



OUTER SUBURBAN/INTERFACE SERVICES AND DEVELOPMENT COMMITTEE

INQUIRY INTO SUSTAINABLE DEVELOPMENT OF AGRIBUSINESS IN OUTER SUBURBAN MELBOURNE

Ordered to be
Printed

By Authority

Government Printer for the State of Victoria

May 2010

No 306 of Session 2006-10

Inquiry into Sustainable Development of Agribusiness

The Committee records its appreciation to everyone who has contributed to the Inquiry through the submission process and at the Committee's public hearings; they are listed in the Appendices. The report was prepared by the Committee's Research Officer, Mr Keir Delaney and the Committee's Executive Officer, Mr Sean Coley. Administrative support and research assistance was provided by Ms Natalie-Mai Holmes, with the research program under the direction of Mr Coley.

Outer Suburban/Interface Services and Development Committee (2010)

Inquiry into Sustainable Development of Agribusiness in Outer Suburban Melbourne

ISBN: 978-0-9808053-1-4

Front Cover Image: Apple Trees Courtesy of Mary Canning Photography

Front Cover Image: Carrots Courtesy of Russ Grayson, <http://pacific-edge.info>

Back Cover Image: Courtesy of the Bureau of Rural Sciences, Australian Land Use

Cover Design: Mono Design

Printer: On Demand

Outer Suburban/Interface Services and Development Committee

Parliament House

Spring Street

East Melbourne, Victoria 3002

Phone: +613 8682 2826

Fax: +613 8682 2858

Email: osisdc@parliament.vic.gov.au

Website: www.parliament.vic.gov.au/osisdc

TABLE OF CONTENTS

TABLE OF CONTENTS	I
COMMITTEE MEMBERSHIP	V
FUNCTIONS OF THE COMMITTEE.....	VI
CONTACT DETAILS	VI
TERMS OF REFERENCE	VII
CHAIR'S FOREWORD.....	IX
LIST OF TABLES	XI
LIST OF FIGURES	XII
ACRONYMS.....	XIII
TABLE OF RECOMMENDATIONS.....	XV
CHAPTER 1: INTRODUCTION.....	31
1.1 BACKGROUND TO THE INQUIRY	33
1.1.1 <i>Previous Committee reports</i>	34
1.1.2 <i>Inquiry scope</i>	35
1.1.2.1 Definitions: 'interface' and 'peri-urban'	35
1.1.2.2 Definitions: 'agribusiness'	37
1.1.3 <i>Inquiry process</i>	37
1.1.4 <i>Report outline</i>	41
1.1.5 <i>Inquiry context</i>	42
1.1.5.1 Previous related reports	42
1.1.6 <i>State policy settings and announcements</i>	47
CHAPTER 2: PROFILING AGRIBUSINESS	57
2.1 INTRODUCTION.....	57
2.2 HISTORICAL PERSPECTIVE	58
2.3 PROFILING THE PORT PHILLIP AND WESTERNPORT REGION.....	60
2.3.1 <i>Green wedges: agricultural activity and value of production</i>	66
2.3.2 <i>Production: selected commodities</i>	66
2.3.3 <i>Employment: interface councils</i>	67
2.4 DISCUSSION	69
2.5 THE INTERFACE COUNCILS	71
2.5.1 <i>Cardinia Shire & City of Casey</i>	71
2.5.1.1 Sectors and trends.....	73
2.5.2 <i>Hume City</i>	74
2.5.2.1 Sectors and trends.....	75
2.5.2.2 Snapshot: food manufacturing.....	76
2.5.3 <i>Melton Shire</i>	78
2.5.3.1 Sectors and trends.....	79
2.5.4 <i>Mornington Peninsula Shire</i>	80

2.5.4.1	Sectors and trends	81
2.5.4.2	Snapshot: eggs and poultry	81
2.5.5	<i>Nillumbik Shire</i>	82
2.5.5.1	Sectors and trends	83
2.5.6	<i>City of Whittlesea</i>	84
2.5.6.1	Sectors and trends	85
2.5.7	<i>City of Wyndham</i>	86
2.5.7.1	Sectors and trends	87
2.5.7.2	Snapshot: vegetables	88
2.5.8	<i>Shire of Yarra Ranges</i>	89
2.5.8.1	Sectors and trends	90
2.5.8.2	Snapshot: cut flowers and nurseries	91
CHAPTER 3: NATIONAL AND INTERNATIONAL PERSPECTIVES		99
3.1	INTRODUCTION	99
3.1.1	<i>Sydney</i>	99
3.1.1.1	Sydney Metropolitan Strategy	100
3.1.1.2	Sydney's Agriculture Forum	102
3.1.1.3	Sydney Food Fairness Alliance	104
3.1.1.4	Penrith City Council	104
3.1.2	<i>Tasmania</i>	105
3.1.3	<i>Adelaide</i>	106
3.2	NORTH AMERICA	107
3.2.1	<i>Portland, Oregon</i>	107
3.2.2	<i>Toronto, Ontario</i>	109
3.3	EUROPE	110
3.3.1	<i>PURPLE</i>	110
3.4	THE NETHERLANDS	111
3.4.1	<i>Transforum</i>	111
3.4.2	<i>The Randstad</i>	112
3.5	UNITED KINGDOM	113
3.5.1	<i>Green belts</i>	114
3.5.2	<i>Sustain</i>	115
3.5.3	<i>The London Assembly: 'Cultivating the Capital'</i>	116
3.5.4	<i>New Covent Garden Market</i>	116
CHAPTER 4: CHALLENGES FOR AGRIBUSINESS		121
4.1	WATER	121
4.1.1	<i>Key issues from submissions</i>	124
4.1.2	<i>National water policy initiatives</i>	125
4.1.3	<i>Water policy in Victoria</i>	126
4.1.4	<i>Recycled water</i>	129
4.1.5	<i>Werribee Irrigation District Recycled Water Scheme</i>	129
4.1.6	<i>Salinity</i>	132
4.1.7	<i>Western Treatment Plant</i>	134
4.1.8	<i>Bacchus Marsh Irrigation District</i>	137

4.1.9	<i>Eastern Treatment Plant</i>	140
4.2	URBAN GROWTH	144
4.2.1	<i>Melbourne's Urban Growth Boundary</i>	145
4.2.1.1	Melbourne 2030 Audit	146
4.2.1.2	Proposed changes to the UGB: Melbourne@ 5 million	146
4.2.1.3	Delivering Melbourne's Newest Sustainable Communities	147
4.2.2	<i>Planning 'certainty'</i>	148
4.2.3	<i>Cost of land</i>	151
4.2.4	<i>Rates</i>	154
4.3	GREEN WEDGES	157
4.3.1	<i>Objectives</i>	158
4.3.1.1	Clarifying green wedge policy	160
4.3.1.2	Case study: Toronto's Greenbelt	162
4.3.2	<i>Resources</i>	163
4.3.2.1	Access to expertise	164
4.3.2.2	Shortage of planners	166
4.3.2.3	Rural/urban classification	168
4.3.3	<i>Gembrook</i>	171
4.3.4	<i>Other approaches to farmland preservation</i>	172
4.3.4.1	Case study: Sonoma County, California	175
4.4	URBAN ENCROACHMENT AND LAND USE CONFLICT	176
4.4.1	<i>Expectations of new residents</i>	177
4.4.2	<i>Advice to new residents</i>	178
4.4.2.1	An urban-rural divide?	180
4.4.3	<i>Minimising off-farm impacts</i>	185
4.4.4	<i>Weeds and pests</i>	185
4.4.4.1	Case Study: Grow West	189
4.4.5	<i>Domestic dogs</i>	190
4.4.6	<i>Noise</i>	192
4.4.7	<i>Crop netting</i>	193
4.4.8	<i>Movement of machinery and livestock</i>	195
4.4.9	<i>Restrictions relating to bees</i>	197
4.4.10	<i>'Right to farm'</i>	199
4.4.11	<i>Planning the interface</i>	200
CHAPTER 5: LOOKING AHEAD: STRATEGIES AND OPPORTUNITIES		213
5.1	SMALL FARMS AND VIABILITY	213
5.1.1	<i>Whole Farm Planning</i>	217
5.2	LAND STEWARDSHIP	217
5.2.1	<i>Barriers to investment</i>	219
5.2.2	<i>Market-based programs</i>	221
5.3	RESEARCH AND INNOVATION	224
5.3.1	<i>Extension and advisory services</i>	228
5.4	SOIL	231
5.5	ORGANICS	235
5.6	HYDROPONICS	238

5.7	OPPORTUNITIES FOR DIRECT MARKETING	241
5.7.1	<i>Community Supported Agriculture</i>	241
5.7.2	<i>Farm gate sales</i>	243
5.7.3	<i>Farmers' markets</i>	245
5.8	TOURISM.....	246
5.8.1	<i>Agritourism</i>	247
5.8.2	<i>Training and support</i>	251
5.8.3	<i>Issues for planning</i>	252
5.9	RECREATION.....	256
5.10	FARMING AND HEALTH CARE.....	258
CHAPTER 6: FOOD AND THE CITY.....		267
6.1	LOCAL FOOD	267
6.1.1	<i>Food miles</i>	269
6.1.2	<i>Public sector procurement</i>	270
6.1.3	<i>Labelling</i>	272
6.2	FOOD SECURITY	274
6.2.1	<i>What is meant by 'food security'?</i>	274
6.2.2	<i>International trends and developments</i>	276
6.2.3	<i>National initiatives</i>	277
6.2.4	<i>Victorian initiatives</i>	279
6.3	URBAN AGRICULTURE	284
6.3.1	<i>Community gardens</i>	285
6.3.2	<i>Edible landscapes</i>	287
6.3.3	<i>Planning and food</i>	288
6.4	CITY AND STATE FOOD POLICIES	290
6.4.1	<i>San Francisco</i>	290
6.4.2	<i>Illinois</i>	291
6.4.3	<i>Toronto</i>	293
6.4.4	<i>London</i>	293
6.4.5	<i>Towards a Melbourne food policy</i>	294
APPENDIX A LIST OF SUBMISSIONS.....		301
APPENDIX B LIST OF WITNESSES.....		305
APPENDIX C CONFERENCES & SEMINARS.....		316
APPENDIX D WALMART'S SUPPLIER SUSTAINABILITY ASSESSMENT		317
BIBLIOGRAPHY.....		319

COMMITTEE MEMBERSHIP

Position	Member
Chair	Mr George Seitz, MLA
Deputy Chair	Hon Ken Smith, MLA
Member	Mr Nazih Elasmr, MLC
Member	Ms Danielle Green, MLA to 1 February 2010
Member	Mr Matthew Guy, MLC
Member	Ms Colleen Hartland, MLC
Member	Mr David Hodgett, MLA
Member	Mr Craig Langdon, MLA from 2 February 2010
Member	Mr Don Nardella, MLA

For this inquiry, the Committee was supported by a secretariat comprising:

Position	
Executive Officer	Mr Sean Coley
Research Officer	Mr Keir Delaney
Committee Administrative Officer	Ms Natalie-Mai Holmes

Functions of the Committee

The Committee consists of eight Members of Parliament, three drawn from the Legislative Council and five from the Legislative Assembly. It is chaired by Mr George Seitz, MLA.

The functions of the Outer Suburban/Interface Services and Development Committee are to inquire into, consider and report to the Parliament on any proposal, matter or thing concerned with –

- a) The provision of services to new urban regions; and
- b) The development or expansion of new urban regions.

Contact Details

Address: Parliament House, Spring Street, East Melbourne, Victoria 3002

Telephone: +613 8682 2826

Facsimile: +613 8682 2858

Email: osisdc@parliament.vic.gov.au

Internet: www.parliament.vic.gov.au/osisdc

TERMS OF REFERENCE

Received from the Legislative Assembly on 9 October 2008

To inquire, consider and report to Parliament on the major issues relating to the production, processing and distribution of agricultural products in the interface municipalities and peri-urban areas of Melbourne. In particular the Committee is requested to:

- 1) Identify the types of agricultural sectors operating in interface municipalities and peri-urban areas;
- 2) Examine the role of agribusiness in enhancing economic growth, increasing jobs and the sector's contribution towards promoting healthy, sustainable and prosperous outer suburban areas;
- 3) Investigate the role of planning in encouraging the development of agribusiness;
- 4) Analyse the options for sustainable food production, including environmental stewardship and local food production;
- 5) Investigate impediments faced by the industry to its long term growth and sustainability and recommend options to resolve these barriers;
- 6) Highlight niche and well performing sectors operating in the interface of Melbourne, with particular reference to viticulture, horticulture and sustainable agriculture;
- 7) Examine exemplary programs supported by governments (at all levels), the private sector and non-government organisations, which assist the sustainability of the agribusiness sector; and
- 8) Investigate national and international initiatives relevant to these issues.

The Committee is to make its final report to Parliament no later than 31 May 2010.

CHAIR'S FOREWORD

I am delighted to present the Final Report of the Outer Suburban/Interface Services and Development Committee's *Inquiry into the sustainable development of agribusiness in outer suburban Melbourne*.

The outer suburbs and the wider Melbourne area – collectively termed 'peri-urban Melbourne' in this report – makes up a diverse and dynamic farming region; vegetables in Bacchus Marsh, barramundi in Werribee, mushrooms in Mernda, gourmet sheep cheese in Epping, asparagus in Cardinia, glasshouse flowers on Phillip Island, fruit in the Yarra Valley and poultry and premium wine on the Mornington Peninsula.

From less than four percent of Victoria's farmland, agriculture in this region produces 16 percent of the state's agricultural wealth. Agriculture in peri-urban Melbourne is an important direct and indirect employer and makes a significant economic contribution. Added to this is the region's tremendous appeal as a tourist destination, revolving around food and wine and the ambience of the rural landscapes.

It is often said that we have become disconnected from the food we eat. In the past it was difficult for Melburnians to ignore the source of their food or the realities of agricultural production. Market gardens, dairies, grain silos and abattoirs were commonplace in the city. Many people grew their own vegetables and kept chickens in the backyard.

In recent years, there has been increasing interest in food, including home food production, organics, farmers' markets and community gardens. Despite this, the challenges faced by the producers on our doorstep are often overlooked. Operating a farm in peri-urban Melbourne – where the growth corridors, green wedges, rural residential living and working farms meet – is more complex, more frustrating and in some ways more costly than elsewhere in the state.

I believe government can make it easier.

The Committee has made 84 recommendations. Several recommendations are specifically for Melbourne's green wedges, the "city's lungs." Our main finding is the need for action – decisions have to be made about future land use in some of these green wedge areas. In the Committee's view, agriculture is one of the best uses of green wedge land and this report shows that there are a raft of possibilities for making farming a more sustainable and profitable pursuit in the green wedges.

The Committee's investigations interstate and overseas underlined the timeliness of our inquiry. A majority of the world's population now live in cities and towns and we found that cities everywhere are engaged in a discussion around how to manage growth while retaining nearby agricultural land and local food production. The challenges are daunting. It has been estimated that meeting the food and fuel demands of a projected global population of 9 billion people by 2050 will require a doubling of productivity over

the next 40 years. There will be unpredictable impacts from climate change on food producing regions and increasing competition for costly and scarce water, energy, land and fertilisers. Increasingly, too, the access of urban populations to fresh healthy food is emerging as a public health issue of real concern.

It is a fact that Melbourne's population is growing rapidly and land at the fringe is needed for housing, but this report shows that, in planning for growth, peri-urban agriculture should be considered a strategically important resource, a key part of achieving a more resilient city into the future.

This inquiry brought us into contact with inspiring businesses and non-government organisations – such as Hawkesbury Harvest in Sydney, Sustain UK, InnovatieNetwerk and Transforum in the Netherlands, the Greater Toronto Area Agricultural Action Committee in Canada to name just a small selection. By including their ideas and experiences, I hope this report can also be a resource for others working in these policy fields.

I record my sincere appreciation of those who contributed so generously to this inquiry by hosting the Committee, writing submissions and attending public hearings. The cooperation of local councils in Victoria is particularly acknowledged.

I would also like to thank my colleagues for their contribution and the spirit in which the inquiry was conducted – Hon. Ken Smith (Deputy Chair), Mr Don Nardella, Mr David Hodgett, Ms Colleen Hartland, Mr Matthew Guy, Mr Nazih Elasmr, Mr Craig Langdon and former Committee Member Ms Danielle Green.

The Committee secretariat consisted of Mr Sean Coley, Mr Keir Delaney and Ms Natalie-Mai Holmes. I thank them for all their hard work during this inquiry.

I commend this report to the Parliament.

George Seitz, MLA

Chair

LIST OF TABLES

Table 2.1: Value of agricultural production in the Port Phillip and Westernport Natural Resource Management Region (2006-07).....	63
Table 2.2: Area and value of agricultural production in peri-urban areas.....	64
Table 2.3: Comparison of agriculture in the green wedge regions (2001)	66
Table 2.4: Interface councils: employment in agriculture.....	68
Table 4.1: Rural land sales in metropolitan Melbourne and country Victoria.....	151

LIST OF FIGURES

Figure 1.1:	The Interface Local Government Areas	35
Figure 1.2:	Port Phillip and Westernport Natural Resource Management Region	37
Figure 1.3:	Population Change 2006 - 2026	49
Figure 1.4:	Agricultural establishments and value of agricultural production.....	57
Figure 2.1:	Land use: Port Phillip and Westernport NRM region.....	61
Figure 2.2:	Area and value of agricultural production in Victoria's NRM regions	62
Figure 2.3:	Agricultural production in the PPW region: selected commodities	67
Figure 2.4:	Cardinia Shire Council Local Government Area.....	71
Figure 2.5:	City of Casey Council Local Government Area	72
Figure 2.6:	City of Hume Council Local Government Area	74
Figure 2.7:	Melton Shire Council Local Government Area.....	78
Figure 2.8:	Mornington Peninsula Shire Council Local Government Area.....	80
Figure 2.9:	Nillumbik Shire Council Local Government Area.....	82
Figure 2.10:	Whittlesea City Council Local Government Area.....	84
Figure 2.11:	Wyndham City Council Local Government Area	86
Figure 2.12:	Shire of Yarra Ranges Council Local Government Area.....	89
Figure 4.1:	Major water recycling schemes in Melbourne.....	129
Figure 4.2:	'The cycle of farmland conversion'.....	145
Figure 4.3:	Text of a 'Land for sale' advertisement.....	150
Figure 5.1:	Green wedge property of the future.....	223

ACRONYMS

Acronym	Definition
ABARE	Australian Bureau of Agricultural and Research Economics
ABS	Australian Bureau of Statistics
AUD	Australian Dollar
BMID	Bacchus Marsh Irrigation District
CBD	Central Business District
CEO	Chief Executive Officer
CFE	Community Food Enterprise
CHAF	Central Highlands Agribusiness Forum
CPRE	Campaign to Protect Rural England
CRSWS	Central Region Sustainable Water Strategy
CSA	Community Supported Agriculture
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Defra	Department for Environment, Food and Rural Affairs
DHS	Department of Human Services
DIIRD	Department of Innovation, Industry and Regional Development
DPCD	Department of Planning and Community Development
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EC	Electrical Conductivity
ENRC	Environment and Natural Resources Committee
EPA	Environment Protection Authority Victoria
EVAO	Estimated Value of Agricultural Operations
FAO	Food and Agriculture Organization
GAIC	Growth Areas Infrastructure Contribution
GM	Genetically Modified
GTAAAC	Greater Toronto Area Agricultural Action Committee
GVA	Gross Value Added
GWIDF	Green Wedge Infrastructure Development Fund
GWMPs	Green Wedge Management Plans
LGA	Local Government Area
m	Million
mm	millimetre
MAV	Municipal Association of Victoria
ML	Millilitre
MMBW	Melbourne and Metropolitan Board of Works
MP	Member of Parliament
NAP	Northern Adelaide Plains
NFF	National Farmers' Federation
NRM	Natural Resource Management

NSW	New South Wales
NWI	National Water Initiative
OSISDC	Outer Suburban/Interface Services and Development Committee
PCN	Potato Cyst Nematode
PDR	Purchase of Development Rights
PPW	Port Phillip and Westernport
PPWCMA	Port Phillip & Westernport Catchment Management Authority
PURPLE	Peri-Urban Regions Platform Europe
R&D	Research and Development
RIDF	Regional Infrastructure Development Fund
SFFA	Sydney Food Fairness Alliance
SINL	Services and Information for New Landholders
SLA	Statistical Local Area
SOURS	Stock Overpass/Underpass Road Safety Program
TDR	Transferable Development Rights
TDS	Total Dissolved Solids
UGB	Urban Growth Boundary
UK	United Kingdom
UN	United Nations
US	United States of America
USDA	United States Department of Agriculture
VEIL	Victorian Eco-Innovation Lab
VFF	Victorian Farmers Federation
VLGA	Victorian Local Governance Association
VPP	Victorian Planning Provisions
WHO	World Health Organization
WID	Werribee Irrigation District
WTP	Western Treatment Plant

TABLE OF RECOMMENDATIONS

Chapter 2:

Recommendation 1:

That the Victorian Government ensure that future iterations of Melbourne's metropolitan strategies, including *Melbourne 2030*, recognise the importance of agriculture in the Port Phillip and Westernport region. The Committee further recommends that all metropolitan strategies clearly identify agricultural areas.

Recommendation 2:

That the Victorian Government encourage the Australian Government to develop a national approach to assist in the preservation of productive agricultural land in rapidly urbanising areas.

Recommendation 3:

That the Department of Primary Industries, firstly, note the findings of the *Square Pegs in Green Wedges* report and secondly, in consultation with a stakeholder reference group, conduct further research into sustainable agriculture and land use in peri-urban Melbourne.

The Committee further recommends that the Department of Primary Industries take responsibility for advocating the needs of peri-urban agriculture within government.

Recommendation 4:

That the Victorian Government work with growers and gas companies to plan and deliver the extension of gas pipelines to key horticultural areas in peri-urban Melbourne, with a progress report to be provided to the Parliament.

Chapter 3:

Recommendation 5:

That the Minister for Agriculture and the Minister for Planning convene a search conference (or similar forum) no later than 2012, to discuss current issues confronting farmers and other stakeholders in peri-urban Melbourne.

Recommendation 6:

That, following the above recommendation, a report of the conference/forum should be prepared with a view to establishing a Ministerial advisory body to take further action arising from the outcomes and recommendations.

Chapter 4

Recommendation 7:

That the Victorian Government endorse the recommendations contained in the Victorian Parliament's Environment and Natural Resources Committee report into the future of Melbourne's water supply, in particular their recommendations D1 to D8, which have applicability to agribusiness.

Recommendation 8:

That the Victorian Government, building on the Western Irrigation Futures Paper, in conjunction with Melbourne Water, Southern Rural Water and other stakeholders, incorporate into the study a cost-benefit and environmental assessment of desalination options for growers in the Werribee Irrigation District.

Recommendation 9:

That water authorities review current trade waste agreements and their effects on the quality of recycled water produced by the Western Treatment Plant.

Recommendation 10:

That the Victorian Government, in partnership with relevant stakeholders, including water authorities, commits to funding recycled water schemes for agriculture in peri-urban areas.

Recommendation 11:

That Melbourne's Urban Growth Boundary be stabilised to provide certainty to landholders and agribusiness.

Recommendation 12:

That the Victorian Government, in conjunction with relevant stakeholders and developers, establish a program (along the lines of FarmLINK and similar programs), to identify vacant rural land suitable for agriculture in peri-urban Melbourne and arrange for its lease to farmers and community organisations seeking land.

Recommendation 13:

That the Victorian Government work with the Municipal Association of Victoria and relevant interface and peri-urban local governments to develop a statewide response to the issue of high rates charges for primary producers impacted by rising land values and urban growth.

Recommendation 14:

That the Victorian Government issue a policy statement clearly setting out:

- the values and long-term objectives of Melbourne's green wedges;
- the roles and responsibilities of the Department of Planning and Community Development, the Department of Sustainability and Environment, and the Department of Primary Industries in managing the green wedges; and
- the government's priorities for supporting and improving the green wedges.

Recommendation 15:

That the Victorian Government develop a communication strategy to raise the profile of the green wedges among the Victorian public. The strategy should:

- be informed by surveys into public attitudes towards the green wedges;
- involve and showcase green wedge agribusiness;
- explain the roles of green wedges and why they are valuable; and
- use advertising, signage and other techniques to help the public identify the location of the green wedges.

Recommendation 16:

That the Victorian Government determine a funding model which ensures all interface councils employ – or have access to – agribusiness officers.

Recommendation 17:

That the Victorian Government commit to providing continued support for the work of agribusiness forums in peri-urban Melbourne through the provision of advice, funding and other forms of assistance.

Recommendation 18:

That the Department of Planning and Community Development, in view of the shortage of suitably qualified planning staff, develop options to increase the planning resources available to local governments in interface and peri-urban areas.

Recommendation 19:

That the Victorian Government work with the Municipal Association of Victoria, town planning associations and other stakeholders to encourage the development of an additional town planning course at Victorian universities, with a focus on getting student planners to gain experience in the interface and peri-urban municipalities.

Recommendation 20:

That all rural land outside the Urban Growth Boundary becomes eligible for rural grants.

Recommendation 21:

That the Victorian Government engage with Cardinia Shire Council and the Gembrook farming community to explore all options for farming and land use in the PCN and dieldrin affected Gembrook area.

Recommendation 22:

That the Victorian Government work with the Port Phillip & Westernport Catchment Management Authority and relevant stakeholders to establish a voluntary covenant scheme for agricultural land in Melbourne's green wedges.

Recommendation 23:

That the Victorian Government review Section 32 of the Sale of Land Act 1962, with a view to strengthening the warning given to purchasers of property in rural areas.

Recommendation 24:

That the Victorian Government update and re-publish its information sheets on living in rural areas and ensure these are distributed to local governments in peri-urban Melbourne.

Recommendation 25:

That the Department of Primary Industries continue to conduct social research on public attitudes to farming and food issues in Victoria, with a particular emphasis on peri-urban Melbourne.

Recommendation 26:

That the Department of Primary Industries partner with the Victorian Farmers Federation, VicHealth, growers and other stakeholders to develop a strategy to address perceptions of peri-urban agriculture, including but not limited to, publicity and education campaigns explaining the link between farming and fresh, local and healthy food.

Recommendation 27:

That the Department of Education and the Department of Primary Industries encourage programs, along the lines of the 'Picasso Cows' and 'Archibull Prize' programs, which deliver agricultural and environmental education to school students in innovative ways. The Committee strongly recommends that schools in the growth areas of Melbourne should be a primary target for these programs.

Recommendation 28:

That the Victorian Government, in consultation with the Victorian Farmers Federation, industry bodies and the interface local governments, provide direct assistance to agribusinesses to implement best practice farming methods which minimise off-farm impacts on neighbouring properties.

Recommendation 29:

That the Victorian Government, local government and Australia Pacific Airports (Melbourne) meet with affected landowners in the vicinity of Melbourne Airport to resolve problems concerning the use of private aircraft for weed control purposes.

Recommendation 30:

That the Department of Primary Industries urgently consider declaring *Galenia pubescens* a noxious weed in view of its impact on agricultural industries (such as beekeeping) and native vegetation in peri-urban Melbourne.

Recommendation 31:

That the Victorian Government work with all stakeholders to develop strategies to reduce the fuel load on the edge of the Urban Growth Boundary and residential areas and to continue increasing funding for weed control initiatives on public and private land. The Committee acknowledges that this recommendation may need to be reviewed in light of the findings of the 2009 Victorian Bushfires Royal Commission.

Recommendation 32:

That the Victorian Government, in partnership with local government, investigate ways to put pressure on absentee landholders to control weeds and reduce fuel loading to ensure that the safety and economic viability of nearby agricultural operations are not compromised. The Committee acknowledges that this recommendation may need to be reviewed in light of the findings of the 2009 Victorian Bushfires Royal Commission.

Recommendation 33:

That the Grow West model of pest and weed control be studied and expanded, where appropriate, into other areas of the Port Phillip and Westernport region.

Recommendation 34:

That, where dogs caught on farms can be identified (through permanent identification devices, such as microchips), the Department of Primary Industries and local councils actively enforce the strongest penalties for dog owners and organise compensation to be paid for damage or loss of livestock.

Recommendation 35:

That the Department of Primary Industries prepare information concerning domestic dog attacks on livestock, for interface and peri-urban local governments to distribute to dog owners with council rates notices.

Recommendation 36:

That all local governments consider imposing curfews for domestic animals.

Recommendation 37:

That the Environment Protection Authority change its guidelines on frost fans to ensure that acceptable noise limits in the green wedges are consistent with farming zones throughout Victoria.

Recommendation 38:

That the Department of Primary Industries conduct research on technology which may assist peri-urban growers to reduce the noise from frost fans and other methods of protecting crops from frost.

Recommendation 39:

That the Victorian Government, in consultation with local government, remove the requirement for primary producers to obtain a planning permit to install netting, providing that applicable building safety standards are met.

Recommendation 40:

That the Department of Planning and Community Development, in consultation with local government and the horticulture sector, remove restrictions on the proportion of land able to be covered with netting.

Recommendation 41:

That the Victorian Government extend eligibility for the Stock Overpass/Underpass Road Safety program to all rural areas outside the Urban Growth Boundary.

Recommendation 42:

That VicRoads consult with the Victorian Farmers Federation and local farming communities in the planning of transport routes for new urban development where agribusinesses are likely to be affected.

Recommendation 43:

That the Victorian Government encourage local councils to remove or streamline the permits required by farmers moving livestock on roads, including the option of introducing longer (5-10 year) permits rather than annual permits.

Recommendation 44:

That VicRoads undertake a media campaign regarding livestock on roads and the responsibility of drivers to obey 'stock on road' signage and take care in agricultural areas.

Recommendation 45:

That the Victorian Government work with local government and the Victorian Apiarists Association to review local laws in conflict with the Apiary Code of Practice 1997.

Recommendation 46:

That the Department of Primary Industries provide training for local government officers to improve awareness of the Apiary Code of Practice 1997.

Recommendation 47:

That the Victorian Government recognise that the interface is a unique planning area requiring specific planning policies, resources and skills.

Recommendation 48:

That the Victorian Government and the Growth Areas Authority ensure suitable buffer zones are established during the planning of the growth areas.

Recommendation 49:

That the Growth Areas Authority prepare detailed guidance information to help local governments plan for urban growth and agriculture in a way that supports compatibility between land uses. This is to occur in close consultation with the Port Phillip & Westernport Catchment Management Authority.

Chapter 5

Recommendation 50:

That the Victorian Government encourage landholders in farming zones to undertake a Whole Farm Planning course before applying for a permit to construct a dwelling.

Recommendation 51:

That the Victorian Government, through the Department of Sustainability and Environment, consider establishing a 'green wedge eco tender' for green wedge landholders, along the lines of the existing BushTender program.

Recommendation 52:

That the Victorian Government continue to invest in agricultural research and development and ensure that the Department of Primary Industries remains a robust source of advice for the industry.

Recommendation 53:

That the Victorian Government extend funding for the Services and Information for New Landholders program and seek opportunities to expand the range of services it delivers to peri-urban landowners.

Recommendation 54:

That the Department of Primary Industries establish a land management program in which experienced and/or retired farmers provide land management services to lifestyle landholders.

Recommendation 55:

That the Victorian Government work with Victorian Eco-Innovation Lab, Victorian universities and other stakeholders to establish an independent centre of agricultural innovation, along the lines of InnovatieNetwerk in the Netherlands, with a brief to design and trial innovative and challenging projects in food, farming and land use planning.

Recommendation 56:

That, in view of the high level of interest in biochar, the Victorian Government ensures that it contributes to Australian research on the issue and makes the latest information available to primary producers.

Recommendation 57:

That the Victorian Government recognise the need for further investment in ongoing soil monitoring and research and the implementation of soil conservation practices.

Recommendation 58:

That the Victorian Government seek opportunities to increase awareness of the benefits of using organic compost and mulch within agriculture, including progressing this as part of its compliance with the Australian Government's National Waste Policy.

Recommendation 59:

That the Department of Primary Industries progressively scale-up its research, training and extension services for organic agriculture in Victoria. This should also include training for relevant departmental officers in organic agriculture.

Recommendation 60:

That the Department of Primary Industries identify and support initiatives which facilitate a greater exchange of information between organic and conventional growers.

Recommendation 61:

That the Victorian Government encourage the development of clusters of hydroponic greenhouses in those peri-urban areas which are unsuitable for soil based agriculture and have access to class A recycled water.

Recommendation 62:

That the Victorian Government, through the Department of Primary Industries and Sustainability Victoria, support the development of technologies that enable farmers to produce their own electricity, fuels and other energy inputs.

Recommendation 63:

That the Department of Primary Industries provide advice and practical assistance to peri-urban farmers seeking to establish Community Supported Agriculture schemes.

Recommendation 64:

That the Department of Planning and Community Development consult with interface local councils on amendments to the Victorian Planning Provisions to allow the direct sale of value-added produce in the green wedges. This change should be widely publicised (in cooperation with local government) to ensure producers are aware of the new rules and their associated rights and responsibilities in selling direct to the public.

Recommendation 65:

That the Victorian Government ease restrictions on farm shops in the green wedge zones.

Recommendation 66:

That the Victorian Government assist and encourage private sector and community organisations across peri-urban Melbourne to conduct studies of local food supply chains and develop provedoring or similar services, with the aim of supporting local producers and increasing the consumption of local produce.

Recommendation 67:

That Tourism Victoria provide funding, through peak bodies, local government or community organisations, for agritourism training programs in peri-urban Melbourne.

Recommendation 68:

That the Victorian Government introduce greater flexibility into the Victorian Planning Provisions to promote the development of agritourism in the green wedges.

Recommendation 69:

That the Victorian Government work with green wedge landholders and local government to expand walking trails in Melbourne's green wedge areas.

Recommendation 70:

That the Department of Transport direct funding to relevant organisations, such as Bicycle Victoria, to work with local community organisations and food and wine bodies to ensure cycling trails and events promote primary producers in the green wedges.

Recommendation 71:

That the Victorian Government recognise the potential for care farming (as shown by current developments in care farming in the UK, Europe and elsewhere) and undertake a study of care farming and its applicability to Victoria, including an examination of suitable public and private funding arrangements.

Chapter 6

Recommendation 72:

That the Victorian Government adopt Sustain UK's 'Seven principles of sustainable food', for its public sector food purchasing.

Recommendation 73:

That the Victorian Government set gradual and achievable goals for increasing the amount of local and sustainably produced food purchased and served by departments, statutory authorities and other government bodies.

Recommendation 74:

That the Department of Primary Industries examine the feasibility of establishing a 'Melbourne Food' brand (or similar), to identify and promote locally produced food.

Recommendation 75:

That the Victorian Government support the recommendations of the House of Representatives Standing Committee on Health and Ageing's Inquiry into Obesity, in particular recommendations 10 and 19, as stated below:

- Rec. 10: The Committee recommends that the Treasurer and the Minister for Health and Ageing investigate the use of tax incentives to improve the affordability of fresh, healthy food and access to physical activity programs for all Australians, particularly those living in rural and remote areas.
- Rec 19: The Committee recommends that the Federal Government continue to support initiatives such as community garden projects, cooking classes and the Stephanie Alexander Kitchen Garden Program, in order to teach children and adults about:
 - The benefits of growing and eating fresh fruit and vegetables; and
 - Preparing and enjoying healthy nutritious meals.

Recommendation 76:

That the Victorian Government expand public awareness of the health and other benefits of eating fresh, locally produced food. As part of this, the government should consider providing incentives for schools, men's sheds, community centres and community groups, to develop fruit and vegetable gardens and small farms.

Recommendation 77:

That the Victorian Government work with local governments to identify available government-owned land suitable for new community gardens.

Recommendation 78:

That the Victorian Government work with developers and local governments to ensure that space in new housing developments is allocated for community gardens.

Recommendation 79:

That the Victorian Government encourage developers to work with local governments, gardening clubs and local schools to promote the practice of edible landscaping in new and existing communities.

Recommendation 80:

That the Department of Planning and Community Development:

- conduct an assessment of the Victorian Planning Provisions in regards to removing the barriers for urban agriculture in Melbourne; and
- amend the Victorian Planning Provisions to include a zone for urban agriculture.

Recommendation 81:

That the Victorian Government partner with the Victorian Eco-Innovation Lab, local government and other stakeholders to pilot an urban development project based on ‘food sensitive urban design’ principles in an outer suburban location.

Recommendation 82:

That the Victorian Government actively engage with the Food Policy Coalition.

Recommendation 83:

That an existing government agency is allocated specific responsibility for coordinating food policy across the Victorian Government.

Recommendation 84:

That the Victorian Government develop a comprehensive food strategy for the Melbourne region which integrates agricultural policy with land use planning.

CHAPTER 1: INTRODUCTION

Melbourne is growing at an unprecedented rate. More people are moving to Melbourne, fewer are leaving and births have reached record levels.¹ On current trends, the Victorian Government predicts the city will have a population of 5.52 million by 2036. This level of growth requires around 600,000 new houses over the next twenty years. Of these, some 284,000 are expected to be built in ‘greenfield’ locations – mostly ‘green wedge’ zoned farmland – in Melbourne’s outer suburbs.² For every person moving to the inner suburbs, five are moving to the city’s fringe.

The region where these new communities will appear – Port Phillip and Westernport – is the area examined in this report. It is the second most valuable agricultural region in the state, producing at least 16 percent of the total wealth generated from Victorian agriculture, from less than four percent of the state’s farmland.³

These are surprising figures; when most Victorians think of agriculture, they are likely to picture the broadacre farming of the Western District, fruit growing in the Goulburn Murray ‘food bowl’ or the prime dryland cropping country in the Wimmera. Few are aware of the highly profitable and diverse primary production occurring on the city’s doorstep.

The history of agriculture near Australian cities is often one of short-term, intensive farming. Farms establish to capitalise on the easy access to markets for perishable goods, as well as the favourable soils, climate and water supply that (often) determined a city’s location in the first place. For example, the soil and climate in a small area in the Shire of Cardinia enables the production of around 91 percent of Australia’s asparagus crop. Similarly, the Mornington Peninsula and the Yarra Valley are ideal for certain types of wine grapes. As a city expands and land prices rise, the urban fringe farmer intensifies production on smaller lots or sells their land for housing and re-establishes further out where land is cheaper. The cycle is repeated as the city continues to grow.

However, a number of recent reports have questioned whether this cycle of farmland conversion is sustainable. The United Nations (UN) estimates half of the world’s current arable land will be unusable by 2050.⁴ In Australia, soil salinity and acidity are significant problems exacerbated by land clearing for urban development and for agriculture.⁵ Countries around the world are increasingly looking for ways to protect farmland as a food-producing strategic resource. Where their supply of arable land is already circumscribed, some wealthy nations are purchasing or leasing land in developing countries.⁶

Community debate during 2009 around the extent and direction of Melbourne’s rapid population growth and how the supporting infrastructure should be paid for, provided the backdrop to the investigations of the Outer Suburban/Interface Services and Development Committee (OSISDC; hereafter ‘the Committee’). Concurrently, the Victorian Government announced plans to expand the city’s Urban Growth Boundary

(UGB) and the Committee subsequently undertook a separate inquiry into specific aspects of the government's proposals.⁷

For this inquiry into the sustainable development of agribusiness, the Committee took evidence from across the Melbourne region and from various parts of the agribusiness sector. The Committee encountered several different (but often interlinked) arguments for the value of preserving agriculture and productive agricultural land on Melbourne's fringe, including:

- 'Future proofing' – climate change will impact on Victorian agriculture in significant but volatile ways. It is prudent to preserve options which could prove essential to Melbourne in the future. Keeping working farmland near cities builds resilience to climate change; conversion to housing is irreversible.
- Scarce and more costly oil – food distribution systems are highly dependent on oil. Many commentators argue that increases in the cost of oil will be to the advantage of food production close to the city.
- 'Food miles' – the contention that food produced locally (and therefore delivered to the consumer with less transportation and lower carbon emissions) is better for the environment is likely to be true for some commodities but as a measure of sustainability 'food miles' is misleading.⁸ Nevertheless, there is strong consumer demand for locally-grown food.
- The need for food-producing farmland – the global population will climb to an expected 9 billion by 2050. The world needs to at least double its food production within forty years.⁹ Traditionally settlements have been established on arable land. Biofuels and forestry carbon 'sinks' will increase the competition for arable land.
- Water and waste – peri-urban areas are ideally located to recycle urban water and waste to provide water and nutrients for nearby agriculture.
- Economic development – agriculture on Melbourne's fringe is economically significant and supports direct and indirect local employment close to where people live.
- 'Liveability' – Melbourne's green wedges are an important part of what makes the city an attractive place to live. Around 80 percent of the rural land in the green wedges is privately owned and farmers maintain the green wedge landscapes for the benefit of all Melburnians.
- 'Food security' – local food production strengthens 'food security' – "the state in which all persons obtain nutritionally adequate, culturally acceptable, safe foods regularly through local non-emergency sources."¹⁰
- Ecosystem services – farmland provides biodiversity, water supply, carbon storage and other environmental benefits on behalf of the wider community.

This introductory chapter outlines the scope of the inquiry, the structure of the report and the process followed by the Committee in gathering evidence. To provide further context, a brief summary of previous work on this topic is included, along with a discussion of relevant Victorian Government policies, programs and announcements.

1.1 Background to the inquiry

The Committee comprises eight Members of Parliament: five from the Legislative Assembly and three from the Legislative Council. Mr George Seitz MP chairs the Committee.

On 9 October 2008, the Committee received from the Legislative Assembly of the Victorian Parliament a reference to inquire, consider and report to Parliament on the major issues relating to the production, processing and distribution of agricultural products in the interface municipalities and peri-urban areas of Melbourne. The Parliament subsequently revised the reporting date to 31 May 2010.

In particular, the Committee was asked to:

- 1) identify the types of agricultural sectors operating in interface municipalities and peri-urban areas;
- 2) examine the role of agribusiness in enhancing economic growth, increasing jobs and the sector's contribution towards promoting healthy, sustainable and prosperous outer suburban areas;
- 3) investigate the role of planning in encouraging the development of agribusiness;
- 4) analyse the options for sustainable food production, including environmental stewardship and local food production;
- 5) investigate impediments faced by the industry to its long term growth and sustainability and recommend options to resolve these barriers;
- 6) highlight niche and well performing sectors operating in the interface of Melbourne, with particular reference to viticulture, horticulture and sustainable agriculture;
- 7) examine exemplary programs supported by governments (at all levels), the private sector and non-government organisations, which assist the sustainability of the agribusiness sector; and
- 8) investigate national and international initiatives relevant to these issues.

1.1.1 Previous Committee reports

This is the fifth inquiry report from this Committee. All five examine different (but overlapping) topics relating to the development of Melbourne's outer urban areas, from physical infrastructure to cohesive communities to economic development. This report builds on its predecessors by focusing specifically on agribusiness – an economic activity that is important to the livelihoods of communities on Melbourne's fringe.

Report One: Sustainable Urban Design¹¹

The Committee received its first reference in June 2003 and undertook an inquiry into 'Sustainable Urban Design for New Communities in Outer Suburban Areas.'

This report made 39 recommendations addressing a range of themes, including the need for community input in urban planning, sustainability in the home, building accessibility, water sensitive urban design, public open space, reduced car dependency, road safety, public safety, physical and social wellbeing and the promotion of best practice in urban design.

Report Two: Building New Communities¹²

The Committee received its second reference in January 2005 and undertook an inquiry into 'Building New Communities.'

The report focused on the task of building cohesive and engaged communities with strong social capital in Melbourne's outer suburbs. The report made 40 recommendations across a broad terms of reference. Topics including mentoring, volunteering, the role of neighbourhood houses, partnerships, community organisations and community engagement were covered in detail.

Report Three: Local Economic Development¹³

The Committee received its third reference on 1 March 2007 and undertook an inquiry into 'Local Economic Development in Outer Suburban Melbourne.' The inquiry focused on ways to provide greater employment opportunities within or close to Melbourne's rapidly growing outer suburbs.

The report made 171 recommendations on information and communications technology, infrastructure, home-based businesses, business parks and clusters, social enterprises, skills shortages, planning issues, transport and specific economic sectors.

Report Four: Government's Decision to Change the Urban Growth Boundary¹⁴

The Committee resolved to begin its fourth reference on 21 September 2009 and undertook an inquiry into 'the State Government's Decision to Change the Urban Growth Boundary.'

The Committee examined specific matters relating to proposals made by the Victorian Government to alter Melbourne's UGB and introduce the Growth Areas Infrastructure Contribution (GAIC). The report was tabled in Parliament on 24 November 2009.

1.1.2 Inquiry scope

1.1.2.1 Definitions: 'interface' and 'peri-urban'

The 'interface councils' are the ring of outer suburban local government municipalities that make up Melbourne's urban-rural fringe. These municipalities contain Melbourne's 12 green wedges, as well as (in most cases) the city's growth corridors. The interface municipalities are Cardinia (and in this inquiry, the rural areas of the adjoining Casey), Hume, Melton, Mornington Peninsula, Nillumbik, Whittlesea, Wyndham and Yarra Ranges.

Figure 1.1: *The Interface Local Government Areas*



Source: Department of Planning and Community Development, Last Updated 30 December 2009, www.localgovernment.vic.gov.au, Retrieved 15 March 2010.

As in the past, the Committee has considered a wider geography wherever possible. The Committee visited and took evidence at Phillip Island (Bass Coast Shire) and Ballan (Shire of Moorabool).

