRC (1992b)</td>
</tr>
<tr>
<td>• Total Iron</td>
<td>• average &gt; 12 mg/day</td>
<td>NHMRC (1992b)</td>
</tr>
<tr>
<td>• Bioavailable Iron</td>
<td>• 1.2 - 3.2 mg/day</td>
<td>NHMRC (1992b)</td>
</tr>
<tr>
<td>• Breast Feeding</td>
<td>• First 3 months of life or greater</td>
<td>NMAA (1994)</td>
</tr>
</tbody>
</table>

Although most of the measures presented from CDHHCS (1994a) are associated to cardiovascular disease, they are also applicable to reducing the risk of other diet related diseases.

Nutrient intake measures are recommended to be assessed in the context of total dietary intake. A more detailed analysis of dietary intake is more feasible within small population subgroups in proforma ‘B’ using recommended dietary intakes (RDI’s) (NHMRC 1992b) values for other nutrients as outcome targets.
9.3. POPULATION MEASURES OF NUTRITIONAL STATUS

Measures of LGA population nutritional status also intended for inclusion in proforma stages 1(a) and stage 7.


<table>
<thead>
<tr>
<th>Population Based Nutritional Status Parameter</th>
<th>Measure Limits</th>
<th>Population Subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Anthropometry:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Adult Weight (Kg), height (m)</td>
<td>• BMI 20 - 25</td>
<td>• Unspecified</td>
</tr>
<tr>
<td>- Child &lt; 18 y/o growth rate weight (Kg),</td>
<td>• WHR 1.0 - 0.8</td>
<td>• Unspecified</td>
</tr>
<tr>
<td>height (m)</td>
<td>HWR (Kg) = (Ht m 2 x 20) to (Ht m 2 x 25)</td>
<td>• Unspecified</td>
</tr>
<tr>
<td>- Maternal weight gain (Kg)</td>
<td>• &gt; 5th centile for height and weight</td>
<td>• All, especially Aboriginal and TSI Children</td>
</tr>
<tr>
<td></td>
<td>• 9 to 12 Kg</td>
<td>• Pregnant Women</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3rd Trimester)</td>
</tr>
<tr>
<td>• Serum Haemoglobin (Hb)</td>
<td>• Hb &gt; 15 mg/L</td>
<td>• Pregnant women</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Females &gt; 12 - 50 years of age</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Athletes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vegetarians</td>
</tr>
<tr>
<td>Mortality:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Infant Mortality Rate (IMR)</td>
<td>• Equal than that for non ATSI Australians</td>
<td>• ATSI communities</td>
</tr>
</tbody>
</table>

BMI = Body Mass Index  WHR = Waist (cm):Hip (cm) Ratio

The presented examples of nutritional status measures were selected on the basis of their broad indications of diet related conditions and their suitability for the measurement of...
population nutritional status. This criteria is recommended for the selection of nutritional status measures within the proforma. The suitability of presented measures for population based assessment was determined by their suggested or actual use in nutrition monitoring in USA (Deukmajian et al 1993, Wahlqvist (1988) and remote rural Aboriginal communities in Australia (Lee et al 1994b).

The combined assessment of diet related mortality, morbidity, nutritional status and nutrient intake is recommended for a comprehensive indication of diet related health status and outcomes in LGA populations.

Based on the discussion presented in this chapter, the proforma content for stage 1 (a) was defined as ABS diet related cause of death data and locally collected diet related morbidity, nutritional status and nutrient intake measures. Content for proforma stage 7 was therefore defined as a reduction of ABS mortality figures and the achievement of established biochemical, nutritional status and nutrient intake targets.

Morbidity, nutritional status and nutrient intakes measures are therefore recommended for use in proforma ‘A’ using representative samples of the LGA population and in proforma ‘B’ using representative members from specific population subgroups, classified according to geographic residence, for example communities residing in small areas within LGA’s with a low annual household income below $16,000, or specific descriptors, for example, families which have long term unemployed parent members.

Proforma content for stages 1 (a) and 7 is presented as part of the proforma package presented in Appendix 6.
CHAPTER 10
PROJECT LIMITATIONS

10.1 LIMITATIONS OF DATA SOURCES

Most of the ABS LEP data that was suggested to define LGA scenarios is presented in statistical small areas compatible with census data collection areas. Some local government areas may fall between two statistical subdivisions. Data collected by ABS for smaller collector districts is therefore required for a more accurate picture of LGA profiles.

Moreover, ABS LEP data also exhibits limitations associated with census counts, for example, underenumeration, previously identified in chapter 2.

Some LGA's can be accommodated by one or more categories and hence LGA classification groups are not mutually exclusive (ALGCSC 1994). Moreover, the classification of LGA’s in each group is not permanent due to changed LGA boundaries which may alter the profile of LGA’s. These aspect were considered in the proforma package by suggesting that all local governments consider multiple LGA typologies and population subgroups or refer to another scenario in the future according to changes to the LGA profile.

Feedback from the target group especially relevant local government staff was not possible due to the time constraints of this project. This would have been useful to further refine the draft proforma package for more formal trialing within local governments in the future.
10.2. LIMITATIONS OF PROJECT METHODOLOGY

Professional Judgement

Proforma content was, in parts, based on professional judgement which was by nature subjective and therefore potentially refutable. However, professional judgement was essential to ensure that the selected proforma scenario content was comprehensive and counteracted the bias in the type of LGA’s examined in the literature, revealed in table 7.1. Reasons for such bias may be that food system monitoring studies are only conducted where there exist: sufficient health and local government staff resources, sufficient interest on the part of local governments for wider involvement in food and nutrition issues and large food systems, for example, a large amount of food retailing in the LGA (namely a large conventional food supply subsystem). The larger the local food system, the greater the priority for local government concern.

LGA Scenarios

Rural remote LGA’s were found to be the least described in the literature in terms of potentially existing food system issues. It is expected that the proforma content within this LGA typology will require more extensive refinement after more comprehensive food system research has been conducted in the future.

Another potential limitation of the selected LGA typologies is the limited personal experience of LGA’s by the researcher and project researcher. Although the project researcher and project supervisor had personal knowledge of some LGA’s within each Australian state and territory, the knowledge was not extensive and the selection of proforma LGA typology
scenarios may have been influenced by such knowledge. This was an unavoidable aspect of the project methodology.

10.3. LIMITATIONS OF THE PRESENTATION FORMAT OF THE PROFORMA

It was intended to present the entire proforma on one large sheet, in a flow chart layout presentation format. However, in order for the proforma to be understood on its own, was necessary to include descriptive details of the suggested monitoring data, data patterns of concern and strategy examples for local government involvement. This made the proforma content extensive and exceed the intended layout limits, two composite outlines of proformas ‘A’ and ‘B’ were therefore developed to be included in the proforma package (Appendix 6), demonstrating the relationship between each scenario.

10.4. PROJECT METHOD RECOMMENDATIONS

* When other food system monitoring studies become available, it is recommended that the LGA typologies and population subgroups categories and food system monitoring content be reviewed.

* It is recommended that target group users are provided with an opportunity to examine the feasibility of the presented monitoring data and strategies for local government involvement, the usefulness of the layout and the adequacy of all the content within the proforma package. One suggested method is a small focus group of environmental health officers from local governments with some degree of wider involvement in local food and nutrition issues.
Due to their contact with and close proximity to the wider project principal researcher, Environmental health Officers (EHO's) from South Sydney and Penrith Councils are suggested to be suitable participants. The health professional perspective has been considered to some degree through the project researcher and supervisor. Another suggested method is to mail the proforma package to such individuals along with an evaluation questionnaire and reply paid envelope.

* It is recommended to include a wide variety of LGA's in the future formal trial of the proforma package to specifically assess the suitability of the devised LGA typologies within proforma 'A'.
CHAPTER 11
BARRIERS TO LOCAL GOVERNMENT INVOLVEMENT IN LOCAL FOOD SYSTEM MONITORING AND PROJECT RECOMMENDATIONS

Barriers to the involvement of local government in local food system monitoring and other relevant issues were identified from informal personal communication with health professionals working in a local government setting, staff from the LGAA and literature reviews of small area food system monitoring during the course of this project.

Barriers and recommendations are presented below in problem ‘P’ and Strategy ‘S’ format, respectively.

1/ \( P \) A lack of access to or availability of small area diet related health status data. Such data is useful to include in profiles of LGA population developed by local government planning units for regional needs assessments.

\( S \)* Improvements in the exchange of LGA population health status information between area/region health statistical services and local governments.
  * Improved dissemination of national diet related data, such as the National Health and Nutrition survey, to local governments.
  * Improved exchange of useful information sources by local health professionals with access to such information.
2/ A lack of small area food system comprehensive data.

(S) *The establishment of LGA food and nutrition data working groups for the collection, management and dissemination of food system and diet related health status information. Such local groups should include relevant members from local government, health and other relevant public or private sectors OR/
*Alternatively, existing relevant local working groups can be expanded to devise and implement local food and nutrition data management strategies.
*Nutritional status and diet related data may be collected within local clinical and other settings within area/region health services by local health professionals.
*Improve or open channels for the dissemination of such data between local health professionals and local government to facilitate health status assessment.

3/ A lack of emphasis on achieving an adequate and accessible basic food supply in the planning of new areas.

(S)* Standards for food supply outlets and food related areas to be used in town planning
* Determine standards for desirable change for food systems as part of improving the efficiency of local government management best practice for example, public transport, physical access to basic food outlets, the price of foods in reference to recommended versus less recommended foods
4/ (P) A lack of a planned approach to the assessment of food system in LGA’s.

(S) *The development of a local government food system monitoring schedule including the definition of intervals for surveillance and recommended data to be monitored within the LGA. This schedule can be incorporated into existing local government regional community services and amenities assessment schedules.

5/ (P) A lack of involvement of local communities in local government food system related decision making, particularly low SES, NESB, Aboriginal and ATSI communities.

(S) *Increase the number of opportunities for consultation with such population subgroups to determine their acceptability of local food systems and provide opportunities for their involvement in planning feasible intervention strategies by local government.

*The wide promotion of opportunities for community consultation in LGA’s, for example, in community health centres and local government media community announcements.

6/ (P) A lack of awareness of public health and healthy public policy approaches to reducing diet related ill health amongst local government staff and other relevant individuals. This has been described by some health professionals as the ‘culture’ of local government and a perception by local government that their impact in local food systems only extends to local food safety.
(S) Increased awareness raising of a public health structural approach in local government settings to establish a basis for future involvement food and nutrition related public health.

(P) A lack of experience in wider food and nutrition activities by many local governments. This has been especially evident for those local governments without local public health units and health professionals working within local governments.

(S) Consult with local government food safety inspectors/environmental health officers regarding food safety data collection as a starting point to food system monitoring and promote the exchange of such information to relevant local health professionals. Likewise, disseminate relevant results of food system monitoring to local government. These can serve to create positive experiences of food system monitoring and build important collaborative networks.

*Pilot the proforma in a variety of local government settings to enable feedback from the perspective of those local governments with extensive and no experience in food and nutrition initiatives. This will also serve to introduce the concept of collaborative, feasible food system monitoring by local government and local health professionals.

(P) Who collects what food and nutrition data within LGA’s?
The development of monitoring material outlining relevant feasible food system data for specific sectors and individuals within such sectors to collect, for the coordinated approach food system monitoring. Target information to local government environmental health officers, food safety inspectors, town planning staff and community services staff and local health professionals (dietitians, general practitioners, hospital staff and community health staff).

A lack of documented previous patterns within food systems which may be useful for current local government management of local food systems, for example, food production practices and food retailing trends.

Research into a historical perspective of trends within food systems with a nutrition focus over the last 40 years, especially geographic aspects of food production, manufacturing, processing and retailing.

A lack of a computerised tool for conducting food systems assessments within LGA's.

Use the profoma content developed in this project within existing computer programs or a new program for LGA community services needs assessments in LGA’s.
REFERENCES


Anderson, S. (1990), The Take Away Project and the Healthy Take Away Campaign, Department of Health, Commonwealth National Better Health Program, ACT.


Australian Local Government Classification Steering Committee (ALGCSC) (1994), Classification of Local Governments in Australia, AGPS, Canberra.


Australian Consumers Association (ACA) (1990), Into the mouths of babes. Choice, October: 4-7.


Hodge, W. (1991), Food in Redfern Project: 'You Can’t Eat Clothes': A Survey of Food Services in Redfern and Waterloo. Health Promotion Unit. CSAHS.


National Health and Medical Research Council (NHMRC) (1992a), Dietary Guidelines for All Australians. AGPS, Canberra

National Health and Medical Research Council (NHMRC), (1992b), Recommended Dietary Intakes for Use in Australia AGPS, Canberra.


Northern Sydney Area Health Service, (NSAHS), (1992), Good Food Points North: Community Nutrition Draft Strategic Plan. NSAHS.


Penrith City Council (1995), Draft Policy for Parenting Facilities.


APPENDIX 1

LESTER’S (1994) FRAMEWORK OF AUSTRALIA’S FOOD SYSTEM
APPENDIX 2
LESTER'S (1995) FRAMEWORK MONITORING FOOD SUBSYSTEMS

Sub-system | What measured | Who measured
---|---|---
Available food supply | adequate? safe? | whole population
Food distribution and acquisition | available? accessible? affordable? | sub-groups households
Food intakes | adequate? appropriate? | sub-groups individuals
Nutrient intakes | [Nutritional status, Health outcomes] Outcome measures | sub-groups individuals


## Appendix 3

**Relevant ABS LEP Data Sources for Describing Broad LGA Profiles**

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Broad Demographic Data</strong></td>
<td></td>
</tr>
<tr>
<td>ABS Estimated Resident Population</td>
<td>* Total population for SLA’s and LGA’s</td>
</tr>
<tr>
<td>Sex and Age in SLA’s in NSW</td>
<td>* Population growth and losses in SLA’s</td>
</tr>
<tr>
<td>(Published twice yearly for all states/territories)</td>
<td>* Sex and age distribution in SLA’s</td>
</tr>
<tr>
<td>CATALOGUE No: 3209.1-8</td>
<td>* Child population 0 - 18 y/o in SLA’s</td>
</tr>
<tr>
<td><strong>ABS Census Counts for Small Areas</strong></td>
<td></td>
</tr>
<tr>
<td>(Published every five years for all states/territories)</td>
<td>* SLA population numbers and sex/age</td>
</tr>
<tr>
<td>CATALOGUE No: 2730.1 - 8</td>
<td></td>
</tr>
<tr>
<td><strong>ABS Population Statistics</strong></td>
<td></td>
</tr>
<tr>
<td>(Published annually for all states/territories)</td>
<td>* Estimated resident population in SLA’s</td>
</tr>
<tr>
<td>CATALOGUE No: 3313.0</td>
<td>* Growth rates as a proportion of the state/territory total growth rate</td>
</tr>
</tbody>
</table>

**SLA’s = Statistical Local Areas**
## APPENDIX 3 (Cont.)

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POPULATION GROWTH DATA</strong></td>
<td></td>
</tr>
<tr>
<td>ABS, Regional Population Growth</td>
<td></td>
</tr>
<tr>
<td>(Published annually for all states/territories)</td>
<td></td>
</tr>
<tr>
<td>CATALOGUE No: 3218.1-8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>* Population profile of fastest growing SLA’s</td>
<td></td>
</tr>
<tr>
<td>* Components of population growth</td>
<td></td>
</tr>
<tr>
<td>(migration and natural increase) in SLA’s</td>
<td></td>
</tr>
<tr>
<td>* Estimated resident populations, sex ratios in SLA’s</td>
<td></td>
</tr>
<tr>
<td>* Population growth rates in SLA’s</td>
<td></td>
</tr>
</tbody>
</table>

|  |
| **LOCAL ECONOMICS**  |
| **AGRICULTURAL INDUSTRY**  |
| Agriculture Statistics:  |
| Selected Small Area Data 1993-94.  |
| ABS (Published annually for the previous year)  |
| AGSTATS (CD ROM version)  |
| ABS Agriculture in state/territory  |
| (Published annually for all states/territories)  |
|  |
| * Area and land utilisation state and territories statistical areas (agricultural establishments, area hectares - pastures, field crops, fruit, nuts grapes and vegetables).  |
| * Land management in SLA’s (Pastures, Fruit and vegetables and irrigated crops).  |

SLA’s = Statistical Local Areas
## APPENDIX 3 (Cont.)

<table>
<thead>
<tr>
<th>Data Sources</th>
<th>Small Area Data Description</th>
</tr>
</thead>
</table>
| **CATALOGUE No: 7113. 1 - 8** | * Artificial fertiliser (tonnes) and soil conditioner use (hectares)  
* Gross value of agricultural commodities produced in SD’s, (crops, fruits and nuts, vegetables and livestock products) in SD’s  
* Number of establishments, land use (Area used for cropping) in SD’s and SLA’s  
* Total area of agricultural establishments in SD’s and SLA’s |
| **ABS Value of Agricultural Commodities:**  
(Published annually for all states/territories) **CATALOGUE No: 7503. 1 - 8** | * Gross value of agricultural commodities in SD’s (including crops, livestock products and total commodities ($’000)) |
| **LOCAL RETAILING INDUSTRY**  
**ABS Retailing in States/Territories**  
(published monthly) **CATALOGUE No: 8623.1-8** | * Total shop front retailing by SLA’s (number and floor space)  
* Turn over $,000  
* Turn over/persons employed |
| **LOCAL TOURISM INDUSTRY**  
**ABS Tourist Accommodation :**  
(Published quarterly for all states/territories) **CATALOGUE No: 8635.1-8** | * Caravan parks and hotels/motels in SD’s and selected sub divisions (Establishments, site nights occupied, site occupancy rates) |

SD = Statistical Divisions
## APPENDIX 3 (Cont.)

<table>
<thead>
<tr>
<th>Data Sources</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>State/Territory Department of Tourism</td>
<td>*Number of tourists visited LGA’s</td>
</tr>
<tr>
<td><strong>ABS Tourist Accomodation</strong></td>
<td>*Guest arrivals and lengths of stay in short term accommodation facilities in all state and</td>
</tr>
<tr>
<td>(Published annually for all states/territories)</td>
<td>territory SLA’s</td>
</tr>
<tr>
<td>CATALOGUE No: 8635.1 - 8635.8</td>
<td></td>
</tr>
<tr>
<td><strong>ABS Tourist Accomodation:</strong></td>
<td>*Site occupancy rates and site nights occupied in caravan parks, holiday flats, holiday units</td>
</tr>
<tr>
<td>(Published quarterly for all states/territories)</td>
<td>holiday units, holiday houses, hotels, motels and guest houses in SLA’s.</td>
</tr>
<tr>
<td>CATALOGUE No: 8635.1-8</td>
<td></td>
</tr>
<tr>
<td><strong>MIXED SMALL AREA DATA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ABS Regional Statistics</strong></td>
<td>*SLA’s contained in SD’s (Estimated resident population, Births, Deaths, Building Statistics</td>
</tr>
<tr>
<td>(Published yearly for all shires) and municipalities in all states/territories)</td>
<td>(dwelling units approved, residential, non-residential), Agricultural activity (establishments</td>
</tr>
<tr>
<td>CATALOGUE No: 1304.1-8</td>
<td>with agricultural activity, total area crops, orchards), Manufacturing (locations, industry</td>
</tr>
<tr>
<td></td>
<td>employment), Hotels and Motels (room occupancy rate), Municipalities and shires (total revenue and</td>
</tr>
<tr>
<td></td>
<td>loan receipts, total outlay ($’000).</td>
</tr>
</tbody>
</table>

SLA’s = Statistical Local Areas

SD’s = Statistical Divisions
### APPENDIX 3 (Cont.)

<table>
<thead>
<tr>
<th>Data Sources</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABS Manufacturing Industry</strong></td>
<td>*Manufacturing census results for states/territories</td>
</tr>
<tr>
<td>(Published annually for all SLA’s in all states/territories)</td>
<td>*Number of establishments, employment number turnover ($’000) classified by industry class</td>
</tr>
<tr>
<td>CATALOGUE No. 8202.1-8</td>
<td></td>
</tr>
<tr>
<td><strong>LOCAL GOVERNMENT FINANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ABS Local Government Finance</strong></td>
<td>* Income</td>
</tr>
<tr>
<td>(Published annually for all SLA’s in all states/territories)</td>
<td>* Expenditure</td>
</tr>
<tr>
<td>CATALOGUE 5502. 1-8</td>
<td>* Debt</td>
</tr>
<tr>
<td></td>
<td>* Trading Undertakings</td>
</tr>
<tr>
<td><strong>LOCAL ENVIRONMENT DATA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>MANMADE:</strong></td>
<td></td>
</tr>
<tr>
<td>Building Approvals</td>
<td>* New residential buildings in NSW SLA’s</td>
</tr>
<tr>
<td>(Monthly publication for all states/territories)</td>
<td>* New nonresidential buildings in SLA’s</td>
</tr>
<tr>
<td>CATALOGUE No: 8731.1-8</td>
<td></td>
</tr>
<tr>
<td><strong>ABS Dwelling Unit Commencement:</strong></td>
<td>* Dwelling units commencement by type of residential building in SLA’s (houses, other residential buildings and total), includes data from the previous and current year.</td>
</tr>
<tr>
<td>Reported by Approving Authorities</td>
<td></td>
</tr>
<tr>
<td>CATALOGUE No: 8741.1-8</td>
<td></td>
</tr>
<tr>
<td>(Published annually for all states/territories)</td>
<td></td>
</tr>
</tbody>
</table>

SLA’s = Statistical Local Areas
APPENDIX 4

RELEVANT ABS LEP SPECIFIC DEMOGRAPHIC DATA SOURCES FOR DESCRIBING POPULATION SUBGROUPS WITHIN LGA's

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIFIC DEMOGRAPHIC DATA</td>
<td>(A CD ROM desktop census data analysis and mapping data base package)</td>
</tr>
<tr>
<td>*ABS Census 1991 CLIB91</td>
<td>RELEVANT BASIC COMMUNITY PROFILE</td>
</tr>
<tr>
<td>or/ CDATA91 with Super Map</td>
<td>* Age/Sex population numbers</td>
</tr>
<tr>
<td>(Available every five years - Latest 1991)</td>
<td>* Birth place by country of birth</td>
</tr>
<tr>
<td></td>
<td>* Proficiency of English by year of arrival</td>
</tr>
<tr>
<td></td>
<td>* Age left school by sex</td>
</tr>
<tr>
<td></td>
<td>* Qualification highest level by sex &gt;15 y/o</td>
</tr>
<tr>
<td></td>
<td>* Occupation industry sector by age by sex</td>
</tr>
<tr>
<td></td>
<td>* Annual individual income by sex &gt;15 y/o</td>
</tr>
<tr>
<td></td>
<td>* Annual household income</td>
</tr>
<tr>
<td></td>
<td>* Annual family incomes (families with offspring)</td>
</tr>
<tr>
<td></td>
<td>* Family type by number of offspring by parental family income</td>
</tr>
<tr>
<td></td>
<td>* Labour force status (part time/full time) by sex of parents</td>
</tr>
</tbody>
</table>
## APPENDIX 4 (Cont.)