The term ‘peri-urban’ also appears throughout this report. This is a widely-used term, although there are often differences in the way it is defined. The Victorian Department of Sustainability and Environment (DSE) delineates the peri-urban as extending 150 kilometres around Melbourne or 40 kilometres around regional centres. The green wedges are seen as a subset of Melbourne’s peri-urban area.¹⁵ Parbery et al. define peri-urban as “rural and semi-rural land that is adjacent to and influenced by an urban centre.”¹⁶

Nationally and internationally, ‘peri-urban’ generally means the zone around a metropolis where urban growth meets agricultural lands and sparks land use debates and challenges (such as those canvassed in this report). This is a “problems-first” approach to defining the peri-urban; in this regard the Committee accords with the approach taken by the Peri Urban Regions Platform Europe (PURPLE), Europe’s pre-eminent body advocating for peri-urban regions.¹⁷

It is further worth noting that neither ‘interface’ nor ‘peri-urban’ are terms employed by the Australian Bureau of Statistics (ABS) or other government bodies for statistical purposes. In order to build up a statistical profile of agribusiness, this report uses different geographical scopes, including the Port Phillip and Westernport Natural Resource Management (NRM) region. This NRM region covers an area wider but roughly corresponding to the geographical focus of the Committee.

Figure 1.2: *Port Phillip and Westernport Natural Resource Management Region*



Source: Australian Government, Caring for our Country, <http://www.nrm.gov.au/nrm/vic-ppwe.html>, last updated 7 January 2010.

1.1.2.2 Definitions: ‘agribusiness’

The Australian Agribusiness Association defines agribusiness as “all the various businesses involved in food and fibre production, including farming, seed supply, agrichemicals, farm machinery, wholesale and distribution, processing, marketing and retail sales.”¹⁸

The Committee has worked with a wide definition of agribusiness in this inquiry. However, the majority of the evidence received discussed primary production and this is reflected in the report.

1.1.3 Inquiry process

This report brings together the Committee’s findings from a range of views, perspectives and research data. Its preparation entailed a review of the national and international literature, written submissions and correspondence, statistical data from various sources, public hearings and site visits (in Australia and overseas) and information from seminars, conferences and briefings. This process is further detailed below.

Public hearings

During 2009, the Committee held four public hearings at Parliament House and one in each of the eight interface local government areas. In total, the Committee heard from over 200 people at public hearings, briefings and during site visits.

The Committee also travelled to the municipalities of Moorabool (May 2009) and Bass Coast (August 2009) to receive evidence. While these are not interface councils, it was important for the Committee to hear their views.

In the case of the Shire of Moorabool, the Committee was interested to learn of the extent to which urban development pressures, land speculators (who purchase and ‘bank’ land for potential residential rezoning) and the demand for rural residential living were having an impact on farming in areas beyond the interface. While at Moorabool, the Committee visited the Bacchus Marsh area, which has an existing irrigation system. Bacchus Marsh has long been one of Victoria’s important vegetable and fruit growing locations. The Committee observed that the availability of high quality water supplies is a key issue for growers here.

Similarly in the Shire of Bass Coast, the Committee heard that demand pressures from urban development and ‘sea and tree changers’, as well as the purchase of farms by large investors, all presented potential challenges to the future of agriculture. The Committee also wanted to hear first-hand from farmers and community organisations (such as Landcare) on the innovative sustainable agriculture projects underway in the Shire.

Written submissions

The terms of reference were advertised in *The Age* and *Herald Sun* on 25 October 2008 and in the *Weekly Times* and *Stock and Land* the following week. The Committee secretariat also wrote to 260 stakeholders and received 65 submissions in response. A full list of submissions is in Appendix A.

From the evidence received, there is clear community interest in the themes discussed in the pages of this report – themes like water, farming, food, land use and urban growth.

On 21 November 2008 the Committee wrote to all ministers with portfolio responsibilities relevant to the inquiry. The Department of Primary Industries (DPI) was then nominated by government as the lead agency to respond with a written submission on behalf of the Victorian Government.

A written government submission was not provided to the Committee but on 8 September 2009, officers from the DPI appeared before the Committee at a hearing at Parliament House.

There are several reasons why written government submissions can add a great deal of value to the parliamentary inquiry process and be of assistance to committees. In the

first place, committees endeavour to base their deliberations on the most comprehensive, up-to-date and factual information available, which is often held by government agencies. Written government submissions can also offer statements of government policy on the matters being inquired into, while providing the government's perspective on relevant programs. Finally, written government submissions provide balance – helping parliamentary committees test the claims they hear from stakeholders.

Overseas study tour

Committee members Mr George Seitz MP (Chair), Hon. Ken Smith MP (Deputy Chair) and Mr David Hodgett MP, along with the Committee's executive officer Mr Sean Coley, travelled to Europe and North America between 13-24 July 2009 to hold meetings and gather information relating to the terms of reference.

In London, the Committee met with leading non-government organisations Sustain and the Campaign to Protect Rural England (CPRE), who are both involved at the highest levels in advocating for food policy and farmland protection in the United Kingdom. In a separate meeting at the New Covent Garden Market, the Committee also received an impressive insight into the dynamics of London's vast food distribution network.

In the Netherlands, the Committee visited a state of the art agriculture and food hub, the Greenport at Westland (which holds the largest continuous expanse of greenhouses in the world). The Committee also travelled to meet staff from two highly innovative Dutch thinktanks – InnovatieNetwerk (in the city of Utrecht) and Transforum (in Zoetermeer) – who are active in the land use and agribusiness fields. Urban agriculture experts ETC-UA were also generous with their time and knowledge and introduced the Committee to a number of inspiring sustainable agriculture projects.

The Committee's North American visits centred on the Canadian city of Toronto (Ontario) and the city of Portland (Oregon) in the United States.

In Toronto, the Committee met with representatives from a diverse range of organisations, including the federal and provincial governments, food retailers, farmers and sustainable farming organisations. With the generous assistance of the Greater Toronto Area Agricultural Action Committee (GTAAAC), the Committee travelled out of Toronto to meet producers and researchers, and was particularly interested to learn of the activities and policies that support farming in Toronto's Greenbelt.

In Portland, meetings were held with the regional government ('Metro'), the City of Portland and with representatives from Hillsboro and Washington counties; two local governments positioned on Portland's UGB. The Committee was also afforded the opportunity to visit various farms and meet growers within the UGB.

The Committee was struck by the similarities in the issues and debates that it encountered at each stop. In particular, there was a common understanding of the need

to protect productive farmland in close proximity to cities, as well as the unique difficulties for farmers operating in these regions.

Many inspiring ideas were encountered on the Committee's overseas study tour, a number of which appear in Chapter Three and elsewhere in this report. The Committee is extremely grateful for the assistance and warm welcome provided by all those people who gave freely of their time and knowledge during the Committee's overseas study tour. Appendix B includes further details. The Committee is also appreciative of the assistance provided by Victor Perton and Deborah Komesaroff in the Victorian Government's trade liaison offices in the United States.

New South Wales study tour

Committee members Mr George Seitz MP, the Hon. Ken Smith MP, Mr Don Nardella MP and Ms Danielle Green MP, along with the Committee's executive officer Mr Sean Coley and research officer Mr Keir Delaney, visited Sydney (including Penrith and the Hawkesbury region) between 17-19 June 2009 to look at what Melbourne can learn from the experience of Australia's largest city. The Sydney Basin – which surrounds Sydney and has the Blue Mountains as a natural boundary – is a highly productive agricultural area: by one estimate, a full 80 percent of the state's fresh vegetables originate there.¹⁹

A series of meetings were held with farmers, government officials (local and state), agricultural peak bodies, experts and community groups. Valuable insights and ideas gained from the Committee's three days in Sydney are noted in this report; further details on the Committee's meetings are in Appendix B.

Tasmania study tour

Committee members Mr George Seitz MP, the Hon. Ken Smith MP, Ms Colleen Hartland MP and Mr David Hodgett MP, along with the Committee's executive officer and research officer, visited Hobart between 21-22 May 2009. Agriculture comprises 16 percent of Tasmania's Gross State Product (compared to an average of 12 percent across the other states).²⁰

The Committee's interest in Tasmania centred on that state's position as an exporter of clean, green and high value agricultural produce to the world. In Hobart and surrounding environs, the Committee met with representatives of government agencies, local producers and industry peak bodies. Further details are in Appendix B.

Seminars and conferences

Committee members and secretariat staff attended a number of conferences, seminars and forums relevant to the themes investigated in this inquiry. Appendix C provides a complete list.

1.1.4 Report outline

The report is structured in two parts and comprises six chapters. The first part – Chapters One to Three – provides background and context to the matters under discussion. The second part – Chapters Four to Six – is focused on key issues raised during the inquiry and contains most of the Committee’s recommendations to government. The questions posed by the terms of reference are addressed throughout.

The recommendations made in this report suggest ways in which the Victorian Government can assist agribusiness and achieve better land use outcomes in peri-urban Melbourne. As such, they are wide-ranging and directed to different areas of government, principally the Department of Planning and Community Development (DPCD) and the DPI. In a few cases, the evidence has led the Committee to reinforce recommendations put forward in earlier Committee reports that were either not supported or not implemented by government.

The rest of this chapter: i) describes key findings from a small selection of relevant government and academic reports dating back to 1977; and ii) sets out the policy context in which the inquiry has been conducted.

Chapter Two provides a profile of agribusiness in peri-urban Melbourne. It begins with a brief historical account, examines a number of different geographical areas to put together a statistical profile and includes comments on key sectors or commodities.

Chapter Three is also contextual and details perspectives from outside Victoria. As directed by the terms of reference, the Committee gathered evidence from interstate and overseas and held meetings with leading organisations, governments and recognised experts. The Committee believes there is much Victoria can learn from these experiences.

Chapter Four examines challenges to the sustainable development of agribusiness, as identified by stakeholders in submissions and public hearings. The chapter begins by focusing on access to water – the number one issue raised during the inquiry. The future of agriculture near Melbourne rests on investment in water infrastructure projects to secure water of suitable cost, quality and quantity. Other issues discussed relate to the broad themes of land use planning (including the urban growth boundary and matters specific to the green wedges) and the many challenges that farmers confront operating in close proximity to Melbourne.

Chapter Five focuses on opportunities for improving the viability of agriculture as a land use in peri-urban Melbourne. Key themes are land stewardship; research and innovation; extension and advisory services; direct marketing opportunities; and agritourism. Strategies from around the world are noted.

Chapter Six is concerned with the broad topic of food and the city. It discusses local food, including the issues of food miles, public sector procurement and food labelling; food security and health; and urban agriculture. The final part of the chapter details food strategies in other jurisdictions and notes recent developments for the establishment of a food strategy for the Melbourne region.

1.1.5 Inquiry context

1.1.5.1 Previous related reports

The Committee's review of the literature found that agribusiness in peri-urban Melbourne has not, to date, been a major topic of government or academic inquiry. There were few comprehensive studies to draw on. This bears out the view of one researcher that an appreciation of the significance of peri-urban regions and peri-urban agriculture is routinely absent from public policy deliberations and data collection. The conventional wisdom is that peri-urban agriculture is economically insignificant.²¹ Chapter Two of this report demonstrates this is not the case in Melbourne.

The Committee has reviewed the small number of available and relevant reports dating back to the 1970's. In many respects, there is a considerable degree of coherence between the findings and recommendations of these reports and those presented by this Committee. The following section provides an overview of some of these reports.

Metropolitan Farming Study (1977)

This study was commissioned by the Melbourne and Metropolitan Board of Works (MMBW) and prepared by consultants Aberdeen Hogg & Associates. Its purpose was chiefly to examine whether and in what respect Victoria's planning scheme had contributed to "rural hardship" within the Melbourne planning area. The study also suggested ways in which the planning objectives in Melbourne's non-urban zones might be better achieved.

The consultants expressed strong support for the preservation of farming in Melbourne's non-urban areas. To this end, they opposed any further subdivision of these lands, noting that subdivision "reduces the capacity of the non-urban zones to achieve the desired planning objectives of retaining agricultural production and rural landscapes."²²

While Melbourne has obviously changed in the 33 years since this study, the issues considered in the *Metropolitan Farming Study* and some of its recommendations, remain pertinent.

Characterising the urban-rural interface as “the zone of discontent,” the report describes the range of negative impacts on farming caused by the proximity of new urban growth, including high rates, excessive traffic and smog, illegal rubbish dumping on farmland, petty theft and, of particular concern at that time, dog attacks.²³ On the other side of the coin, the lifestyle of urban neighbours was found to be affected by dust and smoke from farming operations. Some of these problems remain and are discussed in Chapter Four.

The *Metropolitan Farming Study* made a number of other findings worth noting:

- A major recession in agricultural market prices was causing economic hardship for farmers in 1976-77. Of the agricultural sub-sectors surveyed, only the production of fresh fruit and vegetables was showing a reasonable profit margin;
- Rates levied by local government on farms were inequitably high;
- Uncertainty around the permanence of the planning scheme in 1973-74 had excited land speculators. However, the consultants found this to have subsided and recommended that the planning authorities maintain planning controls;
- Many landowners believed, in spite of government legislation to the contrary since the 1920's, that they should be entitled to develop, subdivide and sell their land “in whatever manner they choose.”²⁴ The consultants did not support claims for uninhibited ‘land rights’ nor for compensation to be paid to landowners for planning controls. However, they did support an investigation into the feasibility of the government purchasing specific easements over land; and
- Many farms were being bought by people with city-based incomes. The report concluded that this was an opportunity for revitalisation rather than a threat.

Review of Issues on the Urban Fringe (1996)

In 1996, the Minister for Planning and Local Government appointed an expert committee to “examine planning and management issues on non-urban land at the fringe of metropolitan Melbourne,” as well as non-urban land on the fringe of regional centres.²⁵

The current and future status of agricultural land was prominent in the expert committee’s investigations. Their final report noted (as the OSISDC has in this report) that “the urban fringe of Melbourne, where the potential for conflict is greatest, contains

some of the most productive farms in Victoria.”²⁶ However, “the most significant impact for agricultural land uses at the urban edge is rising land values due to increased competition from non-rural uses. Additional costs, both direct and indirect, accompany this change.”²⁷

The expert committee’s report discussed the value of Melbourne’s green wedges and made strong statements calling for their protection. Green wedges, the report said, were important for a number of reasons, including the sustainable management of natural and physical resources, protection of landscape qualities and the protection of land with a high or potentially high value for the production of food. With regard to the conversion of this land to residential development, the report states:

*The potential lost value of this productive land is significant. For example, the South-East Non Urban Land Study has estimated that the approximate value of agriculture for its study area is \$150 million per annum – nearly 11% of the State’s wealth due to agricultural production but representing only 1.6% of the State’s agricultural land.*²⁸

The report made 32 recommendations to the Minister, amongst them:

- That the principles of the growth corridor/green wedge concept be upheld for reasons of “environmental sustainability and the protection of recreational opportunities, natural resources, landscape values and high quality agricultural land;”²⁹
- That high quality land for intensive agricultural and horticultural production be retained and protected from urban development;³⁰
- That the conduct of profitable and sustainable farm management practice on agricultural land be encouraged;³¹
- That the needs of commercial agriculture be acknowledged and the structural adjustment required to ensure continuing viability be encouraged and facilitated through land use policies; and³²
- That Councils consider a range of techniques (such as farming systems analysis and performance-based initiatives) to promote sustainable agriculture and improve the quality of land management.³³

The report was ultimately not adopted by government and its recommendations were not implemented.³⁴

Final Report: New Format Planning Schemes (1999)

This report was prepared in April 1999 by Helen Gibson, Chief Panel Member of Planning Panels Victoria. It compiled the findings and views of 79 planning teams who travelled to each Victorian municipality to take public evidence on a proposed new planning scheme.

The Gibson report contains commentary discussing the need to protect Victoria's agricultural land from residential development. The report stated that the greatest challenges confronting rural planning in the new millennium would be to:

- *maintain agricultural land in productive use;*
- *ensure an ongoing supply of water for irrigation and stock purposes; and*
- *manage water supply catchments to ensure an adequate supply of high quality water for domestic consumption.*

The greatest threat in this respect is the growth of residential use and the conflicts this creates.³⁵

Gibson found that urban fringe and rural councils were dealing with a stream of planning scheme amendment applications for rezoning rural land for small lot residential subdivision.³⁶ The planning problems associated with these subdivisions were “incremental...it is the cumulative effect that is the problem rather than any individual subdivision.”³⁷ Further, such subdivisions brought on conflict between new residents and farmers.

The report discusses the economic viability of farms, noting that a lack of viability was frequently used by landowners to support residential development applications. The report states:

The purpose of the planning system should be to protect resources, in this case productive agricultural land, to enable it to be used in a sustainable way. The system should also recognise that agriculture, in common with most activities, is susceptible to change. Just because one activity ceases to be attractive because of low returns or management problems (for example, grazing), does not mean that the land ceases to be suitable for all forms of agriculture and should therefore be subdivided for rural residential purposes. These were the sort of pressures faced by the Yarra Valley 20 years ago. Fortunately, the pressures were resisted. A different form of agriculture in the form of viticulture gradually took over, resulting in a thriving wine industry, which today brings far more economic benefit to the region and Victoria than residential use of the land was ever likely to do.³⁸

Green Wedge and Non-Urban Issues: Technical Report 2 (2000)

This is a series of short papers prepared by consultants Alastair Kellock and Associates for the Victorian Department of Infrastructure. It examines management and planning issues in the ‘non-urban green wedges’ of Melbourne.

The consultants called for the state government to clarify the importance of the green wedges to metropolitan Melbourne and to protect these areas from urban growth by defining their objectives and boundaries, developing techniques to assist local government to manage them and by investing in funding programs over the longer term to “ensure a viable outcome and demonstrate that government is serious about the future of the wedges.”³⁹ Some of these suggestions were to form part of the *Melbourne 2030* strategy.

The consultants commented on a number of concerns affecting agriculture in Melbourne’s non-urban areas. Briefly (and in a paraphrased form), these included:

- Some farmers find it neither practical nor easy to continue farming near urban areas (due to declining water quality, weeds, complaints from neighbours etc.);⁴⁰
- Some landowners limit land management in the hope that urban rezoning will provide a profitable way to leave the land. Genuine farmers can find it difficult to acquire land due to inflated land costs. Older farmers face a loss of a sense of community;⁴¹
- Extension services previously offered by the state government to farmers around the metropolitan area have been substantially reduced; and⁴²
- Landowners bear the burden for maintaining and improving green wedges for the environmental or recreational health of the whole community. Governments need to decide whether they should invest in the green wedges for the benefit of the whole community. Such investment would send a strong signal to the marketplace about the commitment to green wedges.⁴³

Square pegs in green wedges?: Landholders and natural resource management in Melbourne’s rural hinterland (Parbery et al, 2008)

This is the only large-scale study of green wedge landholders publicly available. It was commissioned in 2008 by the Port Phillip & Westernport Catchment Management Authority (PPWCMA) with funding from the DPI and the Australian Government’s Natural Heritage Trust. The information gathered for the report included qualitative and quantitative data from 996 telephone interviews with landholders.

The report examines the social diversity of private rural land ownership in Melbourne. Its major focus is on strategies to improve these landholders’ NRM. Improved NRM is found to be an urgent task: there has been “a serious deterioration” in the region’s

natural resources.⁴⁴ Native biodiversity is in decline with the loss of vegetation and the spread of weeds (the region contains many rare and endangered species and is Victoria's most ecologically diverse) while commercial farming is increasingly difficult due to encroachment by incompatible land uses (principally urban encroachment).

Other noteworthy findings from the report are:

- Agriculture in the Port Phillip and Westernport region is very diverse in comparison to other parts of the state. Some farms are highly profitable but the majority are not – most rely on off-farm or non-agricultural income;
- Nearly 80 percent of green wedge rural land is privately owned; encouraging good management of the green wedges requires working closely with private landholders;
- Improving the management of rural land in peri-urban areas relies critically on quelling land speculation. The worst land managers (in terms of NRM) are those with very low attachment to their properties, specifically absentee land speculators. For non-absentee landholders, speculative pressures and development expectations can also reduce their attachment to the land and their willingness to make investments;
- Telephone surveys found that around 20 percent of landholders would be pleased if their area was to be marked for urban development. Of the three green wedges surveyed, this figure was highest in the Western Green Wedge (46 percent) and lowest in the Yarra Green Wedge (eight percent); and
- Improved financial viability of green wedge agriculture can also result in meeting NRM goals in the region. Government should look for opportunities to assist (in non-financial ways) agriculture to remain viable.⁴⁵

1.1.6 State policy settings and announcements

The Committee is aware of a number of high-level policy statements by the Victorian Government with relevance to this inquiry. These are noted below.

Growing Victoria Together II (2005)

The second iteration of the Victorian Government's 10-year vision for the future of the state sets out ten goals under five priority areas: thriving economy, quality health and education, healthy environment, caring communities and a vibrant democracy. As a 10-year vision, *Growing Victoria Together* provides the blueprint or overarching framework for other government policy statements.⁴⁶

Melbourne 2030 (2002)

Melbourne 2030 is the Victorian Government's strategic 30-year plan to manage growth and change across metropolitan Melbourne and the surrounding region.⁴⁷ The plan aims to focus the city's growth predominantly into 26 higher density principal activity centres, with a stated aim of creating a "more sustainable, equitable, prosperous and accessible city for current and future generations."⁴⁸

Melbourne 2030 has nine major directions:

- A more compact city;
- Better management of metropolitan growth;
- Networks with the regional cities;
- A more prosperous city;
- A great place to be;
- A fairer city;
- A greener city;
- Better transport links; and
- Better planning decisions, [and] careful management.⁴⁹

With the release of *Melbourne 2030* in 2002, the government introduced the UGB (in interim form at that stage) and defined the 12 green wedges and five growth areas: Casey-Cardinia, Hume, Melton-Caroline Springs, Whittlesea and Wyndham.

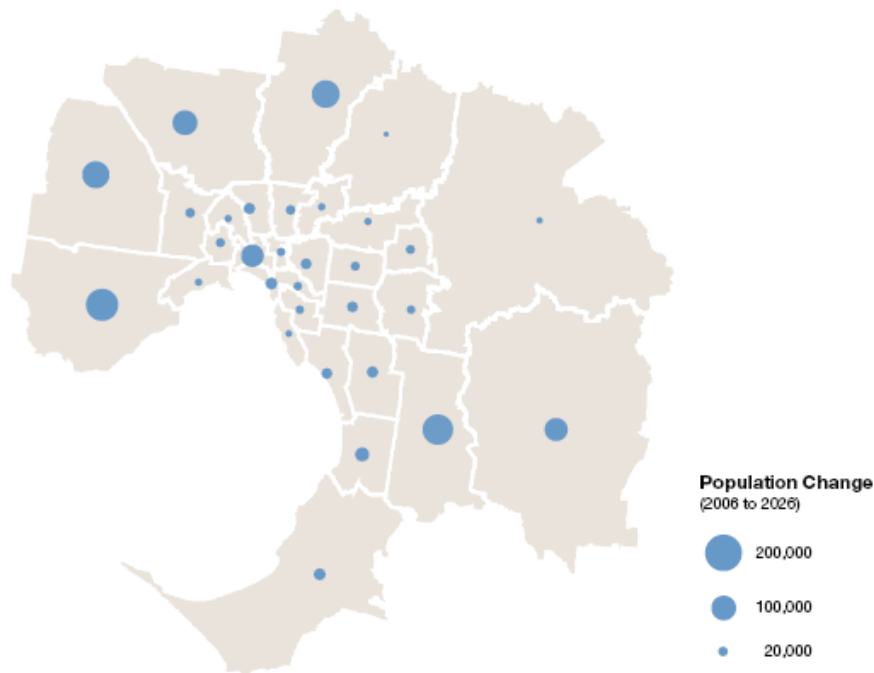
Further discussion of the UGB and the green wedges, in so far as they relate to the sustainable development of agribusiness in Melbourne, is in Chapter Four.

Melbourne 2030: a planning update, Melbourne @ 5 million

In the mid-1990's, Melbourne's population expanded much more slowly than previous plans foresaw. Conversely, the population assumptions of *Melbourne 2030* have been overtaken by faster than expected growth over the decade.⁵⁰

The government now estimates that Melbourne's population will grow by 1.8 million people in the years to 2036.⁵¹ The six growth area councils are expected to continue to grow strongly as affordable greenfield land attracts developers and the expanding population (see following Figure 1.3).

Figure 1.3: Population Change 2006 - 2026



Source: Department of Planning and Community Development, *Melbourne 2030: a planning update, Melbourne @ 5 million* (2008).

Melbourne @ 5 million was released in December 2008 to adjust the *Melbourne 2030* plan in light of these new demographic predictions. According to the government, the two plans are to be read together.

One of the more debated elements of the new plan was the further expansion of the UGB in order to accommodate 284,000 new dwellings to be built in the growth areas. Other key focus areas were:

- the creation of a multi-centre city through six new Central Activities Districts in Box Hill, Broadmeadows, Dandenong, Footscray, Frankston and Ringwood;
- employment corridors that support the Central Activities Districts by linking activity centres, universities, research and technology precincts, medical precincts and areas with high employment. Three employment corridors will be given priority attention by the government: Avalon Airport to Werribee, Melton, Melbourne Airport and Donnybrook (Hume-Mitchell); Caulfield to Dandenong; and Monash University/Chadstone to Box Hill, Austin Hospital and Bell Street; and
- the introduction of a GAIC to be used to provide vital infrastructure and oversee development in the growth areas.⁵²

A bill to establish the GAIC was defeated in the Legislative Council on 23 February 2010. As a consequence, the government stated that it will not seek to expand the UGB unless a GAIC or a similar measure to fund infrastructure is in place. Further background information can be found in the Committee's 2009 inquiry report into the GAIC and related matters.⁵³

Future Farming (2008)

In April 2008, the Victorian Government announced the *Future Farming* strategy. This is a \$205 million package of new measures to boost farming services, drive growth and innovation in agriculture and help the sector respond to new challenges. To be delivered over four years, the strategy has seven broad action areas:

- Boosting productivity through technology and changes in farming practices;
- Building skills and attracting young people to farming;
- Understanding and managing climate change;
- Strengthening land and water management;
- Helping farming families to secure their futures;
- Developing new products and securing new markets; and
- Transporting products to market.⁵⁴

Under each of these, a number of specific actions are outlined. Notably, the strategy allocates \$103.5 million to expand agricultural research, development and practice change services in Victoria, including the development of new generations of drought, cold and salt resistant crops, improved plant and animal disease control and new technologies to lift productivity.⁵⁵

The focus on productivity and research is supported by the latest analysis coming out of the Australian Bureau of Agricultural and Research Economics (ABARE). The Executive Director of ABARE, Mr Phillip Glyde, has argued that raising productivity is the key to overcoming the myriad challenges facing Australian agriculture, whether they be seasonal variability and drought, climate change, the unknowns of a carbon trading system, a global food crisis, the global economic crisis or protectionist responses around the world. The latest ABARE data suggest productivity growth is slowing at just the time it is needed to increase, as is expenditure on research and development.⁵⁶

Victoria's *Future Farming* strategy discusses the challenges ushered in by a new era in farming. Among these, urbanisation and land use planning are briefly discussed. This has particular relevance for farmers in peri-urban Melbourne.

The Future Farming Rural Planning Group

The *Future Farming* strategy allocated \$3.79 million over four years to establish a Future Farming Rural Planning Group, under the aegis of the DPCD. According to the strategy, the group's role will include identifying barriers to adjustment, developing land use planning policy to help farmers adapt, delivering regional land use planning projects identified by the group and changing statutory planning tools to ensure policy alignment with directions in the *Future Farming* strategy.

The Future Farming Rural Planning Group released a discussion paper during the course of this inquiry: *Future Farms: Providing for Victoria's future rural land use*. The paper seeks to identify land use planning issues affecting rural Victoria and the potential responses using the planning system.⁵⁷

Several pressures and trends leading to land use change and conflict are identified, many relevant to peri-urban Melbourne. The popularity of lifestyle properties is leading to increased property prices in high amenity areas, more boutique industries and a noticeable reduction in agricultural production. As a result, a more diverse (or 'multifunctional') landscape is emerging.

Land and Biodiversity at a Time of Climate Change

In April 2007, the Victorian Government began consultations for the *Land and Biodiversity at a Time of Climate Change Green Paper*,⁵⁸ which is called for under the *Our Environment Our Future* action plan (2006). The green paper was released in 2008, and during this inquiry, a subsequent white paper was released.

The purpose of the white paper is to:

- Set the direction for Victorian Government policy and investment priorities in natural resource management, land health and biodiversity for the next 20-25 years;
- Consider how environment and natural resource management activity at the regional catchment, local and farm scale and on public land, is contributing to Victoria's overall environmental health; and
- Make sure Victorian Government policy and investment is responsive to new threats and opportunities.

According to the green paper, farmers in the green wedges and peri-urban areas "find it difficult to adjust to changes in the markets because of land prices and land use restrictions."⁵⁹

Building on this, the subsequent white paper foreshadows specific policy and actions for green wedge and peri-urban areas. In *Outcome 6.7: Urban, peri-urban and green wedge areas host diverse values and resilient ecosystems*, the white paper states:

Changing social and economic trends, growing communities and the intensified demand for new housing and industry are increasing the pressure on urban, peri-urban and green wedge areas. The management of these areas needs to reflect their changing nature. Future development should recognise the value of natural assets and biolinks, minimise exposure to flood and fire risk and support agricultural production. Impacts on native flora and fauna and significant habitat should be minimised. Consideration needs to be given to protecting ecosystem functions and processes, particularly across bays and waterways.⁶⁰

The white paper mentions the urban encroachment difficulties which challenge the ability of the green wedges to meet their objective of “safeguarding agricultural uses and production” and suggests the solutions are to be found in better land use planning and greater education and engagement of residents. The paper states:

Rural residential development in close proximity to agricultural land can create difficulties between farmers and other residents. Conflict can arise over the spray, dust and noise associated with agricultural activities. Integrated planning processes can assist in preventing these conflicts. Urban residents who purchase semi-rural properties may also require support to improve their knowledge and skills for rural land management. This will be strengthened by improved opportunities for new residents to engage with, or establish, community natural resource management groups.⁶¹

The white paper also commits the government to identifying opportunities for peri-urban areas to participate in land stewardship tender programs.⁶²

Our Water Our Future: The Next Stage of the Government's Water Plan (2007)

During this inquiry, Victoria's long drought – the worst on record – continued into a thirteenth year. Water restrictions for Melbourne households were at stage 3A, the second highest. Dams and reservoirs were at record low levels. As the Committee visited sites around Melbourne to talk to local governments and farmers, water was one of the top concerns.

In June 2007, the government released an update to its 2004 *Our Water Our Future*⁶³ strategy following the lowest ever inflows into Melbourne's catchments and the Murray and Goulburn Rivers in 2006, coupled with prolonged drought and the threat of climate change.

Access to water for agricultural purposes is a critical issue for many participants in this inquiry and is discussed in more detail in Chapter Four.

Melbourne Wholesale Markets Relocation

In May 2005, the government announced that the Melbourne Wholesale Fruit and Vegetable Markets would be moving from Footscray to Epping in Melbourne's northern suburbs. Construction on the \$300 million project began at the new Cooper Street site in December 2009 and the market is expected to be fully operational in 2012.

Chapter 1 Endnotes:

¹ Department of Planning and Community Development, *Melbourne 2030: a planning update, Melbourne @ 5 million*, Victorian Government DPCD, East Melbourne, December 2008, <http://tinyurl.com/qd945m>.

² Department of Planning and Community Development, *Melbourne 2030: a planning update, Melbourne @ 5 million*.

³ See discussion in Chapter Two of this report.

⁴ Cited in Soil Association, *An inconvenient truth about food: neither secure nor resilient*, 2008, 9.

⁵ Australian State of the Environment Committee 2006, *Australia State of the Environment 2006: Independent report to the Australian Government Minister for the Environment and Heritage*, Department of the Environment and Heritage, Canberra, 2006.

⁶ See for example Krista Mahr, “The Rent-a-Country”, *Time Magazine*, 23 March 2009, 35-36.

⁷ Outer Suburban/Interface Services & Development Committee, *Inquiry into the State Government’s Decision to Change the Urban Growth Boundary*, Parliament of Victoria, Melbourne, November 2009, available online at <http://www.parliament.vic.gov.au/osisdc/inquiries/>.

⁸ This is discussed further in Chapter Six.

⁹ DB Climate Change Advisors, *Investing in Agriculture: Far-Reaching Challenge, Significant Opportunity*, June 2009.

¹⁰ VEIL, *Submission*, Number 64, 3 March 2009, 3.

¹¹ Outer Suburban/Interface Services & Development Committee, *Inquiry into Sustainable Urban Design for New Communities in Outer Suburban Areas: Final Report*, Parliament of Victoria, Melbourne, September 2004, available online at <http://www.parliament.vic.gov.au/osisdc/inquiries/>.

¹² Outer Suburban/Interface Services & Development Committee, *Inquiry into Building New Communities: Final Report*, Parliament of Victoria, Melbourne, July 2006, available online at <http://www.parliament.vic.gov.au/osisdc/inquiries/>.

¹³ Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, Parliament of Victoria, Melbourne, September 2008, available online at <http://www.parliament.vic.gov.au/osisdc/inquiries/>.

¹⁴ Outer Suburban/Interface Services & Development Committee, *Inquiry into the State Government’s Decision to Change the Urban Growth Boundary*, Parliament of Victoria, Melbourne, November 2009, available online at <http://www.parliament.vic.gov.au/osisdc/inquiries/>.

¹⁵ Department of Sustainability and Environment, *Land and Biodiversity at a Time of Climate Change: Green Paper*, Victorian Government DSE, Melbourne, April 2008, 83.

¹⁶ Peter Parbery, Roger Wilkinson and Komala Karunaratne, *Square pegs in green wedges? Landholders and natural resource management in Melbourne’s rural hinterland*, DPI and Port Phillip and Westernport CMA, Parkville & Frankston, 2008, ix.

¹⁷ See Reinhard Henke, “The best of both worlds – what lies between town and countryside? The PURPLE case”, abstract of paper presented at METREX meeting, Paris, 12-17 May 2009. For more on PURPLE see Chapter 3, and <http://www.purple-eu.org/>.

¹⁸ Agribusiness Association of Australia, “Welcome to Agribusiness Association of Australia”, <http://www.agribusiness.asn.au/index.php>.

¹⁹ Sydney Food Fairness Alliance, “Sydney Basin Agriculture: Local Food, Local Economy”, December 2006, <http://tinyurl.com/n93ac6>.

²⁰ IRIS Tasmania, “Agriculture”, <http://bit.ly/c6dXEU>.

²¹ Peter Houston, “Re-valuing the Fringe: Some Findings on the Value of Agricultural Production in Australia’s Peri-Urban Regions”, *Geographical Research*, 43, 2, June 2005, 209-223.

²² Aberdeen Hogg and Associates Pty. Ltd., *Metropolitan Farming Study*, Melbourne and Metropolitan Board of Works, 1977, 2.

²³ Aberdeen Hogg and Associates, 8.

²⁴ Aberdeen Hogg and Associates, 5.

²⁵ Advisory Committee Established by the Minister for Planning and Local Government, *Review of Issues on the Urban Fringe, Final Report*, November 1996.

²⁶ Advisory Committee, 38.

²⁷ Advisory Committee, 39.

²⁸ Advisory Committee, 40.

²⁹ Advisory Committee, v.

³⁰ Advisory Committee, viii.

³¹ Advisory Committee, viii.

³² Advisory Committee, ix.

³³ Advisory Committee, ix.

³⁴ Michael Buxton and Robin Goodman, *Maintaining Melbourne’s Green Wedges: Planning Policy and the Future of Melbourne’s Green Belt*, RMIT University, December 2002, 24.

³⁵ Helen Gibson, Chief Panel Member, *Final Report: New Format Planning Schemes*, April 1999, 16.

³⁶ Gibson, 22.

³⁷ Gibson, 21.

³⁸ Gibson, 28.

³⁹ Alastair Kellock and Associates, *Green Wedges and Non-urban Issues: Technical Report 2*, Department of Infrastructure, Melbourne, September 2000, 7.

⁴⁰ Kellock, 27.

⁴¹ Kellock, 27.

⁴² Kellock, 27.

⁴³ Kellock, 33-34.

⁴⁴ Parbery et al., *Square pegs*, ix.

⁴⁵ Parbery et al., *Square pegs*, xxx.

⁴⁶ Department of Premier & Cabinet, “Growing Victoria Together”, <http://tinyurl.com/s468b>.

- ⁴⁷ Department of Sustainability and Environment, “Melbourne 2030”, <http://tinyurl.com/q9444w>.
- ⁴⁸ Melbourne 2030 Audit Expert Group, *Audit Expert Group Report*, Department of Planning and Community Development, March 2008, 4.
- ⁴⁹ Department of Sustainability and Environment, “Melbourne 2030”.
- ⁵⁰ Melbourne 2030 Audit Expert Group, 16.
- ⁵¹ Department of Planning and Community Development, *Melbourne 2030: a planning update, Melbourne @ 5 million*.
- ⁵² Department of Planning and Community Development, *Melbourne 2030: a planning update, Melbourne @ 5 million*.
- ⁵³ Outer Suburban/Interface Services & Development Committee, *Inquiry into the State Government’s Decision to Change the Urban Growth Boundary*.
- ⁵⁴ Premier John Brumby, “\$205 million to secure the future of farming in Victoria,” media release, 23 April 2008, <http://tinyurl.com/kt7ggn>.
- ⁵⁵ See <http://new.dpi.vic.gov.au/about-us/dpi-publications/future-farming>.
- ⁵⁶ Phillip Glyde, “Outlook for Australia’s commodity sector”, presentation at the *ABARE Outlook 2009 Conference*, Canberra, 3 April 2009, <http://www.abareconomics.com/interactive/outlook09/>.
- ⁵⁷ Department of Planning and Community Development, *Future Farms: Providing for Victoria’s Future Rural Land Use, Discussion Paper*, Victorian Government DPCD, Melbourne, April 2009.
- ⁵⁸ Department of Sustainability and Environment, *Land and Biodiversity, Green Paper*.
- ⁵⁹ Department of Sustainability and Environment, *Land and Biodiversity, Green Paper*, 83.
- ⁶⁰ Department of Sustainability and Environment, *Land and biodiversity: Securing our natural future*, Victorian Government DSE, Melbourne, December 2009, 100.
- ⁶¹ Department of Sustainability and Environment, *Land and biodiversity: Securing our natural future*, 101.
- ⁶² Department of Sustainability and Environment, *Land and biodiversity: Securing our natural future*, 46.
- ⁶³ Available online at: <http://www.ourwater.vic.gov.au/programs/owof>.

CHAPTER 2: PROFILING AGRIBUSINESS

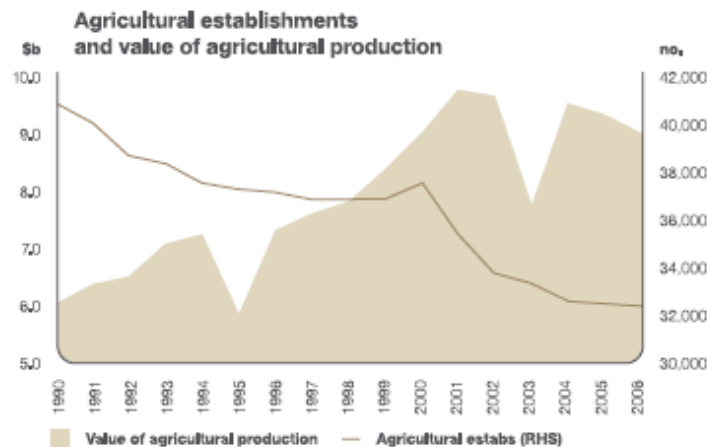
2.1 Introduction

Victoria is Australia's largest food and fibre exporting state. The agricultural sector produces goods valued at around \$9 billion a year or 26 percent of the national total. The state's biggest export earner is the dairy industry, which provides about 13 percent of dairy products traded globally.¹

Victoria's production of dairy, cereal, meat and wool products has doubled since the 1940's. Over 67,000 people are employed directly in agricultural industries and a further 84,000 are employed in related processing and service industries. Farmers manage more than 60 percent of the land area in Victoria. The agricultural sector is responsible for around 65 percent of the state's water use and around 13 percent of Victoria's greenhouse gas emissions.²

As shown in Figure 1.4, the number of Victorian farms continues to decline steadily, down from almost 70,000 in 1963-64 to around 32,000 in 2005-06.³

Figure 1.4: *Agricultural establishments and value of agricultural production*



Source: Victorian Department of Primary Industries, Future Farming, (2008).

This chapter provides both a historical and statistical perspective on agribusiness in peri-urban Melbourne. It begins with a brief history of agriculture in the region and then examines a number of different geographical areas to put together a statistical profile, with comments on selected sectors or commodities.

2.2 Historical perspective

According to an article by author Warwick Frost⁴ (on which the following section draws), from its earliest days, Melbourne relied on imported food to feed the population. Melbourne was first and foremost a commercial centre and as such, it never produced more than a small percentage of its own food supply.

From the middle of the 19th century, market gardens clustered around Melbourne in order to be close to the city markets. Much of the soil was relatively infertile but the proximity to customers made it feasible to rely on huge amounts of fertiliser. The human waste (“night soil”) produced by the city was also used as manure, though this was later stopped for health reasons.

In addition to the market gardens, other major pursuits were orchards, dairying (particularly for fresh milk), livestock fattening, eggs and poultry, wholesale and retail nurseries, livestock stud farms and cut flowers. Wheat-growing, which required cheap land and did not need to be near its market, had disappeared from Melbourne by the 1860’s. Similarly, wineries and vineyards, widely found in many suburbs in the late 19th century, all but vanished with rapid urban expansion.

Between the 1860’s and 1890’s, private irrigation schemes were set up and later further developed by government to take advantage of pockets of excellent quality soil in the Bacchus Marsh and Werribee areas.

Frost notes that as Melbourne grew, its agricultural fringe was constantly pushed further out in bursts corresponding to suburban booms. Farms in Brunswick, Moonee Ponds and Prahran were swallowed up by the gold-inspired boom of the 1850’s. A new peri-urban farming zone, which included Coburg, Hawthorn, Caulfield and Brighton, lasted until the boom of the 1880’s. Farms along the Yarra were less than 10 kilometres from the city and provided the subject for many painters of the Heidelberg School in the 1880’s and 1890’s.⁵

Farms in Murrumbeena, Box Hill and Camberwell gradually disappeared in the first half of the 20th century. The great postwar boom was at the expense of farms in Doncaster, Waverley, Frankston, Ringwood, Moorabbin and Epping. The 1980’s and 1990’s saw suburbs reach communities like Melton, Sunbury and Langwarrin that had been primarily agricultural for 100 to 150 years.

As Frost points out, it was not only housing that displaced agriculture. The Yan Yean reservoir covered farms and the subsequent reduced flow of the Plenty River ended the use of water driven flour mills. Farmers drained swamps and removed vegetation, which reduced costs and made the land more attractive for later developers. Carrum Swamp was drained in the late 19th century to unlock its rich soils for farming but in the 1970’s and 1980’s, it became the site of a new suburb, Patterson Lakes.

According to Frost’s account, Melbourne’s agriculture has had two main characteristics: it has generally focused on high value, intensively farmed produce and it has always been temporary. Market gardens, orchards, dairy farms and other speciality ventures were all

highly labour-intensive and often relied on unpaid family labour. Even so, in the 19th century, a farmer's income was supplemented by contracting (especially transport) and sometimes by seasonal work in the country. Farmers were mobile: "...fully aware they were but sojourners. No agricultural product was valuable enough to resist the push of the suburbs. Their time was limited; they could plan on farming the fringe for no more than a generation."⁶

A personal story to illustrate this history was related to the Committee by Mr Peter Schreurs, from Peter Schreurs and Sons vegetable growers, at a public hearing held in Cardinia:

My family migrated from Holland in 1954 when I was a young boy. My father bought a house in East Bentleigh on a new subdivision which had previously been owned by Mr Harry Goodrich, who then was able to move his vegetable growing operation to Keysborough and start up a better operation there. It was also in 1954 that I started work on a market garden in Moorabbin for Mr Henry Mounsey. He taught me the game and it was there that I learnt that the first market gardens in the early 1800's were in Richmond. The urban sprawl at that time made them move to Caulfield and Brighton. From there, they moved to Bentleigh and Moorabbin, then to Dingley and to Keysborough and from there to Cranbourne and Clyde and now from Cranbourne to Devon Meadows — and that is part of my history.

It was in 1958, whilst working for Henry Mounsey, that I bought 20 acres of land on Thompson Road in Cranbourne and it was in 1964 that my wife and I started on our own property in Thompson Road. It was very difficult. We had no money, we had no equipment, we just had our hands, so we had a pretty rough start but after many years of hard work we got our feet, so to speak, on the ground and developed a successful vegetable business, which we operated on Thompson Road for 25 years. In 1983, our three sons decided to join us in our business and it was then that we purchased 14 acres adjacent to our 20 to make 34. We also rented some land in the area because with the three sons involved, we needed more land. But even with all of that, it still was not enough so we started looking for a property then.

Looking back, the way our property was set up on Thompson Road, it had outdated itself. There were new ways of farming and we were very pleased that we were able to later move on. In 1989, we purchased our current property in Devon Meadows. Had we not been able to sell our Thompson Road property for subdivision, there is no way we could have bought the larger property we have now which secures the future of not only my sons but hopefully, also my grandchildren.