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cont.)</td>
<td>* Household by family type by nature of occupancy by landlord type (private, rental, government rental)</td>
</tr>
<tr>
<td></td>
<td>* Structure of dwelling by household type</td>
</tr>
<tr>
<td></td>
<td>* Annual household income by monthly housing loan repayment.</td>
</tr>
<tr>
<td></td>
<td><strong>RELEVANT EXPANDED COMMUNITY PROFILE</strong></td>
</tr>
<tr>
<td></td>
<td>* Labour force status by sex (ATSI)</td>
</tr>
<tr>
<td></td>
<td>* Language spoken at home by proficiency in English by sex</td>
</tr>
<tr>
<td></td>
<td>* Occupation by sex</td>
</tr>
<tr>
<td></td>
<td>* Family type by number of offspring by weekly rent</td>
</tr>
<tr>
<td></td>
<td>* Family type by number of dependant offspring by monthly housing loan repayment</td>
</tr>
<tr>
<td></td>
<td>* Annual household income by weekly rent</td>
</tr>
<tr>
<td></td>
<td>* Annual household income by monthly housing loan repayment</td>
</tr>
<tr>
<td>ABS Demography</td>
<td>* Demographic summary by statistical area NSW</td>
</tr>
<tr>
<td>(Published yearly for all states/</td>
<td></td>
</tr>
<tr>
<td>deathTerritories)</td>
<td>(Estimated mid year population, birth rate, rate infant deaths)</td>
</tr>
</tbody>
</table>

NESB = Non English Speaking Background  
TSI = Aboriginal Torres Strait Islander Australians
### APPENDIX 4 (Cont.)

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABS Social Atlas:</strong> (uses Census data)</td>
<td><em>Data is described in SLA's, is compared to averages for all SLA's and presented in maps</em></td>
</tr>
<tr>
<td>(Published for all state and territory capital cities)</td>
<td><em>Population age/sex</em></td>
</tr>
<tr>
<td></td>
<td><em>Recent arrivals</em></td>
</tr>
<tr>
<td></td>
<td><em>Persons born in NESB</em></td>
</tr>
<tr>
<td></td>
<td><em>ATSI population</em></td>
</tr>
<tr>
<td></td>
<td><em>Single parent families</em></td>
</tr>
<tr>
<td></td>
<td><em>Low income households</em></td>
</tr>
<tr>
<td></td>
<td><em>Couples with dependent children</em></td>
</tr>
<tr>
<td></td>
<td><em>Low income earners</em></td>
</tr>
<tr>
<td></td>
<td><em>Unemployed people</em></td>
</tr>
<tr>
<td></td>
<td><em>Unemployed people aged 15 - 19 y/o</em></td>
</tr>
<tr>
<td></td>
<td><em>People living in high and medium density housing</em></td>
</tr>
<tr>
<td></td>
<td><em>Rented government dwellings</em></td>
</tr>
<tr>
<td></td>
<td><em>Dwellings with no motor vehicle.</em></td>
</tr>
<tr>
<td><strong>ABS The Labour Force</strong></td>
<td><em>Civilian population aged 15 and over by labour force status in state/territory regions</em></td>
</tr>
<tr>
<td>(Published monthly for all states/territories)</td>
<td>(Number unemployed, unemployment rate, participation rate).</td>
</tr>
<tr>
<td>CATALOGUE No: 6202.1-8</td>
<td></td>
</tr>
</tbody>
</table>

**SLA** = Statistical Local Area  
**ATSI** = Aboriginal and Torres Strait Islander Australians
### APPENDIX 4 (Cont.)

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS Disability and Handicap in Australia</td>
<td>*Numbers of physically disabled in SLA’s</td>
</tr>
<tr>
<td>CAT. No. 4120.0</td>
<td>*A wide variety of other characteristics regarding physically disabled individuals</td>
</tr>
<tr>
<td>(irregular publication)</td>
<td>(Results of a 1988 survey of disabled and aged persons in Australia)</td>
</tr>
<tr>
<td></td>
<td>(Data available for all states and territories)</td>
</tr>
</tbody>
</table>

SLA = Statistical Local Area
APPENDIX 5
DIET RELATED DISEASE STATUS DATA ABS LEP SOURCES
FOR ASSESSING THE HEALTH STATUS OF LGA POPULATIONS

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Small Area Data Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS and National Centre for Epidemiology and Population Trends in Mortality (Published irregularly)</td>
<td>* SMR’s by cause of death in SSD’s based on previous years cause of death ABS data (CHD, CVD, chronic liver disease and cancer).</td>
</tr>
<tr>
<td>ABS State of Health in (States/Territory) (published irregularly) CATALOGUE No: 4330.1-8</td>
<td>* SMR’s for all causes in SLA’s (HD, CVD, total deaths for all health areas and regions (Uses previous years ABS cause of death statistics)</td>
</tr>
<tr>
<td>ABS Deaths: (Published annually for all states/territories) CATALOGUE No: 3312.4</td>
<td>* Deaths leading causes by statistical divisions of usual residence, number, proportions and rates for states and territories</td>
</tr>
<tr>
<td>Incidence and Mortality Age Standardised Rates of Cancer for LGA’s and Area/Region Health Services ♦ (SMR’s published annually)</td>
<td>* Age standardised mortality rates and incidence for cancers (bowel, colon, colorectal, stomach and liver</td>
</tr>
</tbody>
</table>

SMR = Standardised Mortality Rates (♦) = Not an ABS LEP source. Data is available from state/territory cancer associations
APPENDIX 6:

PROFORMA PACKAGE
A Proforma for Monitoring Food Systems in a Local Government Setting:

A tool for use by local government staff and health professionals working within a local government setting

One component of the Local Government Project
Department of Public Health and Nutrition
University of Wollongong

_Funded by the Commonwealth Department of Health and Human Services_
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Section B: Proforma Outlines
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Section C: Diet Related Health Status Measures for LGA Populations 8
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   LGA typology (2): * 'Urban Central LGA' Profile ............ 16
      LGA (2) Food Systems Monitoring Proforma ................. 17
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      LGA (3) Food Systems Monitoring Proforma ................. 22
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      Population subgroup (2): Proforma for Monitoring Food Systems 41
   Population subgroup (3): Demographic Profile -
      *Unemployed Individuals Especially Australian
Aborigine and Australian Torres Strait Islanders (ATSI's) and
Independent Youth in General* .................................. 43
      Population Subgroup (3): Proforma for Monitoring Food Systems 44
   Population Subgroup (4): Demographic Profile -
      *Non-English Speaking Individuals, Especially Recently Arrived
and/or with a Low Proficiency of English.* ..................... 47
Section A: Instructions for Using the Proforma
Local government has the capacity to influence local food related environments or 'systems' which directly or indirectly impact on the food choices made by local populations. From local food production to local food waste management, there exist many opportunities for local government involvement and the development of an integrated and sustainable local food system which meets the needs of local communities. The local government sector is unique in that it is best placed to:

*Identify the infrastructural needs of local food systems and local populations

*Collaboratively develop, promote and implement sustainable and feasible infrastructural strategies which impact on infrastructure relating to local food systems and which pertain to local government activities in the management of LGA’s

*Regularly monitor local food system and food related population needs and the impact and health outcome of such strategies

By directly or indirectly improving the food environments in local areas, local government can make a significant contribution to improving the health status of local populations.

This package presents some general guidelines on assessing the food systems that exist within your local area and identifying potentially existing food system issues. It also includes some examples of feasible strategies which local government can undertake for the address of such issues through enhancing current local government activities and the management of Local Government Areas (LGA’s).

The proforma is applicable to all LGA’s but small shires within LGA’s may also find the content useful.

Description of the Proforma:

The guidelines are presented in a proforma format. The overall structure of the proforma is divided into two components.

*Proforma ‘A’ is based on monitoring for the food systems in specific types of LGA profiles and is intended as a broad approach to food system analysis.

*Proforma ‘B’ is based on monitoring the food system needs of specific demographic population subgroups and is intended for more specific food system monitoring.

It is recommended that both proformas are considered in tandem for a comprehensive approach to monitoring LGA food systems and identifying relevant issues of concern suitable for address by local governments.

Each LGA typology and subgroup category includes potentially existing food system issues, suggested data for monitoring, resulting data patterns of concern and strategy examples addressing the presented food system issues.
Strategy examples for local government involvement are presented in three degrees described in figure 1 below.

<table>
<thead>
<tr>
<th>Degree</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A single isolated strategy involving relatively little or no infrastructure change</td>
</tr>
<tr>
<td>2</td>
<td>Strategy is suitable for multistrategic involvement and may include some infrastructure change</td>
</tr>
<tr>
<td>3</td>
<td>Suitable as a policy development strategy involving significant infrastructure change and a long term approach to the address of food system issues</td>
</tr>
</tbody>
</table>

Figure 1: Key for the degrees of local government involvement required by presented strategy examples

The content of the proformas has been organised according to food systems from local food production to local food for sale, and also includes other supportive local environments. Options for regularly monitoring local food systems are emphasized.

Using the Proforma:

**Within proforma 'A'**

Select the LGA typologies which describe the most dominant characteristics within your local government setting. It is possible that some LGA's will coincide with more than one presented LGA profile, for example, a LGA with a high growth rate and a high population density predominantly rural will coincide most with typologies (1) and (3). In such cases refer to all relevant typologies.

**Within proforma 'B'**

Select population subgroups with demographic descriptors which most describe your LGA community profile. Similarly, some community profiles will coincide with more than one subgroup category. Consider the data suggested for food system monitoring in all relevant population subgroups. You may find some aspects of the content described under other subgroup profiles may also be useful for monitoring food systems within your LGA.