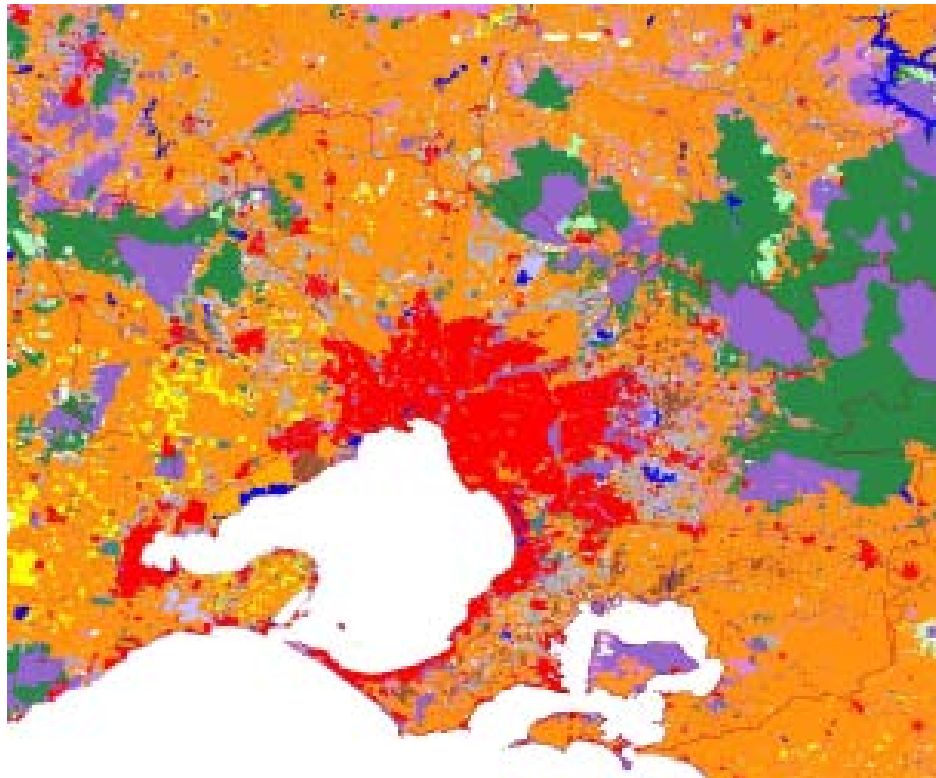
*As the Thompson Road property became inefficient for us to continue farming, so it will be with our current property some time in the future, even though currently it is a very ideal property...*⁷

2.3 Profiling the Port Phillip and Westernport Region

The Port Phillip and Westernport (PPW) region is a NRM classification recognised by the ABS and others. There are ten NRM regions in Victoria. The region covers approximately 1.3 million hectares and stretches from the west of Melbourne across to Warburton in the north-east and Drouin and Phillip Island in the south. It takes in all of metropolitan Melbourne, the interface municipalities and parts of outlying shires, such as Moorabool, Baw Baw, Macedon Ranges and Bass Coast. It also contains Melbourne's 12 green wedges - the non-urban areas of metropolitan Melbourne, often referred to as "the city's 'lungs'", safeguarding agricultural uses, rural and scenic landscapes, non-renewable resources and natural areas including water catchments.

Figure 2.1 illustrates land use in the region. Rural land (including forests) accounts for 80 percent of the land area and 93 percent of the green wedges. Private rural land is made up of about 35,000 individual properties, ranging in size from two hectares to 1,842 hectares, although around 30 percent of the land is made up of properties between 40 hectares and 100 hectares in size.⁸ In 2007-08, the ABS counted 4,628 agricultural businesses, with an estimated total area of holding of 450,099 hectares.⁹

Figure 2.1: *Land use: Port Phillip and Westernport NRM region*



Legend

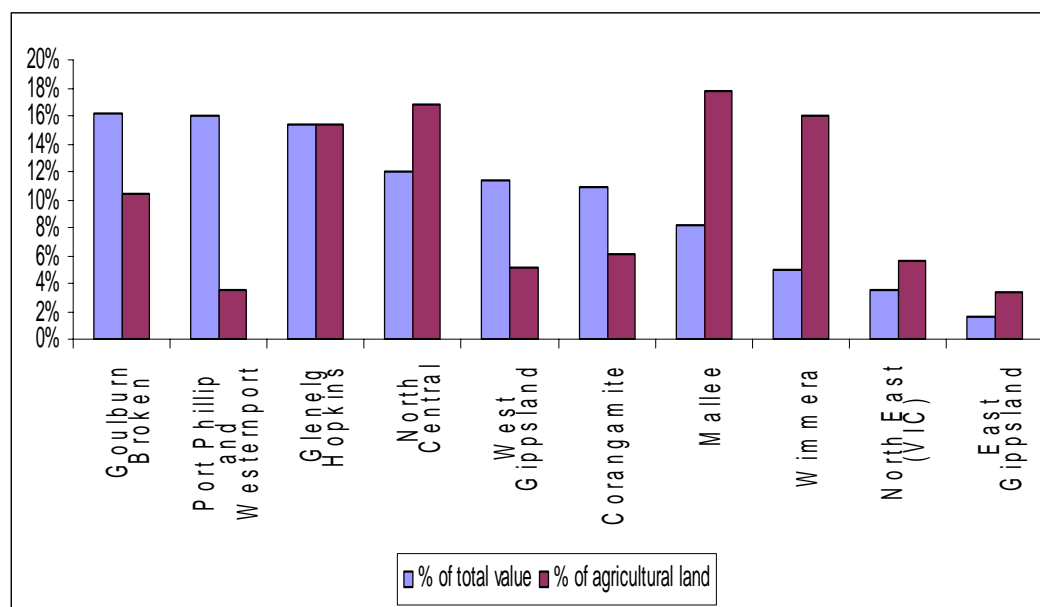
Nature conservation	Plantation forestry	Irrigated horticulture
Other protected areas	Dryland cropping	Intensive uses (mainly urban)
Minimal use	Dryland horticulture	Intensive animal and plant production
Grazing native vegetation	Land in transition	Rural residential
Production forestry	Irrigated pastures	Mining and waste
Grazing modified pastures	Irrigated cropping	Water

Source: Australian Government, Department of Agriculture, Fisheries and Forestry, Australian Land Use (ALU) 2009, <http://adl.brs.gov.au/mapserv/landuse/index.cfm?fa=>, Retrieved 4 March 2010.

In 2006-07, Port Phillip and Westernport produced agricultural goods worth nearly \$1.4 billion in gross value. This was 16 percent of the total value produced by Victorian agriculture. Notably, this was generated on an area of farmland equivalent to less than four percent of Victoria's total agricultural land area.

Figure 2.2 shows the comparison between area of agricultural holdings and value of production in the PPW region and the other nine NRM regions in Victoria.

Figure 2.2: *Area and value of agricultural production in Victoria's NRM regions*



Source: ABS, 7125.0 - Agricultural Commodities: Small Area Data, Australia, 2006-07, ABS, last updated 6 June 2008.

The following table 2.1 breaks down the ABS estimates for the economic value of agricultural output in this region and its proportional contributions to the value of state agricultural output.

Table 2.1: Value of agricultural production in the Port Phillip and Westernport Natural Resource Management Region (2006-07)

Agricultural Production Total Value	Victoria	Port Phillip and Westernport NRM Region	
	Gross Value (\$)	Gross Value (\$)	Value as % of Victorian Total
Nurseries, cut flowers and cultivated turf	501,332,027	261,419,506	52%
Vegetables	704,365,874	360,032,659	51%
Crops (excluding hay)	2,853,296,713	774,054,586	27%
Crops Total Value	3,508,867,068	803,598,507	23%
Livestock slaughtering	2,607,924,398	372,332,350	14%
Fruit	1,121,556,341	139,676,086	12%
Livestock products	2,620,794,628	220,058,067	8%
Pasture, cereal and crops cut for hay	655,570,355	29,543,921	5%
Agriculture Total Value	8,737,586,094	1,395,988,924	16%

Source: ABS, 7125.0 - Agricultural Commodities: Small Area Data, Australia, 2006-07, ABS, last updated 6 June 2008. Note: 'Gross value' is the value placed on recorded production at the wholesale prices realised in the market place. This is not necessarily the value received by producers.

A more comprehensive approach to quantifying the economic contribution from peri-urban agriculture has been undertaken by researcher Peter Houston (2005), who modelled three different scenarios in a study titled 'Re-valuing the Fringe'.¹⁰ Each scenario varied mainly in terms of the size of the area classed as 'peri-urban'.

In one scenario, Houston found that Australia's peri-urban areas (which included peri-urban areas around non-metropolitan cities and towns) produce almost 25 percent of the total gross value of Australia's agricultural output, from less than 3 percent of the agricultural land area. In Victoria, the corresponding figures were slightly over 25 percent of total value, produced from 13 percent of the land area. The fact that these peri-urban areas are so productive is an important finding.

Another scenario ('Scenario B') was modelled by Houston using a smaller geography: the metropolitan statistical divisions, plus all ex-urban statistical local areas (SLAs) and local government areas (LGAs) identified by an earlier study. This produced a study area roughly consistent with the Melbourne peri-urban area examined by the Committee. Table 2.2 shows the findings across selected states.

It is notable that this scenario (which is based on data averaged over 1992/93 to 1994/95) comes to a similar conclusion for Victoria to that shown in Figure 2.1 above: peri-urban Melbourne produces 16 percent of total agricultural value from just over 5.5 percent of the agricultural land area.

Table 2.2: *Area and value of agricultural production in peri-urban areas*

State	Area (ha)	Value (\$'000)
Victoria	12,669,270	5,297,131
Peri-urban	743,184	855,047
% of total	5.63	16.01
New South Wales	60,293,384	6,040,741
Peri-urban	90,537	448,625
% of total	0.15	7.44
South Australia	56,640,670	2,317,913
Peri-urban	1,204,502	598,586
% of total	2.13	25.81
Queensland	150,592,494	5,144,540
Peri-urban	975,393	718,962
% of total	0.65	13.97
Western Australia	112,995,537	3,453,006
Peri-urban	1,266,554	493,347
% of total	1.06	13.90
TOTAL	393,191,355	22,253,331
Peri-urban	4,280,169	3,114,566
% of total	1.09	14.00

Source: Peter Houston, "Re-valuing the Fringe: Some Findings on the Value of Agricultural Production in Australia's Peri-Urban Regions", *Geographical Research* 43, 2 (June 2005): 216.

Notes: (i) 'Area' is total area of agricultural establishments and 'value' is total gross value.

Data

Houston discusses shortcomings in the ABS estimates of the value of production from Australia's peri-urban regions, stating that they are "conservative and in some cases by a wide margin."¹¹

Similarly, other studies also report that official data undercount and misrepresent the true scale of agriculture in peri-urban regions:

- A 2000 study of the Yarra Valley found the value of agriculture considerably greater than ABS estimates for that region.¹² The Committee was separately informed that analysis of aerial photography and field mapping by the Shire of Yarra Ranges revealed a much greater area in horticultural production than indicated by ABS agricultural survey data.¹³
- A 2004 agricultural audit of Casey & Cardinia LGAs concluded that the official data likely underestimated both farm numbers and financial output.¹⁴
- A study of Sydney's peri-urban region reported that the value of agriculture was 15-82 percent higher than ABS estimates.¹⁵
- A survey of production on the Northern Adelaide Plains (NAP) observed that actual production was 25 percent above ABS data for field vegetables and 50 percent above ABS data for glasshouse vegetable crops. ABS statistics valued the flower and nursery industry on the NAP at approximately \$2m. Industry data suggests the NAP flower industry is worth \$10-12m while the nursery industry approximately \$10m.¹⁶

The reasons for data discrepancies are several and include the self-reporting nature of ABS surveys and the ABS's cut-off point of \$5,000 (based on Estimated Value of Agricultural Operations (EVAO)¹⁷ or business activity statements) for determining whether a farm business was in or out of the survey.

Given the various complications with data, and the difficulty in accurately quantifying the value of agriculture in peri-urban Melbourne, the Committee concurs with Houston when he concludes:

*In the circumstances, it is not possible to be definitive about the true proportion of agricultural production value that is generated in peri-urban regions. Nevertheless, the findings presented here challenge conventional wisdom and preconceptions about Australian agriculture. In the process, they also demand a re-appraisal of how agricultural data are collected and presented and suggest a hitherto unrecognised strategic significance for peri-urban regions and for the agriculture that occurs there.*¹⁸

2.3.1 Green wedges: agricultural activity and value of production

Melbourne's green wedges are a subset of the Port Phillip and Westernport NRM region discussed above. Comprehensive and up-to-date information on the value of agricultural production specifically in the green wedges was not made available to the Committee. However, analysis of ABS data by Parbery et al. (2009) in the 'Square Pegs' report provides some insight.

The table below (extracted from that report) shows that (in 2001) the South East green wedge region had the highest number of farms (821) and the highest EVAO (accounting for 36.2 percent of total EVAO in the green wedges). At the other end of the scale, farms in the Western, Sunbury, and Northern green wedge regions had a comparatively lower value of agricultural output. However, as noted further in this chapter, these statistics mask small areas of extremely important agricultural land in those green wedges, such as the Werribee South irrigation district.

Table 2.3: *Comparison of agriculture in the green wedge regions (2001)*

Green Wedge Region	No. of farms	% of total farms	Area of farms (ha.)	% of total area	EVAO (\$)	% of total EVAO	\$/ha.
Western	224	10.0	74,646	34.7	63,443,019	9.5	850
Sunbury	57	2.5	12,458	5.8	5,687,366	0.9	457
Northern	194	8.6	18,639	8.7	58,082,116	8.7	3,116
Yarra	578	25.7	24,985	11.6	187,557,796	28.1	7,507
South East	821	36.5	64,199	29.9	241,003,934	36.2	3,754
Peninsula	374	16.6	19,975	9.3	110,626,698	16.6	5,538
Total	2,248	100.0	214,902	100.00	666,400,929	100.00	3,101

Source: Parbery et al., *Square pegs in green wedges? Landholders and natural resource management in Melbourne's rural hinterland*, DPI and PPWCMA, 2008, 238. Notes: (i) This shows only farms with EVAO of \$10,000 or greater. (ii) Percentages are calculated from 'real numbers', not from rounded figures shown in table. (iii) Green wedge regions as defined by Parbery et al.; there are twelve 'official' individual green wedges.

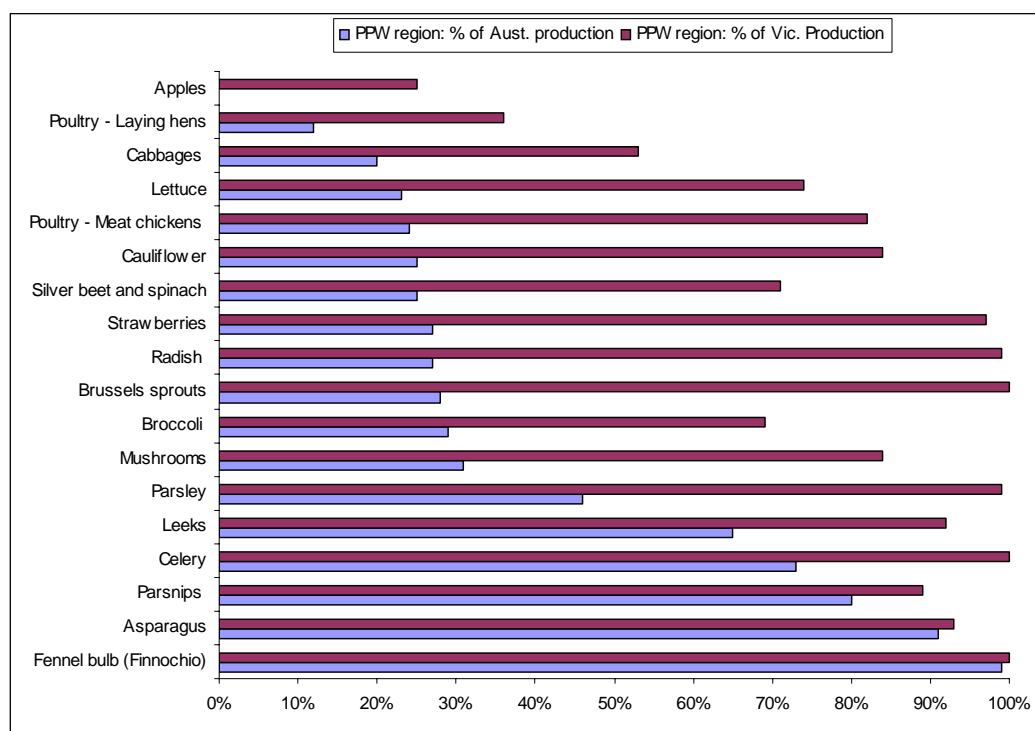
2.3.2 Production: selected commodities

The Port Phillip and Westernport region is a dominant or significant source of Australia's total output for several types of commodities. In part, this is because the production of certain commodities is uniquely appropriate to the climate, soils, property sizes and other

locational attributes (such as transport infrastructure) found near Melbourne. Ninety-one percent of Australia's asparagus production, for example, comes from a small area of rich soils within the Shire of Cardinia.¹⁹

The chart below displays the estimated output of selected commodities in terms of their relative share of total Australian and Victorian output.

Figure 2.3: *Agricultural production in the PPW region: selected commodities*



Source: ABS, 7125.0 - Agricultural Commodities: Small Area Data, Australia, 2006-07, ABS, last updated 6 June 2008. Notes: (i) selected commodities only.

2.3.3 Employment: interface councils

Around three percent of the Victorian workforce was employed in the Agriculture, Fishing and Forestry industry classification at the end of 2008.²⁰ Most employees in the industry are between 45-49 years of age. The proportion of young employees is low and predicted to further decline, with the 15-19 year old group claiming only 4.2 percent of employment and the 20-24 year old age group claiming only around six percent.²¹

Table 2.4 below gives 2006 Census data for local employment in this industry in the interface councils. Note that this is based on a person's place of work, rather than their place of residence. The table shows that 8.8 percent of people who work in the Cardinia

local government area are employed in this industry classification, the highest among the interface councils.

Table 2.4: Interface councils: employment in agriculture

Local Government Area	Persons employed in agriculture	2006 - % of local employment	2001 - % of local employment
Cardinia	1,222	8.8	13.0
Casey	802	1.9	3.0
Hume	216	0.3	0.4
Melton	130	1.1	2.2
Mornington Peninsula	923	2.4	3.3
Nillumbik	169	1.5	2.4
Whittlesea	433	1.3	1.8
Wyndham	561	1.5	2.1
Yarra Ranges	1,620	4.6	6.8

Source: Compiled from ABS, 2006.0 – Community profile data, ABS working profile, ABS.
Note: Based on place of work.

Employment in agriculture has declined (as a proportion) in all interface municipalities in the five years since 2001, as it has more generally across Australia.

In the 10 years to February 2009, this employment classification shed 62,700 jobs Australia-wide. This was the largest decline of any industry over that period,²² although Skills Victoria predicts that employment in agriculture will steadily increase from 2009, albeit at a moderate rate.²³

Not shown in the above table are the numerous jobs and businesses ‘downstream’ that agricultural industries directly and indirectly support, in tourism, manufacturing and so on. One submission noted that agriculture:

*provides a significant input to the local economy, for example associated businesses such as veterinary surgeons, fencing suppliers, farm hardware supplies, animal feed businesses, stock and station agents, livestock markets, fertiliser agents, etc.*²⁴

2.4 Discussion

As this chapter has outlined, agriculture in peri-urban Melbourne remains highly significant to the state in terms of the value of production generated from a relatively small area of agricultural land. Large proportions of certain commodities – many of them high value – are produced in this region. Agriculture is a small but important direct (and indirect) local employer in the interface communities.

Agriculture near Melbourne has to date not been considered as requiring discrete policy attention from government.²⁵ The DPI, representing the government, informed the Committee at a public hearing on 8 September 2009 that there was no specific strategy or policy for the areas being looked at by the Committee. Mr Luke Wilson from the DPI stated:

*DPI strategies apply across all primary industry sectors and that includes areas other than agriculture. That means that, typically, we do not have strategies or policies targeted at particular geography but we do have strategies targeted at particular sectors. The method of their delivery may well be targeted by geography or by some delineation of the stakeholder groups we are trying to deal with.*²⁶

Further, in answer to written questions from the Committee inquiring whether the government had any particular vision, strategy or policy for peri-urban agriculture, Mr Wilson responded:

*In relation to the first question — does the state government have a strategy or longer term vision — the vision the government has laid out is the one laid out in the Future Farming strategy, which is the document I distributed a moment ago that was released in April last year [2008]. It lays out a vision for the entire agriculture sector. It is not specifically for peri-urban parts of it or for any other particular part; it is an across the board vision.*²⁷

The Committee believes that the important contribution of peri-urban agriculture – economically, socially and as a land use – and the unique and pressing challenges discussed throughout this report, need to be reflected in key metropolitan planning documents (such as *Melbourne 2030* and *Melbourne @ 5 million*), as similar metropolitan strategies in Sydney, Adelaide, Vancouver and elsewhere have done (see Chapter Three).

The Committee also sees the need for state and national governments to ideally develop a coordinated formal approach to agriculture in peri-urban regions that acknowledges the

particular challenges. Based on the evidence collected interstate, it is apparent that many of the issues raised in this report are relevant elsewhere in Australia.

The Committee further identifies a need for additional research to inform the planning framework and assist decision-making at the enterprise level. During this inquiry, several councils observed there was a lack of information available to them to determine the types of agricultural land use occurring in their green wedges and the options available for further expansion.²⁸

The Interface Group of Councils has identified key research needs as: the changing and future needs of agriculture in the green wedges; land use suitability and climate change scenarios; the attitudes of residents towards agribusiness; biodiversity, habitat values, resolution of old and inappropriate subdivision patterns and the impact of rural living.²⁹

The Committee considers that the recent *Square Pegs in Green Wedges?* report (2009) provides an excellent insight into challenges for agriculture in some of the green wedges. The report is from a NRM perspective and uses 2001 ABS data. Further funding should be made available through the DPI to update, expand the scope and build upon this report.

Recommendation 1:

That the Victorian Government ensure that future iterations of Melbourne's metropolitan strategies, including *Melbourne 2030*, recognise the importance of agriculture in the Port Phillip and Westernport region. The Committee further recommends that all metropolitan strategies clearly identify agricultural areas.

Recommendation 2:

That the Victorian Government encourage the Australian Government to develop a national approach to assist in the preservation of productive agricultural land in rapidly urbanising areas.

Recommendation 3:

That the Department of Primary Industries, firstly, note the findings of the *Square Pegs in Green Wedges* report and secondly, in consultation with a stakeholder reference group, conduct further research into sustainable agriculture and land use in peri-urban Melbourne.

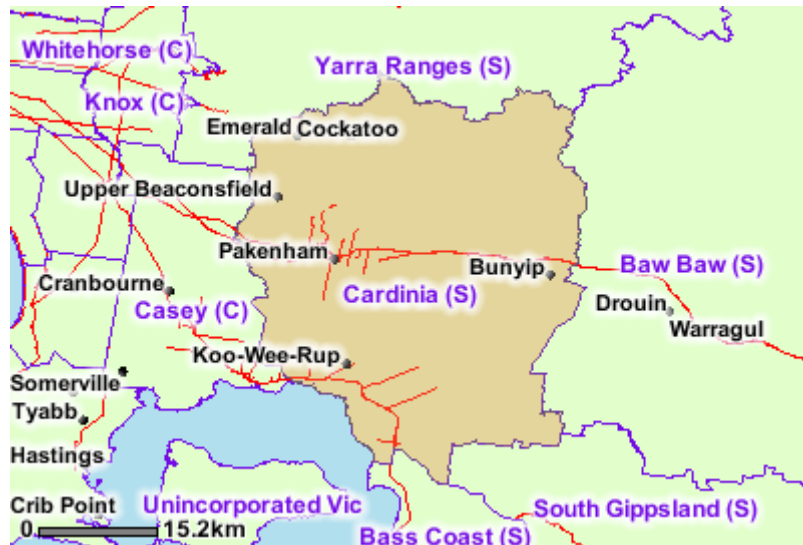
The Committee further recommends that the Department of Primary Industries take responsibility for advocating the needs of peri-urban agriculture within government.

2.5 The interface councils

The following section draws on various sources and examines the key features of each of the interface councils.

2.5.1 Cardinia Shire & City of Casey

Figure 2.4: Cardinia Shire Council Local Government Area



Source: ABS, 2006 Census QuickStats:Cardinia (Local Statistical Region), 25 October 2007.

Cardinia Shire spans 1,281 square kilometres of mainly agricultural land on Melbourne's east. Around 93 percent of Cardinia is zoned as green wedge. Cardinia's largest centre is Pakenham, located 55 kilometres south-east of Melbourne's Central Business District (CBD).

Figure 2.5: *City of Casey Council Local Government Area*



Source: ABS, 2006 Census QuickStats:Casey (Local Statistical Region), 25 October 2007.

The City of Casey borders Cardinia on its eastern side. Casey covers 400 square kilometres and around 56 percent of the land area is zoned as green wedge. The City of Casey's administrative headquarters are at Narre Warren, 38 kilometres south-east of Melbourne's CBD. Casey is a rapidly growing area, as Mr Liam Hodgetts from the City of Casey informed the Committee:

[Casey] has been the fastest growing city in Victoria over the past five years; it is the third fastest growing in Australia behind the Gold Coast and Brisbane city councils. We had a projected population in the previous urban growth boundary of 350,000. Obviously, that is changing somewhat; we expect an additional 60,000 people to be included in the proposed urban growth boundary if it is to go through as the state government intends. We have approximately 50 families moving in every week; it averages about 8,000 people a year.³⁰

There are several different landscapes across Casey and Cardinia. The region is partly bordered by the foothills of the Dandenong Ranges in the north where the undulating and sometimes forested landscape has much in common with the Yarra Ranges. In the south, it is bordered by Westernport Bay and the land is generally flat and more open.³¹ The peat soils of the (drained) Koo Wee Rup Swamp are some of the most fertile in Victoria. Rainfall is relatively high compared to other areas around Melbourne (800mm annually compared to 465mm - 600mm in Melton, for example) and consistent, although the region has also experienced the drought affecting much of south-east Australia over the last decade.

A joint submission from Casey-Cardinia stated that the agricultural sector in the region was worth a combined \$432.47 million in 2006 (this figure is generated by REMPLAN from ABS data).^{32 33}

The 2007 ABS count of businesses recorded around 1,440 businesses operating in Casey-Cardinia under the Agriculture, Forestry and Fishing classification. Of these, just over 1,000 (75 percent) were recorded as non-employing. At the other end of the scale, 21 businesses employed between 50 and 99 people. In terms of turnover, most businesses are small: 750 businesses had an annual turnover between \$0 and less than \$100,000.³⁴

Agriculture in the region employs a large number of seasonal workers. The majority work during the asparagus harvesting season from August through to December; others work in the fruit and orchard industries (particularly during the autumn for the apple and pear industry). Other parts of the vegetable industry also employ lower numbers of seasonal employees at various times of the year.³⁵

2.5.1.1 Sectors and trends

The Casey-Cardinia region has been described as having a ‘unique mixture’ of highly productive horticulture, dairy and intensive animal production, alongside lifestyle living and intensive urban development in the Pakenham growth corridor.³⁶

Mr Ian Anderson, President of the Cardinia Branch of the Victorian Farmers Federation (VFF), provided the Committee with a sense of the diversity of agricultural operations present in the area:

The area north of the Princess Highway around Toomuc Valley, Pakenham Upper, Tynong North and Garfield have long supported a vibrant orchard industry and in recent decades, a fast developing viticulture industry.

The area around Dalmore supports some 90 percent of Australia’s Asparagus production of which approximately half is exported. This area is a significant employer during the harvest period, not only in cutting the crop but also with their impressive packing facilities.

Cranbourne, Clyde, Devon Meadows and surrounds still supports a vibrant Market Garden community which farm the sandy free draining soils. This area has embraced recycled ‘A Class’ water from the Carrum treatment facility. ...It has the potential to use more but further significant investment is required to increase the system’s capacity.

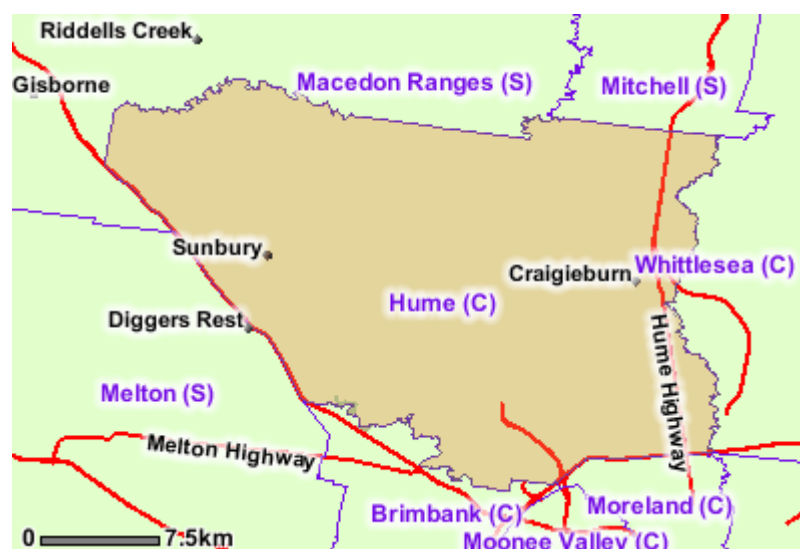
Three Stockfeed Milling facilities are located in the area at Dandenong, Clyde and Pakenham which supply a significant proportion of the processed feed demands for the Gippsland Region. They support primarily the intensively farmed chicken meat industry along with the nutritional requirement for Gippsland’s dairy herds.

The Dairy Industry in the City of Casey / Shire of Cardinia produces somewhere between six to eight percent of Gippsland's total milk supply. This figure has experienced a steady decline in recent decades and will continue this trend into the future as the pressure of the urban sprawl makes expansion of this industry almost impossible. The area has at least ten different companies sourcing milk from the area with it either going to Melbourne for liquid milk / small cheese manufacturing or to Gippsland for manufacturing. Note that truck movements related to the dairy industry are significant both in the collection of raw milk and in the delivery of finished product to Melbourne for consumption or export.

Often, the beef industry is overlooked for the important role which it has in providing economic activity to the area. The region has three abattoirs in the area at Cranbourne, Garfield and the large export orientated [facility] at Pakenham.³⁷ These facilities draw cattle from across the region to the area for processing. Assisting in the procurement of cattle to the area is the Victorian Livestock exchange located at Pakenham. This state of the art selling facility draws cattle to the area from a large radius.³⁸

2.5.2 Hume City

Figure 2.6: City of Hume Council Local Government Area



Source: ABS, 2006 Census QuickStats:Hume (Local Statistical Region), 25 October 2007.

Hume City is located to the north-west of Melbourne. Broadmeadows, the major centre, is situated less than 20 kilometres from Melbourne's CBD. The municipality covers 504 square kilometres and (in early 2009) 70 percent of the land area is rural land zoned as green wedge. The green wedge supports approximately 1,800 rural landholders. In 2008, the population of Hume City was 162,260, with a growth rate of 2.5 percent.

The topography in Hume City is dominated by undulating volcanic and stony volcanic plains with deeply incised rivers. The soils in most areas are considered to have limited agricultural potential, although the soil types are not consistent and “some small areas are potentially suitable for agriculture.” Rocks and steep slopes pose additional challenges. Rainfall is low (around 540mm annually) and productivity is further impacted by recent drought conditions.³⁹

ABS estimates put the gross value of agricultural commodities produced in Hume at almost \$8.4 million (2005-06).⁴⁰ The 2006 Census shows there were 214 people employed in Hume-based Agriculture, Forestry and Fishing jobs making up just 0.3 percent of the municipality’s workforce.⁴¹

A 2004 report – *Hume Agribusiness Project: Final Report* – counted approximately 321 farming establishments within the City of Hume. The ABS count from 2007 shows 225 agricultural businesses within Hume, the majority (76 percent) being ‘non-employing’. Most businesses also had annual turnovers of less than \$75,000 annually. Nine businesses had annual turnovers of between \$2 million and \$5 million.⁴²

2.5.2.1 Sectors and trends

According to Hume City Council, farming has traditionally been the major land use for the rural areas of the municipality. Rural pursuits still undertaken include cattle grazing and a small area of cropping, largely for fodder. There is also a small group of established wineries and a market gardening area on the Maribyrnong River in Keilor.

Council’s submission to the Committee observed that over the past 30 years there has been a significant decline in farming activities and their supporting infrastructure and services in Hume:

*In most recent years, farming has generally become a secondary activity for those who choose to live within the green wedge for its lifestyle and landscape values. It is considered that agriculture is largely undertaken in the green wedge as a lifestyle choice rather than as an economically viable business.*⁴³

Accordingly, Hume City Council considers the potential for agribusiness in enhancing growth, increasing jobs and contributing towards a healthy and sustainable Hume City to lie within the food and beverage manufacturing and processing industries, rather than primary production.⁴⁴

The Hume Economic Development Strategy 2008-2012 aims to facilitate specialist types of development related to Hume’s competitive advantages in food processing. It seeks to capitalise on initiatives such as the Plenty Food Group, the municipality’s proximity to the new Wholesale Fruit and Vegetable Market (at Epping), transport links and Hume’s

cultural diversity. In addition, Hume considers that it has the opportunity to promote itself as a destination for Halal food processing and distribution and this is supported by a large Muslim community.⁴⁵

2.5.2.2 Snapshot: food manufacturing

Victoria is a key player in Australia's food manufacturing industry. A number of large multinational companies are in Victoria (such as Fosters Group Ltd and Kraft Foods Australia), alongside large Australian exporters and small to medium enterprises. Victoria has a global strength in dairy (accounting for over 13 percent of world trade in dairy products) and significant capabilities in meat, grain and horticultural processing.

Employment in food product manufacturing in Victoria totalled around 51,000 people in June 2007, with an additional 6,800 employed in beverage and tobacco product manufacturing.⁴⁶

Increasingly, most commodities from Australian farms require various levels of transformation. For example, the Victorian dairy industry produced exports valued at \$2.35 billion in 2007-08 and almost half of this (\$1.1 billion) came from powdered milk (and cream) exports. Exports of prepared foods from Victoria were valued at \$568 million in 2008.⁴⁷ Post farm-gate processing or value adding is becoming more important in response to consumer demand for more convenient and differently presented and packaged foods.

The Committee was pleased to receive a presentation from local food manufacturing business Betta Foods at a public hearing held in Broadmeadows. Now employing around 200 workers at its site in Hume, Betta Foods has transformed itself from a domestically-based producer of mainly ice cream cones into a confectionary manufacturer focused on producing for export markets. Betta Foods products go to the UK, New Zealand, Canada and the United States, and are sold through the world's largest retailers.

Mr Simon Crone from Betta Foods, informed the Committee of the company's sustainability initiatives, which were seen as crucial for achieving success in export markets. Mr Crone noted:

It is all very well to have a product, to sell it and to develop the market but if you do not have a sustainable business, you do not achieve anything. That was brought home to us when we were in discussions with WalMart. One of the key requirements now to go into the US for the big retailers is in fact to have a sustainable position and a plan to improve that sustainability on a range of fronts.

The major things we have done to do that—waste management. ...we came into a business which was in deep trouble in just about every aspect of its fibre. We spent

a lot of time turning around just about every aspect of it. In waste, water consumption in the current environment it is a big issue. We were using about 50 megalitres a year. This year we used somewhere around 26 megalitres so we have almost halved our consumption. Our target is to get down to an annual consumption of about five to six megalitres.... We have six acres of roofline and we have already identified the ability to create about two megalitres of storage on site to harvest that water and reuse in the business.

...We have reduced landfill by 84 percent. Our waste management is now self sustaining. We sell all of our food product waste to local farmers, a topic of this committee. We sell off to pig farmers and various other people around the place to use as feed. Most of it is obviously cone waste. The confectionery waste forms a good part of the diet for them. We also package and sell off all our paper and plastic recycling.

The other thing is food safety which is the third leg of the stool when it comes to sustainability, especially in a food manufacturing company and we are now SQF2000 accredited which sounds very exotic. Basically, it is the global standard now for food quality. You cannot get into an export market without that SQF rating. We have had that now for two years and we are audited every six months. Certainly, one of the things when we went into the US, they were very conscious of food safety and we found out in the US if you were an importing company, the directors of that company are personally liable for any food quality issues that are found in the product that they import. Obviously, the food quality is a big part of the future.⁴⁸

When the Committee met with Betta Foods in mid-2009, the global financial crisis was obviously front and centre in the company's concerns for the future. Other challenges were identified as fixed term and fixed price contracts from domestic commodity suppliers, the level of council rates and difficulties in finding assistance from economic development bodies. On the positive side, Betta Foods noted the high quality assistance it had received from Hume City Council and the local office of the DIIRD.⁴⁹

2.5.3 Melton Shire

Figure 2.7: Melton Shire Council Local Government Area



Source: ABS, 2006 Census QuickStats:Melton (Local Statistical Region), 25 October 2007.

Melton Shire is on Melbourne's western fringe, covering an area of 528 square kilometres. Melton, the principal township, is situated 35 kilometres from Melbourne's CBD. In 2008, Melton's population was 92,465 persons, a seven percent increase on 2007 (the second highest growth rate of all Victorian LGAs).⁵⁰

Like Wyndham further south, Melton is situated within the rain shadow of the Otway Ranges and consequently annual rainfall is low and erratic, varying between 465mm and 600mm, with higher rainfall in the hillier northern parts of the Shire. This already low rainfall has been exacerbated by the recent years of drought.⁵¹

In 2006, Melton produced agricultural commodities worth approximately \$5.5 million, the main agricultural activities by value predominately being crops and livestock slaughters.⁵² Melton Shire Council also submitted data generated from REMPLAN which put a value of \$29.8 million on agribusiness production in the shire.⁵³

The 2006 Census shows there were 132 people employed in jobs in the Agriculture, Forestry and Fishing industry classification in Melton, making up 1.1 percent of the municipality's local workforce.⁵⁴

The 2007 ABS count of businesses recorded 138 businesses operating in Melton under the Agriculture, Forestry and Fishing classification. Of these, just over 100 were recorded as non-employing. Three businesses employed more than 200 people. Half of all businesses had an annual turnover of less than \$50,000.⁵⁵

2.5.3.1 Sectors and trends

A large range of land uses occur within Melton, however the main agricultural land uses are cropping and grazing. The research of Parbery et al. suggests that many of these cropping and grazing operations are operating at a loss.⁵⁶

The Committee heard that the equine industry is important in Melton. This is confirmed by Parbery et al., who found that 20 percent of landholders in the western green wedge (which is made up of Melton and Wyndham) were 'horse lifestylers' (compared to an average across the other green wedge regions of 13 percent).⁵⁷ The recent development of the Harness Racing Victoria facility at Melton (Tabcorp Park) is seen as an opportunity to further attract commercial horse businesses. Ms Kaye Kilgour from Agriwest discussed the equine industry with the Committee at a public hearing:

We also have something which I think, should be included in agriculture and that is the horse industry. We have a myriad of members within our agribusiness both in Victoria and in our region, who actually farm horses. The equine industry sits outside the parameters of general producers but we think it really should be included in agriculture because it feeds off and into so many parts of agriculture. It is also a value add to many other aspects of agriculture in this state and brings billions and billions of dollars into the region. The export of horses from Victoria is absolutely amazing and ever increasing. There are horses coming and going on a weekly and monthly basis worth millions of dollars. They are being grown in our region as an export. It is a huge untapped market that receives largely no benefit.⁵⁸

According to information submitted by Council, an environmental study concluded that the combination of spring rainfall, low spring frosts, winter chilling and low summer rainfall makes Melton suitable for growing wine grapes and fruit. The Committee heard that Melton is proud of the local wineries that have managed to succeed on the world stage, some with the help of recycled water, and they have in turn created tourism opportunities for the region. Mr Neville Smith, CEO of Melton Shire Council, informed the Committee:

We also have a very strong viticulture industry with four wineries producing wines. These include the Witchmount Estate Winery, which recently received an award for having the best shiraz in the world at the Syrah Du Monde wine competition in France. Other wineries in the area include Galli Estate, Round Rock Winery and Parwan Estate.⁵⁹

2.5.4 Mornington Peninsula Shire

Figure 2.8: Mornington Peninsula Shire Council Local Government Area



Source: ABS, 2006 Census QuickStats: Mornington Peninsula (Local Statistical Region), 25 October 2007.

Mornington Peninsula Shire covers 720 square kilometres. The major bayside centre of Mornington sits 45 kilometres almost due south of Melbourne's CBD. In 2008, the population of the Shire was 145,356 persons, an increase of 1.6 percent on 2007.⁶⁰

The Peninsula's boot-shaped promontory separates the two contrasting bays of Port Phillip and Westernport. Approximately 72 percent of the shire is zoned as green wedge.

Mornington Peninsula has seen around 170 years of mixed farming pursuits. A mild climate, high and well-distributed rainfall, good soils and ready access to markets have combined to make the Peninsula an important farming area.

The 2006 Census shows there were 923 people employed in the Shire's Agriculture, Forestry and Fishing industry, making up 2.4 percent of the municipality's local workforce.⁶¹ Other figures generated by REMPLAN and cited by Council showed the agriculture sector with a total value of nearly \$800 million (or ten percent of the local economy), exports of \$457 million and employment of over 2,000 people.⁶²

The 2007 ABS count of businesses recorded 792 businesses operating in Mornington Peninsula under the Agriculture, Forestry and Fishing classification; around 75 percent of these businesses were non-employing, although 15 businesses also employed between 50 and 99 people. Around half of all businesses had an annual turnover of under \$75,000.⁶³

2.5.4.1 Sectors and trends

Mr Shane Murphy, Manager Economic Development at Mornington Peninsula Shire, presented an overview to the Committee of the various agribusiness sectors on the Peninsula. Speaking of the area's renowned cool climate wines, Mr Murphy stated:

We have 210 vineyards... covering 900 hectares and producing 5,500 tonnes of grapes. One of the interesting things since we last did this is that we were looking at the generation of about \$50 million wholesale income from our grapes. Because we are into the premium chardonnay and especially the pinots, that has now gone up to \$70 million in the last two years. So that is a very good growth in yield. There are more than 500 full time jobs in that sector.⁶⁴

Mr Murphy went on to describe other notable and emerging agribusiness sectors on the Peninsula. These included:

- 70 broiler farms, with roughly one million chickens produced for processing each week. Before it was destroyed in a fire in early 2010 the Inghams processing plant in Sommerville employed around 900 people;
- 200 cattle farmers, with around 20,000 cattle;
- An equine industry worth nearly \$100 million and employing about 1,000 people (including the trainers, farriers, transporters and so on);
- New aquaculture zones in Western Port and Port Phillip with great potential for the mussel industry to further develop;
- 2,500 acres of market gardens, employing 400 people in full time jobs and 400 casuals. The horticulture industry is worth about \$100 million each year;
- 50 olive producers; and
- Cherry and strawberry farms, including Sunny Ridge, which produces 800 million punnets of strawberries annually from 200 acres of land and is the third busiest tourist attraction in rural and regional Victoria.⁶⁵

2.5.4.2 Snapshot: eggs and poultry

The value of the Victorian egg industry has been estimated at \$92 million (2005).⁶⁶ The VFF Egg Group represents approximately 80 percent of the industry in Victoria and around 60 percent of their membership is located in the green wedges. The VFF Egg Group estimates that the industry employs approximately 2,000 people in Victoria through the whole supply chain.⁶⁷

2.5.5 Nillumbik Shire

Figure 2.9: Nillumbik Shire Council Local Government Area



Source: ABS, 2006 Census QuickStats:Nillumbik Shire (Local Statistical Region), 25 October 2007.

Nillumbik Shire Council occupies 430 square kilometres of Melbourne's north-east, stretching into the foothills of the Dandenongs. The major centre of Greensborough sits 18 kilometres north-east of Melbourne's CBD. By comparison to much of the rest of the interface, population growth is low: in 2008, the LGA had a population of 63,181 persons, an increase of 0.9 percent over 2007.⁶⁸

The municipality includes both urban and rural areas but around 91 percent of the land area is zoned as the Nillumbik green wedge; consequently, it promotes itself as 'The Green Wedge Shire.' Nillumbik is bordered by the Yarra River to the south, Kinglake National Park in the north, the Plenty River and Yan Yean Road in the west and the Christmas Hills and Yarra escarpment to the east.

The *Nillumbik Land Capability Study* (1998) found that the majority of the Shire has thin soils with poor structure and low inherent fertility, although there are small areas of deeper, higher quality soils - most notably at Kangaroo Ground.⁶⁹ Nillumbik has relatively high and reliable rainfall and a long growing season.

The 2006 Census shows there were 173 people employed in the Agriculture, Forestry and Fishing industry classification in Nillumbik, making up 1.5 percent of the municipality's workforce.⁷⁰ Research commissioned by the council in 2008 identified approximately 200 active agribusinesses within the green wedge area, supporting some 150 jobs directly.⁷¹ According to ABS estimates, the value of agricultural commodities produced in 2005-06 was \$8,967,174.⁷²

2.5.5.1 Sectors and trends

Most agricultural operations in Nillumbik are small-scale. There is apparently a growing presence of hobby-farming, equine operations, intensive production and niche production across the green wedge.⁷³ The standout crops are tomatoes, apples, pears, grapes and nursery plants. Poultry makes up 58 per cent of Nillumbik's agricultural production.⁷⁴

In a submission to the inquiry, Nillumbik Council summarised the status of agriculture in the following terms:

*Within Nillumbik, therefore, the agribusiness sector fulfils a small but important role in the economic growth of the community. The sector also makes an important contribution to the landscape and biodiversity of the green wedge. The agribusiness sector experiences considerable pressure due to increasing pressure on land values and the challenge is to ensure that there is a sufficient and affordable land resource to enable agribusinesses to continue to develop and grow.*⁷⁵

There are a small number of wineries in Nillumbik, however the Committee heard from one grower that many were conducted on a hobby or sub-commercial basis, with recent developments in the market for wine grapes making conditions more difficult. Mr Neil Roberts, winemaker, stated at a public hearing in Nillumbik:

Firstly, there is very little commercial viticulture in Nillumbik. Most of the acreage is hobby farmer acreage. I do not think it is currently increasing; in fact, recent anecdotal evidence has been that properties with vines are worth less on the open market than if they have no vines, to the point where with one property I could identify, but I will not, the agent told the owner that he would get a better price if he took the vines out. The market is negative towards viticulture at the moment and the reason for that is quite simple: the market price for grapes is much lower than it was a few years back and the potential for sale is very difficult for the amateurs now.

*I first sold wine grapes in the year of the last great bushfire in Victoria and for a young amateur with absolutely no grape growing experience whatsoever, we had no trouble selling our fruit then. If I was to start off right now, I would have great difficulty in attracting any interest from the major wine companies. They simply do not want to deal with amateurs and they do not want to deal with small scale acreage; it is too much trouble. The quality and reliability problems are too great and they do not want to know.*⁷⁶

2.5.6 City of Whittlesea

Figure 2.10: Whittlesea City Council Local Government Area



Source: ABS, 2006 Census QuickStats:Whittlesea (Local Statistical Region), 25 October 2007.

The City of Whittlesea covers 490 square kilometres of land due north of Melbourne. The major centre of South Morang sits 23 kilometres from Melbourne's CBD. The municipality's population has grown at a rapid rate during the past 30 years, more than quadrupling from 27,000 in 1969 to approximately 130,000 in 2007. In the next few years, Whittlesea is expected to become Victoria's fastest growing municipality with the population forecast to double in the next 20 years. It is now attracting 40 new residents each week.⁷⁷

The 2006 Census reported 436 people employed in Whittlesea's Agriculture, Forestry and Fishing industry classification, making up 1.4 percent of the municipality's workforce.⁷⁸

Just over 70 percent of Whittlesea is zoned as green wedge. According to Council records, 367 properties were assessed as 'farmland' and 1,601 as rural in December 2008.⁷⁹ The ABS counted 216 agricultural businesses present in Whittlesea in 2007, the majority of them non-employing.

ABS estimates put the value of agricultural commodities produced at \$67,773,386 in 2005-06; 88 percent of this value (over \$59m) came from the production of vegetables – specifically mushrooms.⁸⁰ Half of all businesses had an annual turnover of between \$0 and \$100,000. Thirty-three businesses reported annual turnovers of between \$200,000 and \$500,000.⁸¹

2.5.6.1 Sectors and trends

According to the Council, agribusiness currently has a relatively limited economic profile in the area and is subject to the land degradation and urban encroachment issues experienced elsewhere around Melbourne. The Council also identified proposed changes to the UGB as having a destabilising effect on agribusiness. However, it was hopeful that further expansion of agribusiness opportunities was possible.

A submission from the City of Whittlesea noted the following agricultural activities in the area:

- Grazing for meat production - sheep, cattle and goats, including emerging organic enterprises;
- Fibre industry – alpacas and sheep;
- Olive groves – oil and fruit;
- Horse breeding;
- Boutique industries, such as organic berries (Just Picked), Cheese production (Donnybrook Farmhouse);
- Chicken and egg production; and
- Hay production.⁸²

The Committee visited the MushroomExchange facility at Mernda (owned by CostaExchange Ltd). This is one of the largest mushroom farms in the southern hemisphere and one of the top producers globally. The Mernda site is also home to a state-of-the-art spawn laboratory.⁸³

The Committee also heard that there is potential for the development of organic farming and niche commodities such as Chinese herbs. With the financial support of federal and state governments, research and development has been done on a wide range of Chinese herb species, resulting in trials of candidates for potential commercialisation in Victoria. The Council notes that “such a sector has potential for interface areas since it does not rely on broadacre areas to be commercially viable.”⁸⁴

2.5.7 City of Wyndham

Figure 2.11: Wyndham City Council Local Government Area



Source: ABS, 2006 Census QuickStats:Wyndham (Local Statistical Region), 25 October 2007.

Wyndham City Council spans 542 square kilometres of flat terrain on Melbourne's south-west, along the western shore of Port Phillip Bay. The populous commercial/residential areas of Werribee and nearby Hoppers Crossing sit 30 kilometres from Melbourne's CBD. Wyndham is one of the fastest growing municipalities in Australia – between June 2000 and June 2008, Wyndham's population increased from 87,000 to 128,000 people.⁸⁵ A record 535 new dwelling permits were issued in August 2009. Laverton North is one of Melbourne's most significant industrial areas, forming part of the west's major logistics, manufacturing and employment belt.

Werribee South, located in a green wedge zone south of the Princes Highway and Geelong-Melbourne Rail Line, hosts one of Victoria's most significant irrigated market gardening areas. This is a 3,000 hectare intensive agriculture precinct, with most parcels of land being small in size – most are under 15 hectares and many under 10 hectares – and irrigated for vegetable production. The climate is suited to year round production and typically three (and sometimes four) crops are grown every year.

However, generally the green wedge in Wyndham (and Melton further north) is characterised by rocky volcanic soils, rare and endangered grasslands and low rainfall. The area sits under a rain shadow and receives only 500 to 550 mm of rain annually, compared to 600 to 700 mm over other parts of Melbourne.⁸⁶ The low rainfall is a limiting factor for many types of agriculture in this region.

The 2006 Census shows there were 559 people employed in the Agriculture, Forestry and Fishing industry classification in Wyndham, making up 1.5 percent of the municipality's workforce.⁸⁷

The 2007 ABS count of businesses recorded 306 businesses operating in Wyndham under the Agriculture, Forestry and Fishing classification. Of these, around 70 percent were non-employing. Three businesses, in the Wyndham South (Werribee) area, employed between 20 and 49 people. Thirty three businesses had an annual turnover of between \$1 million and \$5 million annually, although the turnover for most agricultural businesses was far less.⁸⁸ A 2001 survey by the Council found that over 60 percent of rural landholders in the municipality claimed to earn no income from their properties.⁸⁹

2.5.7.1 Sectors and trends

Vegetable growing in the Werribee South precinct is by far the most valuable agricultural enterprise in Wyndham.

A submission from Mr Nik Tsardakis informed the Committee that vegetable production in the precinct had a farm gate value of around \$60 million, representing an output worth \$28,000 per hectare (compared to the Port Phillip and Westernport region average of \$24,000 per hectare).⁹⁰ Vegetable production is predominantly lettuce, cauliflower, broccoli and cabbage.

The Council notes that equine industries, sheep, beef, hydroponics, cereal crops, lucerne, poultry, eggs, viticulture and olives are all represented in the region, although overall there are few niche industries.⁹¹ Council noted research assessing the possibilities for several other commodities. Cool climate grapes are suitable in scattered areas in the north and south east, though soil characteristics are a limiting factor. Most areas are considered unsuitable for pome fruit, though this changes if water is available. Tree growing is suitable in central Wyndham and Werribee South but not elsewhere due to shallow topsoil. Areas in the north west of the municipality are considered highly suitable for barley growing.⁹²

The submission from Wyndham City Council discussed the economic importance of industries associated with agribusiness, such as agribusiness suppliers, service industries, processors and distributors:

Typical of primary production support industries in the outer western region are fencing and earth moving contractors, transport, weed and pest controllers and irrigation and stock suppliers. Meat and poultry processing and wholesalers and skin and hide processing are also major players in the region, particularly in the industrial precinct of Laverton North. The job tasks associated with these sectors of the industry are relatively high yielding in jobs with most job designations at the lower levels of the skilled employment spectrum.⁹³

Members of the Committee visited an innovative business located within an industrial area of Werribee. MainStream Aquaculture raises barramundi and golden perch for domestic and export markets (particularly to restaurants). They undertake Research & Development (R&D) programs that aim to optimise fish production using environmentally sustainable technologies (around 95 percent of the water is reused). MainStream Aquaculture won Wyndham's 2008 Agribusiness of the Year award.

Aquaculture is one of Australia's fastest growing primary industries: for over a decade it has averaged growth of more than 7.3 percent a year (in real terms) and is worth about \$735 million a year.⁹⁴

2.5.7.2 Snapshot: vegetables

The Victorian vegetable industry generated over \$704 million of total value in 2006-07. In 2006-07, the largest Victorian vegetable industries by gross value were lettuce (\$87 million), broccoli (\$49 million), celery (\$30 million) and cabbages (\$27 million). Vegetables are produced primarily for fresh domestic market consumption. Niche markets for consumer-ready fresh and processed vegetables, such as meals and juices, are growing and provide opportunities for value adding to the industry.⁹⁵

In the Port Phillip and Westernport region, the major vegetable growing areas are at Werribee South, Bacchus Marsh and on the Mornington Peninsula/ Westernport. There is also a small vegetable growing area on the Maribyrnong River in Keilor.

According to research by Parbery and Ransom (2007)⁹⁶, industry sources expect a future for the vegetable industry in the region but the bigger growers will become bigger and the smaller ones will most likely decrease in number. Cost price pressures are causing smaller growers to gradually leave the industry. The larger growers have better access to water, better relationships with the two main supermarket chains which buy 80 percent of vegetables, have greater economies of scale and are generally more efficient because of better quality machinery.⁹⁷

In Werribee South, major investment has occurred in irrigation systems and on-farm machinery. The future of Werribee South as a major vegetable producing area is closely linked to future water supplies which have suitable quality, reliability and are available at competitive prices.⁹⁸ With Victoria's extended drought, the district currently relies on the supply of recycled water from the Western Treatment Plant, though serious concerns remain over the quality and reliability of this water. Chapter Four examines water issues in more detail.

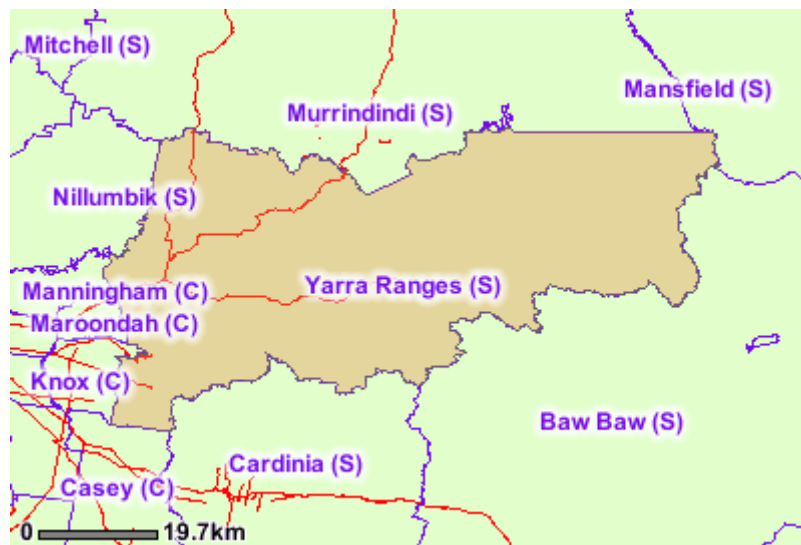
The natural resource management issues surrounding the vegetable industry – efficient water use, efficient nutrient and chemical use and soil health – are expected to improve as production increases from the larger farms.⁹⁹

Challenges to the industry at present and in the near future, include the availability of water, competition from other areas of Victoria, Australia and overseas and the

continuing need for strict biosecurity standards to prevent pests and diseases. The proximity to the urban area of Melbourne has been an advantage for the industry in terms of access to the markets as well as a reliable source of seasonal labour. With efficient transport systems, the importance of this may lessen but equally, in a carbon-constrained future, proximity to market may once again be to their advantage.

2.5.8 Shire of Yarra Ranges

Figure 2.12: Shire of Yarra Ranges Council Local Government Area



Source: ABS, 2006 Census QuickStats:Yarra Ranges (Local Statistical Region), 25 October 2007.

The Shire of Yarra Ranges is located on metropolitan Melbourne's eastern fringe and occupies almost 2,500 square kilometres – the largest of any metropolitan council.

As at June 2009, Yarra Ranges' population is estimated at 145,596 people. Around 70 percent live in the 'urban' areas of the municipality that represents approximately three percent of its landmass. The rest of the population is distributed throughout the remaining area, giving the shire a mixture of urban and rural communities.¹⁰⁰ According to Council, almost 40,000 hectares of rural land is managed by hobby farmers, rural lifestyleurs and those enjoying residential living in a rural environment (61 percent of the 19,000 rural lots are less than one hectare in size). In fact, 78 percent of all properties are under four hectares and occupy just nine percent of the rural land.¹⁰¹

Rainfall varies across the diverse landscapes of the shire and has been severely reduced in the drought, as the Council's agribusiness officer, Mr Ian Ada, discussed at a public hearing:

...our rainfall varies in the north west corner up near King Lake National Park from about 650–700 millimetres to over 1,300 millimetres down at Monbulk and

places like Hoddles Creek. So rainfall gradually increases as we go from the north west to the south east. I think in the last 12 years, we consistently have had rainfall 20 per cent to 30 per cent below average. The critical thing about rainfall and therefore run off into our creeks and rivers and our catchment dams is that for every millimetre less rainfall we have, we have 3 to 4 millimetres less run off.¹⁰²

ABS estimates put the value of agricultural commodity production in 2005-06 at \$221,395,947, although Council submitted a higher estimate (\$227.0 million) which reflected a 'more appropriate price' for wine grapes grown in the shire. Council also pointed out that the value of the wine made on-farm from these grapes is estimated to be \$210 million; the ABS counts winemaking as part of the 'manufacturing sector', so it is not incorporated in agricultural statistics.¹⁰³ Additionally, Council referenced a REMPLAN calculation of the value of agricultural production which was higher again at \$381 million.¹⁰⁴

The 2006 Census recorded 1,617 people employed in local jobs in the Agriculture, Forestry and Fishing industry classification in Yarra Ranges, making up 4.6 percent of the municipality's local workforce.¹⁰⁵ However, this figure does not fully account for the seasonal workers involved in picking and packing horticultural crops. Research done for the Centre for Agriculture and Business found that there were over 5,000 seasonal workers employed daily for six months of the year, 3,800 for one month and 500 for each of the remaining months. The Council notes that this is equivalent to 3,000 full time positions. As the Census is taken in August when only 500 seasonal workers were employed, most of this employment would not be shown in the Census data.¹⁰⁶

Additionally, agriculture creates flow-on employment in the tourism industry and in small ancillary businesses in urban areas serving agriculture (supplying everything from transport services, packaging cases, erection of greenhouses and protective structures, making potting mix, irrigation design and supplies and chemicals and fertiliser sales).

The 2007 ABS count of businesses recorded 1,074 agribusinesses operating in Yarra Ranges. Of these, just over 700 were recorded as non-employing. Around 22 percent of all businesses had an annual turnover of between \$0 and \$25,000.¹⁰⁷

2.5.8.1 Sectors and trends

Horticulture in Yarra Ranges, particularly cut flowers, nursery plants, turf and fruit growing, is the most significant sector in the area and contributes a large proportion of the state's overall production for certain commodities, as agribusiness officer Mr Ian Ada informed the Committee:

...horticulture only uses seven percent to eight percent of the total rural land in our shire yet it represents 90 percent of the value of agriculture; and 11 industries or crop types each have more than 10 percent of the total state value. So we are a big

*player in 11 different industries; and in a couple of those, such as strawberries, 85 percent of the state total is grown in this shire. Given that there is 50 or more rural and regional municipalities plus the interface ones and that we have ten percent of state production, a significant amount of state production in a lot of crops would be lost if we did not have agriculture here.*¹⁰⁸

The Yarra Valley is also renowned for wine grape growing. A number of major wine companies have invested in the Yarra Valley to access high quality, cool climate grapes and to present a strong brand image through cellar door sales and restaurants to both domestic and export markets. Some of the smaller players in the industry are succeeding in being boutique producers at the high end of the market, some are high quality grape producers to the large companies, while most see their future through linkage to the tourism and hospitality sectors.¹⁰⁹

The look of agriculture in Yarra Ranges is changing in response to new technology. It has been predicted that horticulture and agriculture will be increasingly industrial as controlled environments are employed to reduce evaporation and simulate 24-hour growing conditions.¹¹⁰

2.5.8.2 Snapshot: cut flowers and nurseries

In 2007, there were an estimated 479 flower farms and nurseries in the Port Phillip and Westernport region, representing a 32 percent increase since 2001. The largest concentration of the industry in the region is in the Yarra Valley and Dandenong Ranges but the industry is also situated in other areas, such as Cranbourne, Werribee and rural areas of the City of Kingston. The Yarra Ranges cut flower, nursery and turf industries were together worth \$100.9 million in 2005-06 (gross value).¹¹¹

The cool climate of the Yarra Ranges is beneficial to the cut flower and nursery industry. The red soils are also conducive to the growing of bulbs, however there is a move towards protected growing.¹¹² The Committee heard there is a likelihood of more glasshouses in the industry and more high technology computer control for managing the growth of plants. Mr Graeme Smith, President of the Australian Hydroponic and Greenhouse Association, told the Committee at a public hearing:

*...in terms of cut flower production both here and around the world, 95 per cent of all cut flower production is done under some sort of protected cropping system anyway. You can see Victoria has the largest number of growers; around Monbulk and the Dandenongs and so on. There are big producers here — Grandiflora and what have you. They are more modest in terms of total area and number of growers but it is a significant contribution.*¹¹³

The price of land is not a major factor in overall capital cost of a nursery; therefore, the industry is not as subject to pressure from high land prices in the urban fringe as other rural industries.

Challenges to the flower and nursery industries at present and into the near future, include availability of water, reduced consumer demand for nursery products because of drought and the continuing need for strict biosecurity standards to prevent pests and diseases. In a submission, flower growers in Yarra Ranges described other challenges in the following terms:

- Protective cropping restrictions: it must remain simple for the farming community to cover their crops with minimal need for permits and plans;
- Height restrictions: greenhouses and glasshouses are getting increasingly higher, some up to 5 metres and this may become an issue with local communities. The height is needed to create a stable growing environment;
- Co-habitation with non-farming neighbours: with increasing hobby farming in the area the local demographic is changing. Education is needed to make new residents entering the area aware that they are going to live in a farming area and normal farming practices must continue (such as early morning tractors, spraying equipment, crop lighting and frost machines); and
- Road conditions and dust problems: many local roads cannot cope with large delivery and supply trucks. Dust damage can make field-grown flowers unsaleable and reduce light transfer in greenhouses.¹¹⁴

There are also opportunities to integrate the industry with tourism. According to Parbery and Ransom (2007), a small number of flower farms and nurseries encourage tourists and offer a range of products for purchase on the property. Tesselaar Tulip Farm in Silvan is a high profile example. Some nurseries have mail order businesses in association with their nursery and others also act as wholesalers in the industry.¹¹⁵

The Committee visited the Australian Flower Corporation, a glasshouse flower farm on Phillip Island and discussed the issue of access to natural gas. Gas is unavailable to growers on the island and in a number of other horticultural areas around Melbourne, including the Werribee South market garden precinct.¹¹⁶ Flower farms are seeking to produce all year round in order to maintain markets and grow exports. The Committee heard that natural gas is the only currently viable heating solution and more gas infrastructure (pipes) needed to be laid.

The Committee was also alerted to the necessity of natural gas provision for hydroponics operations. In the Committee's discussion with Mr Graeme Smith the following exchange is recorded in Hansard:

The CHAIR — If we are talking about the fringes around Melbourne, what is the most essential thing the government could provide? Is it natural gas to some of those areas?

Mr G. SMITH — If we are going to get into cogeneration and all the rest, then natural gas is the bottom line. It has to be there. Quality water has to be there. We can make do with the rest.¹¹⁷

The Committee believes there is a strong case for government to move ahead on planning, costing and delivering the extension of natural gas pipelines in peri-urban Melbourne.

Recommendation 4:

That the Victorian Government work with growers and gas companies to plan and deliver the extension of gas pipelines to key horticultural areas in peri-urban Melbourne, with a progress report to be provided to the Parliament.

Chapter 2 Endnotes:

-
- ¹ Department of Primary Industries, “Agriculture in Victoria”, <http://new.dpi.vic.gov.au/agriculture>.
- ² Department of Primary Industries, *Future Farming: Productive, Competitive and Sustainable*, Victorian Government DPI, April 2008, 5.
- ³ Department of Primary Industries, *Future Farming*, 5.
- ⁴ Warwick Frost, “Agriculture”, *E-Melbourne: the city past and present*, <http://www.emelbourne.net.au/biogs/EM00041b.htm>.
- ⁵ The Heidelberg School was an Australian art movement of the late 19th century. The movement originated in the area of Heidelberg, east of Melbourne.
- ⁶ Frost, “Agriculture”.
- ⁷ Mr P. Schreurs, *Transcript of Evidence*, 4 August 2009, 398-399.
- ⁸ Peter Parbery, Roger Wilkinson and Komala Karunaratne, *Square pegs in green wedges? Landholders and natural resource management in Melbourne’s rural hinterland*, DPI and Port Phillip and Westernport CMA, Parkville & Frankston, 2008, 13.
- ⁹ Australian Bureau of Statistics, *7121.0 - Agricultural Commodities, Australia, 2007-08*, ABS, released 22 May 2009, <http://tinyurl.com/oltccd>.
- ¹⁰ Peter Houston, “Re-valuing the Fringe: Some Findings on the Value of Agricultural Production in Australia’s Peri-Urban Regions”, *Geographical Research* 43, 2, June 2005, 216.
- ¹¹ Houston, “Re-valuing the Fringe”, 217.
- ¹² Anne Langworthy and Tim Hackett, *Farming Real Estate? Challenges and Opportunities for Agribusiness on the urban fringe – Yarra Valley Region*, Yarra Ranges Agribusiness Forum, Lilydale, 2000.
- ¹³ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 3-4.
- ¹⁴ City of Casey & Shire of Cardinia, *Casey and Cardinia Regional Agricultural Audit and Action Framework*, 2004, 7-8.
- ¹⁵ Hawkesbury City Council, *HARTDAC Project report*, August 2005, 98.
- ¹⁶ Cited in Trevor Budge, *Submission*, Number 39 (1), 2 February 2009, 15-16.
- ¹⁷ The ABS states: “EVAO is an estimation of agricultural activity undertaken by an agricultural establishment. Three-year average weighted prices are applied to livestock sales and livestock numbers on the farm, and to area and production data for crops. The resultant aggregation of these commodity values is the EVAO. It is not an indicator of the value of receipts of individual farms but rather an indicator of the extent of agricultural activity.”
- ¹⁸ Houston, “Re-valuing the Fringe”, 221.
- ¹⁹ Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2006-07*, ABS, last update 6 June 2008.

- ²⁰ Skills Victoria, “Agriculture, Forestry and Fishing Industry: Complete Outlook”, <http://tinyurl.com/me979z>.
- ²¹ Skills Victoria, <http://tinyurl.com/me979z>.
- ²² Department of Education, Employment and Workplace Relations, *SkillsInfo: Employment Outlook for Agriculture, Forestry and Fishing*, Australian Government DEEWR, 2009, 4.
- ²³ Skills Victoria, <http://tinyurl.com/me979z>.
- ²⁴ South East Development (Melbourne) Area Consultative Committee, *Submission*, Number 53, 9 February 2009, 5.
- ²⁵ Daryl Low Choy, Cassara Sutherland, Brendan Gleeson, Jago Dodson & Neil Sipe, *Change and Continuity in Peri-Urban Australia: Peri-Urban Futures & Sustainable Development*, Monograph 4, Griffith University, Brisbane, 2008, 100.
- ²⁶ Mr L. Wilson, *Transcript of Evidence*, 8 September 2009, 460.
- ²⁷ Mr L. Wilson, *Transcript of Evidence*, 8 September 2009, 460.
- ²⁸ See for example: Melton Shire Council, *Submission*, Number 56, 9 February 2009, 9; Nillumbik Shire Council, *Submission*, Number 31, 30 January 2009, 4.
- ²⁹ Cited in Nillumbik Shire Council, *Submission*, Number 31, 30 January 2009, 4; Interface Group of Councils, *Submission*, Number 42, 2 February 2009.
- ³⁰ Mr. L. Hodgetts, *Transcripts of Evidence*, 4 August 2009, 383.
- ³¹ Parbery et al., *Square Pegs*, 147.
- ³² City of Casey & Cardinia Shire Council, *Submission*, Number 4, 5 December 2008.
- ³³ REMPLAN is a regional economic analysis software package used by many local governments. To calculate industry statistics REMPLAN advised that it applies an approach called ‘input output.’ This starts with ABS place of work employment data for a defined geographic area, then builds an employment profile for 109 industry sectors and then applies the latest output-per-worker estimates for each of these industries from the ABS national accounts (*personal communication with Committee secretariat*, 2 September 2009). In the case of the figure quoted here, the REMPLAN approach generates a figure roughly \$50 million higher than the ABS data.
- ³⁴ Australian Bureau of Statistics, *8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.
- ³⁵ City of Casey & Shire of Cardinia, 14.
- ³⁶ Parbery et al., *Square Pegs*, 25.
- ³⁷ Mr Anderson later corrected the number of abattoirs to four.
- ³⁸ VFF, *Submission*, Number 44, 2 February 2009, 2-3.
- ³⁹ Hume City Council, *Hume Agribusiness Report*, 2004, 16.
- ⁴⁰ Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2005-06 (Reissue)*, ABS, reissued 6 June 2008, <http://tinyurl.com/lvr2cz>.
- ⁴¹ Australian Bureau of Statistics, *2006.0 - Community profile data, ABS working profile*, ABS.
- ⁴² Australian Bureau of Statistics, *8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.

- ⁴³ Hume City Council, *Submission*, Number 49, 3 February 2009, 2.
- ⁴⁴ Hume City Council, *Submission*, Number 49, 3 February 2009.
- ⁴⁵ Hume City Council, *Submission*, Number 49, 3 February 2009.
- ⁴⁶ Australian Bureau of Statistics, 8221.0 - *Manufacturing Industry, Australia, 2006-07*, ABS, released 26 August 2008, <http://tinyurl.com/l7usn2>.
- ⁴⁷ Department of Primary Industries, *Summary of Victorian Food and Fibre Export Performance, 2008 Calendar Year*, Victorian Government DPI, Melbourne, 2009.
- ⁴⁸ Mr S. Crone, *Transcript of Evidence*, 12 May 2009, 265-266.
- ⁴⁹ Mr S. Crone, *Transcript of Evidence*, 12 May 2009, 269.
- ⁵⁰ Department of Planning and Community Development, "Victorian Population Bulletin 2009", <http://bit.ly/6oeOhi>.
- ⁵¹ Melton Shire Council, *Submission*, Number 56, 9 February 2009, 3.
- ⁵² Australian Bureau of Statistics, 7125.0 - *Agricultural Commodities: Small Area Data, Australia, 2005-06 (Reissue)*, ABS, reissued 6 June 2008, <http://tinyurl.com/lvr2cz>.
- ⁵³ Mr B. Luxford, *Transcript of Evidence*, 18 February 2009, 107.
- ⁵⁴ Australian Bureau of Statistics, 2006.0 - *Community profile data, ABS working profile*, ABS.
- ⁵⁵ Australian Bureau of Statistics, 8165.0 - *Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.
- ⁵⁶ Parbery et al., *Square Pegs*.
- ⁵⁷ Parbery et al., *Square Pegs*, xvi.
- ⁵⁸ Ms K. Kilgour, *Transcript of Evidence*, 16 June 2009, 341.
- ⁵⁹ Mr N. Smith, *Transcript of Evidence*, 18 February 2009, 103.
- ⁶⁰ Department of Planning and Community Development, "Victorian Population Bulletin 2009", <http://bit.ly/6oeOhi>.
- ⁶¹ Australian Bureau of Statistics, 2006.0 - *Community profile data, ABS working profile*, ABS. Note: this is based on place of employment. See also note 33 above for details on REMPLAN.
- ⁶² Mr S. Murphy, *Transcript of Evidence*, 10 February 2009, 16.
- ⁶³ Australian Bureau of Statistics, 8165.0 - *Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.
- ⁶⁴ Mr S. Murphy, *Transcript of Evidence*, 10 February 2009, 16-17.
- ⁶⁵ Mr S. Murphy, *Transcript of Evidence*, 10 February 2009, 16-17.
- ⁶⁶ DPI, "Egg production", <http://bit.ly/5XhRd1>.
- ⁶⁷ VFF Egg Group, *Submission*, Number 15, 10 December 2008.
- ⁶⁸ Department of Planning and Community Development, "Victorian Population Bulletin 2009", <http://bit.ly/6oeOhi>.
- ⁶⁹ Nillumbik Shire Council, *Green wedge management plan: Background report*, 2006, 29.
- ⁷⁰ Australian Bureau of Statistics, 2006.0 - *Community profile data, ABS working profile*, ABS.
- ⁷¹ Nillumbik Shire Council, *Submission*, Number 31, 30 January 2009, 3.

- ⁷² Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2005-06 (Reissue)*, ABS, reissued 6 June 2008, <http://tinyurl.com/lvr2cz>.
- ⁷³ Nillumbik Shire Council, *Submission*, Number 31, 30 January 2009.
- ⁷⁴ Cr Bo Bendtsen, *Transcript of Evidence*, 29 October 2009, 556.
- ⁷⁵ Nillumbik Shire Council, *Submission*, Number 31, 30 January 2009, 3.
- ⁷⁶ Mr N. Roberts, *Transcript of Evidence*, 29 October 2009, 569.
- ⁷⁷ City of Whittlesea, *Submission*, Number 41, 2 February 2009, 3.
- ⁷⁸ Australian Bureau of Statistics, *2006.0 - Community profile data, ABS working profile*, ABS.
- ⁷⁹ City of Whittlesea, *Submission*, Number 41, 2 February 2009.
- ⁸⁰ Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2005-06 (Reissue)*, ABS, reissued 6 June 2008, <http://tinyurl.com/lvr2cz>.
- ⁸¹ Australian Bureau of Statistics, *8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.
- ⁸² City of Whittlesea, *Submission*, Number 41, 2 February 2009, 6.
- ⁸³ http://www.costaexchange.com.au/mushroom_location.html
- ⁸⁴ City of Whittlesea, *Submission*, Number 41, 2 February 2009, 10.
- ⁸⁵ Mr D. Wilson, *Transcript of Evidence*, 17 February 2009, 62.
- ⁸⁶ Parbery et al., *Square Pegs*, 25.
- ⁸⁷ Australian Bureau of Statistics, *2006.0 - Community profile data, ABS working profile*, ABS.
- ⁸⁸ Australian Bureau of Statistics, *8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.
- ⁸⁹ Wyndham City Council, *Submission*, Number 57, 10 February 2009, 4.
- ⁹⁰ Mr N. Tsadarkis, *Transcript of Evidence*, 17 February 2009, 70.
- ⁹¹ Wyndham City Council, *Submission*, Number 57, 10 February 2009, 4.
- ⁹² Wyndham City Council, *Submission*, Number 57, 10 February 2009, 10.
- ⁹³ Wyndham City Council, *Submission*, Number 57, 10 February 2009, 5.
- ⁹⁴ Department of Agriculture, Fishery and Forestry, "Case Study Number 1", *Made in Australia*, 6, 1, November 2005, 13.
- ⁹⁵ Vegetable Growers Association Victoria, *Strategic Plan: 2009-2012*, 2009, 3.
- ⁹⁶ Peter Parbery and Michael Ransom, *Detailed Examination of Farm Industries within the PPWP Catchment - appendix from interim report*, February 2007, 7-9.
- ⁹⁷ Parbery and Ransom, 7.
- ⁹⁸ Ratepayers of Werribee South, *Submission*, Number 39, 10 February 2009.
- ⁹⁹ Parbery and Ransom, 7-9.
- ¹⁰⁰ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009.
- ¹⁰¹ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 2.
- ¹⁰² Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 522.
- ¹⁰³ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 3.

¹⁰⁴ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 3. See also note 33 above.

¹⁰⁵ Australian Bureau of Statistics, *2006.0 – Community profile data, ABS working profile*, ABS.

¹⁰⁶ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 5.

¹⁰⁷ Australian Bureau of Statistics, *8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007, <http://tinyurl.com/ljmuqp>.

¹⁰⁸ Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 522.

¹⁰⁹ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 19.

¹¹⁰ Yarra Ranges Shire Council, “Draft Green Wedges Management Plan”, November 2009, 23.

¹¹¹ Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2005-06 (Reissue)*, ABS, reissued 6 June 2008, <http://tinyurl.com/lvr2cz>.

¹¹² Langworthy and Hackett, *Farming Real Estate?*, 39.

¹¹³ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 349.

¹¹⁴ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 17-18.

¹¹⁵ Parbery and Ransom, 3-4.

¹¹⁶ Ms R. Jenzen, *Transcript of Evidence*, 25 August 2009, 425; Wyndham City Council, *Submission*, Number 57, 10 February 2009, 11.

¹¹⁷ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 355.

CHAPTER 3: NATIONAL AND INTERNATIONAL PERSPECTIVES

3.1 Introduction

In 2008, for the first time in history, a majority of the world's population lived in towns and cities. By 2030, the global urban population is projected to rise to 60 percent. Reflecting on the implications of this, the United Nations Food and Agriculture Organization (FAO) identifies:

an urgent need to ensure that cities are included on the agenda of food and agriculture policy makers, planners and institutions. Likewise, it is equally urgent to integrate food security and agriculture into the agenda of city planners and local urban authorities.¹

The FAO calls for support to be given to local and national governments (particularly in developing countries) to enhance the capacity of urban and peri-urban areas to produce food. According to the FAO, planning mechanisms should ensure that land use in urban and peri-urban areas is not only determined by market forces. Important natural areas and agricultural lands should be preserved and included in city development and land use plans.² Urban and peri-urban agricultural development contributes to supporting other environmental and social functions, such as mitigating and adapting to climate change, reducing urban heat islands and preventing floods.³

This chapter briefly examines how selected cities, regions and organisations are approaching the task of managing peri-urban agriculture and farmland. It draws mainly on the valuable interstate and overseas study visits made by the Committee during the inquiry and is further informed by background research. A detailed summary of the Committee's international study tour in July 2009 is the subject of a separate report.

3.1.1 Sydney

The Sydney Basin – the region around the city of Sydney – is recognised as one of the 'food bowls' of New South Wales. In June 2009, the Committee travelled to Sydney to look at what Melbourne could learn from the experience of Australia's largest city. The Committee held several meetings with farmers, government agencies, local government, agricultural peak bodies, experts and community groups.

Agriculture in the Sydney Basin accounts for approximately 12 percent of total agricultural production in NSW and around \$1 billion in value, based on farm gate prices (although this appears to be conservative and there are suggestions that the actual figure is higher).⁴

Farms are typically highly intensive: the Sydney Basin produces this level of output on only one percent of NSW's total land area. By one estimate, a full 80 percent of the state's fresh vegetables originate in the Sydney Basin.⁵

Industries present in the region include the greenhouse, hydroponics, vegetable, fruit, poultry, beef, dairy, wine, honey, nursery, mushroom, cut flower, turf, orchard and organics industries. Small-scale market gardening is economically and culturally significant – there are around 1,300 market gardens in the Sydney Basin; many are family businesses operated by growers from non-English speaking backgrounds. On the other hand, there are also several large-scale and highly profitable agribusinesses – such as the Pirovic poultry farm in Llandilo, one of the largest poultry farms in New South Wales, which the Committee visited.

Food processing is also significant. The Greater Western Sydney Economic Development Board indicated to the Committee that the value of the processing industry was in the range of \$3-4 billion annually. Many of the world's largest food and beverage companies have their Australian headquarters in western Sydney.⁶

3.1.1.1 Sydney Metropolitan Strategy

Sydney is expected to grow by 1.1 million people to the year 2031, taking its population to 5.3 million. In 2005, the NSW Government predicted this growth required 640,000 new homes and 500,000 more jobs.⁷ Sydney is aiming for 30 percent of new development to be in greenfield locations and 70 percent within existing urban areas.

The 2005 Sydney metropolitan strategy, *City of Cities – A Plan for Sydney's Future*, sets out how Sydney will manage this growth over the next 25 years. The plan identifies the following key trends and drivers: population growth and demographic change; employment growth and change; the increasing globalisation of the economy; the push for more sustainable growth recognising climatic changes and increased rates of resource consumption; the rising costs of transport and the burden it places on the community; and the basic structure and fabric of the city.

In western Sydney, where Sydney's rural industries are mainly located, *City of Cities* designates two growth centres as the focus for urban expansion: the North West Growth Centre – where 140,000 new dwellings are predicted to be built by 2031 – and the South West Growth Centre – where 155,000 new dwellings are predicted. Draft sub-regional plans were published in 2007 for these areas. Underlying those are Local Environmental Plans, to be prepared by local councils.

One of five stated aims of *City of Cities* is to 'protect the environment' and under this rubric the plan makes a number of statements on protecting peri-urban agriculture:

Rural and resource lands...are working lands which support diverse rural industries such as agriculture, extractive industry and mining and hold values that contribute to Sydney's quality of life. They are not land 'in waiting' for urban development. ...They provide fresh local produce, reducing the need to transport food long distances and complement Sydney as a sustainable food capital.

Rural businesses need certainty that their land will be maintained for continued use, not as future land development. Without clear direction on future land development, resource lands are subject to land speculation. This can price land out of the rural industries market and increase land use conflict, which can impact on the ability to continue viable production.⁸

The plan contains further reflections on Sydney's agricultural lands, noting that such lands may provide environmental services, opportunities to reuse appropriately treated waste, areas of cultural significance, natural heritage and scenic amenity. There may also be tourism, regional identity and education values. The plan states: "such areas are irreplaceable."⁹

Actions to protect agricultural lands are also laid out, albeit at the high level befitting a metropolitan strategy. According to *City of Cities*, channelling new housing growth into the growth centres will give certainty to agricultural industries and stop the further fragmentation of rural land. Regionally significant agricultural activities will be mapped and will inform sub-regional and local environmental planning. Opportunities will be sought for the co-location of rural industries.¹⁰

On its visit to Sydney the Committee observed an emerging community debate around the security and sustainability of the food supply, a debate driven largely (but not exclusively) from the activism of community and farming organisations. *City of Cities* displays an awareness of this and links it to the protection of farmland. The plan notes that much of the current interest in peri-urban agriculture around the world is tied in with efforts to improve the health and wellbeing of city communities. Peri-urban agriculture can contribute "by strengthening links to local food production, and improving access to, and consumption of, safe, nutritious, affordable food."¹¹

From discussions with various stakeholders, the Committee formed the view that until recent times, agriculture as a land use has been more or less overlooked in Sydney metropolitan planning and farmland protection has not been a priority or it has been pursued ineffectually. A research report by Sinclair et al., argues that recent planning strategies have set aside the critical threat posed by urbanisation, tending instead to focus on matters such as environmental protection or the training needs of producers.¹²

3.1.1.2 Sydney's Agriculture Forum

In December 2008, around 120 people attended a forum on peri-urban agriculture in Penrith, western Sydney. *Sydney's Agriculture: Planning for the Future* was opened by the NSW Minister for Primary Industries, the Hon. Ian Macdonald MP. Participants came from NSW state government, metropolitan councils, the NSW Farmers Association, CSIRO, Greening Australia, community associations, real estate, agritourism, agricultural industry and business organisations, catchment management authorities and developers.¹³

The Committee met with the organisers and several attendees from the forum. The event was significant in drawing attention to the issues facing Sydney farmers and in stimulating discussion between the various players. Crucially, there appeared to be at least some level of political commitment to the process. Staff from the NSW Department of Primary Industries and the NSW Department of Planning informed the Committee that they were about to commence discussions on how they might implement the actions identified at the forum.

An outcomes report commissioned for the NSW Department of Primary Industries shows that participants at the forum identified 15 main issues facing Sydney's agriculture:

- Urban development eroding agricultural land;
- The contribution of agricultural employment is undervalued;
- A lack of coordination in some industries;
- Limited competition in the supermarket retail sector;
- Protection of agricultural lands is needed to provide security of tenure;
- Land use conflict is unrecognised;
- More industry engagement and involvement in the policy process;
- The need for infrastructure and water availability;
- Stronger links between producers and consumers and greater community appreciation of fresh food and the value of Sydney agriculture;
- Inconsistent planning approaches across state and local government;
- Rising land values and the unsettling effects of land speculation;
- Prohibitive planning regulations (such as height regulations on greenhouses);
- Complexity of regulation and the need for direction;
- The need for designated agricultural areas and the control of urban growth; and
- Recognition of food security and the need to develop a food plan for Sydney.¹⁴

The report suggests a range of actions to be taken further by government. These include:

- A whole of government approach to the planning, protection and management of agricultural land, including a “clear statement” from government about the value of and the vision for agriculture, and an emphasis on agriculture in strategic planning documents;
- Co-locate industrial and agricultural employment parks to share resources and infrastructure;
- Establish a government land holding body to buy-back ‘priority’ agricultural land, to be then leased to farmers, ensuring its protection in perpetuity;
- Consider a transferable development rights scheme¹⁵ and rate rebates for farmers;
- Continued support of research and development and centres of excellence;
- Consider an education and awareness strategy to empower consumers to make informed choices and select locally produced food. Develop a food policy to assist with this. Develop a widespread campaign to educate new residents in all urban fringe areas of the day-to-day impacts of agricultural operations;
- Support and promote industry-based organisations like Hawkesbury Harvest (see Chapter Five for more information on this organisation) and fresh food initiatives (farmers’ markets, food trails, local food procurement);
- Consider improving food labelling to identify where and how food was produced and encourage awareness of local food production;
- Use development controls to promote urban food production (including community gardens and productive landscapes);
- Review water allocations and increase the use of recycled water; and
- Give more support and training to farmers and producers.¹⁶

Recommendation 5:

That the Minister for Agriculture and the Minister for Planning convene a search conference (or similar forum) no later than 2012, to discuss current issues confronting farmers and other stakeholders in peri-urban Melbourne.

Recommendation 6:

That, following the above recommendation, a report of the conference/forum should be prepared with a view to establishing a Ministerial advisory body to take further action arising from the outcomes and recommendations.

3.1.1.3 Sydney Food Fairness Alliance

The Committee met with representatives from the Sydney Food Fairness Alliance (SFFA), a community organisation with membership drawn from growers, health professionals, community workers, academics, local government and others working to develop a socially, economically and environmentally sustainable food system for Sydney.

The SFFA works through advocacy, research and networking. Among its key aims is the development of a food policy for Sydney by 2010. To that end, in 2009 it coordinated a series of public forums across the city, culminating in a two-day Food Summit. The SFFA told the Committee that a Sydney Food Policy would integrate four main elements: access to healthy food (cost, distribution, local outlets); planning for healthy food supplies (land use, transport/distribution); sustainable agriculture (farming practices, soil quality); and food safety and public health.

Like other expert groups the Committee consulted during this inquiry, the SFFA takes the view that food is a cross-cutting issue – linking the land use and planning, public health, economic development, climate change, food security and community development policy areas. Further discussion of food policy is in Chapter Six.

3.1.1.4 Penrith City Council

Penrith is a peri-urban municipality bordering the Blue Mountains on the western edge of Sydney, around 50 kilometres, or one hour's drive, from the CBD. Penrith is identified as one of three Regional Cities in the Sydney metropolitan strategy (the others being Parramatta and Liverpool) and its population of 180,000 is forecast to grow to around 230,000 by the year 2031. Agribusinesses present in Penrith include dairying, poultry, fruit, vegetables, beef and turf farming.¹⁷

The Committee met with staff from Penrith Council in June 2009 and heard that while urban growth is the current reality, the objective of preserving Penrith's rural land and rural values has been 'embedded in the psyche of the Council' for some time. The council seeks opportunities for urban and rural communities to connect by, for example, supporting farmers' markets and other means of direct marketing by farms. Rate rebates of up to 50 percent are available to genuine primary producers in Penrith.

The Committee also heard that local governments themselves often overlook the contribution made by agriculture to their local economies. The Committee heard that council town planners often came from urban backgrounds and lacked an understanding of agricultural perspectives. Agriculture needs to be recognised as valuable in economic and employment terms and deserving of local economic development efforts (in the same way that manufacturing or other industries have traditionally received assistance).

As an example, mushroom production is becoming more important and is seen as a valuable industry: mushroom farms can be highly viable businesses and large employers (for example, the Regal Mushroom facility employs around 90 people). Penrith is currently looking for opportunities to establish glasshouse clusters in industrial estates. The clustering of sustainable, minimal pesticide agriculture was considered to be the way of the future in peri-urban areas.

3.1.2 Tasmania

Agriculture is a significant contributor to the Tasmanian economy, comprising 16 percent of Tasmania's Gross State Product (compared to an average of 12 percent across the other states). The total value of Tasmanian food production (packed and processed) is \$2.4 billion (2006-07).¹⁸ Tasmania is a net exporter of food – 58 percent of food produced in Tasmania goes overseas or interstate.

Tasmania's food industry is highly diversified. It produces for commodity, niche and premium markets. More 'traditional' agricultural activities, such as livestock, dairying and seafood remain very important and apples are still the main fruit crop, but other high value activities are emerging, such as wasabi, premium cherries and strawberries. Tasmania has carefully built up its 'clean and green' image around the world and growers believe that therein lies a key competitive advantage for Tasmania. The Committee heard that consumers (and major supermarkets) are increasingly seeking low pesticide, disease and GM-free, sustainably produced food. This image – part of the Brand Tasmania initiative – has been assisted by strategic trade missions and efforts to open up overseas markets for Tasmanian products.