The data used to describe the profile of your LGA, can be accessed through local council libraries through the Australian Bureau of Statistics (ABS) Libraries Extension Program (LEP). The suggested food system monitoring data was based on feasible data collected that has been collected in food system needs assessments within LGA's throughout Australia.
Definitions for Terms Used Within the Proforma Content

'Basic food outlets':
- These are food retail outlets deemed to provide a basic food supply to the community, including: supermarkets, fruit and vegetable outlets, butchers, fish markets and small mixed food corner stores.

'Recommended foods':
- Those foods that conform to the Australian Dietary Guidelines.

'Emergency food welfare outlets':
- Those outlets provide temporary food relief services, including food vouchers for subsidised or free food purchases in local food retail outlets, counselling services and links with other social welfare services.

'Other food outlets':
- These include: Restaurants, Take Away Food Outlets (TAFO's), Public Bars, Cafes, Kiosks (for example at council pools, beaches and sporting facilities) and Mobile Food Vendors (those selling less recommended foods).

If you have any questions or comments about this package or would like further information about any of the presented content within the proforma, contact:

Estela Gimenez (Dietitian: Proforma Project Researcher)
OR/ Heather Yeatman (Dietitian: Local Government Project Principal Researcher)

Department of Public Health and Nutrition
Building 19
University of Wollongong,
Northfields Avenue,
Wollongong,
NSW 2500
Ph: o/h: (042) 21 3153

This package was developed with the vision of local health professionals and a wide variety of public and private sector individuals working together to achieve and maintain sustainable and integrated local food systems, able to meet the needs of local communities.
Section B: Proforma Outlines
Generic Outline of Proforma 'A'

**Stage 1 (b) LGA Profile: Health Status Measurement**

**Stage 7: Health Outcomes Measurement**

**Diet Related Morbidity, Mortality, Nutritional Status and Nutrient Intake Measures**

**LGA Profile: Other Data**

**LGA Type 1**
- Economics
- Political
- Demographics
- Aspects
- Environment

**LGA Type 2**
- Economics
- Political
- Demographics
- Aspects
- Environment

**LGA Type 3**
- Economics
- Political
- Demographics
- Aspects
- Environment

**LGA Type 4**
- Economics
- Political
- Demographics
- Aspects
- Environment

**LGA Type 5**
- Economics
- Political
- Demographics
- Aspects
- Environment

**Potential Food System Issues**

**Suggested Food System Data Monitoring List**

**Suggested Data Patterns of Concern**

**Strategy Examples**

**Stage 6: Impact Evaluation Food Subsystem Data Monitoring**

**Stage 8: Local Data Update**

NB/Stages refer to the sequence of food system monitoring tasks.
Generic outline for Proforma 'B'
Section C: Diet Related Health Status Measures for LGA Populations
Stages 1 (a) and 7 LGA Diet Related Population Health Assessment and Outcome Measures

**STAGE 1 (a): HEALTH STATUS ASSESSMENT**

- **Diet related disease mortality rates** Source: ABS small area cause of death data for the LGA population
- **Diet related disease morbidity.** Population subgroup health status data from area/region health services
- **Nutritional status measures.** LGA population subgroup nutritional status data collected through local area/regional health clinical settings
- **Nutrient intake data of LGA population subgroups**

**STAGE 7: HEALTH OUTCOME MEASUREMENT**

- **Decrease in diet related disease mortality rate.** Source: ABS small area data for the LGA population in the following years.
- **Significant changes in relevant biochemical parameters within diet related disease status data of LGA population subgroups.** Source: collected from local regional health service clinical settings.
- **Significant changes in nutritional status data of LGA population subgroups collected through local clinical settings.**
- **Nutrient intake targets and RDI's achieved achieved by population subgroup food intakes**
Section D: Proforma 'A' LGA Profile
Scenarios
LGA TYPOLOGY (1): URBAN FRINGE LOCAL COUNCIL

BROAD DEMOGRAPHY

* High population growth rate
  (Natural and migratory population increases)

* Population predominantly resides surrounding a LGA trading centre (if an LGA centre is applicable)

ECONOMICS

* Mix of industry turnover ($'000) (Manufacturing, Retailing, Agriculture and Livestock commodities)

* High to moderate federal funding ($'000)

POLITICAL ASPECTS

* Council title
* Low elected person to population ratio
* Small distance (Km) from state/territory government offices

MAN MADE ENVIRONMENT

* High number of low density residential dwellings (Building approvals and commencements)

* Total road length (Km) moderate in both LGA centres and rural localities

NATURAL ENVIRONMENT Many open spaces, Large LGA (Km 2)
<table>
<thead>
<tr>
<th>POTENTIAL LOCAL FOOD SYSTEM ISSUES</th>
<th>SUGGESTED FOOD SYSTEM MONITORING DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOCAL FOOD PRODUCTION</strong></td>
<td>*Community satisfaction with water supply quality and cost</td>
</tr>
<tr>
<td>*Is the local production of food adequate?</td>
<td>*Number of households with large residential blocks producing fresh food for domestic use</td>
</tr>
<tr>
<td></td>
<td>*Number of venues for community based food production or distribution</td>
</tr>
<tr>
<td></td>
<td>*Artificial fertiliser use (tonnes) and soil conditioner use (hectares) (Source ABS LEP)</td>
</tr>
<tr>
<td></td>
<td>*Number of food imports and exports into and out of the LGA, respectively</td>
</tr>
<tr>
<td></td>
<td>*Total food (tonnes) locally produced, processed and manufactured remaining within the LGA</td>
</tr>
<tr>
<td><strong>LOCAL FOOD SUPPLY</strong> (CONVENTIONAL OUTLETS)</td>
<td>*Mapped number and location of basic food outlets (density)</td>
</tr>
<tr>
<td>*Is the local food retail mix adequate?</td>
<td>*Ratio: Food outlets type: 1000 population within total LGA and residential suburbs</td>
</tr>
</tbody>
</table>
SUGGESTED DATA
PATTERNS OF CONCERN

*Community dissatisfaction with water supply quality and cost

*Absence of, or low numbers of large residential blocks with domestic food production within the LGA

*Absence of venues for community food production and distribution

*High amounts of artificial fertiliser and soil conditioner used in the LGA

*Significantly higher amounts of imported food products from other LGA's

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Promotion of domestic food production in large residences within the LGA

Support for 'edible environments'. Planting low maintenance fruit, nut, vegetable and herb vegetation in public areas

Zoning for agricultural land use for local community gardens in residential areas

Land packages to community health and neighbourhood centres for food production

Lobby for proposed improvements to the local water supply

Support the local production and manufacturing of food

Investigate the reduction of food imports for the expansion of local food production, manufacturing and production

Wall maps for local communities to identify basic and/or accredited food outlets and local community gardens in their area

Request for the advanced notice for the closure of small food outlets in residential areas

Local community 'food houses' for basing food co-operatives, community gardens, food welfare, local food security research and food related educational programs

Development of standards for food retailing in new areas
POTENTIAL EXISTING FOOD SYSTEM ISSUES

LOCAL FOOD SUPPLY (NONCONVENTIONAL OUTLETS)

*Is the availability of local emergency food welfare services adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Location and number (density) of emergency food welfare outlets within the LGA

*Total number of individuals seeking emergency food welfare assistance each year

*Total number of emergency food welfare services provided each year in LGA

*Distribution of food retail outlets accepting emergency food vouchers (See food for sale for data patterns)

PHYSICAL ACCESS TO THE LOCAL BASIC FOOD SUPPLY

*Is the basic food supply physically accessible?

*Map scale walking distance (Km) from suburb centre to nearest basic food outlets

*Map scale distance (Km) from suburb centres to nearest bus stop or other public transport with destination to basic food outlets

*Number and location of supermarkets with delivery services and cost and zone of delivery

*Community satisfaction with physical access to basic food outlets and supermarket delivery services
SUGGESTED DATA
PATTERNS OF CONCERN

*Absence of food welfare outlets within suburbs of significantly low annual household income and high numbers of social security recipients

*Inadequate emergency food welfare outlets to meet demand

* Emergency food welfare recipients dissatisfaction with access to emergency food welfare outlets

*More than one Km walking distance from residential areas to a small mixed food outlet

*Distances to other basic food outlets unacceptable to the residing population

*Community dissatisfied with local transport routes, service frequency and cost, and supermarket delivery availability and delivery zones

*Few supermarkets offering delivery services within areas of high number of older, other disabled and low income residents

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Zoning for community based food welfare outlets in areas of low income, public housing and social security recipients

Licensure of appropriate mobile basic food vendors in fringe areas, for example, fruit and vegetable trucks

Co-ordination of public transport to provide comprehensive coverage of the LGA

Support food retailers in the establishment and expansion of supermarket delivery zones

Lobby for community transport vehicles and staff
**POTENTIAL LOCAL FOOD SYSTEM ISSUES**

**FOOD FOR SALE**

* Is the food for sale at retail food outlets adequate?

**APPARENT FOOD INTAKES**

* Is the demand for food appropriate?

**SUGGESTED FOOD SYSTEM MONITORING DATA**

* Price comparison of recommended and nonrecommended food items in different local basic food outlets

* Food product quality (Freshness)

* Variety of recommended foods (food type and package size)

* Food for sale (as above) in food outlets accepting food vouchers (especially fresh foods)

* Store turnover in local mixed food stores and supermarkets according to location of outlet

* Percentage of foods classified as recommended and less recommended for each separate shopping bill (average)

*NB/ This information is of more assistance to support other strategies*
SUGGESTED DATA PATTERNS OF CONCERN

*Higher relative cost of recommended foods

*Low variety of recommended foods

*Poor quality of fresh foods for sale

*Food for sale in retail outlets accepting emergency food vouchers as above or with an absence of fresh foods for sale

*Community dissatisfaction with the above

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Information provision by environmental health officers regarding food handling, hygiene and basic nutrition to local food outlet staff

Encourage co-operative bulk purchase of stock between small food outlets

Development and promotion of a healthy food innovation award for local food retailers

Local food outlet food handling, hygiene, quality and nutrition accreditation

Development of standards for food outlets accepting emergency food vouchers

Refer to other food system within this section for strategies which indirectly contribute to the demand for recommended foods, especially 'Food for Sale', 'Food Supply (Conventional Outlets)' and 'Food Marketing' sections

*Greater amounts of less recommended compared to recommended food purchases
POTENTIAL LOCAL FOOD SYSTEM ISSUES

SUGGESTED FOOD SYSTEM MONITORING DATA

WASTE MANAGEMENT

*Are food waste management practices appropriate?