The Committee heard that cherries are a case in point. Tasmania harvests around 4,000 tonnes annually and is continuing to increase its high-value exports into Japan, Taiwan, Korea and the United States, with negotiations occurring for additional markets. Quality and freshness is critical – to the point that each individual cherry is inspected before it goes in the box. Seasonal timing is another advantage, as Tasmania is able to get its cherries to the market when there is little other competition.¹⁹

In August 2009, Tasmanian Premier David Bartlett announced a \$400 million plan to transform Tasmania into the nation's food bowl. The plan centres on 12 irrigation schemes intended to capture 210,000 megalitres of rainfall each year and direct it to farming areas. The plan also goes beyond infrastructure to include a 'top flight farm management course' and a Tasmanian Culinary School of Excellence. Low-emissions

transport systems would be encouraged to carry the new produce, with a liquid natural gas plant to fuel heavy transport already on the way.²⁰

In a briefing held in Hobart, the Tasmanian Department of Primary Industries, Water and Environment informed the Committee of some of the various sources of land use conflict in agricultural areas.²¹ While Tasmania's population is somewhat more decentralised than Victoria and peri-urban areas are not subject to the same growth pressures, the Committee heard that urban encroachment, particularly in the form of rural residential living, is an emerging problem in certain parts of the state. As rural areas increase in population, the expectations of the community regarding smells, noise and other externalities from agriculture are changing. Spray drift from farms is also an issue that the government has worked hard to resolve through revising regulations. Minimising off-farm spray impact was seen as important, not only for nearby residents but also to avoid compromising nearby organic farms.

3.1.3 Adelaide

Adelaide's peri-urban region plays a major role in the South Australian economy. It hosts four of the state's major wine regions; the major cool climate tree fruit district; the largest concentration of greenhouse production in Australia; a major share of total state milk production; and much of its intensive livestock production.²²

Land use and development in peri-urban Adelaide is directed by the South Australian Government's *Planning Strategy for the Outer Metropolitan Adelaide Region (2007)*.²³ The strategies and policies in this document guide local governments in their strategic planning processes for the medium term (10-15 years).

The outer metropolitan Adelaide region is explicitly identified in the strategy as making a major contribution to the prosperity of the state through agricultural production:

*Areas within 100 kilometres of the Adelaide metropolitan area generate 20-25 percent of the state's total gross agricultural production value from three percent of its agricultural land. There is wide diversity in these enterprises including orchards and horticulture in the hills; vineyards in and around the Barossa Valley and the Adelaide Hills; dry land farming on the Northern Adelaide Regional Plains; and dairy production throughout the Fleurieu Peninsula.*²⁴

The region is also of "indirect but essential significance" to the tourism and recreation sectors. Therefore, "it is vital for the growth of the state's economy that existing viable primary industries are retained and further investment in primary production in suitable locations is supported."²⁵ Eight policies are set out to achieve this:

- Identify and protect areas of primary production significance;
- Encourage the establishment of enterprises that value-add to primary industry;
- Facilitate the provision of necessary infrastructure and services;
- Identify and plan for future viable and sustainable primary industry;
- Promote sustainable management of natural resources for primary production;
- Manage the interface between primary industry and urban/rural residential areas;
- Minimise the impact of land division and boundary realignments on land productivity; and
- Protect primary industry land from conversion to rural living.²⁶

In peri-urban Adelaide, rural living has been identified as extremely costly for governments and an encroachment threat to primary production. The plan directs that no new rural living zones be created and rural living should be accommodated within zones already existing. Self sufficiency is also encouraged for rural living areas and settlement should be incorporated within town boundaries.²⁷

During this inquiry, the South Australian government undertook a process of reviewing this strategic plan. In July 2009, a new draft plan was released, entitled *Planning the Adelaide we all want*. A final plan was launched in February 2010.

Primary production receives considerably less discussion than previously. However, the draft plan foreshadows the development of policies to protect areas of agricultural significance. These include maintaining or increasing primary production's share of economic activity in Greater Adelaide, investigating areas to be declared significant for primary production and protected through planning controls and restricting land subdivision through (area-specific) minimum lot sizes.²⁸ The (draft) plan also sets two targets: i) protect up to 375,000 hectares of significant primary production land, and ii) an additional 2,000 primary production jobs in Greater Adelaide.

3.2 North America

3.2.1 Portland, Oregon

In July 2009, the Committee travelled to Portland, capital of the US state of Oregon. Portland has a population of 580,000 people out of a state population of 3.8 million. It is considered the greenest city in America and renowned for being one of the first to introduce an urban growth boundary to manage urban sprawl and protect farmland.

Every city in Oregon now has an urban growth boundary and each county has a farmland protection program.

The Committee received a presentation from Mr Jim Johnson from the Oregon Department of Agriculture and heard that Oregon is blessed with a combination of good climate, favourable geography and some of the most fertile soils in the world. Around 28 percent of the land area is engaged for agricultural production. Exports are critical for the industry: approximately 80 percent of production leaves the state and 40 percent goes overseas. Nearly all farms are family owned and operated. There has been considerable recent growth in the greenhouse nursery and wine industries.

In Portland, the Committee held meetings with the elected regional government ('Metro'), Portland's city government and with representatives from Hillsboro and Washington counties, two local governments positioned on Portland's urban growth boundary.

The Committee received a presentation on Metro's '2040 Growth Concept', which sets out a strategy for metropolitan development through to the year 2040. The 2040 Growth Concept has the following aims:

- Encourage efficient land use, directing most development to existing urban centres and along existing major transportation corridors;
- Promote a balanced transportation system within the region that accommodates a variety of transportation options such as bicycling, walking, driving and public transit; and
- Support the region's goal of building complete communities by providing jobs and shopping close to where people live.

Under Oregon state law, the urban growth boundary must be set to allow a 20-year supply of land for housing and employment. During the Committee's visit to Portland a review of whether to expand the urban growth boundary was underway and the subject of public debate. Washington County stressed in its presentation to the Committee that it sought to preserve and enhance both its agricultural and urban areas; arguing that the debate shouldn't be about one or the other. The Committee was interested to learn that landowners whose land was brought within the urban growth boundary were able to remain on their land without paying additional rates or taxes, until such time as they sold the land.

The Committee also met with Portland's Bureau of Planning and Sustainability. The Bureau works with the Portland Food Policy Council to advise elected officials on food policy initiatives in the city, including food access, land use planning and local food purchasing plans. The Committee heard that there is a strong local food culture in Portland (there are around 20 microbreweries in the city, for example), with an increasing focus on organic produce. Farm-to-school programs and interest from restaurants adds to this momentum.

Farmers' markets are well supported and well loved in Oregon. There are nearly 90 farmers' markets in the state, with over 20 in Hillsboro county alone. According to one study, the 14 farmers' markets in Portland recorded \$11.2 million in sales in 2007.²⁹ Challenges for small farms that sell to farmers' markets include labour availability, the cost of land and the need for training and business development.

3.2.2 Toronto, Ontario

The Greater Toronto Area is the largest urban area in Canada. The current population is 5.6 million and is estimated to reach 7.5 million in 30 years.

Ontario has the majority of Canada's most productive (class 1) agricultural lands whose crops yield one-quarter of the country's agricultural products. As part of its Food Charter, the City of Toronto aims to locally produce 25 percent of its food requirements by 2025.

The Committee met with staff from the Ontario Ministry of Agriculture, Food and Rural Affairs in July 2009 and discussed a number of key issues relating to the management of urban growth and agribusiness in peri-urban areas. The Committee heard that settlements in Ontario were historically often on the highest quality farmland. Metropolitan planning now seeks to achieve higher density targets in existing urban areas and to channel urban growth away from good soils. However, protecting agricultural land remains challenging and rising land values, land speculation, urban encroachment and the demand for rural residential living are all issues confronted by Ontario's farmers and planners.

In 2005, provincial government legislation introduced 'Greenbelts' surrounding Toronto. The effect has been to protect large areas of land for environmental and agricultural purposes on the outskirts of the city. Further discussion of the Toronto Greenbelt is in Chapter Four.

The Committee heard that local food is an emerging focus of the Ministry. There is a consumer-driven trend in support of local food and purchasing food direct from producers. Farmers' markets are well supported by the public – there are around 200 in Ontario – although there are difficulties in finding enough farmers to supply them. A comprehensive guide to Ontario's pick-your-own farms, roadside stalls, farmers' markets, wineries, local meat producers and agritourism businesses is available in print and online.³⁰

The Ontario Market Investment Fund is a \$12 million fund which aims to get more Ontarians purchasing local food. Grants are given for innovative market research, communications, events or marketing projects which have local food promotion as their focus.

Through the coordination efforts of Ms Janet Horner on behalf of the GTAAAC,³¹ the Committee was privileged to visit a number of sites and farms and hear the views of several leading agricultural experts and organisations, including local growers, research scientists and representatives from environmental groups. The depth of information

gained during these meetings has informed many aspects of the Committee's investigations in this inquiry.

In discussion, the Committee heard that the Toronto Greenbelt was generally supported by the industry, however it was subject to various pressures and was still a “work in progress.” The ageing of the farm population and the land use conflicts brought on by urban encroachment received particular attention. The Committee also noted the comment of one participant in the discussion, who observed there needed to be a focus on the resources that urban areas could provide to nearby farmland, such as water, nutrients, markets and so on.³²

3.3 Europe

3.3.1 PURPLE

Established in 2004, PURPLE (Peri-Urban Regions Platform Europe) is a network of 14 member regions. PURPLE advocates at the European Union level for policy-making to specifically recognise the assets of these areas, as well as their vulnerability to urban growth. The member regions are:

- Randstad (Netherlands);
- Zealand (Denmark);
- Flanders (Belgium);
- Stockholm (Sweden);
- Mazovia (Poland);
- Cataluña (Spain);
- Nord Pas de Calais, Rhône-Alpes and Île de France (all in France);
- Frankfurt-Rhein/Main (Germany);
- South East England and West Midlands (both in the UK);
- Dublin (Ireland); and
- Maastricht-Heerlen/Hasselt-Aachen-Liège (a region crossing the Netherlands, Belgium and Germany).

In a recent policy document, PURPLE promoted the advantages of peri-urban regions as:

- Potential for local food production and supply systems from farm to table;
- High quality and valuable open space and landscapes near to cities or within metropolitan areas for access, recreation and education;
- Stewardship, life cycle management and long-term sustainability of resources – energy, water, productive agricultural and horticultural land, and forests;
- Infrastructure to meet changing population needs over wide areas (waste disposal, intermodal transport links, water, etc.);
- Potential to accommodate future demographic changes, migration trends and growing and changing urban populations;
- Locations of and for smart enterprises including those using flexible working and home working and cutting-edge logistical and communication technologies; and
- “Above all, peri-urban areas have accessibility.”³³

PURPLE argues that the issues confronting the interface between urban and rural are complex, but it argues this complexity should be no excuse for a failure to develop policies. PURPLE has called on the European Union and on national governments to acknowledge that policies targeted only to ‘urban’ or ‘rural’ are no longer appropriate.

3.4 The Netherlands

The Netherlands is the world’s second largest exporter of agricultural and food goods, after the United States. In 2005, Dutch exports of agricultural products amounted to US\$59.5 billion.³⁴ Agriculture, like other parts of the Dutch economy, is strongly oriented to the international market.

Between 1990 and 2006, the number of farms in the Netherlands fell by almost a third, mainly due to a decline in the number of small farms. Correspondingly, the number of large farms has increased considerably. In 2006, the average intensive livestock farm was twice as large as in 1990 and the average broiler farm was three and a half times larger.³⁵

3.4.1 Transforum

In a meeting in the Netherlands, Dr Henk van Latesteijn from the organisation Transforum discussed with the Committee his organisation’s work on ‘metropolitan agriculture.’ Transforum believes that farming near cities can move from being considered a burden (with all the attendant regulatory and land use problems) to become an organised ‘agroproduction engine’. Metropolitan agriculture can be a ‘designed system’, in which

clusters of complementary producers are co-located, with waste from one production unit cycled into the production of another, and agriculture becoming energy producing.³⁶

Dr van Latesteijn identifies ‘pull factors’ working in favour of this, such as the demand from consumer markets for safe, high quality food and ‘push factors’ working in the opposite direction, such as the competition for land and resources.

To progress this concept, Transforum has set up the MetroAg Innoversity – an online network which acts as a platform to support on-the-ground experiments in agricultural systems and to share knowledge between different cities around the world.³⁷

Transforum is also active in the field of ‘care farming’ – a healthcare model in which farms provide health services for patients with varying illnesses and disabilities (depression, autism etc.). Transforum notes that this model provides a value proposition for farms (particularly peri-urban farms) through a professional combination of care, agriculture and landscape. It also contributes to strengthening relationships between the city and the countryside.³⁸ Further discussion of care farming is in Chapter Five.

3.4.2 The Randstad

The Committee focused its visit to the Netherlands on the Randstad region. The Randstad (the ‘edge city’) is a region made up of the country’s four largest cities – Amsterdam, Utrecht, The Hague and Rotterdam – and their surroundings. The Randstad has a population of 7.5 million and covers around 840,000 hectares, of which 62 percent is dedicated to agricultural use.

The Committee was able to observe the tightly controlled land use patterns in the Randstad protecting farmland and open space from urban development. Historically, the Dutch have viewed town and country as separate entities and zoning has emphasised this. At the same time, however, the classical Dutch view is being challenged by urban pressures. Fragmentation of the agricultural landscape is occurring and city-dwellers continue to flock to the countryside to look for peace and quiet and recreation. This has been described as the transformation of the landscape from one based on production to one based on consumption.³⁹

It was evident in the Committee’s site visits that, as in peri-urban Melbourne, agriculture in the Randstad is highly diversified in scale and activity. The Committee was privileged to tour the impressive Westland area, containing the largest continuous expanse of greenhouses in the world. In a meeting with the Mayor of Westland and officials from the municipality, the Committee heard that Westland’s strength lies in its clustering of greenhouse functions and its linkages with concentrated production, supply, marketing, logistics and knowledge.

By way of contrast, at the centre of the Randstad is the ‘Green Heart’, an area of nature reserves and rural landscapes where soil-based agriculture, particularly dairy farming, remains important. Increasingly, farmers in the Randstad are pursuing multifunctional

forms of agriculture – linking recreation, nature conservation, health care and so on. The Committee met with two highly innovative organisations, Transforum and InnovatieNetwerk, who look for ways to join the rural economy with the city and keep farmers on the land. Some of their ideas and projects are mentioned elsewhere in this report.

The Randstad exemplifies the difficult position for agriculture near cities, as well as the diverse (and sometimes opposing) strategies that are employed by authorities, landowners, environmental groups and others. In a 2009 study,⁴⁰ these strategies were identified as:

- Encouraging intensification;
- Encouraging bigger farms;
- Multifunctional farming (diversification);
- ‘Green and blue services’ (payment for land and water environmental services by farmers; land stewardship schemes);
- Promoting regional products/branding (developing a regional identity, forming urban-rural links, ‘slow food’, ‘knowing where your food comes from’);
- Land purchase (by government and non-government groups for land preservation or environmental conservation); and
- Zoning.

3.5 United Kingdom

The Committee travelled to the United Kingdom in July 2009 to investigate current activities for the promotion of sustainable agriculture in peri-urban regions.

The Greater London area has a population of around 7.6 million people. There are 12,000 hectares of farmland in Greater London (equivalent to 8 percent of the total land area) and 472 registered farm holdings (equivalent to 0.25 percent of the total number of UK farms), though these numbers are likely to be in decline: farmland in London was reduced by 30 percent between 1965 and 1997.⁴¹ The average farm size in Greater London is 28 hectares.⁴² Eight out of ten farmers now sell direct to the public (via farm shops, farmers’ markets, etc.).⁴³

As in Melbourne, horticulture is one of the more prominent agricultural industries near the city, notably in the Lea Valley area (in the 1920’s, the Lea Valley had the largest area of crops under glass in the world). Horticultural holdings in London represent 17.5 percent of all farm types (compared to a UK average of 3.8 percent), however horticulture has been in retreat due to urban development pressures, in particular the development of

Heathrow airport. In 2003, agriculture, hunting, forestry and fishing accounted for £48 million (AUD\$98 million) of London's Gross Value Added at current prices.⁴⁴

Livestock numbers are dwindling (due also to a lack of local abattoirs and to dog attacks) and only seven dairy farms now remain.⁴⁵ A survey of London farmers highlights challenges from trespass and vandalism, illegal camping and 'fly tipping' (dumping of rubbish). One farmers' organisation likened it to 'farming in a war zone'.⁴⁶

Allotment gardening (which is predominantly non-commercial) has a long history in the UK. There are roughly 330,000 allotment holders and as many as 100,000 people on waiting lists for an allotment. By several accounts, demand has increased markedly in recent times.⁴⁷ Yet allotment plots too have been in decline: by one estimate 1,534 allotment plots – or over 87 acres of land – were lost over the last decade.⁴⁸

3.5.1 Green belts

The United Kingdom has a system of 'green belts' in place to manage urban growth. This dates back to 1935 when the first official proposal "to provide a reserve supply of public open spaces and of recreational areas and to establish a green belt or girdle of open space" was made by the Greater London Regional Planning Committee. The Green Belt proposal was also made in the 1944 Greater London Plan. The 1947 *Town and Country Planning Act* allowed local authorities to incorporate green belt proposals in their development plans.

The codification of green belt policy and its extension to areas other than London came in 1955 with a circular inviting local planning authorities to consider the establishment of green belts.⁴⁹ British planning policies in this period had a definite and strong influence on the development of Melbourne's radial growth and green wedge features.⁵⁰

The London/South East Green Belt is the largest in the country at 554,310 hectares. In total, green belts now cover 1,638,840 hectares, constituting about 13 per cent of the land area of England.⁵¹

In London, the Committee met with the Campaign to Protect Rural England (CPRE). CPRE was founded in 1926 and has consistently campaigned for England's green belts to be preserved. The Committee heard that since 1997 about 1,000 hectares of green belt land had been lost. In the same period 45,240 new homes were built on green belt land.⁵²

For CPRE, protection of green belts and their farming landscapes cannot be achieved solely through the planning system but requires active intervention through programs and campaigns to support the viability of farmers and local small businesses.

3.5.2 Sustain

The Committee was indebted to have the opportunity to meet with the prominent UK organisation Sustain while in London. Sustain is an alliance of around 100 non-government organisations all working in the field of food and farming. Sustain has been active in encouraging the integration of sustainable food and farm policies into local, regional and national planning. Examples of Sustain's projects include:

- Children's Food Campaign: for better school food, food skills and protecting children from junk food marketing;
- Food and Climate Change: evidence of the contribution of food and farming to climate change;
- Food & Mental Health: highlighting the connections between diet, mental health and behaviour;
- Good Food on the Public Plate: practical help to increase healthy and sustainable food in schools, hospitals, care homes, etc.;
- Local Action on Food Network: local and regional activity that promotes healthy and sustainable food;
- Olympic Food: working for sustainable food at the London 2012 Olympic and Paralympic Games;
- Urban agriculture: spreading information about urban food growing in London, the UK and worldwide; and
- Well London - Buy Well: working in ten deprived London areas to improve access to affordable and sustainable food.⁵³

The London Food Link (part of Sustain) has called for London's spatial planning to recognise the contribution food has made and can make to London's economy, physical regeneration of city areas and more effective protection of the green belts. According to the London Food Link, stimulating the farming industry around and within London will encourage good use of existing green belt land and contribute to commercial viability and employment in London's outer areas. Local authorities can make a significant contribution to improving access to local and sustainably produced food, and to improving prospects for farmers, by protecting farmland and promoting its appropriate use.⁵⁴

3.5.3 The London Assembly: ‘Cultivating the Capital’

The London Assembly is an elected body of 25 members which scrutinises the activities, strategies and decisions of the Mayor of London. A recent London Assembly report,⁵⁵ *Cultivating the Capital*, investigated the state of farming in and around the capital and assessed how the planning system supports food growing.

The report found that a large proportion of rural land and potential food growing space was not being actively farmed and with reforms to the planning system, coupled with initiatives to improve the economic viability of producers, a revival of commercial farming could occur in the London area.

3.5.4 New Covent Garden Market

The New Covent Garden Market (NCGM) is the largest fresh produce market in the UK and is based in Vauxhall, London.

The NCGM supplies fresh fruit, vegetables, flowers, plants and many other catering needs for cafes and restaurants. Customers include leading chefs and florists, restaurants and hotels, schools and hospitals. Over 2,800 people are employed in the market. The 240 businesses on site supply about 40 percent of the fresh fruit and vegetables consumed outside the home in London.

The market is run by a statutory corporation, the Covent Garden Market Authority (CGMA), which is also charged with implementing the current regeneration of the market. The Committee was fortunate to have a detailed tour of the market and hear from CGMA communications manager Ms Helen Evans. Ms Evans discussed the fact that there is a public disconnect from food – few people know what is grown at what times of year and how it is grown. As one response to this, CGMA works with primary schools (including giving tours of the market) and with secondary school students (fostering entrepreneurial spirit, with students developing their own business plans).

During the tour of the market, the Committee met with stallholders and saw first-hand some of the niche product lines that have been grown and adapted to meet consumer demand. The Committee also heard how some of the tenants in the market employ chefs to advise them on niche products sought by restaurants, as a way of giving them a marketing ‘edge’ over their competitors.

Chapter 3 Endnotes

¹ Food and Agriculture Organization, “Food, agriculture and cities: challenges and priorities”, October 2009, <http://bit.ly/5eG88Q>.

² Food and Agriculture Organization, 2009.

³ Food and Agriculture Organization, 2009.

⁴ See for example Dr Bill Bellotti, “Food for thought,” *The Land*, 15 June 2009, <http://preview.tinyurl.com/mcacbs>; Mason & Gillespie (2004), cited in SFFA, “Sydney Basin Agriculture: Local Food, Local Economy,” December 2006, <http://tinyurl.com/n93ac6>.

⁵ Sydney Food Fairness Alliance, “Sydney Basin Agriculture: Local Food, Local Economy”, December 2006, <http://tinyurl.com/n93ac6>.

⁶ Greater Western Sydney Economic Development Board, *Briefing to the Committee*, Parramatta, 18 June 2009.

⁷ Department of Planning, *City of Cities – A Plan for Sydney’s Future*, NSW Department of Planning, December 2005, 7.

⁸ Department of Planning, 205.

⁹ Department of Planning, 222.

¹⁰ Department of Planning, 224.

¹¹ Department of Planning, 222.

¹² Ian Sinclair et al., *From the Outside Looking In: The Future of Sydney’s Rural Land, Background Issues and Workshop Outcomes*, May 2004.

¹³ Elton Consulting, *Sydney’s Agriculture – Planning for the Future: Forum Outcomes Report*, 27 February 2009, 2.

¹⁴ Elton Consulting, *Sydney’s Agriculture*.

¹⁵ See Chapter Four of this report for discussion of transferable development rights schemes.

¹⁶ Elton Consulting, *Sydney’s Agriculture*.

¹⁷ Penrith City Council, *Briefing to the Committee*, Penrith, 18 June 2009.

¹⁸ Department of Primary Industries and Water, *Tasmanian Food Industry ScoreCard 2005-07*, Tasmanian Government DPIW, 3.

¹⁹ Fruit Growers Tasmania Inc., *Briefing to the Committee*, Hobart, 22 May 2009.

²⁰ Matthew Denholm, “Bye-bye Apple Isle, hello national food bowl,” *The Australian*, 18 August 2009, <http://bit.ly/apzd0I>.

²¹ Mr W. Ford, *Briefing to the Committee*, Hobart, 21 May 2009.

²² P. Houston, *personal communication with Committee secretariat*, 9 September 2009.

²³ Department of Planning and Local Government, *Planning Strategy for the Outer Metropolitan Adelaide Region*, SA Government DPLG, December 2007, <http://tinyurl.com/1772z8>. Note: this plan has been superseded, see: Department of Planning and Local Government, *Planning the Adelaide we all*

want, draft for public consultation, July 2009, <http://tinyurl.com/ybqhy9r>; and the final report released in February 2010, *The Plan for Greater Adelaide*.

²⁴ Department of Planning and Local Government, *Planning Strategy*, 12.

²⁵ Department of Planning and Local Government, *Planning Strategy*, 89.

²⁶ Department of Planning and Local Government, *Planning Strategy*, 89.

²⁷ Department of Planning and Local Government, *Planning Strategy*, 82.

²⁸ Government of South Australia, *Planning the Adelaide we all want: Progressing the 30-Year Plan for Greater Adelaide*, draft for consultation, June 2009, 106-107.

²⁹ Oregon Department of Agriculture, "State of Oregon Agriculture", January 2009, http://oregon.gov/ODA/pub_bd_rpt.shtml.

³⁰ See for example: <http://www.pickyourown.org/canadaon.htm> and <http://www.foodland.gov.on.ca/english/links.html>

³¹ The GTAAAC states it is a 'partnership involving the four regional municipalities of Halton, Peel, York and Durham, the four Greater Toronto Area Federations of Agriculture (Halton, Peel, York and Durham), the City of Toronto, Toronto Food Policy Council Ministry of Agriculture, Food and Rural Affairs, Agriculture and Agri-Food Canada, and the food sector.' Its aim is to '...provide a coordinating function for agriculture in the GTA, share information, raise awareness of issues, act as liaison with all levels of government, and encourage innovation and diversification within the industry.' See: http://www.gtalocalfood.ca/GTA_AACCommittee.html.

³² See Harvest Ontario: <http://www.harvestontario.com/about.php>

³³ Peri Urban Regions Platform Europe (PURPLE), *PURPLE's response to the Green Paper on Territorial Cohesion*, PURPLE, Brussels, February 2009, <http://tinyurl.com/lok7rs>.

³⁴ Ministry of Agriculture, Nature and Food Quality, *Facts and Figures of the Dutch Agri-Sector 2008*, The Hague, January 2008.

³⁵ Ministry of Agriculture, Nature and Food Quality, *Facts and Figures*.

³⁶ Dr H. van Latesteijn, *Briefing to the Committee*, Zoetermeer, 16 July 2009.

³⁷ See <http://www.metropolitanagriculture.com/>

³⁸ See http://www.transforum.nl/component/option,com_frontpage/Itemid,1/lang,en/

³⁹ Geert Overbeek & Janneke Vader, "Rural Goods and Services (RGS) in Rural Areas Under Urban Pressure", paper for the *XXI Congress of the European Society for Rural Sociology*, Keszthely, 22-27 August 2005.

⁴⁰ PLUREL, *Analysis of regional spatial planning and decision making strategies and their impact on land use in the urban fringe: Case study of The Hague Region*, September 2009, 11.

⁴¹ London Development Agency, *Healthy and sustainable food for London: The Mayor's food strategy*, London Development Agency, London, May 2006, 37, 39.

⁴² Terry Jones, "Overview on issues for farms in the green belt; recommendations to support fringe farmers", presentation to the *Growing Food for London conference*, London, 30 June 2008, http://www.sustainweb.org/pdf/lfl_terry_jones.pdf.

⁴³ London Development Agency, *Healthy and sustainable food*, 41.

⁴⁴ London Development Agency, *Healthy and sustainable food*, 41.

⁴⁵ London Development Agency, *Healthy and sustainable food*, 39.

⁴⁶ Terry Jones, “Overview on issues for farms in the green belt”.

⁴⁷ See Paul Flintoff, “Why we forgot how to grow food,” *The Sunday Times*, 19 April 2009; John Vidal, “Coming up roses? Not any more as UK gardeners turn to vegetables,” *The Guardian*, 22 March 2008.

⁴⁸ Greater London Authority, *Proposal for a Review of the Role of the Planning System in Supporting and Encouraging Commercial Food Growing in London*, Report Number 7, 9 June 2009, 2.

⁴⁹ Greater London Authority, *Proposal*, 1.

⁵⁰ Michael Buxton and Robin Goodman, *Maintaining Melbourne’s Green Wedges: Planning Policy and the Future of Melbourne’s Green Belt*, RMIT University, December 2002, 15.

⁵¹ Communities and Local Government, *Local Planning Authority Green Belt Statistics: England 2008/09*, Planning Statistical Release, 24 April 2009, 1, www.communities.gov.uk/documents/statistics/doc/1210406.doc. To give a sense of scale, in 2008 Melbourne’s green wedges totalled 648,600 hectares. In 2009 Toronto’s Greenbelt covered 720,000 hectares.

⁵² CPRE, *Briefing to the Committee*, London, 13 July 2009.

⁵³ See <http://www.sustainweb.org/>

⁵⁴ <http://www.sustainweb.org/londonfoodlink/about/>

⁵⁵ London Assembly, *Cultivating the Capital: Food growing and the planning system in London*, Greater London Authority, January 2010.

CHAPTER 4: CHALLENGES FOR AGRIBUSINESS

When you come to harvest hay on these paddocks, harvesting machinery, concrete and building materials just do not go hand in hand. Plastic and livestock do not go hand in hand. There are significant issues that do exist. Unfortunately, as farmers we get the brunt of it. We get very frustrated. You must understand, it is in the community's best interest for us to be there to look after that land but I do not think the community really realises the service we are actually doing. It is immensely frustrating that when we are harvesting fodder, much of our machinery runs 24 hours a day, 7 days a week. When you have got a contractor turn up to bale hay at 8 o'clock at night, he has a 2 hour job to do. Then you can have police turn up to actually say, 'Well, on your way. You are in an urban community here'. But two hours of losing sleep for a community on one night of the year is a small price to pay for actually having that area cleaned up and made very safe for them.

I think living very close to Melbourne, people just do not understand that you are doing the best you possibly can in the constraints you have got.¹

Agribusinesses at Melbourne's urban edge encounter challenges and pressures not experienced by their counterparts elsewhere in rural Victoria. Farming close to Melbourne, while an advantage for some producers, is increasingly more difficult, more frustrating and more costly.

However, from a public policy perspective, sustainable agriculture is also one of the best uses of land in the green wedges and peri-urban Melbourne. It manages and preserves the landscape, supports local jobs and local economies, allows access to fresh and healthy food close to consumers and holds opportunities for the management and re-use of waste and water. As Chapter Three discussed, these benefits are leading cities around the world to take a more active approach to managing their peri-urban areas.

This chapter examines specific issues and concerns raised by stakeholders as the Committee travelled around to take evidence for the inquiry in 2009. The chapter begins with a discussion of access to water, probably the over-riding concern of most participants in the inquiry. The rest of the chapter focuses on the varied impacts of metropolitan expansion on agriculture in the study region.

4.1 Water

The provision of water for agriculture has been a dominant theme for the vast majority of participants in this inquiry. Access to water is seen as the major constraint to the sustainable development of agribusiness.

Sydney University of Technology academic Julian Cribb has argued the world population will reach approximately 9.3 billion people by 2050, yet the population would consume the same amount of food required to feed 13 billion people, when based on today's nutritional requirements.² Agriculture remains the heaviest user of water (on average, one litre of water is required to produce every calorie a person consumes), however Cribb notes that this is shifting:

For the first time in history, urban demand for water is outpacing farm demand, as city users outbid irrigators. By 2050, cities will consume half the world's fresh water, reducing that available for food production by one-third. Worldwide, ground water is running out, especially in regions where it is used to grow food. By 2025, water scarcity may cause an annual reduction of 350 million tonnes of food: almost the same as losing today's entire global rich harvest.³

Consultant and researcher Andrew Campbell has predicted significant changes in the water sector:

Competition for scarce resources will continue to increase, both within agriculture and between agriculture, industry, towns and cities. Policy and infrastructure reforms will enable water to move around more. ... Water recycling schemes will become more competitive, depending on their energy efficiencies and relative prices for water and carbon but they will remain a small component of the system and they do have issues to manage around salt accumulation over time in systems relying on wastewater. The price of water will inevitably increase. At the moment it is still incredibly cheap. What other commodity can you have delivered to your home, with a high level of security and quality assurance, for less than three dollars per tonne?⁴

Campbell further lamented that, while Australia has more freshwater per capita than most other nations, it is inconveniently located, in that 'Its distribution does not overlap with our major centres of population and water using industries and it is not economic to shift the water from the tropics to the south, nor in the main, is it economic to move the people and the industries to the Top End'.⁵

Campbell has elsewhere argued for a holistic approach that links water, energy, carbon, biodiversity, food and health, believing:

If you are in the water business, you are in the energy business and if you are in the energy business, you will soon be in the carbon business. If you're in agriculture,

*you're in the food system and if you're in the food system, you are part of the health system.*⁶

However, for Ken Matthews, Chair and CEO of the Australian Government's National Water Commission, the next 50 years also brings opportunities, such as through irrigation water efficiency, crop diversity, genetically modified crops requiring less water, the prevalence of large scale, ultra high intensity (closed loop) irrigation operations, precision irrigation and Australia developing an international reputation as a leading exporter of water efficient irrigation techniques and technologies.⁷

In submissions, at public hearings, on site visits and in the published literature, discussions on the availability, source and cost of water have been central. As such, this section will provide a summary of the key issues raised with the Committee in relation to water and agribusiness.

Australia has continued to experience the worst drought period and lowest water stream flows in recorded history, which was made clear to the Committee during the course of its Inquiry into Local Economic Development and reinforced during this current inquiry. During both inquiries, the Committee visited areas with scarce water provision and uncertain ongoing supply and heard from growers and council officers, on the adverse impacts to the viability of agricultural and horticultural industries in peri-urban Melbourne.

During this inquiry, there have been a number of announcements from the Victorian Government on water provision, while the Victorian Parliament's Environment and Natural Resources Committee (ENRC) in June 2009 tabled its report on its Inquiry into Melbourne's Future Water Supply.⁸ The report covered the following sections: key policies and plans (the water framework) for managing Melbourne's water supply, water efficiency and conservation strategies, stormwater and rainwater harvesting, storage and use, the re-use of treated wastewater, groundwater availability, desalination and other optional water sources for Melbourne's water supply. As this report gave significant attention to water policy, readers are directed to this document for a detailed summary of water policy in Victoria.

This section will therefore focus specifically on providing a brief overview of the key Victorian water policy documents and plans, followed by a summary of the Werribee Irrigation District Recycled Water Scheme, salinity issues, Western Treatment Plant, Bacchus Marsh Irrigation District and the Eastern Treatment Plant⁹, in addition to various discussions on water issues impacting on agribusiness, including those raised in the submissions and by witnesses during public hearings.

4.1.1 Key issues from submissions

Notwithstanding the comprehensive submissions provided to the Committee, the following summary highlights the major issues raised in submissions on water policy.

- Mr Trevor Budge from La Trobe University noted in his submission that much of the talk around local food production and food security has underestimated the critical significance of high quality water supplies. Water is not just an environmental issue; it has important health, economic and social impact consequences;
- The Shires of Mornington Peninsula and Cardinia, the City of Casey, the Cardinia Environment Coalition, Cardinia branch of Victorian Federated Farmers (VFF), South East Development Area Consultative Committee, Gazzola Farms and Agribusiness Gippsland, all wanted to see the Victorian Government sending water from the Eastern Treatment Plant at Carrum to agricultural land in their areas;
- Moorabool Shire Council expressed its interest in accessing recycled water for the Bacchus Marsh Irrigation District, from increasing residential developments in the west;
- The City of Wyndham submitted that the future of the Werribee Irrigation District depended on access to high quality, low cost water. The Water for Werribee group submitted that the district now relied on recycled water from the Western Treatment Plant but the water was too high in salinity to be a sustainable solution. The Ratepayers of Werribee South claim recycled water has driven up costs for growers by 10 per cent because of the need to manage salinity. Farmers have been forced to extend private dams, at great expense. No groundwater is available and the irrigation channel is 80 years old and inefficient;
- The VFF Egg Group also noted problems with using recycled water due to salinity problems and supported further work to improve it;
- One submission took a different approach to the problem of salinity in Werribee South, arguing that it could be cheaper and less energy intensive to apply technologies to clean up the saline discharge from industries (the source of the salinity problem). Access to recycled water for high value activities (perhaps viticulture combined with tourism) is needed to make the green wedges work in the west of Melbourne;
- The Shire of Melton submitted that the recycled water pipeline between Sunbury and Melton from the Western Treatment Plant is a lifeline to many agricultural enterprises (especially in Rockbank), such as a Christmas tree farm and wineries;
- For the Shire of Yarra Ranges, concern centred on the lack of recycling, noting there had been almost no recycled water sales from the four small treatment plants in the shire due to regulations, cost and the quality of the water. They

argued government support would help encourage more farmers to use it. The council's submission also noted there was very little trading in water in the Yarra Valley, compared to the Murray Basin;

- In the City of Hume, recycled water is used by only a small number of green wedge properties. This is due to cost factors and 'expensive regulations' around on-site storage of recycled water;
- The VFF argued that the pricing of irrigation water in the Goulburn and Murray Valleys should be the benchmark for the pricing of recycled water in peri-urban areas;
- The Green Wedges Coalition supported greater use of recycled water and stormwater runoff. Their submission noted farmers in Heatherton are informally using an old quarry during summer, which, they argued, should be encouraged. They also called for small farmers to be able to access mains water at cheaper rates to encourage expansion of farming activities;
- Melbourne Water pointed to a stormwater delivery project for irrigators in Werribee South. Subsidies may be needed for other water retailers to do more on providing recycled water. Melbourne Water noted that with climate change, access to water may further decline and producers will need to become more water efficient;
- The submission from the Victorian Eco-Innovation Lab (VEIL), noted a recent study showing that over 80 percent of Melbourne's water use could be met with the rain that currently falls and goes into stormwater drains. Redistribution of water from other uses could produce as much as \$29.4 million worth of fruit and vegetables. VEIL also recommended that as new urban precincts are planned in the urban fringe, their water systems should be integrated with neighbouring agricultural needs, which could enhance local agricultural viability through the provision of secure and affordable water access; and
- Acknowledging there are issues associated with using water for food production, VEIL's submission believes this could be remedied through 'focused research, development and appropriate management', which would make available Victoria's 448 gigalitres per year of recycled black water for food production.¹⁰

4.1.2 National water policy initiatives

At the federal level, of particular note, the National Water Initiative (NWI) and the Water for the Future strategy have relevance to the Victorian agribusiness sector. The NWI, as a national water entitlement planning and management scheme, aims to economically, socially and environmentally manage surface and groundwater resources for both rural and urban use.¹¹ Water for the Future is a \$12.9 billion, ten year package that is designed

to speed up the implementation of the NWI, with a focus on the prime area of water used for agriculture and food production: the Murray-Darling Basin.¹²

4.1.3 Water policy in Victoria

In 2004, the Victorian Government released its overarching water policy framework, the *Our Water, Our Future* white paper. It set out 110 initiatives for water conservation over the next 50 years.

The strategy established the Victorian Government's water management objective of providing a secure, reliable and environmentally sustainable water supply for state-wide domestic, agricultural and industrial uses.

In 2007, the Victorian Government released its *Our Water, Our Future: The Next Stage of the Government's Water Plan*, providing for \$4.9 billion worth of water infrastructure projects, which aims to increase Melbourne's water supply by 240 billion litres annually by 2011. The plan provides for:

- Extension of water conservation and recycling programs;
- \$1 billion upgrade of irrigation channels as part of water saving initiatives in the 'foodbowl area' – the Goulburn and Murray valleys;
- \$3.1 billion desalination plant on the coast near Wonthaggi, to supply approximately 150 billion litres of potable water per year via a 85km pipeline linking the plant to Melbourne; and
- \$750 million, 70 km Sugarloaf Interconnection Pipeline (also known as the 'North-South pipeline').¹³

The Committee secretariat, as part of its research, ascertained that the Victorian Government has a number of programs in place designed to assist with irrigation and water provision for the Victorian agricultural sector. They are mentioned briefly here as examples:

- DSE's Sustainable Irrigation Program – aims to develop and implement land and water management plans in major irrigation regions, in order to lower the impact of irrigation and improve farm water use efficiency;
- Water Smart Farms – as part of a \$10 million initiative which began in 2007/08 and funded over 4 years, it is connected to the *Growing Victoria Together* vision and has the following two objectives: increase farm water use efficiency; and integrate planning, management and implementation of investment in farm irrigation systems and irrigation water delivery systems; and

- Linking Farms and Catchments with Irrigation Modernisation initiative – a \$12 million project that compliments the Future Farming Strategy, the initiative aims to achieve environmental and productivity outcomes.

In June 2009, the Victorian Parliament's ENRC reported on its Inquiry into Melbourne's Future Water Supply. While focusing on potable water for urban use, the report's introduction noted:

Melbourne's water supply is heavily reliant on rainfall and a system of river and reservoirs that provide over eighty per cent of the city's water. Recycled water (14 percent), groundwater (2 percent) and stormwater and rainwater (0.2 percent) account for the remaining supply. Melbourne's water supply has also been described as a 'once through system' with water from dams used once and then disposed of. However, supply is currently at a record low and there is an urgent need for a fundamental rethink as to how the city sources and uses this resource.

Changes in rainfall and runoff patterns, climate change and population growth continue to place pressure on Melbourne's rainfall dependent water supply. Projected demand has indicated that by 2055, Melbourne could have an annual potential supply shortfall of 210 billion litres (gigalitres) under a medium climate change scenario but under a high climate change scenario, the shortfall in supply could be up to 302 gigalitres.¹⁴

The Committee's report also noted that business, industry and community institutions consume around 30 percent of Melbourne's water supply.¹⁵

The Committee made a number of recommendations, including on the reuse of treated wastewater, which has relevance to water provision for agriculture and they are referenced below. The OSISDC concurs with these recommendations, on the basis they will benefit both urban and rural areas:

ENRC Recommendations:

- The Victorian Government set enforceable water recycling and reuse targets. The primary focus should be to replace the demand for current potable water use;
- The Victorian Government establish new recycling and reuse targets - 50 per cent by 2012 and 70 percent by 2015. An increased target would reduce demand

for potable water, minimise discharges to receiving bodies and promote the importance and value of water conservation and efficiency;

- The Victorian Government move toward the prohibition of wastewater discharge into waterways and the ocean;
- The Victorian Government commit to finding a use for all treated wastewater;
- The Victorian Government mandate dual pipe systems or other water saving measures in new residential and industrial developments;
- The Victorian Government, where practicable, should encourage the installation of dual pipe systems in existing residential and non-residential areas which are located in close proximity to wastewater treatment plants;
- The metropolitan water retailers and Melbourne Water finalise guidelines to facilitate sewer mining projects; and
- The Victorian Government should continue to promote the development of sewer mining projects as a decentralised wastewater treatment option suitable for a variety of uses and locations.

Recommendation 7:

That the Victorian Government endorse the recommendations contained in the Victorian Parliament's Environment and Natural Resources Committee report into the future of Melbourne's water supply, in particular their recommendations D1 to D8, which have applicability to agribusiness.

Victoria comprises four major water regions: western, northern, eastern and central. Of relevance to peri-urban areas of Melbourne is the central region. In October 2006, the Central Region Sustainable Water Strategy (CRSWS) was published. It provided a water strategy for Melbourne and its surrounding regional centres, including Geelong, Ballarat, the Macedon district, West Gippsland and the Westernport region. The stated aim of the strategy is, drawing on all sources of water, to ensure over the next 50 years, a secure water supply for homes, businesses, industry, agriculture and the environment.¹⁶

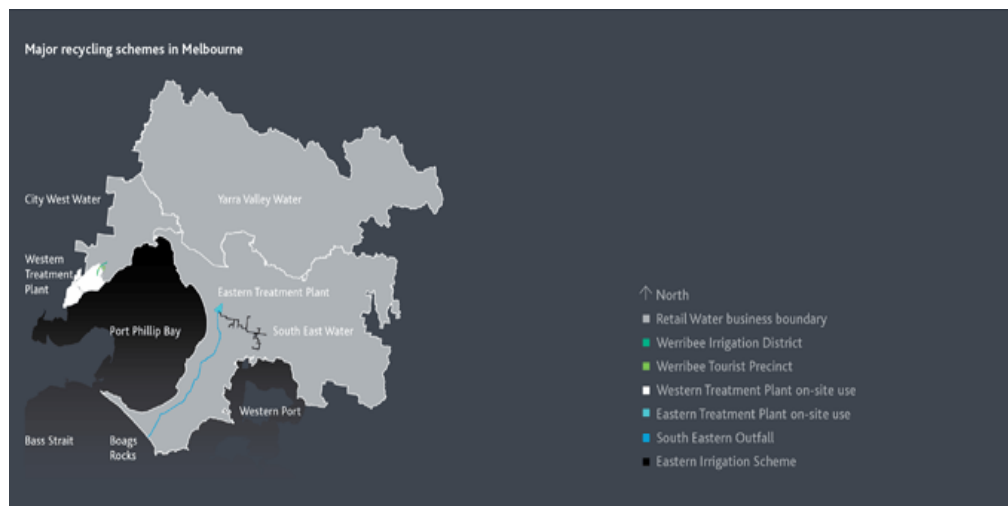
4.1.4 Recycled water

Of note, submissions to the Committee on water issues identified ongoing access to recycled water as the number one concern.

On the issue of recycled water, Dr Ian McPhail, the then Victorian Commissioner for Environmental Sustainability, told the Parliament's ENRC during their inquiry into the future of Melbourne's water supply:

Recycling can be increased on a range of scales with the long term goal of recycling all wastewater produced. The highest value use for which this water could be used, for example, from the Eastern Treatment Plant is to augment Melbourne's water supply through indirect potable reuse, but the large-supply augmentation and progress means this would not be required for many years. However, the door should not be shut on potable use of recycled water but in the meantime, beneficial uses of recycled water, other than potable use, can be found and should be found.¹⁷

Figure 4.1: Major water recycling schemes in Melbourne



Source: Melbourne Water (www.mwsustainabilityreport2009.com.au/recycling-west-of-melbourne-). Viewed 22 February 2010.

4.1.5 Werribee Irrigation District Recycled Water Scheme

The Werribee Irrigation District (WID) Recycled Water Scheme, which began in January 2005, is expected to reach full capacity in 2010 and deliver up to 8,500 gigalitres of Class A recycled water per annum.¹⁸ The scheme is Melbourne's first large commercial recycled water project and aims to provide a sustainable future for Werribee vegetable growers and the surrounding environment. The project uses Class A water provided by

the Western Treatment Plant (WTP). Melbourne Water supplies the water to retailer Southern Rural Water who supplies the water to customers.¹⁹

Between 2004-09, the recycled water was to be mixed (shandied) with water from the Werribee River, to reduce the salinity levels from the WTP recycled water. From 2009, customers of recycled water surrendered their access to river water sales.²⁰ On the issue of salt reduction, in 2005 the Victorian Government released, as part of *Our Water Our Future* strategy, the “Quality recycled water for the Werribee Plains” salt reduction strategy. The stated aim of the plan was to reduce salt levels in effluent produced at the WTP by 2009, to enable increased water recycling in Melbourne’s west.²¹

In 2009, the media highlighted the concerns of growers in the WID and noted some were calling for a desalination plant to be attached to the treatment plant to further purify the water. Added to this, the submission to the Committee from Wyndham City Council made a number of recommendations to the Committee, including:

1. Recognise that the future viability of the WID for agriculture is dependant upon the provision of sufficient water of a quality and at a cost consistent with the sustainability of the district for vegetable growing.
2. Complete a comprehensive assessment of the future sustainability of the WID for vegetable production as a matter of urgency and on completion of the assessment, either:
 - a) Act to secure the future of the Werribee Irrigation District for sustainable vegetable production, or
 - b) Commit to transitioning the district into urban development.²²

At a public hearing in Wyndham on 17 February 2009, Committee member Mr Don Nardella MP and Water for Werribee grower representatives Messrs Velisha and Santamaria, had the following exchange in relation to desalination and water provision:

Mr NARDELLA — What work have any of your members done in regard to having a look at putting in on-site desalination plants?

Mr VELISHA — I have spoken to a few people who build them. They want \$1 million for a megalitre of water. That is what the plant will cost. I am in no position to spend \$1 million to treat water so I can grow lettuces and cauliflowers. The point I would like to make too is that the treatment plant that the government built down at Melbourne Water was to supply us with 25 per cent above our 100 per cent river water. We have not had 100 per cent of river water for the last four years, yet they have failed to recognise that maybe they could increase it by 10 per cent or 20 per cent. They do not have to — —

Mr NARDELLA — *The river water?*

Mr VELISHA — *No, increase the plant to produce a bit more water.*

Mr SANTAMARIA — *They have made incremental adjustments to the plant. I think originally it started at around 60 megalitres a day. They have been able to increase that sometimes to a maximum of 75. The higher they increase it — and that is about the limit — the more likely there will be a breakdown because it is operating at its absolute limit.*

Mr NARDELLA — *You have about 8,500 megalitres of water coming from — —*

Mr SANTAMARIA — *The treatment plant. But that 8,000 megalitres — those figures there came off what we used to use when it rained, not in these dry conditions.*

Mr NARDELLA — *Correct, I understand that. But you currently have 5 per cent water allocation off the river system, which adds up to 10,000 — you work it out; it is 50 megalitres or whatever. I mean it is nothing — —*

Mr VELISHA — *That is right. My entitlement is 3 megalitres. That is what I will take in one day on one farm.*

Mr NARDELLA — *That is right. At least you are getting 8,500 — I know the quality is not there — but you are getting 8,500 megalitres from the treatment plant that you would not have otherwise.*

Mr SANTAMARIA — *We are very thankful for that situation. The goalposts have moved though from the commencement of this scheme. Unfortunately it does not want to rain anymore. We do not have any river water to shandy with this. Originally the recycled scheme was meant to be a supplement; it is now our only source. We do not get 8,500 megalitres from the western treatment plant, we get closer to 12,000 megalitres, but 3,500 of those megalitres get lost in the system.*

Mr VELISHA — *The point I was trying to get to is that if the government wants us to farm down there ... we need the supply and the quality. All it is is investment. It is nothing else; we are not asking for a subsidy. I believe governments are there to invest in infrastructure in the state so businesses can carry on with their business. They want us to carry on with our business with a trickle of water.²³*

On 8 September 2009, the Committee also visited Aqueous Solutions, a Williamstown, Melbourne based manufacturer of localised desalination equipment, to gain a picture of the range of desalination options which might be available to growers. The Committee's conclusion is that small-scale desalination plants are worthy of further investigation.

Recommendation 8:

That the Victorian Government, building on the Western Irrigation Futures Paper, in conjunction with Melbourne Water, Southern Rural Water and other stakeholders, incorporate into the study a cost-benefit and environmental assessment of desalination options for growers in the Werribee Irrigation District.

4.1.6 Salinity

High salt content in recycled water has been an ongoing issue for a number of years. At a public hearing, Melbourne Water's Chris Williams told the Committee of the agency's work in addressing this issue:

Melbourne Water has commissioned a range of work associated with investigating salt reduction treatment at the western treatment plant and performed a series of demonstration trials. That work confirmed that it was technically possible to use salt-reduction treatment processes on the recycled water at the western treatment plant, however, it was found that the cost incurred to supply recycled water with a TDS [Total Dissolved Solids] of around 600 milligrams per litre, or around 1000 EC (electrical conductivity) units for customers such as the Werribee irrigation district via a salt reduction plant was not economically feasible.

The cost could not be recovered from the end user and at the time, there was perhaps not sufficient clarity on the commitment from the recycled water customers to accept the recycled water on an ongoing basis. The recycled water supply for the Werribee irrigation district was originally designed as a supplement to the river water supply. That has changed somewhat from the original intent that the salinity of the recycled water was to be reduced through blending or shandying with the lower salinity river water, but the high-reliability river water allocation for the irrigation district has been as low as 2 per cent and is currently, I think, at around 5 per cent.

As a result of the prolonged drought and reduced river flows, the irrigation district recycled water scheme has had to operate very differently to what the original intent was. The shandying of the recycled water and the river water is no longer a reliable option. Along with the drought impacting on groundwater reserves [bores] in the area — a ban is now in place on the groundwater extractions — the irrigation is therefore now almost completely supplied by recycled water alone, without any benefits of salinity reduction through shandying.²⁴

Later in the hearing Mr Williams added:

As recycled water salinity increases, the salt in the soil builds up requiring additional volumes to flush through the salinity and hence manage the soil properties. If salt concentrations were to increase, then greater volumes of recycled water might be needed on site for that salinity management purpose. Conversely, if the salt levels were to drop, then the required volume would potentially drop as well.²⁵

At a public hearing in Wyndham in February 2009, Werribee vegetable grower Mr Carmelo Santamaria told the Committee:

We need recycled water to be reduced in salt content. Also, we would like to see the establishment of emergency water reserves for irrigation because sometimes the recycled seam goes offline, and unfortunately it is the part of the system which tends to go offline when we need it most — that is, on very hot days or on very hot and windy days. We definitely need piping of the irrigation channels. They lose too much water, and in this day and age I think it is almost criminal that we let that much water go to waste. We also need a continuation of something they have done for the past two years, which is a periodic supply of high-quality, low salt-content water. Essentially that is provided to us by Southern Rural Water. It is a transfer of water from its Gippsland reserves. It is given to us for the hottest period of summer, which is somewhere from the start of January to the middle of March. That helps to reduce the overall salt content of the recycled water, and it gives the farmers who choose to buy in to those reserves extra water as well.²⁶

In response to a question at a public hearing in Melbourne on 16 June 2009 from Committee member Mr Don Nardella MP, who asked about whether Melbourne Water is able to isolate water that is coming through from Caroline Springs because it has a lower salt level and whether it can be treated and provided to the Werribee South irrigators, Melbourne Water subsequently advised the following:

- Yes, it is physically possible to isolate the sewage from Caroline Springs and divert it to the Werribee Irrigation District (WID – note: the recycled water retailer for WID is Southern Rural Water);
- The sewage discharged from Caroline Springs through the Derrimut Sewer [trunk interconnect] is comparatively low in salinity to the WTP influent from the Western Trunk Sewer because the source of sewage is predominantly domestic.;

- However, it is not a simple option for reasons which include the following:
 - Sewage flows will increase gradually over time. The flows through the Derrimut Sewer are anticipated to be only approx. 6 ML/day in 2009/10. The sewage flow is estimated to reach up to 17 ML/day by 2050 with the proposed expansion to the UGB. This is significantly less than the WID demand, which is above 60 ML/day currently;
 - Significant capital expenditure would still be required for assets such as diversion pipe work from the Derrimut Sewer (approximately 27 km long dedicated pipeline work before any industrial inputs making the sewage saltier), a new Class A treatment plant (treating raw sewage), and new pumping stations to and from the new treatment plant; and
 - The sewage within the Derrimut Sewer is managed by City West Water, who has earmarked this sewage to provide recycled water to the new growth areas adjacent to Caroline Springs and Truganina area.²⁷

4.1.7 Western Treatment Plant

The Western Treatment Plant in Werribee is one of the largest sewage treatment plants in the world, processing around 485 million litres of sewage and industrial waste per day.²⁸ It treats 52 percent of the sewage from Melbourne's inner north and western suburbs, north and west of the Yarra River and around Hobson's Bay. In 2007-08, the plant received 152 gigalitres of sewage for processing.²⁹

The WTP supplies classes A, B and C recycled water. High salt levels in WTP recycled water have been associated with the plant and while there have been significant efforts to reduce the level of salt, there has been an increase in salinity levels since 2006.³⁰

The WTP is undergoing a major upgrade, at an estimated cost of \$160 million, to increase nitrogen removal, enhance water recycling, and capture methane gas from the treatment process in order to generate power for the plant.³¹

In the 2008/2009 year the plant supplied 38,023 million litres of recycled water to customers (down from 40,848 in the 2007/2008 year).³² Of this quantity, 23,910 million litres was Class C recycled water supplied onsite – mainly to the Werribee Agricultural Group, while 14,113 million litres of Class A recycled water was supplied to off-site customers.

At a public hearing on 16 June 2009, Mr Chris Williams from Melbourne Water told the Committee in relation to salt content:

The treatment processes at WTP do not reduce salinity at the moment. The large surface area of the lagoons used to treat the sewage result in evaporation losses, so that tends to slightly increase the concentration of salt in the recycled water as well. We have done extensive work to investigate ways to reduce that salinity. The work to date has indicated that the end-of-pipe treatment to reduce the salinity in the recycled water to be quite expensive. Additional source reductions of salinity beyond that achieved to date through the trade waste and domestic customer programs and sewer rehabilitation are also quite expensive.

...the key conclusion coming out of all that is that we note that salinity in recycled water originates from the domestic and industrial discharges and from groundwater infiltration into the sewer, with each making a significant contribution. The readily achievable reductions in salinity levels in the input to the Western Treatment Plant have been achieved and additional reductions beyond that will come at a significant cost. The salinity levels in recycled water can be reduced further through treatment, but the cost of that treatment is an order of magnitude higher than the current level of treatment for recycled water production.

The key issues for the future really are: the capacity of the recycled water users to pay for any additional changes, either at source or through treatment; getting appropriate certainty around the demands, to justify any such further work and expenditure; determining the amount of water that is required to maintain the environmental values around the western treatment plant; and finalising also the additional water available at WTP that can be used for recycling.

Mr SMITH — We are talking about the salinity in the discharge from the western treatment plant. With all the knowledge that there is in the technical backup that Melbourne Water should have, surely they can remove the salt from the discharge. What are you doing, what is the reason that it is still discharging out as salty as it is and when are you going to do something about it?

Mr WILLIAMS — The salt that is present in there can be removed — you can have a combination of at source controls and so forth — but a lot of the lower cost changes in that regard have already been implemented. To go further than that would involve significant cost. To treat that water to reduce the salt involves a significant step beyond the sort of treatment processes that are normally applied for the production of recycled water for irrigation applications.

That technology is expensive and it can be energy intensive as well. We have trialled that. It is technically feasible, it can be done; there is no doubt about that. It is a question though, of whether there is a way to recover the cost associated with that treatment.

Mr SMITH — Surely you have some responsibility to the people in the western suburbs and the growers in the western suburbs, to produce water for them. If you cannot give it to them under ordinary circumstances using potable water, you have

some responsibility to them to produce water that is not going to kill off or burn their crops or whatever. You talked about cost: how much cost?

Mr WILLIAMS — The investigations that are happening as part of the Western Irrigation Futures study at the moment is indicating that a balance between on-farm measures and certain degrees of treatment might result in more acceptable costs for production of fit-for-purpose water. That work is ongoing at the moment as part of the Irrigation Futures study and one of the outputs from that study will be to assess what is the optimum balance between on-farm measures and treatment for the reduction of salinity levels.

Mr SMITH — You do not know how much it is going to cost. Is that what you are saying?

Mr WILLIAMS — I cannot give you an exact number on that now. That is part of the work that is being done as input to the Irrigation Futures study. Previous work to reduce the salinity to levels which would make it very easy to use that water and the sort of crops that are there in the irrigation district, indicated that it would be quite expensive. The feedback from Southern Rural Water and the growers is that that would not be a feasible cost for them.³³

Mr Williams further explained the recycling process and Melbourne Water's role with the WTP:

In 2007–08, we supplied approximately 300 megalitres of Class A water to City West. Southern Rural Water receives Class A recycled water from us for the Werribee tourist precinct and also the Werribee Irrigation District. The volume of Class A water supplied in 2007–08 for these uses was 12,700 megalitres.

To address the potential of competing demands for recycled water from the Western Treatment Plant, an allocation hierarchy has been developed which prioritises the supply of water to the higher value uses over lower value uses. That allocation hierarchy is along the lines of the conservation uses at WTP for biodiversity management is at the top, then on-site irrigation for salinity and sodicity management and off-site committed contracts, particularly where they are for uses that feature potable or river water substitution. Continuing down the hierarchy, we come to new potable substitution uses, both off site and on site and after that comes any on-site or off-site projects that are not potable or river water substitution.

The main objective of the hierarchy is really to prioritise the allocation of reliable recycled water volumes on an annual basis and ensure that the seasonal demands from the customers are met. Daily operations require some flexibility to ensure that the immediate needs from sensitive customers are met while still supplying the overall contractual volumes over the course of the year to all customers.

....

If climate change and the drought were to worsen and we saw increased water conservation measures, then that might further restrict the volumes of sewerage going through the western treatment plant. Without knowing those accurately, it is difficult to, in turn, accurately forecast the long-term inflows to WTP and therefore what the availability of recycled water will be.³⁴

Recommendation 9:

That water authorities review current trade waste agreements and their effects on the quality of recycled water produced by the Western Treatment Plant.

4.1.8 Bacchus Marsh Irrigation District

The Bacchus Marsh Irrigation District (BMID) is located approximately 55 km west of the Melbourne CBD on the flood plain of the Werribee River. The BMID receives its water supply via the Werribee River. Customers order water through Southern Rural Water, who deliver the water to the ‘farm gate’.³⁵

In relation to the BMID, Dr Martin Kent, then CEO of Southern Rural Water, told the Committee at a public hearing:

If you look at the Werribee and Bacchus Marsh irrigation districts — clearly the lack of suitable water in recent years has dramatically changed the equation for agriculture. Despite the overwhelming other advantages of both districts, particularly in terms of climate, soils and access, without water the mix does not exist to allow viable businesses to continue. Water is clearly critical for both Werribee and Bacchus Marsh and, arguably, for any agriculture, not just the agriculture in its current form but any high-value agriculture.

That is why we are looking through our Western Irrigation Futures project at options for water of appropriate quality, appropriate volume and appropriate price. If water does not come in, clearly agriculture will cease and that leaves two questions in my mind — one is economic, which is: would that current agriculture relocate somewhere else? The second question is, I guess aesthetic and that asks, what land use would replace it in any event not just looking at what would be permitted under current land-use planning but what should be there in the longer term?

...we know that it is possible to do a range of things to encourage and support agriculture in places like Bacchus Marsh and Werribee and there is always a lot done with extension marketing and farm rates and those sorts of things. However, water supply is now far more challenging. I would conclude that the current conditions show that the longstanding water resource for both Werribee and Bacchus Marsh — and that is the Werribee Basin — is now unsuited to current agriculture and probably even more unviable if climate change predictions come to pass.³⁶

The Chair of the Committee, Mr George Seitz MP, later in the hearing had the following discussion with Dr Kent:

The CHAIR — I know that you are in the water business but it is the food production business in agriculture that is important for our society in Victoria. You just happened to mention Bacchus Marsh and Werribee but there are other districts. How important are they for green vegetables for the Melbourne market?

Dr KENT — That is something that you will probably get a mixed response on. There are certain times of year when Werribee particularly is a very significant supplier into Melbourne. That is particularly during summer, when the climate is far more benign than in places like Werribee South and in the broadacre areas in northern Victoria and the Riverina, where you just could not grow lettuce. That said, if I spoke to other growers in, say, the Mitchell River flats or the Macalister, they would say they could increase production to pick up the slack. So you get competing views there.

The CHAIR — That is just the answer I was waiting for because my next question then is: in years gone by governments have contributed to, subsidised and made it easier for farmers to walk off their land. We had the vine-pulling scheme and there was a subsidy for that. There was the apple orchard tree-pulling scheme, especially in the Keilor district. What do you see as the options for those people in Bacchus Marsh and Werribee who have big packing sheds and a lot of other investments there, to walk off that land because they will not recoup their investments, particularly if it stays non-arable land or even if the government changes it?

Everyone seems to dream that it will go into subdivision. How many subdivisions for housing can you have? What is your view on that sort of thing? It is a responsibility for the state and Australian governments, because of climate change, those people there now, through no fault of their own, are going to walk off the land.

Dr KENT — I do not particularly want to comment on Werribee and Bacchus Marsh and what the future might be.

The CHAIR — No, on the broader view, as a responsible society.

Dr KENT — I think it is clearly good to provide anyone with pathways to transition from where they might be to where they need to end up. That has really been one of the key questions or uncertainties with both Werribee and Bacchus Marsh over recent years. We have a range of customers in Werribee South who would see conversion of their land to housing as being their pathway out, just as they would have seen many other producers in the southern and eastern suburbs doing the same. It is interesting for me.

One thing that I think is different for Werribee and Bacchus Marsh from many of the others around particularly the southern and eastern suburbs is that they have not had a natural place to relocate just a little bit further out from town.

I was mindful of this when our board visited people on a couple of properties in Clyde last month. Those places are gradually being surrounded by housing and pressured but their plan is to head towards Koo Wee Rup and out even further, towards Lang Lang, so that they have the opportunity to keep their base where they are currently, whilst they start developing further out.

That has really not been possible, I think, for people at Werribee and Bacchus Marsh. There is no natural transition. In many respects, people in both Werribee and Bacchus Marsh seem to be locked between land-use planning that wants to provide almost a landscape or aesthetic outcome but recognising that the underlying viability of their businesses is now threatened because of the water supply and with no way to transition.³⁷

At a public hearing held in Ballan on 19 May 2009 the Committee heard from Bacchus Marsh lettuce grower Mr Frank Ruffo who provided a personal insight into the changing operation of his business:

The way we currently stand for this season in Bacchus Marsh, we only have about 10 per cent water capacity. I had to go and paint a pretty picture to the supermarkets that I have only about 10 per cent of the water but I can supply 100 per cent of my commitment. It is a bit difficult to do. Some of the strategies that took place in the last three years was we made a move within four weeks, we decided to go to Swan Hill on the Murray. We did that and that was very harsh on our family life. I have two boys in the business as well. They had to uproot and move to Swan Hill with, say, 48 hours notice. That is all they had. The announcement was made—I think it was last year or the year before—the Murray was in trouble as well. It has a zero allocation at the start of June 07, it may have been. I sat down at the kitchen table and I said to the boys, 'We've got to get out of here because unfortunately we can't stay here, we're in the same situation as Bacchus Marsh.' From then on went back to Bacchus Marsh, and Western Water

and Southern Rural Water did a fantastic job in being able to supply us with Thomson water which kept us going for another 12 months.

The situation now is that Bacchus Marsh is probably zero allocation to get out of Pykes. We have 500 megalitres at the moment that is in discussion. That would only really account to even less than what I have this season as far as water availability. We sat down at the table once again and I said to the boys, about eight months ago, 'Look, we've got to make another move in order to be able to be in business in the future.' We bought a property in Maffra... I commute two days a week from Bacchus Marsh to Maffra... The importance of Bacchus Marsh to us as an irrigation district is very high. It is very close to freeways, airports, centralised to markets, freight is not an issue. Our company has an export division; it does Hong Kong, Thailand, Singapore.

...

I believe that not one source of water should be an only source of water but we should be able to grid the whole of Victoria to be able to tap water from the Murray, the Goulburn system, the Thomson system and the Macalister system because what we will find with climate change is that certain areas are going to be impacted worse than others. I believe it is going to be a situation where the Goulburn system may be at 100 per cent capacity and overflowing; the Thomson system may be in trouble. We have to be able to grid water around the state and be able to supply all Victorians with their needs, whether it be urban, rural or hobby farmers.

...

People are talking about moving to the Mallee and whatever but I searched from Robe in South Australia, all the way to Orbost, looking for a replica of Bacchus Marsh and it is not there. Each area has its good points and bad points. In Bacchus Marsh you can grow 12 months of the year. As I said we are close to markets. The only problem with Bacchus Marsh is the water situation.³⁸

4.1.9 Eastern Treatment Plant

Located in Cranbourne, the Eastern Treatment Plant treats 42 percent of sewage from homes and businesses in Melbourne's south-eastern and eastern suburbs, with the plant receiving 114 gigalitres of sewage for treatment in 2007-08.³⁹ The upgrade to the Eastern Treatment Plant is expected to be completed by 2012 and the plant will be able to produce between 100-130 gigalitres of Class A recycled water.⁴⁰

At a public hearing, CEO of Cardinia Shire Council, Mr Gary McQuillan, impressed on the Committee the significant water challenges that the region (and Victoria generally) would face in a drying climate and with a rapidly expanding population. Noting that "the challenge for all governments is how to double our food production by 2050 to meet

global demands, to feed a growing population and to secure food for Melbourne”, Mr McQuillan argued that the Eastern Treatment Plant presented vast opportunities for agriculture:

Today I am pleased to advise that South-East Water has recently completed a strategic scan which found that areas in the region south-east of Melbourne — such as Tyabb, Devon Meadows, Koo Wee Rup, Bunyip River and Lang Lang — are possible locations for establishing recycled water intensive agricultural irrigation areas. This would place us in a prime position to establish a food security area. Up on the PowerPoint, which you can see behind me, are the areas of investigation. There is one area in Casey, there are three areas in Cardinia and there is also one area in Tyabb, which is within the jurisdiction of the Mornington Peninsula Shire Council. They are the three areas that were under investigation. With the upgrade of the eastern treatment plant by 2013, class-A water could be made available in Cardinia, Casey and the Mornington Peninsula to service those areas of investigation. The total area of interest is approximately 25,000 hectares, of which we believe 5,000 to 8,000 hectares may be centred upon but that could be further expanded. To service this area of 5,000 to 8,000 hectares, we believe we will need about 18,000 gigalitres of water. The eastern outfall, when it is at full production, will produce about 142,000 gigalitres of class-A water, so quite a significant amount of water will become available for food production.

We have commenced phase 1. We have had two meetings, we have engaged a consultant to complete our phase 1 feasibility. It is really a go/no-go feasibility study and that will be completed by mid-2010.⁴¹

Mr McQuillan added further:

In facilitating business growth in new markets and attracting new businesses, the irrigation system also creates new employment opportunities both in the primary industries within the region and in up and downstream labour markets. It has been estimated the expansion of recycled water into the Casey-Cardinia region could create around 500 new farm jobs and over 800 new upstream and downstream jobs — we will confirm that in our feasibility study — as well as protecting the existing businesses and jobs. Therefore, in addition to the economic importance of agriculture to the Casey-Cardinia region, the industry provides a large employment base with the potential to significantly increase the number of jobs it creates in the near future.

...

To emphasise this further, the Casey-Cardinia regional agricultural audit and action framework tells the story of one grower in the Clyde area who currently has 28 full-time and over 40 part-time employees. He estimates that over the last five years of dry conditions, his business has reduced by over \$1 million per annum in gross turnover. In addition, he has reduced employment numbers by around 25 people. He no longer exports to Asia or domestically interstate. This reduction in business activity is due solely to the lack of available water. Class-A water from the eastern irrigation scheme will enable this business to gradually rebuild in dollar turnover and employee numbers and, furthermore, give it the confidence to expand because it will have security of water supplies.

There would be around 10 other farms of this size in the region in a similar situation. What are the advantages we have with the recycled water coming out of the eastern treatment plant? It really is on our doorstep, we have some of the best agricultural land in Australia and it just creates a very unique opportunity for us all.

The case for preferred security is all about protecting existing businesses and jobs. It is simple: if there is no water, there are no businesses or jobs. An important element to secure Melbourne's future food supply is that it is vital to protect existing agricultural land from residential development. We need to identify and protect horticulture and other stable food production zones within the investigation area. What I am suggesting there is we would actually zone it through a planning scheme amendment to protect it forever in terms of farming opportunities and not carve it up for residential or other non-productive uses.⁴²

Speaking on the cost of recycled water, Mr Ric Clarke from South East Water, had earlier told the Committee at a hearing:

The relatively high costs of recycled water supply have been an impediment to increased use and growth and those high costs are attributable largely to the costs of infrastructure. Our experience is that subsidies are generally required to allow recycled water to be supplied at competitive commercial rates.

What we would be looking to do over the forthcoming year or two is to work with Mornington Peninsula Shire Council, the City of Casey and the Shire of Cardinia to explore the opportunities to supply recycled water out to these intensive agricultural zones and then to prepare business cases and full submissions to both state and federal governments for funding of the infrastructure to get recycled water supply pipelines to those areas.⁴³

Recommendation 10:

That the Victorian Government, in partnership with relevant stakeholders, including water authorities, commits to funding recycled water schemes for agriculture in peri-urban areas.

During the hearing, Committee member Ms Colleen Hartland MLC, Mr Clarke and his colleague Mr King, had the following exchange:

Ms HARTLAND — I have a couple of questions. I was interested in the Boneo recycling project in terms of the 12 customers that you have and you listed those. I am just wondering: do food production customers get priority over golf courses or is it on a user-pays system?

Mr CLARKE — There is no setting of priority. We have a supply agreement with each of the customers and that supply agreement specifies the volumes that each can take over a year and over each productive day or each irrigation season day. We have sized the infrastructure to meet each of those agreements. There ought not be a priority setting — there should not be a priority issue.

Ms HARTLAND — I am sorry, I find that a bit difficult to understand. Why would food not have priority over a golf course?

Mr CLARKE — It does not.

The CHAIR — It is in the pie chart here.

Mr CLARKE — I am sorry, I am not following that one. It should not have to because the system will deliver water to both of them to meet both of their needs at the same time.

Ms HARTLAND — You have got 12 customers coming on. If you had a 13th customer, if they were a food producer, would they get priority over a golf course?

Mr CLARKE — We would not sign up a 13th customer if there was a conflict.

Ms HARTLAND — How do you mean ‘a conflict’?

Mr CLARKE — If it necessitated some sort of prioritising of supply, that 13th customer would have to be happy with the prioritising of supply. It is a first come, first served project and there is a capacity limitation. Once the project goes ahead, we cannot supply more than 1.6 gigalitres a year so we have a practical cap on what we can supply. That supply volume is pretty close to contracted out already.

Ms HARTLAND — I understand what you are saying. My concern is that I think with the current drought, climate change et cetera, it would be more logical that food production have priority over golf courses.

Mr KING — The thing we did is we went out there and talked with the growers. The growers let us know which farm lots wanted recycled water. With the ones who did not, we had a backup of golf courses. With stage 1 we have 1.6 gigalitres and we have got that until 2012–13. In 2012, we will have that extra water. If there is any extra and the market gardeners or the strawberry farm down there requires recycled water, then we can actually hook them on.

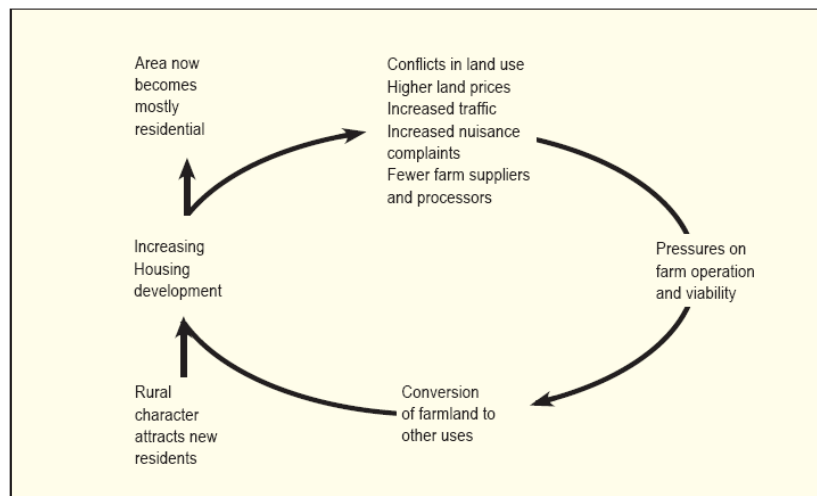
Ms HARTLAND — I understand what you are saying but I am saying that food should be a priority in terms of who gets the water.

Mr KING — The driving force for this was market gardeners. They were the driving force.⁴⁴

The Committee has formed the view that the future of agriculture in the green wedges is dependent on access to high quality recycled water.

4.2 Urban growth

The market for land is the main determinant of what happens on the edge of a city. Many farmers in peri-urban regions are active participants in the land market and welcome increases in the value of their land, which allows them to sell and exit the industry or move further out to re-establish their business elsewhere. For those who stay and farm, urban encroachment brings with it higher local government rates, increased traffic, conflict with non-farming neighbours, a loss of community and other negative effects. The following diagram illustrates the process whereby pressure for urban development drives a ‘cycle’ of farmland conversion.

Figure 4.2: ‘The cycle of farmland conversion’

Source: Daniels and Bower, 1997, *Holding Our Ground: Protecting America's Farms and Farmland*.

In Melbourne, governments intervene in the cycle of farmland conversion principally through planning tools, including the UGB and the green wedges, which seek to channel growth into and away from distinct non-urban areas. These planning tools introduce their own opportunities and constraints for agribusiness owners. The UGB and the green wedges, and associated issues, are the focus of the next section of the report.

4.2.1 Melbourne's Urban Growth Boundary

The Committee received a great deal of evidence from the community concerning the influence of the UGB on the sustainable development of agribusiness near Melbourne. This evidence was received concurrently with the government proposing major changes to the UGB in 2008 and 2009.

As noted in Chapter One, in September 2009 this Committee conducted an inquiry into specific aspects of the government's UGB proposals. The Committee's report was tabled in Parliament in November 2009.

The Melbourne UGB was introduced with the *Melbourne 2030* strategy in 2002. *Melbourne 2030* described the UGB as representing “the long term limits of urban development and where non-urban values and land uses should prevail in metropolitan Melbourne, including the Mornington Peninsula.”⁴⁵ The UGB delineated the growth corridors and the green wedges (green wedges have been present in Melbourne's metropolitan shape in various forms since at least 1967).⁴⁶ Under the *Planning and Environment Act 1987*, amendments to the UGB must be ratified by both Houses of Parliament.

In November 2005, the then-Planning Minister announced an expansion to the UGB as part of the government's *Plan for Melbourne's Growth Areas* strategy. This expansion of the

UGB sought to bring inside the boundary enough land to satisfy the demand for housing for the next 25 years. It was estimated that Melbourne would require 225,000 new houses over that time.⁴⁷

4.2.1.1 Melbourne 2030 Audit

The Victorian Government has made a commitment to review *Melbourne 2030* every five years. In June 2007 an Audit Expert Group was appointed to conduct the first review and in March 2008 their report was released.

Aspects of the Audit Expert Group's report are relevant to this discussion. The report described the UGB as 'an effective planning tool.' It expressed support for changing the boundary should a range of 'compelling circumstances' arise. These included: the need to maintain a 15 year supply of land; responding to major land use changes in the green wedges (such as a major extractive industry ceasing to operate); and, 'in exceptional cases', where development was fully funded outside government budgets and could provide identifiable benefits to the metropolitan area overall.⁴⁸

Should these compelling circumstances not eventuate, the Audit Group recommended that the UGB remain stable 'for at least the next five years' and not be moved where key values – including agriculture – required protection:

*The UGB should remain fixed in those areas where the boundary's role is essentially to prevent sprawl and to keep development from significant waterways, landscapes, valuable agricultural lands, regional recreation areas, water supply catchments and other rural areas remote from transport corridors.*⁴⁹

4.2.1.2 Proposed changes to the UGB: Melbourne@ 5 million

In December 2008, Premier John Brumby released *Melbourne 2030: a planning update, Melbourne @ 5 million* and announced the Government was examining 51,393 hectares of land outside the current UGB for Melbourne's growth. Approximately eighty-eight percent of this land would be located within the green wedges.

The Premier stated that Melbourne would need 600,000 new dwellings in the next 20 years and 134,000 of these would be located in the expanded urban zone. A GAIC was also proposed to fund infrastructure in the new growth areas.

As previously noted, a bill to establish the GAIC was defeated in the Legislative Council on 23 February 2010. Further background information can be found in the Committee's 2009 inquiry report into the UGB, the GAIC and related matters.⁵⁰

4.2.1.3 Delivering Melbourne's Newest Sustainable Communities

The DPCD released its review of the UGB for public consultation in June 2009. This report (*Delivering Melbourne's Newest Sustainable Communities*) emphasised that Melbourne had grown faster than expected and the population would reach 5 million. The need for “enough land in the growth areas to maintain an adequate and competitive land supply to meet future housing needs” provided the compelling circumstances for expanding the UGB.⁵¹

In all, the expansion of the UGB proposed to remove around seven percent – roughly 43,000 hectares – of Melbourne's total green wedge land area.⁵²

Delivering Melbourne's Newest Sustainable Communities describes the protection of agricultural areas close to Melbourne as a “major policy consideration, particularly in the south-east Investigation Area.”⁵³ That was weighed against the need to expand Melbourne. The following conclusion was reached:

On balance, it is proposed that some high value agricultural land in the south-east be converted to urban uses, given the:

- *Proximity of that land to major community services;*
- *Potential to provide high capacity public transport services to the area; and*
- *Severe limits to creating sustainable new communities in the Casey-Cardinia growth area.*

*There are also pockets of intensive agriculture in the other Investigation Areas including vineyards and orchards in Melton and Sunbury. The long term use and/or interface of these activities with urban development will need to be considered when preparing Precinct Structure Plans.*⁵⁴

The Committee notes that the proposed urban expansion area within Casey (the ‘south-east investigation area’) overlaid highly productive agricultural land. A background technical report prepared by consultants for the *Delivering Melbourne's Newest Sustainable Communities* report, examined the Casey South Statistical Local Area (SLA) and found that horticultural production was worth \$84,168,357 per annum and production from livestock, pasture and broadacre was worth \$50,640,167 per annum.⁵⁵ The consultants concluded:

Existing agricultural activity in the Melbourne South East Investigation Area poses a major constraint for urban development due to the potential for significant

loss of agricultural economic output. This area has a combination of good soils, access to water and access to markets, providing a competitive advantage for agricultural production, particularly high value market gardening. It is one of two significant vegetable growing areas in close proximity to Melbourne. The other is Werribee South, which has already been recognised as being of sufficient value to be protected from urban development.

Additional urban growth in this region would also be expected to impact on nearby agricultural activity through encroachment on landholders' "right to farm" and reduction in the area of high quality soil accessible to horticulture. This will particularly be the case for the poultry farms to the south, which require significant buffer zones due to the potential for odour emissions.⁵⁶

The Committee heard similar concerns in a detailed presentation from the City of Casey.⁵⁷

4.2.2 Planning 'certainty'

'Certainty' was a regular theme in the evidence received by the Committee in its investigations both in Melbourne and elsewhere. Farm businesses work in long time frames when making plans and investment decisions – roughly ten years or more. A level of certainty around future zoning is therefore important for the success of the business.⁵⁸

A majority of submissions to the inquiry criticised the government's proposed expansion to the UGB and predicted it would undermine certainty and have the likely effect of encouraging land-banking and speculation. Reflecting on the mooted changes to the UGB, Mr Brett Luxford, Manager of Business Growth and Sustainability at Melton Shire Council, told the Committee:

I guess there needs to be some level of certainty so that landowners within our area know that the UGB is in this place and will be there for a period of time, which means that their land will not be included for the next 10 to 15 years, 'So I might as well farm my land or let someone viably farm my land'. But it will also bring down the prices of that land outside the UGB so that the speculators will say, 'Now my land is not worth what it would be if it was residential; I can now sell it back for a farm price so that farmers can accumulate enough land'. I guess it is more about the speculation and certainty around where the UGB will finally sit.⁵⁹

Similarly, a submission from Wyndham City Council reported that speculators had purchased old farming properties in the dryland farming area in the north of the municipality since the release of *Melbourne 2030*, with the expectation of a shift in the UGB and “the release of the state government’s *Melbourne @ 5 Million* substantiates this view.”⁶⁰

Further to this topic, Mr Trevor Budge called for “some certainty in the planning system” at a public hearing held in Melbourne:

*There are many [other] ways of dealing with certainty. I think the urban growth boundary associated with Melbourne 2030 is one of those ways, although it has been shifted already a couple of times. We do need some degree of certainty. The urban dweller needs certainty so they know where they are being positioned and the farmer — the horticulturalist — needs certainty so they can reinvest. The best description I have heard of this area is that it is a zone of impermanence. It has no permanent structure with it and so the agriculture just moves on. You cannot blame any farmer for taking the best offer on the table.*⁶¹

A comparable argument was put to the Committee by Cr David Gibb, representing the Interface Group of Councils, at a public hearing:

*The whole point of the urban growth boundary, when Minister Delabunty brought it in in 2002, was to have certainty, to say, ‘This land will always be for agriculture or for conservation purposes’. If the Melbourne 2030 policies are not working as well as they might have been intended to work by all parties — and the interface councils are very strong supporters of the Melbourne 2030 policies, of concentrating population where the infrastructure is — it is counterproductive to the policy intents that we all seek to keep on extending the urban growth boundary. It creates an uncertainty, where people are speculating on land they might acquire and sit on for 10 or 15 years in the hope of rezoning. It is not doing government policy or anybody’s long term interests good.*⁶²

The legitimate investment practice of land speculation and land-banking is prevalent throughout Melbourne’s peri-urban region and it must be taken into account as a factor influencing the longer term prospects for agriculture. As much as 50 percent of the green wedge land to the west of Melbourne is held by land bankers and other absentee landholders.⁶³ Further, large (but unquantified) areas of the rural land adjacent to the UGB have been ‘optioned’ by developers, according to evidence presented to this Committee.⁶⁴ Farmers with large holdings in the green wedges report regular approaches from developers to buy their land, despite its green wedge zoning. Much of the land

optioned or purchased for future development is, in the words of one farmer, “run down, neglected, a recipient of rubbish dumping, infested with weeds and vermin and a serious fire hazard.”⁶⁵ As noted elsewhere in this report, these are the public policy challenges generated when a landowner’s commitment to their land is diminished or non-existent.

Figure 4.3: ***Text of a ‘Land for sale’ advertisement***

URBAN GROWTH BOUNDARY ACROSS ROAD

30 Acre existing non-operating market garden, 33 meg water rights. Ideal land bank opportunity for investors and developers to secure a site with potential residential zoning in the future. Just 3km from Werribee town centre and under 1km to Princes Freeway. Located in the fastest growing municipality in Australia (City of Wyndham). Price: \$2.28m.

Source: domain.com.au, retrieved March 2009.

The Committee heard that environmental improvements on farms, such as planting for shelter belts or fencing creeks to protect them from livestock, are less likely to occur when the landowner receives signals from the planning system that agriculture is a provisional land use and the land is ‘in waiting’ for urban development. On this point, Mr Ian Morgans from the PPWCMA related the experience of one landowner whose property was some distance from the UGB:

I went to visit a landholder with a Landcare coordinator north of Mickleham. He had 1,100 hectares of grazing country and he was very interested in planting his very bare country out with extensive tree corridors for a number of purposes. He loved that land. He had lived there all his life; it was his father’s place before him. On the day I went to visit, he was getting cold feet and he negotiated with this Landcare coordinator on a farm management plan for the property in a very guarded way. He told me that he was getting telephone calls from people who wanted to buy his land. He knew that if he put in extensive tree corridors and those corridors remained for 10 years, it would create impediments for those land developers under the native vegetation clearing controls. I heard two weeks later that he had completely pulled the pin on that Landcare and farm planning project because although he loved the land, I guess he could not bring himself to compromise its potential value to his children as urban development land.⁶⁶

The Committee agrees with the weight of evidence put to it in this inquiry that Melbourne's expanding urban form needs to be stabilised as far as possible to provide certainty to agribusiness and to achieve the goals of the green wedges and Melbourne's overall metropolitan strategy.

Recommendation 11:

That Melbourne's Urban Growth Boundary be stabilised to provide certainty to landholders and agribusiness.

4.2.3 Cost of land

The high cost of rural land was frequently identified to the Committee as a major impediment for agribusiness near Melbourne.⁶⁷ Local farmers seeking to expand can be priced out of the real estate market by buyers wanting hobby farms or retirement properties or by those purchasing land for speculative purposes in the hope and expectation of windfall gains through future urban development. Unable to secure land for expansion, agribusinesses in peri-urban areas seek to become more intensive or diversified in order to remain viable.⁶⁸

The Committee did not receive data on land prices. The table below is reproduced from DSE sales data cited in a background report to *Delivering Melbourne's Newest Sustainable Communities*.⁶⁹ While limited in detail, it confirms the higher average prices paid for rural land in Melbourne.

Table 4.1: Rural land sales in metropolitan Melbourne and country Victoria

Rural Land Sales	Year	Total no. of sales	\$ Average sale price
Metropolitan Melbourne	2006	934	\$1,015,988
	2007	920	\$891,047
Country Victoria	2006	7,892	\$379,259
	2007	7,071	\$396,230

Source: Cited in Parsons Brinckerhoff Consulting, *Background Technical Report 1: Land Capability*, DPCD, June 2009. Notes: "due to the difficulty in defining 'farms' and 'rural' property, the data

reported may not truly reflect the changes in value for broad-hectare farms. 'The sales data for 'rural' is basically for properties of more than one or two hectares, depending on their specific type. Near metropolitan Melbourne and regional centres, smaller 'hobby' type farms and lifestyle properties may influence the numbers sold and the values achieved.'" (DSE, 2008)

High land prices have several effects on agriculture. Notably, they deter and prohibit new farmers, including the children of local farming families, from entering the industry.⁷⁰ The cost of land therefore contributes to the well-documented ageing of the farming community (the median age of Australian farmers in the 2006 census was 52). A 2004 report on agriculture in Casey and Cardinia discussed this and the local flow-on effects:

Due partly to the cost barriers to young potential farmers, the average age of commercial farmers in Australia is steadily rising. This factor will inevitably influence the structure of agriculture in the region as farmers will look for less physically and mentally demanding farming enterprises. It will for example, have a severe effect on the local dairy farming industry where older aged farmers may opt to transfer to a beef enterprise. The same structural adjustments could also be seen in future years to the orchard and vegetable industries. An additional negative factor in this trend will be a decline in on-farm employment in the region and a reduction in the need for the farm services sector, another factor tending to lessen employment opportunities.⁷¹

In an environment of prohibitively high prices for rural land, agribusiness owners have to seek other options. Leasing opportunities exist in certain locations. This can be a better strategy than land ownership as it avoids the huge capital cost. On this issue, Wyndham City Council has observed some consolidation by Werribee Irrigation District vegetable growers in recent years:

The estimated farm management holdings are approximately ninety, down from one hundred and thirty recorded in 2002. This most recent consolidation of farms has occurred more through leasing than land sales. This trend has the advantage of reducing operating costs and increasing production levels through better economies of scale.⁷²

An experienced farmer who has leased around 2,000 hectares in different parts of Melbourne informed the Committee that there are advantages for the landowner in leasing their land and having it properly managed. There are also benefits for the wider

community in terms of weed control, reduced fire risk, preservation of heritage buildings and improved amenity.⁷³

The Committee heard there was a need for initiatives to encourage owners of unutilised land, particularly land held by developers and speculators, to make it available for others to take on and farm under long term leases.⁷⁴ This could be commercial-oriented farmers or community organisations.⁷⁵

On this topic, the Committee received a submission from retired agriculturalist Mr Richard Hastings.⁷⁶ Mr Hastings noted that young people hoping to enter agriculture and establish a family enterprise were prevented from doing so due to the escalating cost of land and their lack of equity (an observation supported by commentary in the *2008 Annual Report* of the Victorian Young Farmers' Finance Council).⁷⁷

Mr Hastings proposed a program whereby farmers engage a mediator to help find land not currently being used for production and arrange leases of around 10-12 years duration. Comprehensive plans would be drawn up for each holding, covering fencing, water, planting and the upgrading of facilities and equipment.⁷⁸ The advantages of the scheme would be “a viable family enterprise geared to grow and survive, a stable family able to commit to the community and good stewardship of the countryside.”⁷⁹

In London, the Committee was directed to a new initiative of the Soil Association – the Land Trust program. This program seeks to lower the barriers to entry for farmers (particularly for organic farming) by making land available to lease. Land is acquired through gifts, bequests and purchases and the Soil Association ensures it is protected as farmland in perpetuity.⁸⁰ Similar programs involving the purchase and lease of farmland to young farmers are in operation near Vancouver (Canada) and throughout the United States.

On its visit to Ontario (Canada) the Committee received information about a program which brings together new farmers who are either looking for land or would like to be mentored, with farm owners who either have land available or expertise to share. FarmLINK Ontario was developed as a partnership between three organisations: Kawartha Heritage Conservancy, Ontario Farmland Trust and FarmStart. FarmLINK's website features a 'matchmaker' functionality for farmers, aspiring farmers and landowners to post information and locate opportunities.⁸¹

Recommendation 12:

That the Victorian Government, in conjunction with relevant stakeholders and developers, establish a program (along the lines of FarmLINK and similar programs), to identify vacant rural land suitable for agriculture in peri-urban Melbourne and arrange for its lease to farmers and community organisations seeking land.