*Number of households composting organic food wastes

*Organic food waste produced each year (tonnes) by local food industries (production, processing, manufacturing and retail establishments)

*Organic waste disposal practices of food industries

*Number of food industries using nonrecyclable packaging
SUGGESTED DATA
PATTERNS OF CONCERN

*Low number of households composting household organic wastes

*Large amount of organic waste produced by local food industries

*Food waste disposal by food retailers is not separated and recycled as compost

*A high number of food industries using non-recyclable packaging

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Promotion of domestic composting practices to local households

Separation of household, retail and industrial organic food waste for compost piles in rubbish tips. Provide compost to local households, public gardens or local nurseries
LGA TYPOLOGY (2): URBAN CENTRAL LOCAL COUNCIL

**BROAD DEMOGRAPHY**
* Low population growth rate  
  (Particularly low natural increases)  
* High population numbers and density  
* Population predominantly resides in LGA trading centre

**ECONOMICS**
* High manufacturing industry turnover ($'000)  
* High retailing industry turnover ($'000)  
* High to moderate federal funding and outlay ($'000)  
  * High revenue capacity ($'000)

**POLITICAL ASPECTS**
* Council title  
* Low elected person to population ratio  
* Small distance (Km) from state/territory government offices

**MAN MADE ENVIRONMENT**
* High number of medium to high density residential dwellings  
* Total road length (Km) low predominantly within the LGA centre  
* High number of shop front retailing and floor space, and manufacturing locations

**NATURAL ENVIRONMENT**  Few open spaces, Small LGA (Km 2)
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD PRODUCTION
*Is the local production of food adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of venues for community based food production or distribution

FOOD MANUFACTURING AND PROCESSING
*Is local food processing and manufacturing adequate?

*Numbers of food manufacturing and processing industries within the LGA

*Number of food manufacturing and processing industries with a corporate food and/or nutrition policy
**SUGGESTED DATA PATTERNS OF CONCERN**

- Absence of venues for community food production or distribution
- Absence or low number of food manufacturers and processors operating within the LGA
- Absence or low numbers of food and/or nutrition corporate policies in existing food processing and manufacturing establishments

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

- Support for 'edible environments'. Planting low maintenance fruit, nut, vegetable and herb vegetation in public areas
- Support the development of local food cooperatives operating from local schools, community and neighbourhood centres
- Encouragement of 'roof top greening'. High rise roof fruit and vegetable gardens managed by tenants
- Land packages to community health and neighbourhood centres for food production
- Land zoning for local community gardens in medium and high density residential areas
- Environmental Health Officers to provide information in food handling, hygiene and basic nutrition to local food industries as a basis for corporate food and nutrition policy development
- Support for food manufacturing and food processing industries within the LGA
- Tendering for food manufacturers and processors to supply local food retailers wholesale collectively
- Support for the expansion of small food related businesses
- Development and promotion of local corporate food and nutrition policy in local food manufacturing and processing industries
POTENTIAL LOCAL SYSTEM ISSUES

LOCAL FOOD SUPPLY (CONVENTIONAL OUTLETS)

*Is the local food retail mix adequate?

LOCAL FOOD SUPPLY (NON-CONVENTIONAL OUTLETS)

*Is the availability of local food emergency services adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number and distribution of basic food outlets compared to other food and nontfood outlets

*Outlet type: 1000 population within total LGA and residential suburbs

SUGGESTED DATA PATTERNS OF CONCERN

*Few basic food outlets as a proportion of total retailing

*Low ratio of basic food outlets to the residing population within LGA and/or specific residential suburbs

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Wall maps for local communities identifying local basic and/or accredited food outlets and community gardens

Establishment of fruit and vegetable markets with local rural grower vendors

Development of subsidised food retail outlets in high density public housing property and low income areas With support from local food wholesalers

Promotion of food welfare services to low income groups through CES, social security offices etc

Financial and professional support for existing food welfare services

Zoning for local community based food welfare service venues in areas of low income, public housing and social security recipients

*Is the availability of local food emergency services adequate?

*Distribution of emergency food welfare outlets within LGA

*Total number of individuals seeking emergency food welfare assistance each year

*Total number of emergency food welfare services provided each year within the LGA

*Distribution of food retail outlets accepting emergency food vouchers (See Food for Sale in this section for useful data patterns)

*Level of community knowledge regarding emergency food welfare services and their location

*Absence of emergency food welfare outlets within suburbs of significantly low annual household income and a high number of social security recipients

*Inadequate emergency food outlets to meet demand

*Low levels of knowledge of emergency food welfare services provided and their locations, in low income individuals
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<td>*Food for sale (as above) in food outlets accepting food vouchers (especially fresh foods)</td>
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<tr>
<td>*Quality of fresh foods used, nutrient content, meal variety, and recipient satisfaction with the meals provided by ready to eat food welfare meal services</td>
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**SUGGESTED DATA PATTERNS OF CONCERN**

*More than one kilometre walking distance to a small mixed food outlet

*Distances to other basic food outlets unacceptable to the residing population

*Community dissatisfied with local transport routes, service frequency and cost and supermarket delivery availability and delivery zones

*Few supermarkets offering delivery services

*High relative cost of recommended foods

*Low variety of recommended foods

*Poor quality of fresh foods for sale

*Food for sale in retail outlets accepting emergency food vouchers (as above) or with an absence of fresh foods for sale

**STRATEGY EXAMPLES FOR GOVERNMENT INVOLVEMENT**

Encourage supermarkets and small and large mixed food stores to widely advertise specials including notice boards outside stores

Support food retailers in the establishment and expansion of supermarket delivery zones

Co-ordination of public transport around the city suggesting alternate routes and improvements in the frequency of services provided by different companies

Ensure up to date written material regarding food handling, hygiene and basic nutrition for local food retailers

Information provision by environmental health officers regarding food handling, hygiene and basic nutrition

Develop and promote a healthy food innovation award to local retailers supplying ready to eat foods

Training local food retailers and service staff in basic food handling, hygiene and nutrition

Development of standards for food outlets accepting emergency food vouchers

Food Safety and Nutrition accreditation of food outlets

Develop standards for the food for sale in retail outlets in high density property, especially food prices
POTENTIAL LOCAL FOOD SYSTEM ISSUES

APPARENT FOOD INTAKES
*Is the demand for food appropriate?

LOCAL FOOD WASTE MANAGEMENT
*Are waste management practices adequate (food packaging and organic waste)?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Store turnover in local mixed food stores and supermarkets according to location of outlet

*Percentage of foods classified as recommended and less recommended for each separate shopping bill (average)

NB/ This information is useful to support the implementation of other strategies

*Number of households practicing organic food composting

*Amount of organic food waste produced each year (tonnes) by local food industries and retailers

*Organic waste disposal practices of food retailers

*Number of food industries using nonrecyclable packaging
SUGGESTED DATA PATTERNS OF CONCERN

*Greater amounts of less recommended foods purchases compared to recommended food purchases

*Low number of household composting household organic wastes

*High amount of organic waste produced by food retailers

*Food waste disposal by food retailers and industry not separated and recycled as compost

*A high number of retail food outlets, processing and manufacturing establishments using nonrecyclable packaging

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Refer to other food systems within this section for strategies which indirectly contribute to the demand for recommended foods especially, 'Food for Sale', 'Food Supply (Conventional Outlets)' and 'Food Marketing' sections

Promotion of domestic composting practices to local households

Promotion of composting facilities within the LGA to local food producers and manufacturers

Separation of household, retail and industry organic food waste for compost piles in rubbish tips. Provide compost to local households, public gardens or local nurseries
LGA TYPOLOGY (3): URBAN REGIONAL LOCAL COUNCIL

**BROAD DEMOGRAPHY**
- Low to moderate population density
- Moderate population growth (Both migratory and natural increases)

**ECONOMICS**
- Mixed industry (Manufacturing, Retailing and Agricultural and Livestock commodities) turnover ($'000)
- High numbers of tourists, temporary accommodation occupancy rates, guest arrivals and lengths of stay.

**POLITICAL ASPECTS**
- Area of responsibility is part of a local region of councils which undertake joint ventures
- Moderate distance from state/territory government offices

**MAN MADE ENVIRONMENT**
- High number of residential and nonresidential structures
- Some agricultural and livestock establishments and manufacturing locations
- High number of retailing shop fronts and floor space
- High to moderate sealed road length (Km)

**NATURAL ENVIRONMENT**
- Many open spaces, large LGA (Km 2), coastal with surrounding hinterland
LOCAL FOOD PRODUCTION

*Is the local production of food adequate?

- Number of households with large residential blocks producing fresh food
- Artificial fertiliser (tonnes) and soil conditioners (hectares) (Source: ABS LEP data)
- Community satisfaction with water supply quality and cost
- Number of community based food production and distribution programs
- Number of food imports and exports into and out of the LGA, respectively
SUGGESTED DATA PATTERNS OF CONCERN

- Low number of households with domestic food production
- High amounts of artificial fertiliser and soil conditioner use
- Low community satisfaction with water supply quality and/or cost
- Low number of community-based food production and distribution programs
- High amounts of imported food products from other LGA’s

STRATEGY EXAMPLES OF LOCAL GOVERNMENT INVOLVEMENT

- Promote local domestic food production through avenues for contact with the local community
- Support for ‘edible environments’. Planting low maintenance fruit, nut, vegetable and herb vegetation in public areas
- Support the development of local food co-operatives operating from local schools, community and neighbourhood centres
- Establish and support local ‘Land Care’ groups. Provide administrative support, earth moving equipment etc.
- Promote sustainable agricultural practices of food production through local ‘LandCare’ groups (for example, cost savings using ‘organic’ farming practices promoted through a bulletin to local farmers)
- Land packages to community health and neighbourhood centres for food production
- Liaison with state government in designating sustainable areas suitable for agricultural and grazing land use, protecting the surrounding hinterland and water supply
- Promote local major airports and shipping facilities to other LGA’s for the international export of food products (including locally produced foods). Revenue can be raised for bulk storage etc
POTENTIAL LOCAL FOOD SYSTEM ISSUES

**FOOD MANUFACTURING AND PROCESSING**
*Is local food processing and manufacturing adequate?*

**LOCAL FOOD MARKETING**
*Is the local external marketing of food appropriate?*

SUGGESTED FOOD SYSTEM MONITORING DATA

*Numbers of food manufacturers and processing industries within the LGA*

*Number of food manufacturing and processing industries with a corporate food and/or nutrition policy*

*Number of food external marketing within the LGA*

*Amount of recommended food advertisements as a proportion of less recommended food advertising*

*Marketing (as above) during local public events*
SUGGESTED DATA
PATTERNS OF CONCERN

*Absence or low number of food manufacturers and processors operating within the LGA
*Absence of or low numbers of food and/or nutrition corporate policies in existing food processing and manufacturing

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Support for food manufacturing and food processing industries within the LGA
Tendering for food manufacturers and processors to supply local food retailers with wholesale stock
Encourage the expansion of small food related businesses
Promote the development of local corporate food and nutrition policy in local food manufacturing and processing industries

Encourage food retailers to externally advertise popular recommended foods for sale on and around premises
Develop and distribute advertisements of locally grown produce to local food retailers
Develop policy standards for the external marketing of food in LGA's according to the Australian dietary guidelines
### Potential Local Food System Issues

**Local Food Supply (Conventional Outlets)**

- Is the local retail mix adequate?
  - Number and distribution of basic food outlets compared to other food and nonfood outlets
  - Outlet type: 1000 population within total LGA and residential suburbs
  - Mobile food vendor mix during local events

**Suggested Food System Monitoring Data**

- Few basic food outlets as a proportion of total retailing
- Low ratio of basic food outlets to the residing population within the LGA and/or specific residential suburbs
- Low number of mobile vendors selling recommended foods during local events