4.2.4 Rates

One impact of higher rural land values on the sustainability of agriculture is felt through increases in local government rates. Rates are set according to land valuations. Significantly higher rates (often without significantly improved services) are a competitive disadvantage for peri-urban primary producers in relation to producers elsewhere in the state.⁸²

Properties in Victoria must be re-valued every two years, which can result in rates increasing substantially in a short period of time: the Committee heard examples of farmers receiving rates increases of 80 percent, 100 percent and greater.⁸³

At a public hearing held on Phillip Island, the Committee was provided with further examples of the difficulties faced by some farmers:

One of the issues for this particular area is our proximity to Melbourne's south east growth corridor and the impact population growth in that area has on us as its neighbouring area... It has created an increased demand for rural land and this has exerted upward pressure on rural land values. I think it is recognised within the shire and across the board that in a proportional sense, this increase shows that the rural land values have increased more significantly than any land value of other land types within the shire.

...

The example I will give is that in the year 2003–04, rates represented 8 per cent of farm income. In the year 2008–09 it was 20 per cent of farm income. That is with the application of the 20 per cent rural rebate. In real terms, this has meant that there has been a 150 per cent increase in rates. The issue for farmers is that it is becoming unsustainable, so whilst we look at myriad other issues which challenge farmers and question sustainability of their agricultural production and make them look in different directions and whatever else, we have what I will call an artificial impact which is causing an impact that is really out of whack and out of context with everything else because it is so large and such a direct impost.

...

We think the application of a differential rating system to farmland is a very important option to consider in order to ease the pressure on farmers and if this is not available, we would like to look at some other means of providing relief to farmers who are impacted so much by land value.

Just before I finish and hand over I point out that in my case that 150 per cent increase in farm rates does almost relate to the increase in land value and yet, we have no intention of moving on. But also ... the same piece of land that my father ran in the 1950's with 100 head of cattle now sustains 400 head of cattle. That is due to improved pasture management, total salinity control, increased biodiversity,

improved farming and supplementary crop methods and those sorts of things as well. It is not as though farmers are arguing this case in a situation where they are sitting on their hands. They are working very hard to improve production and productivity but they find this artificial rating impact is really threatening their viability.⁸⁴

Evidence put to the Committee on possible solutions fell broadly into two categories: (i) local government rate reductions schemes and (ii) alternative rating systems.

The Committee requested information on the various ways in which local governments offer reduced rates for primary producers (often called the ‘farm rate’). However, gaps in the information and complexities in the way rates are charged meant the Committee is unable to present a useful comparison across municipalities. In summary, it appears some municipalities provide a discount on rates for farms, others a rebate for environmental works and some provide both.

Information supplied by Nillumbik Shire on its farm rating system provides an example. Nillumbik’s farm rate in 2008 offered a 10 percent reduction on the general rate. In 2008-09, 212 properties were levied the farm rate. Some 100 of those also received a Sustainable Agricultural Rebate, which offers a further 20 percent reduction on the farm rate. Its purpose is to encourage landowners to undertake or maintain specific works on their property to improve land and water resources and address problems of land degradation. To be eligible, the property must be classified as farmland, a minimum of 30 hectares and implementing a range of land management practices.⁸⁵

The Shire of Melton offers a rate rebate scheme for landowners who enter into a weed management plan. Mr Brett Luxford from Melton Shire Council informed the Committee:

We have had significant success as a council in reducing the amount of weeds within our municipality. We now have a vast percentage of blocks across the shire which are weed free, which means the opportunities for further agricultural production are much greater on those blocks. Pest species and the infestation of weeds are major challenges facing agribusiness in the interface areas.⁸⁶

Rebates linked to environmental stewardship activities were supported in a number of submissions,⁸⁷ although the Committee heard that in some (perhaps most) cases these rebates are outweighed by the costs incurred in qualifying for them.⁸⁸

Some inquiry participants called for fundamental change to the rating system. The VFF argues for valuations and rates to reflect the land’s ability to produce commercial agricultural output only, not its value as future subdivisions: “if land is zoned rural, then

the rates should reflect that use. Currently, rates more reflect the proximity of land to Melbourne rather than the earning value of these farms.”⁸⁹

The question of alternatives to the current rating system was taken up by Mr Trevor Budge at a public hearing, who discussed the effects of introducing Portland’s (Oregon) urban growth boundary on the valuation of land for tax (ie., rates) purposes:

One of the key secrets was that the land then assumed the value of non urban land. So the land taxes, as they are called in America — the rates — dropped to almost nothing because the land was now set aside for 20 years. So what is its true value? Its true value is that you have got to farm the thing. Most of the speculative value has gone out of the land. That is what is driving a lot of people out of these areas, the speculative value. Interestingly, they have a model where for various reasons, some people may need to convert their land to urban; there may be reasons why they need to expand the boundary. If the boundary expands and you have been paying a much lower rate or tax for the past 10 years and your land is converted and now of course you have a windfall profit, you pay the difference. You pay what were the taxes you would have paid over that period of time. The idea that you can just sit there and think, ‘Suddenly we will get a rezoning and we will change it’ is taken out. The urban growth boundary has been very effective. It does not work very well if you have got just ordinary land; it needs to be highly productive land.”⁹⁰

Mr Budge went on to discuss the large rates increases for farmers near Melbourne:

One of the things that is killing those farmers is that they are suddenly paying thousands and thousands of dollars in rates and they are paying it on a speculative value. You talk to the valuers and they say, ‘We have to value it on the basis of the most appropriate equivalent sales in recent times’. But it seems to me that if you have created a situation where you have said to someone that for 20 years you are not going to sell that land, it must assume a different value, but more particularly, you then reduce the taxation and the rates down to a realistic level.

What services are these people actually receiving that requires them to pay extraordinary rates?”⁹¹

The Committee notes that the setting of rates is (with statutory limits) the prerogative of local government.⁹² Land values in the geographic areas of main interest to this Committee – those abutting the UGB – are set by the market and influenced to a large

degree by state government decision-making on the siting of that boundary. The Committee notes that resolution of the issue is likely to require a statewide response.

Recommendation 13:

That the Victorian Government work with the Municipal Association of Victoria and relevant interface and peri-urban local governments to develop a statewide response to the issue of high rates charges for primary producers impacted by rising land values and urban growth.

4.3 Green wedges

The question is: in the green wedge is agriculture a legitimate activity and is it in fact a good activity? Is there a role for agriculture in the green wedge? I would argue that if we do not have legitimate agriculture in the green wedge, then all you have left and all you can look forward to in the green wedges is dormitory type land use, where landowners will increasingly bid up the price of these highly desirable dormitory blocks, use them for nothing more than residences and the land associated with the dormitory house becomes almost an irrelevancy other than to separate the house from its neighbours.

It leads to all sorts of problems with poor land use; it provides no employment locally, because the land effectively becomes out of use, moribund; it is potentially an environmental problem; and the additional issue is that there is even less sustainable economic activity for the local community to tap into and from which to gain some sustenance.⁹³

Green wedge land is defined under the *Planning and Environment Act 1987* as metropolitan land outside the UGB. Melbourne's green wedges comprise around 684,000 hectares and are nearly three times the size of the Melbourne urban area inside the UGB.⁹⁴ The changes to Melbourne's UGB proposed in 2009 foreshadowed a reduction in the green wedge land area by around 43,000 hectares.

The majority of the green wedge land is within the interface councils: the Cardinia, Hume, Melton, Mornington Peninsula, Nillumbik, Whittlesea, Wyndham and Yarra Ranges local government areas.

4.3.1 Objectives

The green wedges are intended to achieve several objectives, with protecting agricultural land being just one of these. The green wedges host water catchments, quarries, airports, parks and recreation services. According to the *Melbourne 2030* strategy, the key values of the green wedges are:

Economic:

- Provide opportunities for special uses including airfields, sewage works and other infrastructure that supports urban areas;
- Safeguard the opportunity for productive agricultural uses ;
- Provide for tourism and other businesses based on the natural and cultural heritage of the region;
- Protect and conserve the opportunity to use non-renewable resources such as sand and stone; and
- Encourage the development of a more compact city.

Social:

- Preserve the enriching and cultural significance of open rural and scenic landscapes, green spaces and non-urban land;
- Provide recreation development opportunities; and
- Provide a physically separate identity for towns and communities near the metropolitan boundary.

Environmental:

- Protect natural areas which contribute to biodiversity and the environmental health of the city; and
- Provide opportunities for developing a network of parks and open spaces based on the natural and cultural heritage of the region.⁹⁵

The Victorian Planning Provisions (VPP) is a statewide reference document from which planning schemes are sourced and constructed. The VPP provides the framework, standard provisions and planning policy, whereas local governments provide the local

planning content and select the zones and overlays from the VPP for inclusion in their planning schemes.⁹⁶

Clause 12.02 of the VPP sets out the state's policy to protect the green wedges from inappropriate development by:

- Ensuring strategic planning and land management of each green wedge area to promote and encourage its key features and related values;
- Supporting development in the green wedge that provides for environmental, economic and social benefits;
- Consolidating new residential development with existing settlements and in locations where planned services are available and green wedge area values can be protected;
- Planning and protecting major transport facilities that serve the wider Victorian community, such as airports and ports with their associated access corridors;
- Protecting important productive agricultural areas such as Werribee South, the Maribyrnong River flats, the Yarra Valley, Westernport and the Mornington Peninsula;
- Protecting areas of environmental, landscape and scenic value; and
- Protecting significant resources of stone, sand and other mineral resources for extraction purposes.

In June 2003, Clause 57 was incorporated into the VPP. The purpose of the Clause is (stated in part):

- To protect metropolitan green wedge land from uses which would diminish its agricultural, environmental, conservation, landscape, natural resource or recreation values;
- To protect productive agricultural land from incompatible uses;
- To ensure that the scale of use is compatible with the non-urban character of metropolitan green wedge land; and
- To encourage the location of urban activities in urban areas.⁹⁷

Planning scheme amendment VC43 came into effect on 31 October 2006. A November 2006 report by the MAV described the new planning provisions in the following terms:

- A planning permit is required for long-term leases for accommodation, to prevent projects being used as de facto residential housing developments;
- ‘Urban’ uses such as restaurants, function centres and tourist accommodation must now show a genuine relationship with agricultural land use - landowners, for example, cannot plant a vine in the front yard, call themselves a winery and then develop a restaurant;
- Minimum lot sizes will apply for land uses such as function centres, group accommodation, research and development centres, residential hotels and restaurants’;
- Recycling and refuse transfer stations in the Green Wedge Zones must not include construction or demolition materials, such as concrete crushing’; and
- Existing schools wanting to expand must be in a Special Use Zone, stay within their existing land holding and have a masterplan showing the school’s ultimate development.⁹⁸

4.3.1.1 Clarifying green wedge policy

Melbourne’s green wedges have been described as constituting some of the strictest provisions in metropolitan planning in the world.⁹⁹ The Committee believes the intent of the green wedges and the underlying principles of *Melbourne 2030* continue to have broad support among stakeholders. The Interface Councils Group has stated that councils “view the planning framework for green wedge management as reasonably sound and robust. This stems from a metropolitan planning framework – Melbourne 2030 – which is also regarded as sound and robust.”¹⁰⁰ These are in essence the same principles established in every metropolitan strategy since the former Premier and Minister for Planning, Sir Rupert Hamer, first flagged the notion of green wedges in the late 1960’s.¹⁰¹

Despite general support for the intent of the green wedges, evidence put to the Committee from landowners, farmers, local governments and other stakeholders demonstrates that there is uncertainty and confusion around the purpose and future of the green wedges, stemming in part from a lack of clear state government policy. On this point, Mr Ian Morgans of the PPWCMA told the Committee:

*We would urge the government, once this current urban growth boundary review is concluded, to send some very strong, persistent and pervasive messages that the green wedges are highly valued, that they have enormous potential in a carbon constrained economy and for the future of this whole region and for the people of Melbourne, wherever they live and that the green wedges are forever and the urban growth boundary is secure.*¹⁰²

A similar view, from the perspective of green wedge landowners, was put to the Committee at a public hearing by Mr David Nickell from the Gembrook district:

Green wedge planning provisions are negative. They tell you what you can't do. With the [Gembrook] district drifting between declining broad-acre land-use and no clear direction for future agricultural development, existing land owners are disadvantaged by green wedge provisions.¹⁰³

...

Land owners need some inspiration through planning schemes about what they can do. What opportunities from green wedge open up unique opportunities for land-owners? Are there any competitive advantages in remaining in a Green Wedge or only constraints? What funding sources are available to Green Wedge landowners specifically? Without any active support, vision for the future and resources from all levels of government, I am struggling to find positive arguments for investing in agriculture in the district.¹⁰⁴

A review of green wedge issues was conducted by the MAV in November 2006. The report consolidates the perspectives of local government, who are often the first point of contact for landowners. A majority of the councils indicated that:

...there is significant room for improvement in explaining and assisting community understanding and support for the purposes of green wedge areas. Improved community ownership and engagement with green wedge policy, strategies and works programs as well as further explanation and education were seen as necessary... The audience for communications and education initiatives was seen to include both a local and broader metropolitan audience.¹⁰⁵

The Committee finds that a policy statement is needed from the Victorian Government which clearly sets out the purpose and values of the green wedges and explains how and why the government will seek to manage and improve them in coming decades. In comparison to other green wedge/greenbelt regimes examined by this Committee, state governments in Victoria have at times appeared to adopt a 'set and forget' attitude.

Further, the Committee believes there is a need to build public understanding of the green wedges and the important role that agriculture plays within them. The Committee sees benefits in a communication campaign taking this message to the wider community. The campaigns and projects initiated by overseas organisations such as the CPRE (in the

UK)¹⁰⁶ and the Friends of the Greenbelt Foundation (in Toronto), could usefully serve as models for this.

4.3.1.2 Case study: Toronto's Greenbelt

The Committee visited Toronto, Canada, in July 2009 to investigate food and farming initiatives in that city and its hinterland. Toronto, capital of the province of Ontario, has a population of 5.5 million in the greater metropolitan area (the province itself has a population of over 13 million).

Toronto's Greenbelt was established by legislation in 2005 and was a point of interest for the Committee on its visit.

The Greenbelt covers 720,000 hectares, making it larger in area than the Melbourne green wedges (indeed it is claimed to be the largest greenbelt in the world). There are approximately 7,000 farm businesses. In general, farms are smaller than elsewhere in Ontario (the average farm size is 64 hectares) but highly intensive, very diverse in terms of commodities produced and more profitable on a per hectare basis. Greenbelt farms produced goods worth C\$1.2 billion in 2001. Horticulture is a particular strength: 87 percent of Ontario's plums and peaches, 85 percent of its grapes and significant proportions of its apples, vegetables, cherries and raspberries are produced on Greenbelt farms.¹⁰⁷ There are nearly 60 farmers' markets in the Greenbelt.

The Committee was impressed with the work of the Friends of the Greenbelt Foundation, a not-for-profit organisation. In 2005, the Ontario government allocated C\$25 million to the Foundation to support its grant making and operational activities. Grants go to projects that will promote Greenbelt-grown food, create cleaner air and water and/or inspire innovation in the Greenbelt. Examples of projects include:

- Assistance to Greenbelt farmers to meet certification standards allowing them to market produce as local and sustainable produce;
- Establishing a wholesale market/food hub where Toronto chefs can access local Greenbelt produce and network with producers;
- Support for a program to bring local Greenbelt produce to schools;
- A structured mentorship program for Greenbelt farmers aspiring to convert to organic production; and
- Signage programs to build public awareness of the location of the Greenbelt.¹⁰⁸

Recommendation 14:

That the Victorian Government issue a policy statement clearly setting out:

- the values and long-term objectives of Melbourne's green wedges;
- the roles and responsibilities of the Department of Planning and Community Development, the Department of Sustainability and Environment, and the Department of Primary Industries in managing the green wedges; and
- the government's priorities for supporting and improving the green wedges.

Recommendation 15:

That the Victorian Government develop a communication strategy to raise the profile of the green wedges among the Victorian public. The strategy should:

- be informed by surveys into public attitudes towards the green wedges;
- involve and showcase green wedge agribusiness;
- explain the roles of green wedges and why they are valuable; and
- use advertising, signage and other techniques to help the public identify the location of the green wedges.

4.3.2 Resources

Some witnesses in the inquiry drew a comparison between the resources devoted to building new communities in the growth areas, with those going towards planning and sustaining the green wedges. For example, Mr Ian Morgans of the PPWCMA stated:

We need much stronger commitment to the green wedges and resources for the green wedges. There is an enormous amount of very laudable investment going into trying to create better suburbs and better living spaces for people in Melbourne's future and there is an enormous amount of investment going into growth corridor planning but there is virtually nothing going into green wedge planning.¹⁰⁹

The *Melbourne 2030* strategy requires the development of Green Wedge Management Plans (GWMPs) to promote effective management of the sustainable use and

development of each green wedge and to provide a clear land management direction. In 2009, the Committee found GWMPs for the 12 green wedges in different stages of development; some complete, with supporting analysis and others yet to be initiated. A considerable amount of community consultation is evident in some of the planning documents viewed by the Committee.

The Committee heard questions in the community as to whether the interface councils are adequately resourced to plan and deliver services to the growth corridors and the green wedges. Specific topics mentioned were difficulties accessing agricultural and land management expertise, a shortage of town planners and perceived inequities stemming from the classification of outer suburban areas as either rural or urban.

4.3.2.1 Access to expertise

The issue of local access to specific agricultural and land management expertise to assist farmers was raised by a number of local councils during the inquiry. Business planning, succession planning, eradicating weeds and pests, reducing farm externalities (such as odour from broiler farms), soil health, and niche industry opportunities were variously mentioned as knowledge areas in demand by local agribusiness.¹¹⁰

Mr David Turnbull, CEO of Whittlesea City Council, reflected on the fact that councils had picked up advisory and education functions previously delivered by the state government:

If you had looked at local government 10 years ago, Chair — and I know this is the case right around the interface councils of Melbourne — there would not have been a sustainability planning unit such as there is in Whittlesea. There were definitely not farmland or land management officers whose job was solely to link in with our rural landowners and help them as much as possible through expert advice on everything from land management to agricultural management. There definitely were no education programs aimed at our rural landowners.

They are all the sorts of activities that used to be undertaken by what was then the department of agriculture. One of the big issues you will hear about if you are moving around the other interface councils is that the interface believes it needs more support from government in undertaking a lot of these roles that it has itself taken on from the so called old department of agriculture. We think there is a much bigger role for government to play in helping the interface councils — and Whittlesea — in being able to do a lot more with landowners.¹¹¹

Of the interface councils, only Yarra Ranges has its own agribusiness officer. Cardinia Shire and the City of Casey share one officer between them.¹¹² Other councils (such as

Whittlesea) may have 'land management' officers or sustainability officers who will perform some of the functions of an agribusiness officer.

The Committee's experience with local government agribusiness officers in this inquiry was very positive. They perform valuable economic and community development roles, advising the farming community and advocating for their interests within local government. Often staff and councillors come from urban backgrounds and do not have specific knowledge of rural industries. They may not, for example, appreciate the realities of agricultural production or be aware that many agribusinesses are high value, high technology and labour intensive, and therefore worth retaining or actively attracting to the municipality.

The Committee also received favourable reports on the education, training, networking and advocacy efforts of regional agribusiness forums, in particular the AgriWest organisation.¹¹³

AgriWest is a not-for-profit incorporated association established in 2002 with the support of Wyndham, Melton and Moorabool Councils and the DPI. Funding through the DPI ceased in 2006. Funding has been received through Regional Development Victoria and other sources, although the organisation is self-sustaining.¹¹⁴ The association has around 400 members from a variety of agricultural industries.¹¹⁵ A number of well-attended forums and events have been run by the association, confirming the demand for accessing up to date information and best practice farming techniques.¹¹⁶

On the subject of AgriWest and other agribusiness forums, Mr Daryl Wilson, Economic Development Coordinator at the Shire of Melton, stated at a public hearing:

Last year, AgriWest took on the role of continuing the statewide agribusiness forum. It was extremely well attended out at the Witchmount winery in Melton. These people do need support. We have got to put farmers in a slightly different basket to a lot of other businesses. We provide various funding opportunities and programs for businesses. Most businesses — not all — have somebody within that business who has skill, knowledge and experience in developing submissions to government. As a general rule the farming community does not do that; they are too busy actually looking after the farm. We see this as a way government can assist these forums.

It is fair to say the members of the forums were very disappointed when the Victorian agribusiness network funding program ceased. Funding is available through Regional Development Victoria and so forth but there may be an opportunity for government to consider reintroducing that program. It certainly delivered a number of very positive projects in the case of AgriWest.¹¹⁷

The Committee notes that through the Better Services to Farmers program, the DPI has been transitioning towards a service delivery model based around collaboration with private and community providers. The Committee believes that agribusiness in peri-urban Melbourne has specific needs and demonstrable difficulties in accessing expertise.

Recommendation 16:

That the Victorian Government determine a funding model which ensures all interface councils employ – or have access to – agribusiness officers.

Recommendation 17:

That the Victorian Government commit to providing continued support for the work of agribusiness forums in peri-urban Melbourne through the provision of advice, funding and other forms of assistance.

4.3.2.2 Shortage of planners

The Committee heard discussion about the role of town planners in the sustainable development of agribusiness in peri-urban Melbourne. One particular issue raised concerned a shortage of planners within local government. Councillor David Gibb representing the Interface Group of Councils stated:

The University of Melbourne and RMIT are now the only institutions that produce planners — something like 40 a year but the state could do with 120 a year. That means that municipalities are actually training up planners to have them cherry picked by private industry, so municipalities are constantly behind the eight ball trying to get the strategic planning work done.¹¹⁸

The shortage of planners in local government is well documented and has been the subject of various inquiries, reports and government and industry programs.¹¹⁹ It remains a matter of concern to local governments, as the Committee heard at a public hearing in Ballan. Mr Robert Dobrzynski, CEO of Moorabool Shire, stated:

A constant theme is support in doing strategic land use planning. Planners are as scarce as hen's teeth to get but the sophistication of the planning system now and the amount of work that is required to get planning scheme amendments and to do the research necessary is a considerable drain on council budgets. At times when rates are constrained our proposed rate increases of 2.5 per cent is below cost, making it very difficult. We have certainly spoken to Minister Madden about some support in that area. The peri-urban is going to be an important part of Melbourne's future.¹²⁰

The Committee notes that the proposed extension of the UGB and other matters contained with Amendment VC55 presented a 'moderate to high' planning workload increase for growth area councils.¹²¹

The Committee also heard criticisms of the planning profession from several quarters, with suggestions that urban planners had a limited understanding of the issues affecting rural agribusiness and were more concerned with environmental regulations and maintaining rural views than assisting agribusiness to remain viable.¹²² For example, Mr Greg Price, director of a stock and station agency in Gippsland, stated at a public hearing:

In coming back to my subject, the role of planning and encouraging the development of agribusiness, I say to you, as the state government, go out and challenge these town planners. Challenge their lecturers. Are they turning out town planners or are they turning out conservators because I feel we have been hijacked? We are really not getting good planning. If I was a kid who was going to university and wanted to be a planner, I would be thinking, 'This is exciting; this is as exciting as being an architect. It is about building something'. It is not about walking up to the desk at the shire office and then saying 'What can I do here?' and having the shire pull out a glorified by laws officer who says, 'The computer says no'. Come on. I throw it back to the state government: have the debate because we are being let down.'¹²³

The Committee finds that there is a need for more planning resources to be available to local councils in peri-urban Melbourne. Further, town planning in these rapidly growing areas could be enhanced by the recruitment of staff who have had exposure to urban interface issues as part of their training.¹²⁴

Recommendation 18:

That the Department of Planning and Community Development, in view of the shortage of suitably qualified planning staff, develop options to increase the planning resources available to local governments in interface and peri-urban areas.

Recommendation 19:

That the Victorian Government work with the Municipal Association of Victoria, town planning associations and other stakeholders to encourage the development of an additional town planning course at Victorian universities, with a focus on getting student planners to gain experience in the interface and peri-urban municipalities.

4.3.2.3 Rural/urban classification

The Victorian Government's classification of the 'rural' lands within the interface municipalities as 'urban' has been discussed by this Committee in previous reports and was raised again by participants during this inquiry.

Interface municipalities and businesses do not qualify for rural/regionally targeted government grants. One Council informed the Committee that they are 'missing out' on an estimated \$520 million in rural grants.¹²⁵ According to a document provided to the Committee, examples of state programs for which the interface municipalities are ineligible include:

- DPCD's *Future Farming Rural Land Use Planning Program* as part of DPI's *Future Farming Strategy, Action 4.4: Improving rural land use planning*;
- Rural Development Victoria's (RDV) agribusiness-related funding programs including:
 - Planning for Change;
 - Local Roads to Market Farm Gate Access Scheme;
 - Local Roads to Market Program;
 - On Farm Energy Grants;
 - Stock Overpass/Underpass Road Safety Program;
 - Water and Energy Efficiency Initiative;
 - Local Dairy Road Program;

- Water for Industry Initiative;
- Food Industry for a Regionally Sustainable Tomorrow;
- Networks to Success;
- Small Towns Drought Program; and
- Broader RDV programs for economic development, such as Buy Locally Campaign; Promoting to the Domestic Consumer; and the Community Regional Industry Skills Program.¹²⁶

The effect of the exclusion of the interface local government areas from rural/regional grants was described in evidence to the Committee from Mr Kevin Wyatt of the Mornington Peninsula Gourmet Group, a wine and food promotion body. Mr Wyatt told the Committee:

*... we need help to overcome the limiting factors associated with being an interface region when applying for grant assistance. Time and time again I will go to DIIIRD — I get enormous help from them and there is no reflection on them; they have been very cooperative and very helpful — I will have looked up something on the website that talks about a grant for regions and it is exactly what I want and they will say, 'I'm sorry, that doesn't apply to you because you're an interface region. You're not really a region.'*¹²⁷

As noted, the Committee has taken and considered similar evidence on this situation in previous inquiries. In the *Inquiry into Local Economic Development in Outer Suburban Melbourne* the Committee recommended that the Victorian Government:

*...review the appropriateness of the present classification of Melbourne's interface with regards to accessing those state and federal funds and grants currently available to farmers beyond Melbourne's urban growth boundary.*¹²⁸

The government's response to the Committee acknowledged "some areas of the interface councils have similar needs and expectations as regional councils."¹²⁹ It then identified agriculture and farming programs funded by the Victorian Government that are open to interface councils, such as the Farmers' Markets program, Regional Investment Initiative program, the Future Farming – Support for Organics program and Regional Innovation programs.

Notwithstanding this response, it remains the Committee's view that businesses and rural communities in the interface municipalities are disadvantaged by not having access to the range of grants and projects on offer for agribusinesses elsewhere in Victoria. To take one example, the Buy Locally Campaign could potentially be used to improve the viability of local producers in the green wedges.

The Committee notes a suggestion from the South East Development Area Consultative Committee for a Rural Infrastructure Development Fund-type scheme for the interface councils.¹³⁰ In a submission, the VFF suggested taking this a step further:

To give equal financial support to agriculture in these areas and also to ensure representation of industry interests, the VFF has developed a proposal for a Green Wedge Development Fund to present to Government. This proposal is a two pronged complementary approach. The VFF would like to see a Green Wedge Infrastructure Development Fund (GWIDF) similar to the Rural Infrastructure Development Fund model, combined with a cross-departmental task force between the DPCD and the DPI. The task force would work with farmers to manage the fund but also to solve clashes over the planning issues... The initial plan is to have the cross-departmental group overseeing use of these funds for the upkeep and development of infrastructure in peri-urban and rural areas.¹³¹

Alternatively, the Committee also recognises that a special grant-making fund could be administered by a not-for-profit organisation, similar to the model established for Toronto's Greenbelt (discussed above).

A further option, suggested by the Interface Group of Councils, is for the UGB to be the dividing line for the purposes of grants. That is, all land outside the UGB would be classified as rural and eligible for government grants, all land inside would be classified as urban. The Committee believes this last suggestion is the most simple and appropriate option.

Recommendation 20:

That all rural land outside the Urban Growth Boundary becomes eligible for rural grants.

4.3.3 Gembrook

The Gembrook green wedge was identified to the Committee as requiring urgent attention from state and local government. Traditionally the area has been a significant producer of potatoes. A 2004 report, *Gembrook Rural Review*, found that broadacre farming has declined rapidly, in part due to dieldrin soil contamination and the effects of Potato Cyst Nematode (PCN) being discovered.¹³² Farmers receive lower prices for potatoes and quarantine restrictions prevent potatoes from this declared region from being sold interstate. Farms within two kilometres of identified PCN infestations also have restrictions.

In a presentation to the Committee, Mr David Nickell discussed the circumstances confronting farming in the district:

There has been a series of setbacks to industry competitiveness that are specifically relevant to that particular district. Dieldrin in the 1980's and of course the state government encouraged farmers to pour as much dieldrin on the place as they could through the 1970's and then turned around and said, 'No, you cannot do that'....

PCN (potato cyst nematode) from the 1990's and what we have actually seen in the Gembrook district — I am outside the industry so I will throw stones from outside the industry — I think that the potato growers in the Gembrook district have been stitched up, both by their industry colleagues in other districts and the Australian Potato Industry Council. So we are getting lower prices paid for Gembrook potatoes, \$150 to \$200 less per ton; trading restrictions, no interstate movement of Gembrook potatoes; and soil movement restrictions on the district. There are signs up around the district that you cannot take prescribed material out of the district without a permit, and again increased management overheads as well as lower returns.

The community recognises that problem and in 2000, the Cardinia Shire Council managed to secure some funding from the state government for a thing called the Gembrook Rural Review and the aim of that was to get local down at the planning level and work out what we would do for the district faced with these unique benefits and constraints. We ran some community workshops through 2003 and 2004 and the community had a very strong vision for Gembrook in 10 years time. Now it is only five years time. We want to see productive land uses, so keeping the good red soil in production — rich mixes, smaller agricultural enterprises, possibly some hobby farms, lifestyle businesses and generally keeping going with farming.

Within that vision the community did not see potatoes as dominant any more. They saw more nurseries, tree farming, horses, berries, gourmet foods and that sort of thing. In terms of landscape and image, they want us to keep the rural outlook and bush feel with more trees. They want to see increased tourism and recreation, linked with rural activities, local produce, landscape values and they want to get some

accommodation going up there and leverage off Puffing Billy, more than has happened in the past.¹³³

Mr Nickell also discussed the possibilities for establishing niche industries in the district.

If all the options are going to be on the table for land holders up there and new investors into the district, the planning scheme must change and must be localised for the district. If the state government, however, for some reason wants Gembrook to remain broadacre ... and somehow we decide we want to stay broadacre in this part of the green wedge, then it needs very close work with the community and possibly some mechanisms developed about how we retain and attract broadacre and make it a viable investment option for the district.¹³⁴

The Committee recognises the longstanding difficulties faced by the farming community in the Gembrook green wedge. There is a strong case for the state government to engage with landowners and the Cardinia Shire Council to find solutions, including, for example, new economic opportunities for land affected by PCN and dieldrin and the development of exit strategies for potato farmers leaving the industry. The work already completed in the *Gembrook Rural Review* and currently underway in the preparation of a green wedge management plan establishes a sound basis for this.

Recommendation 21:

That the Victorian Government engage with Cardinia Shire Council and the Gembrook farming community to explore all options for farming and land use in the PCN and dieldrin affected Gembrook area.

4.3.4 Other approaches to farmland preservation

The green wedges protect agricultural land near Melbourne. Several alternative approaches to achieving this objective are used around the world. Three in particular were brought to the attention of the Committee during the inquiry and are discussed here: Purchase of Development Rights (PDR), Transferable Development Rights (TDR) and a voluntary covenanting scheme.

A case study of Sonoma County, California – which employs a combination of approaches – is also discussed.

Purchase of Development Rights

In a PDR scheme, a landowner (voluntarily) sells the rights to develop their land to a government or non-government organisation (such as a private land trust). In return, a permanent covenant is placed on the land preventing it being developed and ensuring it is retained as farmland or open space.

The scheme enables a landowner to effectively ‘cash in’ part of the equity in their land. They keep the title to the land and are not restricted in selling or passing it on, however the trade-off is that removing the development potential from the land generally reduces its future market value. This can make the land more affordable for other farmers to purchase.

PDR was first used in Suffolk County, New York, in 1972 (Suffolk is the leading agricultural county in New York State in terms of the value of agricultural production). Since then, 21 US states and dozens of counties have enacted PDR programs, in the process spending nearly US\$4 billion and preserving around 728,500 hectares.¹³⁵

Researcher Tom Daniels (2002) points out that the PDR approach provides long term protection (particularly if farmland can be preserved in contiguous blocks) and can channel development away from good farming areas.¹³⁶ The use of public funds means the whole community shares the cost of protecting agricultural land with farmers,¹³⁷ although paying for the scheme with increased taxes or charges may be politically controversial (as the Suffolk County experience demonstrates).¹³⁸

There are impediments to the introduction of PDR in Victoria, including:

- Cost – PDR schemes are extremely expensive. In the US, the average cost of state government PDR programs is over US\$2,300 per acre, and over US\$3,000 per acre in local government PDR programs.¹³⁹ Many programs rely on matching funding from different levels of government. The high cost makes it more difficult to create large contiguous parcels of farmland and hence the ‘right to farm’ problems exacerbated by land fragmentation are not addressed;¹⁴⁰
- ‘Development rights’ – A NSW report discussing PDR schemes questions whether the concept of ‘development rights’ fits easily into the Australian planning context without legislative change;¹⁴¹
- The value of preserved land may not fall significantly – the contention that land preserved under a PDR scheme will be significantly cheaper and will be acquired by other farmers has been questioned by one study from the US state of Maryland. Lifestyle landowners or hobby farmers may simply outbid commercial farmers when the land comes to market.¹⁴² Another possibility is

that PDR programs may actually push up land values elsewhere: as more land is put out of the reach of developers, the value and development pressure on the remaining land increases; and¹⁴³

- Reduced equity – the easement placed over the land may reduce a landowner's equity and the ability to borrow for property improvements.¹⁴⁴

Transferable Development Rights

A TDR program allows landowners to sell development rights over their land (this is known as the 'sending' site) to developers who are then able to develop land elsewhere (known as the 'receiving' site). A covenant or easement is then placed over the sending site. A government agency may act as a broker between TDR sellers and buyers to maintain the market and monitor the covenants.

In essence, TDR shifts development pressures from rural land to identified growth centres. One advantage of the concept is that it does not, in theory, require significant public expenditure to operate. In Australia, TDR operates (in a very prescriptive manner) within the City of Sydney to allow the transfer of development rights for heritage buildings.¹⁴⁵

Again, there are hurdles to the implementation of TDR programs within the Victorian planning context. For ease of administration, TDR would be best applied to the movement of development within a specific locality or LGA, rather than between disparate sites across the city. Commentators have also noted that TDR programs do not make an already complex planning system any simpler to administer (strong zoning is still required) and indeed, they require very detailed local and regional planning to carefully identify the sending and receiving locations.¹⁴⁶ In some cases where TDR has been tried, achieving community acceptance in the receiving locations has proved problematic.

Voluntary covenant

A third proposal, similar in intent to the two above but aimed specifically at Melbourne's green wedge landholders, was put to the Committee by the PPWCMA. Mr Ian Morgans discussed a proposal for a voluntary covenant scheme to protect areas or features of particular environmental, social or economic value in the green wedges:

They can be protected by covenant and in exchange land holders can receive a one-off and significant payment. That payment would allow three things to happen. It would allow unviable farmers who wish to exit the industry to leave but do so in a way that does not destroy the viability or the potential of their land as rural land.

It allows those who would wish to stay to reinvest in their land and perhaps to develop agricultural businesses which are better suited to the 21st century in the environment that they live in. For land that is sold, the covenant means that it would encourage land holders who are there for stewardship purposes rather than for speculative purposes.¹⁴⁷

In essence, this is similar to the PDR concept (although it avoids the term ‘development rights’) and it encounters the same potential drawback – significant cost. The PPWCMA considers this can be overcome through a cost sharing arrangement between the private sector, the Victorian Government and the broader community. Funds could be raised from land sales, developer contributions, government budget allocations and/or ratepayers in metropolitan and green wedge local government areas.

According to the PPWCMA, such a scheme of spreading the cost is more equitable because the pressures on the green wedges come mainly from the urban growth around Melbourne “and because the long-term beneficiaries of the scheme are both the nearby residents in the growth corridors and the population in the city.”¹⁴⁸

Recommendation 22:

That the Victorian Government work with the Port Phillip & Westernport Catchment Management Authority and relevant stakeholders to establish a voluntary covenant scheme for agricultural land in Melbourne’s green wedges.

4.3.4.1 Case study: Sonoma County, California

Sonoma County is located on the north coast of California, less than 50 kilometres from San Francisco (within the San Francisco Bay Area). It is noted for its wineries; grapes are grown on 23,000 hectares of land and are by far the largest cash crop in the county. Tourism associated with the wine industry contributes significantly to the local economy.¹⁴⁹

In 1990, the citizens of Sonoma County voted to create the Sonoma County Agricultural Preservation and Open Space District – a government entity to acquire and preserve agricultural and open space lands – and also to levy a ¼ of a cent sales tax to finance its activities. The tax was initially to run for 20 years but another vote in 2006 has extended it through to 2031. The revenue generated (around US\$17 million annually) is used to purchase land outright or to purchase covenants/easements over the land. Since 1992,

the District has protected 152 agricultural, natural resource and recreational properties, totalling over 30,352 hectares.¹⁵⁰

This strategy is also supported by a combination of planning and economic development tools, such as urban growth boundaries around eight of the nine cities in Sonoma County, minimum lot sizes and a Small Farms Program. This latter program is currently being expanded and seeks to preserve farmland near the urban edge and keep it in working, productive use. Land is leased to experienced farmers (specifically those who grow vegetables, flowers, herbs, or berries, rather than grapes) who may not otherwise be able to find land. The District believes that a vibrant agricultural economy near urban areas benefits the public by providing a local food supply, protecting open space and productive land, maintaining community identity and offering opportunities for agricultural education.¹⁵¹

4.4 Urban encroachment and land use conflict

Proximity to a major urban centre has advantages for a primary producer. For example, egg and broiler farms have traditionally clustered on Melbourne's fringes to be near transport routes, distributors and feed suppliers. Vegetable growers in Bacchus Marsh and Werribee are able to get fresh produce quickly from the paddock to the supermarket and internationally. In some locations, the soils, climate and topography are absolutely ideal for the commodity produced. Orchards and vineyards in the Yarra Valley appreciate the access to labour for their harvests. Tourist-oriented businesses have a large market on their doorstep.

These enterprises have often been built up over generations and are remarkably resilient.¹⁵² However, in each location the Committee visited, evidence was received on the many and varied negative impacts caused by the encroachment of residential land uses into agricultural areas. Many agribusiness owners spoke to the Committee of problems like illegal rubbish dumping on their properties, dog attacks on livestock, vandalism of fences, theft and trespassing.

Additionally, as residential development increases into a previously rural area, disputes and complaints emerge. Newer residents initiate complaints (to the councils or to the Environment Protection Authority) about everyday farming practices that cause noise, dust, odour, chemical spray, bright lights or inconvenience on the roads. This often results in additional operational restrictions being placed on farmers. These issues are described as challenges to a farmer's 'right to farm' or 'license to operate'.

Near Melbourne, conflict between land uses is particularly pronounced in (but not restricted to) the green wedges, due to their attractiveness for rural residential living, their mosaic pattern of historical subdivisions, the mix of intensive agricultural pursuits and non-rural uses and the very location of these lands as wedges within and surrounded by Melbourne's urban form.

Statistics to quantify the frequency of complaints and land use disputes are hard to come by. However, a number of studies describe it as a serious problem. In a report published in 2000, Yarra Valley farmers said that urban encroachment, including the challenge to the right to farm, was the biggest threat to their industry.¹⁵³ The impacts of land use conflicts include stress and anxiety, breakdown in communities, additional demands on government services, increased and costly demands on rural industries, degradation of the local environment and loss of culture and identity within communities.¹⁵⁴

The following section discusses a range of issues concerning the impact of urban encroachment on Melbourne's peri-urban agriculture.

4.4.1 Expectations of new residents

Urban dwellers in close proximity just often do not understand the nature of activities that production systems undertake and move to these areas unaware of the issues they will face...¹⁵⁵

Land use conflict occurs when a land use or an action is incompatible with the expectations of people living and working in an area.¹⁵⁶ Local councils reported to this Committee that new residents in Melbourne's urban growth areas or on rural residential holdings often have unrealistic expectations of the area they have moved into.¹⁵⁷ This leads to complaints when they encounter farming externalities (odour, dust, lights, noise, chemical sprays, etc.) and as a result, farmers experience operational restrictions not imposed in more distant locations, putting their business at a competitive disadvantage or driving them from the industry altogether.

On this theme, Mr Graeme Ford from the VFF told the Committee:

There is perhaps, in many areas, an expectation of agriculture in an idealised way, where it is perhaps the viewpoint of many people that it is cows grazing on clover pastures, chewing the cud and it is very quiet and bucolic, whereas the reality of modern agriculture is not necessarily that way anymore. Agriculture sometimes is a noisy, smelly business for various parts of the year. Farmers are under intense commercial pressures. Unless they can operate as efficiently as their counterparts both in other parts of the state and other parts of the country and in international markets, they are not going to remain viable for long.¹⁵⁸

The frustrations for some farmers who now find themselves at the urban edge are considerable. Mr Stuart Donald told the Committee:

The issue is...the incompatibility of farming next to unit developments, for instance, where your farm becomes their amenity. They have not got a backyard, so they put up a fence with a gate in it so they can access it for their cricket pitches, their swings, their bonfires, their camping ground, their veggie gardens and their wood heaps. It is also a nice convenient place for them to discard their rubbish. This makes me the Nazi neighbour in many instances. I bend over backwards to accommodate people and let them access the property so they can get into their backyards; however, when you go to repair a fence and you get bitten by a bull ant and it gets infected and you are off work for a week, you become the Nazi neighbour quite often and it is not very pleasant. However, I do my best to get along with neighbours on the hard edge, as we are.¹⁵⁹

Similarly, Nillumbik orchardist Ms Bronwyn Apted informed the Committee that the changing demographics of peri-urban Melbourne – with new residents often lacking an understanding of agriculture – impacted on the way farmers carried out their business. While most farmers tried to adapt, this often imposed costs:

...the pressures come from the changing population base. At present we are not impacting on people's amenity. We attempt to live with our neighbours, but if we have more and more neighbours who do not understand they are living in a rural area, then obviously you are going to get more rumbles about, for example, feral dogs, controlling feral animals by shooting because people simply do not like the sound of a shotgun and traffic movement — we take a semitrailer load of fruit out at midnight each night to go to the wholesale market. We try to do that with as little impact on the locals as possible. We can no longer move cattle along the roadways. That is probably a classic example of where we are being impacted on. Initially we could, with signage, stop movement on roads. We found that if we did that on the main, sealed road — we actually had a cow killed by someone; they were driving at such a speed past a mob of cattle that they killed the cow. These are attitudinal things.¹⁶⁰

4.4.2 Advice to new residents

To counter the problems discussed above, there have been a small number of initiatives to provide more advice to new residents before they purchase a property that is likely to be affected by nearby agricultural operations.

In 2000, a 'Right to Farm' Working Group established by the Victorian Minister for Agriculture made six recommendations to address the issue of complaints and conflict between farming and non-farming residents.¹⁶¹ Among them, a recommendation to amend the *Sale of Land Act 1962* to warn new residents purchasing land in farming areas

was accepted by government and legislated in 2002. Section 32, sub-section 2, (cb) states that a warning to *the following effect* is required from the vendor in contracts of sale:

*Important notice to purchasers: The property may be located in an area where commercial agricultural production activity may affect your enjoyment of the property. It is therefore in your interest to undertake an investigation of the possible amenity and other impacts from nearby properties and the agricultural practices and processes conducted there.*¹⁶²

The Committee considers this advice could be reviewed and made clearer and more prominent to purchasers. As an example, the following is a similar suggested warning (‘disclosure’) for purchasers of property in British Columbia (Canada), which is more explicit in the types of impacts a purchaser may encounter:

“The property owner acknowledges that the lots are in close proximity to the Agricultural Land Reserve where some or all of the following impacts arising from agricultural practices may occur:

- a. noise from farm operations at various times of the day, including propane cannons and other devices used to deter wildlife;*
- b. farm smells and chemical spray;*
- c. aesthetic appearance of fields (unkempt fields, storage of materials, etc.);*
- d. light from greenhouses.”*¹⁶³

One of the outcomes of the Right to Farm Working Group’s report was the Living Together in Rural Victoria initiative (now discontinued) and the publication of a series of fact sheets – now available on the DPI’s website.¹⁶⁴ Some Victorian councils have published their own information booklets to prepare prospective buyers for the experience of living in or near a rural area. Good examples are *Rural Living: What to Expect*, produced by the Rural Development Committee of Surf Coast Shire and *Being a Better Rural Neighbour – Preventing, Managing and Resolving Conflict*, produced by Yarra Ranges Shire Council.

In NSW, the Rural Living Handbook has won local government awards for excellence in communication and planning. The Handbook is specifically for rural residential landowners in municipalities throughout Sydney’s drinking water catchments. It is adapted by individual councils with local information and covers many of the issues that new residents moving from the city are likely to encounter in a working agricultural landscape.¹⁶⁵

Recommendation 23:

That the Victorian Government review Section 32 of the Sale of Land Act 1962, with a view to strengthening the warning given to purchasers of property in rural areas.