**Suggested Data Patterns of Concern**

- More than one kilometre walking distance to a small mixed food outlet.
- Distances to other basic food outlets unacceptable to the residing population
- Community dissatisfied with local transport routes, service frequency and cost and supermarket delivery availability and delivery zones
- Few supermarkets offering delivery services

**Strategy Examples for Local Government Involvement**

- Requesting advanced notice for the closure of small food outlets based in residential areas
- Support mobile food vendors, for example fruit and vegetable trucks and mobile food retail vans. Provide retail licenses and assist with the provision of equipment.
- With support from local food wholesalers the development of subsidised food retail outlets in high density public housing property and low income areas
- Developing standards for food retailing in new areas
- Development of guidelines for the mix of mobile food vendors during local events
- Promotion of food welfare services to low income groups through CES, social security office etc
- Financial and professional support for existing food welfare services
- Local community 'food houses' for community gardens, food welfare services local food security research and food related educational programs
- Zoning for local community based food emergency welfare service venues in areas of low income, public housing and high numbers of social security recipients
**POTENTIAL LOCAL FOOD SYSTEM ISSUES**

**PHYSICAL ACCESS TO THE LOCAL BASIC FOOD SUPPLY**

*Is the physical access to the local basic food supply adequate?*

**FOOD FOR SALE**

*Is the food for sale at local retail outlets affordable, of a high quality and varied?*

**LOCAL FOOD SYSTEM MONITORING DATA**

*Location of emergency food welfare service outlets within LGA*

*Total number of individuals seeking emergency food welfare assistance each year*

*Total number of emergency food welfare services provided each year in LGA*

*Distribution of food retail outlets accepting emergency food vouchers (See food for sale for data patterns)*

*Level of community knowledge regarding emergency food welfare services and their location*

*Food product quality (Freshness)*

*Price audit of recommended and nonrecommended food items*

*Variety of recommended foods (food type and package size)*

*Food for sale (as above) in food outlets accepting food vouchers (especially fresh foods)*
SUGGESTED DATA PATTERNS OF CONCERN

* Absence of emergency food welfare outlets within suburbs of significantly low annual household income and a high number of social security recipients

* Inadequate emergency food services to meet demand

* Low levels of knowledge of emergency food welfare services provided and outlet locations, in low income individuals

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Support food retailers in the establishment and expansion of supermarket delivery zones

Co-ordination of public transport around the city suggesting alternate routes and improvements in the frequency of services provided by different companies

Ensure up to date written material regarding food handling, hygiene and basic nutrition for local food retailers

Encourage local supermarkets to promote locally produced food for sale in their stock

Training local food retailers and service staff in basic food handling, hygiene and nutrition

Collaborate with state environmental health officers in monitoring local food production safety (pesticide and fertiliser content)

Accreditation of local food production establishments with criteria from National Food Authority (NFA)
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD WASTE MANAGEMENT
* Are waste management practices adequate? (food packaging and organic waste)

APPARENT FOOD INTAKES
* Is the demand for food appropriate?

SUGGESTED MONITORING DATA
* Number of households practicing organic food composting
* Organic food waste (tonnes) produced by food retail processing and manufacturing industries each year
* Organic waste disposal practices of food retailers
* Number of retail food outlets, processing and manufacturing establishments using nonrecyclable packaging
* Store turnover in local mixed food stores and supermarkets according to location of outlet
* Percentage of foods classified as recommended and less recommended for each separate shopping bill (average)

NB/ This information is of more assistance to support other strategies

SUGGESTED DATA PATTERNS OF CONCERN
* Low number of households composting household organic wastes
* High amount of organic waste by food retailers
* Food waste disposal by food retailers and industry not separated and recycled as compost
* A high number of retail food outlets, processing and manufacturing establishments using nonrecyclable packaging
* Greater amounts of less recommended compared to recommended food purchases

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT
Promotion of domestic composting practices to local households
Promotion of composting facilities within the LGA to local food producers and manufacturers
Separation of household and retail organic food waste for compost piles in rubbish tips. Provide compost to local households, public gardens or local nurseries
Refer to other food systems within this section for strategies which indirectly contribute to the demand for recommended foods especially 'Food for Sale', 'Food Supply (Conventional Outlets)' and 'Food Marketing' sections
LGA TYPOLOGY (4): RURAL REGIONAL LOCAL COUNCIL

BROAD DEMOGRAPHY

* Low population density
* Moderate growth rates
  (Both population natural and migratory increases)
* Population predominantly resides surrounding a LGA trading centre

ECONOMICS

* One to two major industrial sectors
* High turnover from agricultural and livestock commodities ($'000)
* Moderate tourism (if applicable)

POLITICAL ASPECTS

* Council or Shire title
* Moderate to high elected person to population ratio
* Moderate to great distance (Km) from state/territory government offices

MAN MADE ENVIRONMENT

* High number of agricultural establishments
* High use of artificial fertilisers (tonnes) and soil conditioners (hectares)
* Very high total road length (Km) predominantly in rural localities. Some unsealed roads.

NATURAL ENVIRONMENT  Predominantly open space, Large LGA (Km2)
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD PRODUCTION

*Is the local production of food adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of households with domestic production of fresh food

*Artificial fertiliser (tonnes) and soil conditioners (hectares)(Source: ABS LEP data)

*Community satisfaction with water supply quality and cost

LOCAL FOOD MARKETING

*Is the local external marketing of food appropriate?

*Number of food external marketing within the LGA

*Amount of alcohol related advertising as a proportion of total external marketing

*Amount of recommended foods advertisements as a proportion of less recommended food advertising

*Marketing (as above) during local public events
SUGGESTED DATA PATTERNS OF CONCERN

*Low number of large residential blocks with producing fresh food
*High amounts of artificial fertiliser and soil conditioner use
*Low level of community satisfaction with water supply quality and/or cost

*High amounts of non-recommended food external marketing as a proportion of recommended food and total advertising
*High amounts of alcohol advertising (as above)

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Promote local domestic food production through avenues for contact with the local community

Establish and support local 'Land Care' groups. Provide administrative support, earth moving equipment etc.

Promote sustainable agricultural practices for food production through local 'Land Care' groups (for example, cost savings using 'organic' farming practices promoted through bulletins to local farmers)

Encourage food retailers to externally advertise popular recommended foods for sale on and around premises

Develop and distribute advertisements of locally grown produce to local food retailers

Develop policy standards for the external marketing of food in LGA's according to the Australian dietary guidelines
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD SUPPLY (CONVENTIONAL OUTLETS)

*Is the local retail mix adequate?

LOCAL FOOD SUPPLY (NONCONVENTIONAL)

*Is the availability of local food emergency services adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of food outlets retailing locally produced food

*Number of basic food outlets as a proportion of total food outlets and other outlets in the LGA trading centre

*Distance (Km) to basic food outlets from local residential areas

*Number of emergency food welfare outlets in the LGA

*Number of community members seeking emergency food welfare assistance each year

*Number of community members receiving assistance each month

*Level of community knowledge regarding emergency food welfare services provided and location of outlets
**SUGGESTED DATA PATTERNS OF CONCERN**

- Few basic food outlets as a proportion of total food outlets in LGA trading centres (including public bars)
- Great distances (Km) from local residential areas to local basic food outlets
- Absence of, or few, outlets retailing locally produced food

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

- Promote existing food welfare services to local community members especially Aboriginal and Torres Strait Islander Australians and local farming families
- Support mobile food vendors, for example fruit and vegetable trucks and mobile food retail vans. Provide retail licenses and equipment.
- Establish and promote local farmers markets for the whole sale of fresh locally grown produce. Encourage the sale of domestically grown produce.
- Investigate the costs of minimising the local export of food

- Promote existing emergency food welfare services to local community members especially Aboriginal and Torres Strait Islander Australians and local farming families
- Provide professional, financial support to existing food welfare agencies
- Lobby for receipt of drought assistance funding for the management of local emergency food welfare agencies
- Develop a strategic plan for food emergency service provision during drought and other natural disasters
**POTENTIAL LOCAL FOOD SYSTEM ISSUES**

**FOOD FOR SALE**

*Is the food for sale at local retail outlets affordable, of a high quality and varied?*

**SUGGESTED FOOD SYSTEM MONITORING DATA**

*Food product quality (Freshness)*

*Price audit of recommended and nonrecommended food items*

*Variety of recommended foods (food type and package size)*

*Food for sale (as above) in food outlets accepting food vouchers (especially fresh foods)*
SUGGESTED DATA
PATTERNS OF CONCERN

* High relative cost of recommended foods
* Low variety of recommended foods
* Poor quality of foods for sale (use by dates and fresh food appearance)
* Food for sale in retail outlets accepting emergency food vouchers (as above) or with an absence of fresh foods for sale

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

- Encourage supermarkets and mixed food stores to widely advertise specials including store notice boards
- Ensure up to date written material regarding food handling, hygiene and basic nutrition for local food retailers
- Training local food retailers and service staff in basic food handling, hygiene and nutrition
- Encourage local supermarkets to promote locally produced food for sale in their stock
- Collaborate with state environmental health officers in monitoring local food production safety, pesticide and fertiliser content
- Accreditation of local food production establishments with criteria from the National Food Authority (NFA)
LGA TYPOLOGY (5): RURAL REMOTE LOCAL COUNCIL

BROAD DEMOGRAPHY

* Low population numbers
* Low population density
* Great isolation (Km) from state/territory capital city
* Undefined population/trading centre

ECONOMICS

* Low industry turnover ($'000)
  (including some agriculture and livestock commodities, mining, tourism, if applicable)
* Low capacity for revenue generation ($'000)

POLITICAL ASPECTS

* Council or shire title
* Governed by community members (if applicable)
* High elected person to population ratio
* Great distance (Km) from state/territory government offices

MAN MADE ENVIRONMENT

* Undefined LGA centre

* Low number of residential dwellings and structures for public use

* Great total road length (Km), predominantly unsealed

NATURAL ENVIRONMENT Predominantly open space, Large LGA (Km²)
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD PRODUCTION

*Is the local production of food adequate?

LOCAL FOOD SUPPLY (CONVENTIONAL OUTLETS)

*Is the local food retail mix adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of individual dwelling areas with domestic food production

*Artificial fertiliser (tonnes) and soil conditioners (hectares) (Source: ABS LEP data)

*Community satisfaction with water supply quality and cost

SUGGESTED DATA PATTERNS OF CONCERN

*Absence of, or low numbers of, individual dwelling areas with domestic food production in LGA

*High artificial fertiliser and soil conditioner usage in LGA

*Community dissatisfaction with water supply cost and quality

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Zoning for agricultural land use for local community gardens

Land packages to community health and neighbourhood centres for food production

Lobby for proposed improvements to the local water supply

Support for domestic food production, for example, promotion through local media and key community informants, providing seed packages including culturally appropriate 'bush tucker' vegetation, for example yams, bush fruits, seeds etc.

The establishment of fresh produce markets using locally grown or imported produce

Local community 'food houses' for community gardens, food welfare services, local food security research and food related educational programs
POTENTIAL LOCAL FOOD SYSTEM ISSUES

FOOD FOR SALE

*Is the food for sale at local retail outlets affordable, of a high quality and varied?

LOCAL FOOD SUPPLY (NON-CONVENTIONAL)

*Is the availability of local food emergency services adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Food product quality (Freshness)

*Price audit of recommended and less recommended food items

*Variety of recommended foods (food type and package size)

*Food for sale (as above) in food outlets accepting food vouchers (especially fresh foods)

*Number and location of food welfare outlets within the LGA

*Number of community members seeking assistance each year

*Number of community members receiving assistance each year

*Level of community knowledge regarding food welfare services and their location
SUGGESTED DATA PATTERNS OF CONCERN

* High relative cost of recommended foods
* Low variety of recommended foods
* Poor quality of foods for sale (use by dates and fresh food appearance)
* Food for sale in retail outlets accepting emergency food vouchers (as above) or with an absence of fresh foods for sale
* Inadequate food emergency service outlets to meet demand
* Low levels of knowledge of emergency food welfare services provided and their locations in low income individuals

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Encourage food retailers and mixed food stores to advertise recommended food price specials including in store and local community health centre notice boards (encourage the use of low literacy methods)

Encourage local food retailers to promote locally produced food for sale in their stock using low literacy methods

Environmental health officers to monitor local food safety

Increase the existing storage capacity for bulk nonperishable food imports into the LGA

Develop food quality criteria for imported food products including nutritional content

Promote existing food welfare services to local community members especially Aboriginal and TSI Australians and local farming families

Provide professional, financial support to existing food welfare agencies

Lobby for receipt of drought assistance funding for the management of local emergency food welfare agencies

Develop a strategic plan for food emergency service provision during drought and other natural disasters
Section E: Proforma ‘B’ Specific Population Demographic Scenarios
LOW INCOME FAMILIES WITH YOUNG DEPENDENTS

* Household type: single or double parent with young dependents
  * Age of dependents zero - five years of age
  * Housing type: Public or private rented
  * Number of vehicles per household: Zero to one
  * Significantly Low average annual household income
**POTENTIAL LOCAL FOOD SYSTEM ISSUES**

**LOCAL FOOD PRODUCTION**

*Is the availability of venues for community food production and distribution adequate?

**LOCAL MARKETING OF FOOD**

*Is the local external marketing of food in the proximity to childcare centres and schools adequate?

**SUGGESTED FOOD SYSTEM MONITORING DATA**

*Number of venues for community based food production or distribution within areas populated by low income families with young dependents

*Total number of external adverts for food and beverages within one block of local child care centres and schools

*Number of adverts for recommended and less recommended food and beverages

**SUGGESTED DATA PATTERNS OF CONCERN**

*Few or an absence of venues for community food production or distribution

*Greater number of external adverts for less recommended foods within one block of local schools and child care centres

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

- Support for 'edible environments'. Planting low maintenance fruit, nut, vegetable and herb vegetation around and within public housing property

- Support the development of food cooperatives in local schools through parent groups

- Support the development of fruit and vegetable gardens within school grounds as part of the school science curricula

- Encourage local food production, processing and manufacturing industries to locally advertise their recommended foods supporting the local economy

- The development of specifications for the external marketing of nonrecommended foods near local schools and child care facilities

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POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD FOR SALE (CONVENTIONAL OUTLETS)
*Are available food choices in local school canteens, preschools and childcare centres adequate?

ACCESS TO THE LOCAL BASIC FOOD SUPPLY
*Is access to the basic food supply physical access adequate for parents with young children and limited access to private transport?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of recommended and less recommended food choices offered or for sale
*Quality rating of the freshness of foods offered or for sale, especially fresh fruit and vegetables
*Price audit of recommended and less recommended food items for sale
*Satisfaction of building standards by food preparation areas

SUGGESTED DATA PATTERNS OF CONCERN

*High number of less recommended food choices offered for sale
*Poor quality fresh food sold or offered
*Higher relative cost of recommended foods

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Support local canteen expositions within the LGA
Child care and environmental health officers to provide information to local school canteens and childcare centres encouraging safe food handling, hygiene and basic nutrition and food policy development and train staff
Financial and professional support for breakfast programs in local schools and child care centres, Organisation of local food manufacturers to provide food items in exchange for free promotion
Tendering for local appropriate food manufacturers, processors and distributors to provide food items to local childcare centres and schools on an area wide basis
Local government policy for the development and regular update of food and nutrition policy in local school canteens, preschools and child care centres

Establish and promote food shopping car pools through local schools and local child care, community health and neighbourhood centres

Refer to strategies for local public transport in proforma 'A'

Lobby for community transport vehicles for rental by community groups, useful for the transport of wholesale food into residential areas to food cooperatives, regular shopping trips for social security recipients or low income parents with young children
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL SUPPORTIVE ENVIRONMENTS: CHILD MINDING IN SHOPPING COMPLEXES

*Are child minding facilities in supermarket complexes adequate?

OTHER LOCAL SUPPORTIVE ENVIRONMENTS: BREAST FEEDING ENVIRONMENTS

*Are adequate local public environments supportive of breast feeding?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of supermarket complexes with onsite child minding facilities

*Cost of facility per child per hour

*Proximity of existing facilities to vending machines and inappropriate ready to eat food outlets within the shopping complex

*Number of public spaces satisfying Nursing Mothers Association of Australia (NMAA) specifications for breast feeding public spaces

*Number of such places used for parenting activities

*Number of retailers of breast milk substitutes in the LGA and number of such retailers providing breast feeding information or advice

*Number of workplaces accommodating the needs of breast feeding employees as specified by the NMAA compared to total work places within the LGA
**SUGGESTED DATA PATTERNS OF CONCERN**

- Absence of onsite child minding facilities in large shopping centres
- Rooms are privately leased, and/or charging child care fees
- Vending machines in and around child minding facilities within shopping complexes
- Child minding facilities next to inappropriate ready to eat away food outlets

- Low number of NMAA satisfactory public spaces within the LGA
- Low number of NMAA accredited public breast feeding spaces
- High number of retail outlets selling breast milk substitutes without providing breast feeding information and advice
- Low number of workplaces accommodating NMAA guidelines

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

- Encourage the allocation of adequate floor space within shopping complexes for complimentary child minding by management
- Develop guidelines for the establishment of child minding facilities and schools within the LGA. Include satisfaction of building regulations regarding food preparation areas, proximity to undesirable food retailing and external marketing, nutritional quality of the meals provided
- Environmental health officers liaise with regional WHO code of marketing of breast milk substitutes officer to disseminate information to retailers regarding breast feeding and advertising breast milk substitutes
- Promotion of the NMAA 'Mother Friendly Award' for local workplaces
- Environmental health officers to liaise with NMAA members to accredit facilities, for example building standards and the hygiene of facilities
- Monitoring visits breast milk substitute product representatives to local retailers
- Encourage local community child care nurses to use local retailers of breast milk substitutes as point of access to mothers to determine local barriers to breast feeding
- The development of a local parenting facilities policy for the accreditation of suitable public spaces within the LGA
- The development of a policy for the accommodation of the needs of breast feeding mothers by workplaces within the LGA
**POTENTIAL LOCAL FOOD SYSTEM ISSUES**

**APPARENT FOOD INTAKES: LOW INCOME PARENTS**
*Are local food purchases using emergency food vouchers appropriate?*

**SUGGESTED FOOD SYSTEM MONITORING DATA**

*Purchases made using emergency food welfare vouchers*

**SUGGESTED DATA PATTERNS OF CONCERN**

*Less recommended foods purchased with food vouchers*

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

*See strategy examples for conventional food supply outlets in proforma 'A'*

The development and promotion of guidelines for food purchases using emergency food vouchers to low income families through local public schools in low income areas, CES, social security offices and local community welfare outlets.

**ACTUAL FOOD INTAKES: SCHOOL CHILDREN**
*Are the intakes of local school children adequate?*

*Nutrient content of intakes*
  *Number of meals missed by type*
  *Number of recommended versus less recommended foods consumed for breakfast, recess and lunch*

*Greater consumption of less recommended foods*
  *A marked absence of meals, especially breakfast*

*Refer to strategies for food for sale, conventional food supply and food service in this subgroup category*
LGA POPULATION SUBGROUP CATEGORY (2)

OLDER and OTHER PHYSICALLY DISABLED PERSONS

- High proportion of the population >65 years of age
- High number of social security recipients >65 years of age
- High number of household types: living alone, >65 years of age
  - Low average annual household income
- High total number of physically disabled residents
POTENTIAL LOCAL FOOD SYSTEM ISSUES

PHYSICAL ACCESS TO THE LOCAL BASIC FOOD SUPPLY

*Is the local basic food supply accessible to older and/or physically handicapped individuals?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Subgroup experience of accessing local basic food outlets walking or using wheel chairs: from their place of residence, accessing public transport moving around local food outlets.

*Existing transport services for the aged, infirmed and other physically disabled individuals

*Number of basic food outlets not physically accessible to wheel chairs and other vehicles assisting with mobility

FOOD SERVICES IN LOCAL AGED CARE, PHYSICAL DISABILITY CARE CENTRES, RESIDENTIAL CARE AND MENTAL INSTITUTION FOOD SERVICES

*Is the food provided at local aged care and mental health facilities adequate?

*Nutrient analysis of menu choices for one day

*Client satisfaction of the meals served (taste, texture, colour etc)

*The satisfaction of building regulations in areas of food preparation within such structures
SUGGESTED DATA PATTERNS OF CONCERN

*Difficulty experienced with long distances to basic food outlets, lack of ramps and moving around basic food outlets by physically disabled individuals

*A lack of existing transport assistance for such individuals

*Few basic food outlets with sufficient space for vehicles assisting mobility and ramps (where steps exist)

*Food choices not as recommended according to standards for food services

*Low level of client satisfaction of meals served

*Low level of satisfaction of building standards

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Wall maps of local basic food outlets with ramps, wide aisles, and relatively cheaper per basket of general grocery items

The development of ramps for local basic food outlets (if steps make physical access difficult)

Support for food delivery services, for example, Meals on Wheels, Home and Community Care funded (HACC) frozen meal delivery services, including finance, transport and administrative assistance, and information provision regarding nutritional quality, food handling, hygiene and cultural appropriateness

Standards for physical access to, from and within basic food outlets for the physically disabled

Lobby for vehicles used by senior citizens and other physically community groups for outings including grocery shopping trips

Environmental health officers to provide training to service providers regarding food handling, hygiene, basic nutrition and food service standards

Lobby for state/territory health department funding for renovations to food preparation areas as required according to building standards

Liase with aged care services and senior citizens centres for the development of an agenda for local older Australians, co-ordinating local activities, (include nutrition education and physical activities)
POTENTIAL LOCAL FOOD SYSTEM ISSUES

APPARENT FOOD INTAKES

*Are local food purchases using emergency food vouchers appropriate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Purchases made using emergency food welfare vouchers by physically disabled and older individuals

ACTUAL FOOD INTAKES OF: LOCAL OLDER AND OTHER PHYSICALLY DISABLED INDIVIDUAL

*Are the food intakes of local independent older and other physically disabled individuals adequate?

*Food intakes of older and other physically disabled individuals living alone

*Nutrient intakes
SUGGESTED DATA

PATTERNS OF CONCERN

*Less recommended foods purchased with food vouchers

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Refer to strategy examples for conventional food supply outlets in proforma "A"

The development and promotion of guidelines for food purchases using emergency food vouchers through local social security offices, relevant community services, senior citizens clubs, other aged care services and local community welfare outlets

*Inadequate nutrient intakes according to the Recommended Daily Intakes, (RDI's) especially micronutrient, protein, total energy and fat energy intakes

Local agenda for aged care and physically disabled individuals (as above) for the coordination of local activities and community services
LGA POPULATION SUBGROUP CATEGORY (3)

UNEMPLOYED INDIVIDUALS, especially ABORIGINAL AND TORRES STRAIT ISLANDERS (ATSI's) and INDEPENDENT YOUTH in general

*High numbers of unemployed persons especially in the < 25 years of age group and of Aboriginal and ATSI background

*Household type: Members aged <25 years of age and low average annual household income
Environmental health officers to provide training to service providers regarding food handling, hygiene, basic nutrition and food service standards.

Liase with local youth services staff and for the development of an agenda for local youth and the unemployed, co-ordinating local activities, (include nutrition education/life skills, social activities and relevant community facilities).

POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD MARKETING
*Is the local external marketing of food appropriate?

LOCAL FOOD SERVICES: LOCAL YOUTH REFUGES
*Is the food service provided by local youth refuges adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of food external marketing within the LGA by type of food advertised
*Amount of alcohol related advertising as a proportion of total external marketing
*Amount of recommended foods advertisements as a proportion of less recommended food advertising
*Marketing (as above) during local public events

SUGGESTED DATA PATTERNS OF CONCERN

*High amounts of non-recommended food external marketing as a proportion of recommended food and total advertising
*High amounts of alcohol advertising (as above)

SUGGESTED DATA MONITORING DATA

♦High amounts of non-recommended food
external marketing as a proportion of total advertising
♦High amounts of alcohol advertising (as above)

STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT

Encourage food retailers to externally advertise popular recommended foods for sale on and around premises.

Develop and implement policy standards for the external marketing of food in LGA's according to the Australian dietary guidelines.

Environmental health officers to provide training to service providers regarding food handling, hygiene, basic nutrition and food service standards.

Lobby to relevant state/territory health departments funding for renovations to food preparation areas as required according to building standards.

Liase with local youth services staff and for the development of an agenda for local youth and the unemployed, co-ordinating local activities, (include nutrition education/life skills, social activities and relevant community facilities.)
**POTENTIAL LOCAL FOOD SYSTEM ISSUES**

**FOOD FOR SALE:**
* Are local foods for sale culturally appropriate?

**LOCAL SUPPORTIVE ENVIRONMENTS: LOCAL EMPLOYMENT SCHEMES**
* Are local food production, processing, manufacturing and distribution industries active participants of employment schemes?

**SUGGESTED FOOD SYSTEM MONITORING DATA**

* Number of local basic food outlets with easily identifiable culturally appropriate recommended food items

* Number of local food production, manufacturing, processing, distribution and retailing industries within the LGA

* Number of such establishments utilising members of the unemployed workforce in voluntary and other training schemes

**SUGGESTED DATA PATTERNS OF CONCERN**

* Low number of local basic food outlets with easily identifiable culturally appropriate foods for sale

* A great number of local food related establishments not utilising the local unemployed workforce to increase productivity including local community food production and distribution schemes and local community food services

* Few or absence of general local employment schemes

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

- Information provision of shelf labelling and food stock presentation emphasising culturally appropriate recommended foods to Aboriginal, Torres Strait Islander and/or non-English speaking customers in local basic food outlets

- Refer to strategies presented within local food production with an emphasis on culturally appropriate food production

- Promote local food industries and community food services and programs accepting unemployed volunteers to the CES in return for a statement of experience in a food related industry or community service (part of a scheme to boost the growth of local food industries, reducing costs of importing foods from other LGA's and therefore local food prices)

- Develop an agenda for local Australian Aboriginal and Torres Strait Islander community. Include employment strategies, cultural awareness programs, housing strategies, community services, food welfare services etc

- Develop and implement an agenda for job creation within the LGA and services for the unemployed, include volunteer training work experience with local food production, processing and manufacturing industries general employment programs
POTENTIAL LOCAL FOOD SYSTEM ISSUES

APPARENT FOOD INTAKES

*Are local food purchases appropriate using emergency food vouchers adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Purchases made using emergency food welfare vouchers by the unemployed and independent youth recipients
SUGGESTED DATA
PATTERNS OF CONCERN

STRATEGY EXAMPLES FOR LOCAL
GOVERNMENT INVOLVEMENT

*Less recommended foods
purchased with food
vouchers

Refer to strategy examples for 'Food
Supply (Conventional Outlets) section
in proforma 'A'

The development and promotion of
guidelines for food purchases using
emergency food vouchers through
local social security offices, CES,
youth centres, other local community
welfare outlets and groups.
<table>
<thead>
<tr>
<th>LGA POPULATION SUBGROUP CATEGORY (4)</th>
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<table>
<thead>
<tr>
<th><strong>PERSONS from NON- ENGLISH SPEAKING BACKGROUNDS, NEWLY ARRIVED and with a LOW PROFICIENCY OF ENGLISH</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>High percentage of person with a Non-English speaking country of birth</em></td>
</tr>
<tr>
<td><em>Low levels of English proficiency amongst residents</em></td>
</tr>
<tr>
<td><em>Significant numbers of newly arrived persons from non-English speaking backgrounds</em></td>
</tr>
</tbody>
</table>
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD PRODUCTION

*Is the local production of food adequate?

LOCAL FOOD SUPPLY: (CONVENTIONAL OUTLETS)

*Are food retail outlets owned and staffed by NESB individuals adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Number of low density households with sufficient space for domestic food production

*Number of such households producing fresh fruit, vegetables and other produce

*Number of community based fresh food production venues

*Number of NESB owned and staffed food retail outlets

*Low number of NESB food retail owners and employees adequately trained in basic food handling, hygiene and nutrition through a recognised training program.

*Satisfaction of building standards, especially with regards to food related equipment and facilities
**SUGGESTED DATA PATTERNS OF CONCERN**

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Low number of low density households with sufficient space for domestic food production</em></td>
<td></td>
</tr>
<tr>
<td><em>Low number of residential blocks producing fresh food as a proportion of total blocks spatially able to produce food</em></td>
<td></td>
</tr>
<tr>
<td><em>Low number of community based fresh food production venues</em></td>
<td></td>
</tr>
<tr>
<td><em>Low number of NESB owners and employees trained in basic food handling, hygiene and nutrition</em></td>
<td></td>
</tr>
<tr>
<td><em>Low levels of satisfaction of building standards</em></td>
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</tbody>
</table>

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

- **Promote domestic production of food fruit and vegetables through ethnic television, newspapers and radio programs**
- **Providing seeds and fencing for the establishment of local gardens in migrant community social centres and clubs. Produced fruit and vegetables can be sold to the local community in small onsite markets on a regular basis or provided to local retailers for club revenue or provided to local food making the fresh produce used more culturally appropriate.**
- **Zoning for local community agricultural land use in residential areas with medium to high density dwellings**
- **Develop standards for residential blocks in low density housing to consider sufficient space for domestic food production**
- **Training food retail owners and employees in basic food handling, hygiene and basic nutrition using culturally appropriate examples and interpreters**
- **Developing and distributing information material, describing basic food handling, hygiene and basic nutrition recommendations in community languages**
- **Accreditation of local food outlets, in terms of food handling, hygiene and nutritional criteria with a focus on culturally appropriate and nutritionally recommended methods of food preparation**
**PHYSICAL ACCESS TO THE LOCAL BASIC FOOD SUPPLY**

* Are local public transport services accessible to the NESB community?

**FOOD FOR SALE**

* Is the food for sale culturally appropriate, of a nutritional high quality?

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**SUGGESTED FOOD SYSTEM MONITORING DATA**

* Community concerns with accessing public transport (include reading time tables, service route signs and price lists). Include consultation with NESB older age groups.

* Number of public transport services providing service material in local community languages.

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**SUGGESTED DATA PATTERNS OF CONCERN**

* Significant difficulty expressed amongst the NESB subgroup regarding access to public transport.

* Few or and absence of public transport services providing service material in local community languages.

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**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

Liase with local public transport services to develop wall maps in community languages of local public transport routes and points of access, namely train stations, bus and tram stops etc.

Public transport material for example; time tables, in community languages.

Use existing community transport vehicles by migrant community groups, especially the NESB elderly regular grocery shopping trips.

Information provision to local retail outlets regarding shelving and presentation of food stock for the easy identification of recommended food items and separation of items not intended for human consumption.

Refer to 'Food supply-conventional outlets' in the subgroup proforma content for additional relevant strategies.
POTENTIAL LOCAL FOOD SYSTEM ISSUES

LOCAL FOOD SERVICES: MIGRANT REFUGES AND HOSTELS

*Is the food service provided by local migrant refuges and hostels adequate?

SUGGESTED FOOD SYSTEM MONITORING DATA

*Nutrient analysis of menu choices for one day

*Client satisfaction of the meals served (taste, texture, colour etc)

*The satisfaction of building regulations in areas of food preparation within such structures
**SUGGESTED DATA PATTERNS OF CONCERN**

*Food choices not as recommended according to standards for food services

*Low level of client satisfaction of meals served

*Low level of satisfaction of building standards

**STRATEGY EXAMPLES FOR LOCAL GOVERNMENT INVOLVEMENT**

Environmental health officers to provide training to service providers regarding food handling, hygiene, basic nutrition, food service standards and cultural appropriateness

Lobby to relevant state/territory departments funding for proposed renovations to food preparation areas as required according to building standards
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APPENDIX 7

CONTACTS ESTABLISHED

* Sue Beaumont (Dietitian)
  Tasmanian Rural Food Supply Monitoring Project

* Australian Local Government Association (ALGA)
  Contact person: - Noel Bourne - Senior Policy Officer of Community Services

* Local Government Grants Commission
  Contact person: - Bruce Wright - Executive Officer

* Australian Bureau of Statistics
  Contact person: - Kathryn Alexander - Librarian of the Libraries Extension Program

* Nursing Mothers Association of Australia (NMAA) - Wollongong branch
  Contact person: - Robyn Gillespie - Consumer representative of maternal and
                  Paediatric Institute of Illawarra Regional Hospital and Breast Feeding Counsellor for mothers in the Wollongong area

* WHO Breast Feeding Code
  Contact person: - Moira Brown - South Coast WHO Code of Breast Feeding Authority Officer

* Cathryn Russell
  - Health Promotion Officer (Central Sydney Area Health Service)

* Wendy Hodge
  - Community Nutritionist (Central Sydney Area Health Service)

* Rhonda Matthews
  - Community Nutritionist (Central Coast Area Health Service)