Recommendation 24:

That the Victorian Government update and re-publish its information sheets on living in rural areas and ensure these are distributed to local governments in peri-urban Melbourne.

4.4.2.1 An urban-rural divide?

The Committee heard the view put by a number of witnesses that some of the problems experienced on Melbourne's fringe stem from a cultural divide between urban and rural or farming and non-farming communities. In this view, urban-dwellers are seen to lack an understanding of how food and fibre is produced. Mr Nik Tsardakis, from Ratepayers of Werribee South Inc, made the point in a submission that market gardening in Melbourne was one of the last visible reminders of agriculture:

For many city dwellers, vegetable production in the outer suburban area provides one of the few links to agricultural production and to an insight into rural Australia. This is because considerable [forms of] vegetable production is undertaken within metropolitan catchments. It is also because an increasing proportion of Australians have fewer or no relatives residing in the country and have less cause to travel inland. ... The urban drift affecting rural Australia is not a new phenomenon but is increasing at a more rapid rate.¹⁶⁶

The divide between 'the city and the bush' was the topic of a 2007 speech by Mick Keogh, Executive Director of the Australian Farm Institute. Mr Keogh predicted that it would present serious challenges to agriculture in the future in the following ways:

- Erroneous views about farming and, equally, outdated farm practices, mean that agriculture's 'social licence' to operate will be increasingly proscribed by government. This makes it harder for farms to sustain productivity growth;
- Without community support for farming and without adaptation to changing consumer wants, Australian farms are more vulnerable to competition from imports in a global marketplace; and

- A lack of city support makes it more difficult for agriculture to compete for key resources. These key resources are productive farmland (near cities and in high amenity areas), water and people (attracting smart, innovative and highly skilled people).^{167 168}

There is mixed research evidence around the concept of a cultural divide and its implications. Research for the National Farmers Federation (NFF) in 2003 found that Australians generally had a favourable appreciation of the difficulties of farming but, on the other hand, less than 10 percent regarded farmers as “extremely good” environmental managers and less than 50 percent thought they were “good” managers.¹⁶⁹

A survey in 1996 in two peri-urban shires near Sydney and one in the west of NSW looked at what residents knew about their farming neighbours. According to its findings, perceptions of the nature and importance of agriculture were more limited in the peri-urban shires, compared to the rural shire further west. Encouragingly, there was strong support for protecting farmland and for the ‘existing use’ rights of farmers. However, the researchers also found there was a very limited understanding of the economic importance of local agriculture and this meant that debate and decision-making over some agricultural practices was often ill-informed. The researchers concluded that there was a need to educate peri-urban communities about the real nature and socio-economic importance of agriculture.¹⁷⁰

Promoting the link between farming and food

Fewer and fewer Australians work on the land or have direct links to farming. At the same time, there is huge public interest in food and cooking (for example, witness the success of the *Masterchef* TV programs in 2009). Consumers increasingly want to know where their food came from and how it was produced. Is it local, humanely produced, organic, clean, ethical and sustainable? Some organisations see this trend as an opportunity to remind consumers of the links between farming and food and to rally support for the farming community.

Responding to the “need for a fundamental and critical reconnection between producers and consumers,” towards the end of 2009 the United States Department of Agriculture launched a website for the ‘Know your farmer, know your food’ initiative.¹⁷¹ ‘Know your farmer, know your food’ focuses on improving the economic viability of America’s small and medium-sized farms. Grants, loans, awareness raising and other programs will promote sustainable local and regional food systems, strengthen rural communities, promote healthy eating and protect natural resources.

In Queensland, the farming peak body Agforce has run its ‘Every Family Needs a Farmer’ campaign since 2006. AgForce describes it as a strategy to build understanding and empathy amongst urban consumers about the role of farming and farmers:

Research shows that although many people living in urban communities have empathy with the bush, they don't necessarily understand the challenges country people face or their modern and professional approach to farming.

It is important that Queenslanders understand where their food and fibre comes from and that farmers produce it in an environmentally sustainable manner, so they can make informed decisions when buying food or supporting policies.¹⁷²

Here in Victoria, research by the Victorian DPI suggests the depth of the urban-rural divide in terms of attitudes to farming (and related topics) can be overstated. Surveys do reveal a marked urban-rural difference in attitudes to water use and global warming, and weaker but still noticeable contrasts on the use of agricultural chemicals and genetically modified organisms. Further, urban attitudes to farming have become more negative (a trend visible in other industrialised countries). However, there are also similarities – with a research report commenting that “a range of anxieties about food and farming are shared by both urban and rural populations, with both experiencing a sense of alienation from the agri-food system.” Both farming groups and urban-dwellers express concerns about the role of ‘big business’ in the agri-food system. The report concluded:

‘Urban–rural’ is not a clear-cut distinction and it is not the only – or even necessarily the most – relevant cultural divide influencing disputes over farming. Socioeconomic status, education, age, gender and other social variables also inform an individual’s views and values. ...While the notion of an urban–rural divide captures some important aspects of public attitudes towards farming and/or rural Victoria, it is problematic as a general framework for research and policy intervention. A more productive approach may be to explore attitudes towards farming directly, rather than look for an ‘urban-rural divide’ in order to explain disputes over farming practices.¹⁷³

These comments suggest that attempts to influence perceptions of agriculture in peri-urban areas, with the goal of lessening land use conflict, should target specific issues (for example, chemical spraying, domestic dog attacks or netting), rather than a generic ‘support your farmer’ campaign.

The research report also shows there is a deficit of available research on urban attitudes to agriculture near Melbourne, which is regrettable, as such research would be useful for understanding ‘right to farm’ conflicts and developing responses, including education campaigns.

Ms Judy Clements, President of the Whittlesea branch of the VFF, told the Committee at a public hearing that the lack of knowledge among school children about farming was a particularly worrying phenomenon:

I believe that we have lost a lot of ground in simple but subtle ways, even down to the extent of fewer children in urban based settings learning about agriculture and where their food comes from. These are children who grow up to be our policymakers. If they no longer have that grounding and if fewer and fewer urban based people even have that connection — in that fewer of them now, according to the statistics, either visit a farm or even have anyone who is a relative who is a farmer — all of these things that might seem quite simple will have an enormous impact in the long term. I have been known to have said at many VFF conferences and at our local branch meetings that this is not an issue that should be about party politics. It is far more serious. I believe it is absolutely imperative to the future economic viability, environmental sustainability and the health of this nation that we get behind it.

...

Our farming numbers are in decline — we all know that; our voice is in decline and therefore the VFF and the NFF have little money to throw towards these sorts of campaigns that exist, say, in the UK, that constantly remind people that the food they are eating comes from a farmer and that would remind them that the more it comes from an Australian farmer the better we are. So I think that it is an enormous dilemma. There is no easy solution but what I am absolutely clear about is that if we do not come up with a solution, it will be to the detriment of this nation.¹⁷⁴

One of the most impressive programs aimed at fostering an understanding of agriculture in primary schools is the ‘Picasso Cows’ program in NSW. The program’s founder, Ms Lynne Strong, is a dairy farmer from Jamberoo in the Wollongong region and winner of the 2009 NSW Landcare Heroes Primary Producer of the Year. Picasso Cows delivers agricultural (specifically dairy) and environmental education to primary students through engagement in art. As part of the program, students decorate life size fibreglass cows (later displayed at the Sydney Royal Easter Show) in one of three environmental themes (‘clean water, ‘healthy landscapes’ and ‘energy efficiency’) and participate in on-farm Landcare projects. More recently, this successful initiative has been adapted by Dairy Australia for a wider rollout to around 500 schools across Australia over the next three years.¹⁷⁵

An updated version called the ‘Archibull Prize’ has been created by Ms Strong and Dairy Youth Australia Inc. for school students from years six to ten. It is funded through the Australian Government’s *Australia’s Farming Future* initiative and delivered with various partners including developer GPT Group and the Hawkesbury Harvest organisation.

This project focuses on agriculture as a whole and covers a broader range of issues such as urban encroachment, water scarcity and declining rural sustainability. Underpinning this and similar projects developed by Ms Strong and Dairy Youth Australia Inc. is the recognition that consumers living in urban areas are interested in connecting with the farming community. In a speech given in November 2009 Ms Strong stated:

Movements such as urban and organic agriculture, the slow food movements, farmers' markets and farmgate trails are all helping re-establish the physical and emotional relationships between consumers and the people who produce their food and fibre. This physical connection is the beginning of the journey...farmers' markets and farm retail are just a staging post – partnership right around a concentric value chain is the future.¹⁷⁶

Recommendation 25:

That the Department of Primary Industries continue to conduct social research on public attitudes to farming and food issues in Victoria, with a particular emphasis on peri-urban Melbourne.

Recommendation 26:

That the Department of Primary Industries partner with the Victorian Farmers Federation, VicHealth, growers and other stakeholders to develop a strategy to address perceptions of peri-urban agriculture, including but not limited to, publicity and education campaigns explaining the link between farming and fresh, local and healthy food.

Recommendation 27:

That the Department of Education and the Department of Primary Industries encourage programs, along the lines of the 'Picasso Cows' and 'Archibull Prize' programs, which deliver agricultural and environmental education to school students in innovative ways. The Committee strongly recommends that schools in the growth areas of Melbourne should be a primary target for these programs.

4.4.3 Minimising off-farm impacts

Where there are off-farm impacts, farmers need to be proactive in opening communication with neighbours and explaining why, for example, it is necessary to operate machinery at night, why spraying needs to occur when it does or why there may be dust or odours at certain times of the year. Efforts to educate urban neighbours can help resolve land use conflicts. However, this is appreciably more difficult for farmers in the interface areas, who might have dozens of neighbours bordering their property than it is elsewhere in Victoria.

Many problems can be prevented by careful farm management practices and investment in new technology: for example, the Committee visited a very large egg farm in Llandilo (Sydney) which operates with a primary school situated close to its boundary fence, without complaints.

The Committee does not support the imposition of further controls, such as additional or more restrictive permits, on the operation of farmers near Melbourne. Rather, there needs to be encouragement for businesses to install new technology, employ new methods and to operate in accordance with industry codes of practice, which themselves need to be continually refined. The Committee heard that face-to-face engagement with farmers is the most effective way to deliver such assistance.¹⁷⁷

Recommendation 28:

That the Victorian Government, in consultation with the Victorian Farmers Federation, industry bodies and the interface local governments, provide direct assistance to agribusinesses to implement best practice farming methods which minimise off-farm impacts on neighbouring properties.

4.4.4 Weeds and pests

One of the most persistent environmental problems around Melbourne is the spread of pest plants and animals. Pest species cost Victoria \$900 million annually.¹⁷⁸

Land at the interface is in a uniquely difficult position with regard to pest species. It is subject to weed invasion from urban areas and inhabited by a complex mix of landowners with varying levels of attachment to their properties, ranging from government owners, commercial farmers, lifestyle farmers and land speculators. Additionally, a climate of uncertainty around the future of land use planning at the urban edge makes landholders less likely to invest in land management activities over the longer term. Disused land often becomes weed infested and a target for soil and rubbish dumping. In

February 2010 the DPI successfully prosecuted the company Whittlesea Properties Pty Ltd with one charge of 'failing to comply with a Land Management Notice to control the regionally prohibited weed' and one charge of 'failing to notify of works undertaken', in relation to serrated tussock on the company's 100 hectare Rockbank property. The company faces fines of \$100,000.¹⁷⁹

Several farmers expressed the frustration they felt in situations where a neighbouring property (which may be government-managed public land) was not controlling weeds. Moorabool farmer, Mr Geoff Fiskien, advanced a common view at a public hearing:

If you have absentee land-holders, in which case quite a few of them are, you have problems with weeds, you have problems with livestock being not properly looked after. In this world today where biosecurity is a very big issue, if we have problems with people not looking after their animals or having weed invasion, then if it invades a farm, where they make their living from the farm, it is another cost that is going to be imposed on you. It does strain the relationship in communities. Landcare has been good in that respect... and some of these smaller lifestyle farmers have been very good in Landcare and keeping it going and motivating the area.¹⁸⁰

Weed control is expensive for agribusiness, particularly for grazing operations. As an example, agricultural consultant Mr John Webb-Ware presented analysis estimating that landowners in the Hume region could expect costs of around \$30 per hectare per annum to keep weeds under control. This is a substantial expense on large sized properties, particularly where the base productivity of the land is already low.¹⁸¹

The Committee took evidence that farmers in the vicinity of Melbourne Airport face additional costs due to restrictions on the use of aircraft to perform aerial weed spraying, putting them at a further competitive disadvantage to farms elsewhere.¹⁸² A recommendation made in September 2008 by this Committee called for assistance to be given to this small group of landholders to manage weeds, fire protection and fencing, however this was not supported by government on the basis that land management issues are the responsibility of landowners, local government and, in this case, airports to resolve.¹⁸³ The Committee finds that the restrictions placed on landowners are onerous and in keeping with our desire to remove barriers to agricultural land use in peri-urban Melbourne, is again recommending that the state government facilitate a fair and manageable solution.

Recommendation 29:

That the Victorian Government, local government and Australia Pacific Airports (Melbourne) meet with affected landowners in the vicinity of Melbourne Airport to resolve problems concerning the use of private aircraft for weed control purposes.

The Committee heard from representatives of the beekeeping industry (and others) of the problem posed by blanket weed (*Galenia pubescens*) – a South African species.¹⁸⁴ Beekeepers Mr Jamieson and Mr Edmunds informed the Committee that blanket weed is attractive to bees as it flowers periodically throughout the year, however it produces a poor quality honey and its spread represents a threat to the honey industry. In their observation, the weed also threatens native vegetation in the west of Melbourne:

It is also smothering all our natives. Your native grasses will not amount to anything like we have put up on there once blanket weed takes over because not only will it completely cover the ground but it will also grow up the fences. If you go down to the Western Treatment Works farm today and you drive around, you will see that not only are all the roadside verges completely blanketed with blanket weed now but it is also growing up the fence.

The biggest problem has been with less sheep. Sheep will eat it, the cattle barely eat it, horses will not touch it, kangaroos will not eat it. It is only where sheep nibble at it and keep it under control that you keep it down. We have so much country now that does not get grazed by sheep that it is just growing and taking off. You will see paddocks around Werribee that are now 100 per cent blanket weed and the honey is bitter.

The most amazing thing about it is it grows very well with the drought. It grows right underneath sugar gum trees and other trees. It will dominate and take over all our forest lands if something is not done.¹⁸⁵

The Committee pursued the matter of this weed with the DPI at a public hearing. The Committee was informed (in answer to a question taken on notice) that *Galenia* is not a noxious weed in Victoria. It has been assessed as posing comparatively little risk and there are no legislative requirements to prevent the sale, growth or spread of this species. DPI can provide technical information to landholders in response to queries regarding this species. The DPI also stated:

The Weed Risk Assessment undertaken on Galenia was part of Victoria's Noxious Weeds Review. The review is being undertaken by the Department of Primary Industries in partnership with the Catchment Management Authorities across Victoria. As part of the review, it assesses declared weed species in Victoria and potential weed species nominated by Catchment Management Authorities in consultation with their communities. This provides a process for potential weeds to be declared under the Catchment and Land Protection Act 1994 and added to the Noxious Weed List.¹⁸⁶

Recommendation 30:

That the Department of Primary Industries urgently consider declaring *Galenia pubescens* a noxious weed in view of its impact on agricultural industries (such as beekeeping) and native vegetation in peri-urban Melbourne.

There are various council-run programs to encourage weed control on private land. Nillumbik Shire Council runs a Community Weed Control Program which assists landowners with engaging a professional contractor to undertake weed control. A subsidy is provided on a dollar for dollar basis (up to \$250) for the removal of specified weeds, with the majority of applications being for the removal of pastoral weeds. On average, 80 properties a year receive assistance through this program with the greatest participation being 202 properties in 2004-05.¹⁸⁷ Melton Shire Council also offers a well regarded weed control program which has had significant success in clearing weeds across the Shire.¹⁸⁸

Interface councils, farmers, landowners and the PPWCMA are all looking for further assistance and effort from the state government to make inroads into the weed and pest problem and head off the emergence of new threats. The Committee finds there is a strong case for a greater direction of resources to this area.

Finally, as the 2009 bushfires made abundantly clear, the rural-urban fringe is at an elevated fire risk and weed clearance and fuel reduction are likely to be part of the state's approach to bushfire mitigation in the future. This was brought home to the Committee in stark terms by the evidence from Mr Ian Anderson, a dairy farmer, at a public hearing in Cardinia:

The fire did not actually start at our place; it started in an area which used to be farmed but has been bought by a developer. It had a fuel loading that was high, it

had rubbish collected on it. The fire started there, it swept through there at a rate of knots and of course it hit our property but our property did not have the fuel loading. It had been grazed off, hay had been taken off it, so effectively that fire actually slowed down when it reached our place. The thing that really concerns me is how many houses would have been lost if our farm was not being managed as a farm but was in the hands of a developer and had a huge fuel loading on it.¹⁸⁹

Recommendation 31:

That the Victorian Government work with all stakeholders to develop strategies to reduce the fuel load on the edge of the Urban Growth Boundary and residential areas and to continue increasing funding for weed control initiatives on public and private land. The Committee acknowledges that this recommendation may need to be reviewed in light of the findings of the 2009 Victorian Bushfires Royal Commission.

Recommendation 32:

That the Victorian Government, in partnership with local government, investigate ways to put pressure on absentee landholders to control weeds and reduce fuel loading to ensure that the safety and economic viability of nearby agricultural operations are not compromised. The Committee acknowledges that this recommendation may need to be reviewed in light of the findings of the 2009 Victorian Bushfires Royal Commission.

4.4.4.1 Case Study: Grow West

On a site visit in the Shire of Moorabool, the Committee was able to inspect first hand the scale of the weed and pest control task in the west of Melbourne. The Committee was impressed by the efforts of the Grow West program, one of the most extensive land restoration projects ever undertaken in Victoria.¹⁹⁰

Grow West is targeting the Upper Werribee River catchment. The program was officially launched in 2003 and since then, over 1,600 hectares of degraded land has been transformed in the district. Grow West aims to conserve and/or revegetate 10,000 hectares of land and native vegetation in the target area by 2030. Both farm forestry and revegetation projects have been undertaken.

The noxious weed serrated tussock is particularly widespread. Rabbits, foxes, erosion, water quality and salinity are other problems. On a tour of the target area, the Committee was informed of the economic benefits that the program provides to

agribusiness, such as reducing the cost of ongoing land management and improving land productivity.

Future projects may include the establishment of saltbush pastures, development of alternative agricultural industries and the education of small rural landholders in property management.

Recommendation 33:

That the Grow West model of pest and weed control be studied and expanded, where appropriate, into other areas of the Port Phillip and Westernport region.

4.4.5 Domestic dogs

In 1977, the *Metropolitan Farming Study* reported on the effect of domestic dog attacks on the livestock industry around Melbourne. Farmers were suffering significant losses and the report predicted that large scale sheep grazing was unlikely to survive unless radical action was taken (one suggestion was an “urban fence” to dog-proof grazing land and act as “a well defined line to indicate where the metropolis stopped.”)¹⁹¹

The prediction has proved largely accurate. Attacks from domestic dogs roaming out from lifestyle properties and suburban homes have meant that running sheep is (according to one agricultural consultant) “almost out of the question” in some parts of Melbourne, despite being more profitable than cattle.¹⁹² Among other witnesses, the Committee heard from one of the last remaining sheep farmers in the Nillumbik area who predicted that a large residential development (Laurimar) near his property would lead inevitably to stock losses and additional financial hardship.¹⁹³ In addition to the financial loss, the sight of mauled and injured livestock is anguishing for farmers.

At a public hearing, Mr Alan McKenzie, a farmer at Bulla in the Hume area, related to the Committee his experience of farming sheep near the metropolis:

We used to run sheep, we are between Bulla and Sunbury and it did not matter where we ran them, whether it was on the outskirts of Bulla, the sheep were all right until the dogs got into them. If you had a dog attacking your sheep you had to virtually guarantee that you were going to be there for the next two to three months daily looking at those sheep or tending the sheep that had survived that had been mauled by the dogs. It takes them a long time to get over a dog attack. It does not happen within a fortnight, it does not happen within three weeks. There is

ongoing antibiotics; there is medication that has to be given to the ones that have survived. In the end, you throw your hands up and say, 'I don't want to go down that path again.' ...If you cannot prove whose dogs they were, if they have no identification on them, the tried and proven method in this area was shoot them, shut up and say nothing. We got sick and tired of doing that. I do not know how many dogs we shot over the time. They were all domestic dogs that someone has patted on the head of a night-time, when they have gone to bed, at the back door and they have woken up in the morning and the dog is still there so it obviously has not wandered but during the night, it has been out and ravaged somebody's flock.¹⁹⁴

Data to quantify the extent of the problem are limited. The Hume Agribusiness Report 2004 found that 28 percent of rural landholders had been forced out of sheep farming to another agricultural enterprise, due to dog attacks on stock.¹⁹⁵ Several dog attacks on livestock in the Whittlesea area in 2008-09 led to the Council issuing a media release warning dog owners of the need to restrain their pets.¹⁹⁶ Urbanisation is increasing the problem elsewhere in Australia – for example, in 2002 there were 80 confirmed cases of domestic dogs attacking livestock in the Goulburn Rural Lands Protection Board District (NSW), with over 900 animals including calves, sheep, lambs, alpacas and geese either killed or mauled.¹⁹⁷ There have recently been numerous reports of dog attacks (both wild and domestic) on livestock in the Gold Coast hinterland of Queensland.

Research has shown that most dog attacks in outer metropolitan areas involve one or two dogs from nearby properties.¹⁹⁸ In support of the above quote, the research also shows that dog owners are typically unaware of their dog's involvement and most believe their dog could not or would not attack livestock.

Under the Victorian *Domestic Animals Act 1994*, the owner, or persons authorised by the owner, of animals kept for farming purposes is entitled to destroy dogs found at large around their animals. In some cases, frustrated farmers have taken to stringing up the bodies of dogs on fence lines to act as a warning to dog owners.

The construction of electric fences is being undertaken in north east Victoria to protect livestock from wild dogs. While the Committee notes that separating dogs and livestock with fences may well be the most effective dog control method, it is expensive and the Committee is reluctant to advocate for this in peri-urban Melbourne without further data on the extent of the problem. The Committee believes that there is a need for measures that will change the actions and attitudes of dog owners living near Melbourne's rural areas.

Recommendation 34:

That, where dogs caught on farms can be identified (through permanent identification devices, such as microchips), the Department of Primary Industries and local councils actively enforce the strongest penalties for dog owners and organise compensation to be paid for damage or loss of livestock.

Recommendation 35:

That the Department of Primary Industries prepare information concerning domestic dog attacks on livestock, for interface and peri-urban local governments to distribute to dog owners with council rates notices.

Recommendation 36:

That all local governments consider imposing curfews for domestic animals.

4.4.6 Noise

Farming is a 24 hours per day business. Harvesting, water pumps, scare guns, trucks and tractors all create noise and can lead non-farming residents in interface areas to make complaints to their local council or the EPA.

Noise from frost fans (used by horticulturalists to protect their fruit in frost-sensitive periods) can be another source of complaints. Guidelines put out by the EPA recommend that councils enforce an outdoor noise limit of 40 decibels in the green wedges. The same recommendation is made for urban areas. However, a higher noise limit of 50 decibels is allowed for the farming zone.¹⁹⁹ It was argued that this puts green wedge farmers at a disadvantage in trying to compete and adopt new technology.²⁰⁰

Mr Ian Ada, from the Shire of Yarra Ranges, discussed the issue of noise limits with the Committee at a public hearing:

We argue that there is a need for research into the rural situation and the appropriate noise levels and durations for which various implements have been designed to do the job and then reasonable noise limits should be set based on that. Therefore, funding is needed to do that and it is not just our shire, it needs to be done collaboratively. It often seems because people can make complaints which the shire is obliged to investigate as they implement the act, that they are having to

*defend farming all the time. They are the ones who are having to provide the technical information; they are the ones who are having to argue that their implements are needed.*²⁰¹

The Committee notes that the situation is currently unsatisfactory for growers in the green wedges and believes there is a case for consistency in all farming areas. The issue of noise from frost fans is one that several grape growing areas around the world are trying to manage. A longer term solution is likely to involve the development of low noise emitting frost protection technology.

Recommendation 37:

That the Environment Protection Authority change its guidelines on frost fans to ensure that acceptable noise limits in the green wedges are consistent with farming zones throughout Victoria.

Recommendation 38:

That the Department of Primary Industries conduct research on technology which may assist peri-urban growers to reduce the noise from frost fans and other methods of protecting crops from frost.

4.4.7 Crop netting

In addition to frost fans, bird-scaring devices can also cause problems in peri-urban fruit and grape growing areas, such as the Yarra Valley. In 2002, the Shire of Yarra Ranges introduced a local law on the use of these devices. Among other provisions, the local law stipulates that a scaregun can only be used between 7.00 am and sunset and not within 300 metres of a residential premises on another property.

Netting is an alternative bird and pest control method for growers. Netting has several advantages and the Committee is convinced that netted vineyards and orchards will be a familiar sight in fruit growing locations. However, netting is expensive, it complicates spraying and harvest operations²⁰² and ironically, the visual impact generates further complaints, as Mr Tony Russell, General Manager of Apple and Pear Australia Ltd, informed the Committee:

Consumers have become much more fussy about quality of fruit. It cannot have any marks on it and orchardists cannot afford to produce fruit that is at the mercy of the weather in the form of hail. Hail netting and netting structures also have the other beneficial effects of protecting fruit from sunburn and heat. They also have the effect of retaining moisture better so less water is required. They have a lot of benefits but we are finding a lot of pressure coming from local councils and urban planners in those areas — on the outer fringes of the eastern side of Melbourne at least — to the construction of netting structures. That is really a primary issue. Netting structures may not look the prettiest but they are very effective. They are very costly but, as I have pointed out, orchard systems require netting structures for the future of that industry. We will not see too much fruit being grown outside nets in the future.²⁰³

Research by Apple and Pear Australia Ltd identified that during the 2008-09 summer heatwave in Victoria, growers who had their fruit covered with netting suffered significantly lower levels of heat damage – in the order of 5-10 percent – compared with damage in the order of 30-50 percent for those growers who did not have a cover over their fruit.²⁰⁴

Mr Russell went on to state:

There is great resistance being expressed by some of the local councils in outer Melbourne areas, in the Yarra Valley and the like, to the construction of netting structures. As I pointed out, businesses will not survive into the future without being able to use netting structures. These businesses are going to need support in those sorts of areas to be able to conduct their businesses using best practice basically. They will not survive without that support.²⁰⁵

This information was echoed by Mr Steve Chapman at a public hearing held at Yarra Ranges. Mr Chapman stated that crop protection (in the form of nets or other structure) has become:

... a necessary investment for business and environmental sustainability. Protective nets reduce water use by around 30 per cent. They can reduce conflict with near neighbours by reducing the need for scaring devices or shooting. The need for a planning permit means that anybody can object, whether they are nearby or not.

With apple growing, the requirement for a planning permit means that growers need to apply for a permit before the trees are planted, possibly some years before the

net structure is required to be erected. It is no longer viable to grow apples without protective nets.

... Clearly there is no significant difference between black and white nets; however, increasing technology means that growers will want to use any type of net or plastic structure that will lead to an increase in yield or improve the quality or enable them to reduce the spray inputs. It is interesting to note that in the UK, 80 per cent of berries and cherries are grown under plastic protective structures. Obviously there are differences in their climate and their labour laws.

Another problem for us with protective nets is that planning laws currently only permit 60 per cent of the land area to be covered. What are we supposed to do with the other 40 per cent? Crop protection structures will increase and continue to diversify to enable farmers to reduce risk and increase productivity. Supermarkets and the public demand fresh, blemish free produce.²⁰⁶

Recommendation 39:

That the Victorian Government, in consultation with local government, remove the requirement for primary producers to obtain a planning permit to install netting, providing that applicable building safety standards are met.

Recommendation 40:

That the Department of Planning and Community Development, in consultation with local government and the horticulture sector, remove restrictions on the proportion of land able to be covered with netting.

4.4.8 Movement of machinery and livestock

Urban development inevitably increases local traffic and presents safety concerns for the movement of livestock and large farm machinery. In the interface and wider peri-urban region, farmers are more likely to own non-continuous land parcels and use public roads to move livestock, feed and machinery from one farm to another.²⁰⁷ Mr Peter Cochrane discussed the difficulties farmers encounter in this regard:

Moving machinery around urban roads is also a concern. Tractors, farm machinery and spray rigs some of which are quite wide travelling along Heatherton Road, Old Dandenong Road, Clyde-Berwick road and the South Gippsland Highway to name just a few. Farmers are constantly abused by irate motorists for driving slow moving machinery on the roads and have been threatened with physical violence. Then you have the issue of mud on the roads which upsets the urban/lifestyle people.²⁰⁸

Another farmer told the Committee that poor road planning and the ensuing additional restrictions made the process of shifting farm machinery “a nightmare.”²⁰⁹ The VFF further stated that councils imposed restrictions over and above that set down in legislation and VicRoads guidelines:

Generally, beef cattle and sheep do not need to be moved on a daily basis – rather on a seasonal and/or as needs basis (i.e. for general management practices such as shearing or animal health treatments) and so the creation of passes specifically for this purpose would prove overly costly and impractical. Some councils have requirements that create unnecessary difficulties and cost without a corresponding benefit, such as the requirement of an annual permit. The movement of livestock is part of rural life. When major roads are being developed, the need to move livestock via underpasses should be incorporated in the plans.

There are already laws and VicRoads guidelines governing the movement of stock on roads, which should be sufficient to ensure safe and practical movement of stock. The VFF seeks acknowledgement of the right of farmers to use roads to move livestock, provided that stock on roads and VicRoads laws are followed, without needing to acquire additional permits from individual councils.²¹⁰

This Committee made recommendations in its report into local economic development (September 2008) for a more efficient administration of the permit system for moving agricultural machinery.²¹¹ The response from the Government pointed to the existence of “relatively unencumbered travel rights” for large machines up to 6.5 metres in length and a special permit for other agricultural equipment if it can be demonstrated that road safety can be maintained.

Regarding the movement of livestock, the VFF informed the Committee of funding available under the RIDF for the construction of stock overpasses and underpasses.²¹² The Stock Overpass/Underpass Road Safety Program (SOURS) provides a grant of up to \$20,000 towards the cost of installation of a stock over or underpass, where farmers regularly cross stock over roads.

An evaluation of the SOURS program in 2005 found many benefits of the program, including additional social benefits relating to improved neighbourly relations, which seems particularly valuable in light of the conflicts discussed in this report.²¹³ However, the interface areas are seen as urban and therefore farmers are not eligible for the SOURS program.

The Committee notes that farmers, while moving stock, must ensure that the road surface remains safe for all users.

Recommendation 41:

That the Victorian Government extend eligibility for the Stock Overpass/Underpass Road Safety program to all rural areas outside the Urban Growth Boundary.

Recommendation 42:

That VicRoads consult with the Victorian Farmers Federation and local farming communities in the planning of transport routes for new urban development where agribusinesses are likely to be affected.

Recommendation 43:

That the Victorian Government encourage local councils to remove or streamline the permits required by farmers moving livestock on roads, including the option of introducing longer (5-10 year) permits rather than annual permits.

Recommendation 44:

That VicRoads undertake a media campaign regarding livestock on roads and the responsibility of drivers to obey 'stock on road' signage and take care in agricultural areas.

4.4.9 Restrictions relating to bees

Several apiary businesses operate in the interface and outer urban areas of Melbourne. Bees play a vital role in pollinating farmed commodities: the value of extra agricultural

production resulting from bees is estimated to be around \$3-4 billion annually.²¹⁴ One beekeeper operating in Yarra Ranges and Nillumbik informed the Committee that his bees provide pollinating services to orchards producing cherries, apples, blueberries, kiwi fruits and strawberries, as well as producing honey.²¹⁵

The Committee heard there are currently constraints placed on beekeeping which threaten to make the industry unsustainable. Some of these stem from (often unfounded) residential concerns about bees.²¹⁶ According to submissions received, over time councils have imposed local laws in conflict with the Apiary Code of Practice 1997 or sufficiently constraining, such as requiring animals (interpreted to include bees) to be confined on one property. Mr Jamieson, vice-chairman of the Victorian Apiarists' Association, told the Committee:

We have become aware in recent times that local government has imposed local laws without any reference to the beekeeping industry in any way, shape or form and that they completely restrict beekeeping — such as stating that the bees shall be confined to the property — so we need to put up a bee proof fence around every property where we keep bees. I am sure it would be very difficult when we were engaged to pollinate a vegetable crop at Werribee South if we had to put up a bee proof cage over a large area, let alone a field crop of, say, something like canola.²¹⁷

The Committee supports the suggestion from beekeepers that the DPI deliver introductory training to environmental health officers, planning enforcement officers and local law enforcement officers to ensure they understand the provisions and intent of the Apiary Code of Practice 1997.

The Committee further believes all local laws at odds with the Apiary Code of Practice 1997 should be reviewed in consultation with the Victorian Apiarists Association.

Recommendation 45:

That the Victorian Government work with local government and the Victorian Apiarists Association to review local laws in conflict with the Apiary Code of Practice 1997.

Recommendation 46:

That the Department of Primary Industries provide training for local government officers to improve awareness of the Apiary Code of Practice 1997.

4.4.10 'Right to farm'

The Committee considered evidence from a small number of submissions recommending 'right to farm' legislation. Such legislation would effectively prevent residents from suing in the courts for nuisance caused to them by certain farm practices²¹⁸ and would also remove at least some of the powers of local government to regulate agribusinesses.

In the United States, right to farm laws appeared in 1963 when the state of Kansas enacted a law to protect feedlots from litigation. Right to farm laws (in various forms) have now been enacted in all 50 states and also at the local level. The American Farmland Trust argues that such laws put new non-farm residents on notice to expect reasonable agricultural activities in a farming area. They also "provide farm families with a psychological sense of security that farming is a valued and accepted activity in their communities."²¹⁹

A review of the literature leads to the conclusion that the 'psychological sense of security', while important, may also be the only benefit. Critics have described right to farm laws as "expensive, litigious and combative"²²⁰ and it has been necessary to bolster the legislation with various planning measures.²²¹ Even the American Farmland Trust – a strong advocate for farmers – has stated that "it is unclear whether right to farm laws help maintain the land base."²²² A review of Californian right to farm ordinances by Wacker et al (2001) found that they were:

*a limited answer to the problems of conflict and incompatible land-uses at the agricultural-urban edge. The solution also relies on other more active measures, especially the planning and design of urban development that is sensitive to agricultural operations and appropriate modifications in farm practices at the edge.*²²³

In answer to a question at a public hearing from Committee member Mr David Hodgett MP about the success of such legislation in the US, La Trobe University lecturer and planning expert Mr Trevor Budge responded:

The biggest problem is that if you bring in right to farm legislation, all you can do is recognise the farming practices as of the day you bring it in. The only state that does something to address that is the state of Maine. They have an annual review where they review farming practices. Quite clearly, even farming practices 30 years ago are very different to now. Maine has a process where they review the farming practice and say, 'This particular technique is now current'. In a sense, they are updating it and that is a costly administrative process to have to go through but it recognises the changing scene.

There is a constant cry from farmers generally and horticulturists who say, 'We need right to farm legislation'. There is no doubt that it probably provides some degree of security that, 'We have right to farm legislation' but testing it is extremely difficult. Proving that what you are doing now is the same as what you were doing some years ago probably frightens a few people from taking cases to court. It is a further impediment to winning a judgement against safer farming practice.²²⁴

In Victoria, right to farm laws were considered in 2000 by the Right to Farm Working Group, a group established by the Minister for Planning and comprising representatives from the state government, local government and farmers. The view emerged that much more could be achieved through supportive government statements, better planning and the establishment of dispute resolution mechanisms, without the need for expensive court appearances or additional legislation.²²⁵

Likewise, in South Australia a roundtable convened by the Olsen Liberal Government in 1999 to examine these issues decided not to go down the path of introducing right to farm legislation, arguing that what was essentially a planning problem was best solved through the planning system. More recently, in November 2009, a bill entitled the Environment Protection (Right to Farm) Amendment was introduced into the South Australian Legislative Council and was passed by that chamber.²²⁶

Western Australia established an Agricultural Practices (Disputes) Board in 1995 to resolve problems between farmers and their neighbours. A March 2002 review of the enabling legislation recommended its repeal and the discontinuance of the Board. The WA Cabinet then approved the drafting of a repeal Bill. However, the repeal Bill is still waiting to progress.²²⁷ The Board has received very few inquiries about right to farm issues.

4.4.11 Planning the interface

Urban encroachment is a serious threat to agriculture and sustainable land use near Melbourne. In approaching the issue, the Committee has examined strategies adopted in various other jurisdictions. We find, as others have also concluded, that the land use planning system needs to be more sensitive to the conflicts and pressures occurring in Melbourne's interface areas.

At the same time, evidence from around the world stresses the limits to land use planning. While planning can be influential, through enforcing minimum lot sizes, buffer zones, green wedges and urban growth boundaries (for example), it is not sufficient by itself to ensure agriculture is viable and able to play its important role in maintaining healthy, biodiverse landscapes. Protecting farmland is futile if there is no water or no farmers.

At the broadest level, the Committee finds there is a need for the green wedges and the UGB to achieve stability in the medium-term. Green wedges that are publicly acknowledged as valuable and stable are less likely to be subject to the debilitating influence of land speculation and greater effort will be made to resolve or mitigate right to farm conflicts. With assistance from government, farmers will be more likely to invest in new technology or new practices which minimise their impact on neighbouring properties.

Appropriate buffers are essential to separate houses and commercial agriculture. Golf courses, extractive industries, freeways, parks, watercourses and so on are often cited as potentially useful to buffer agriculture. But buffers are generally only practical where new residential development is being planned; in many areas around Melbourne ‘the horse has bolted’ – the pattern of historical small lot subdivisions, fragmentation and rural residential living make the application of buffers for agriculture problematic or counter-productive. One submission to the Committee from a poultry farmer described how the 300 metre buffer zone around their property severely hampered their neighbour’s amenity.²²⁸

The Committee considers that interface local governments require more guidance on how to plan the urban edge in a way that will promote compatibility with agricultural land use. While visiting Canada, the Committee was made aware of a suite of commendable planning resources on this topic, issued by the Ministry of Agriculture and Lands in the province of British Columbia. Among them is a new (June 2009) guide offering tools and techniques that can be applied by planners.²²⁹ The guide states that successful urban/agricultural edge planning relies on:

- Recognition that it is reasonable for landowners along both sides of the [urban] boundary to share the benefits and impacts from edge planning implementation;
- Public education that increases agricultural awareness and promotes neighbourhood-friendly land use; and
- The ability of landowners to realise optimum land use which ultimately leads to increased long term certainty and security for urban and agricultural land uses.²³⁰

The Committee believes the Growth Areas Authority is ideally placed to provide sophisticated planning guidance of a similar kind to interface local governments.

Recommendation 47:

That the Victorian Government recognise that the interface is a unique planning area requiring specific planning policies, resources and skills.

Recommendation 48:

That the Victorian Government and the Growth Areas Authority ensure suitable buffer zones are established during the planning of the growth areas.

Recommendation 49:

That the Growth Areas Authority prepare detailed guidance information to help local governments plan for urban growth and agriculture in a way that supports compatibility between land uses. This is to occur in close consultation with the Port Phillip & Westernport Catchment Management Authority.

Chapter 4 Endnotes:

¹ Mr I. Anderson, *Transcript of Evidence*, 4 August 2009, 394.

² Julian Cribb, “A world hungry for answers”, *The Australian*, 24 January 2007, <http://bit.ly/d0Hcp3>.

³ Cribb.

⁴ Andrew Campbell, *Paddock to Plate: Food, Farming and Victoria's Progress to Sustainability*, The Future Food and Farm Background Paper, Australian Conservation Foundation, Melbourne, October 2008, 33.

⁵ Campbell, *Paddock to Plate*, 34. In addition, the Parliament of Australia is currently undertaking its Inquiry into food production in Australia (noted elsewhere in this report), with its focus being on how to produce food that is: affordable to consumers; viable for production by farmers; and of sustainable impact on the environment. The reporting date to the Senate is 30 June 2010.

⁶ Andrew Campbell, “Converging insecurities - water, energy, carbon and food”, presentation to Australian Academy of Science, Canberra, 4 November 2009, 12.

⁷ Ken Matthews, “Adaptations to Climate Change: The Victoria we imagine in 50 years time”, address to *Victorian Water Sustainability Seminar*, Melbourne, 8 May 2008, 5.

⁸ Environment and Natural Resources Committee, *Inquiry into Melbourne's Future Water Supply*, Parliament of Victoria, June 2009.

⁹ Melbourne Water operates Melbourne's two major sewage treatment plants – the Western Treatment Plant in Werribee and the Eastern Treatment Plant at Bangholme. In total, both plants treat approximately 94 percent of Melbourne's sewage, equal to 855 million litres of sewage per day. Of this amount, Melbourne Water reports that about 11.3 percent is currently recycled. See: http://www.melbournewater.com.au/content/publications/fact_sheets/water_recycling/recycling_water_for_a_greener_future.asp?bhcp=1

¹⁰ VEIL, *Submission*, Number 64, 3 March 2009, 5.

¹¹ Campbell, *Paddock to Plate*, 53-54.

¹² Campbell, *Paddock to Plate*, 55.

¹³ Department of Sustainability and Environment, *Our Water Our Future: The Next Stage of the Government's Plan*, Victorian Government DSE, Melbourne, June 2007, 4-5.

¹⁴ Environment and Natural Resources Committee, xix.

¹⁵ Department of Sustainability and Environment, *Our Water Our Future*, 18.

¹⁶ Department of Sustainability and Environment, *Sustainable Water Strategy Central Region: Action to 2055*, Victorian Government, Melbourne, 2006, 10.

¹⁷ Ian McPhail, Commissioner for Environmental Sustainability, *Transcript of evidence to ENRC*, Melbourne, 4.

¹⁸ www.ourwater.vic.gov.au/programs/recycling/werribee

- ¹⁹ Melbourne Water, *Werribee Irrigation District Recycled Water Scheme Regional Environmental Improvement Plan*, November 2004, 9.
- ²⁰ Melbourne Water, *Werribee Irrigation District Recycled Water Scheme Regional Environmental Improvement Plan*, 9.
- ²¹ Victorian Government, *Quality Recycled Water for the Werribee Plains, Salt Reduction Strategy*, Melbourne, 2005.
- ²² Wyndham City Council, *Submission*, Number 57, 10 February 2009, 3.
- ²³ Mr H. Velisha and Mr C. Santamaria, *Transcript of Evidence*, 17 February 2009, 84-85.
- ²⁴ Mr C. Williams, *Transcript of Evidence*, 16 June 2009, 360.
- ²⁵ Mr C. Williams, *Transcript of Evidence*, 16 June 2009, 362.
- ²⁶ Mr C. Santamaria, *Transcript of Evidence*, 17 February 2009, 83.
- ²⁷ Melbourne Water, “Response to Questions from 16 June 2009 Parliamentary Hearing”, provided 5 August 2009, 17.
- ²⁸ Melbourne Water, *Essential Facts, Western Treatment Plant Upgrade*, September 2005, Victorian Government, Melbourne.
- ²⁹ Environment and Natural Resources Committee, 167.
- ³⁰ Environment and Natural Resources Committee, 169.
- ³¹ Melbourne Water, *Essential Facts*.
- ³² Melbourne Water, *Melbourne Water Sustainability Report 2008/2009*, Melbourne, Victorian Government, 2009.
- ³³ Mr C. Williams, *Transcript of Evidence*, 16 June 2009, 363-364.
- ³⁴ Mr C. Williams, *Transcript of Evidence*, 16 June 2009, 362.
- ³⁵ Southern Rural Water, www.srw.com.au.
- ³⁶ Mr M. Kent, *Transcript of Evidence*, 16 June 2009, 335.
- ³⁷ Mr M. Kent, *Transcript of Evidence*, 16 June 2009, 337-338.
- ³⁸ Mr F. Ruffo, *Transcript of Evidence*, 19 May 2009, 307-309.
- ³⁹ Environment and Natural Resources Committee, 165.
- ⁴⁰ Environment and Natural Resources Committee, 31.
- ⁴¹ Mr G. McQuillan, *Transcript of Evidence*, 4 August 2009, 376.
- ⁴² Mr G. McQuillan, *Transcript of Evidence*, 4 August 2009, 378.
- ⁴³ Mr R. Clarke, *Transcript of Evidence*, 10 February 2009, 46.
- ⁴⁴ Mr R. Clarke and Mr D. King, *Transcript of Evidence*, 10 February 2009, 47.
- ⁴⁵ Department of Sustainability and Environment, “Melbourne 2030,” see <http://bit.ly/2oqABn>.
- ⁴⁶ See Geoff Harris, *Melbourne’s Green Belt and Wedges*, RMIT University, April 2005; Advisory Committee Established by the Minister for Planning and Local Government, *Review of Issues on the Urban Fringe, Final Report*, November 1996, 11.
- ⁴⁷ Department of Sustainability and Environment, *A plan for Melbourne’s growth areas*, Victorian Government DSE, East Melbourne, 2005.

- ⁴⁸ Melbourne 2030 Audit Expert Group, *Audit Expert Group Report*, Department of Planning and Community Development, March 2008, 46.
- ⁴⁹ Melbourne 2030 Audit Expert Group, 46.
- ⁵⁰ Outer Suburban/Interface Services & Development Committee, *Inquiry into the State Government's Decision to Change the Urban Growth Boundary*, Parliament of Victoria, Melbourne, November 2009, <http://www.parliament.vic.gov.au/osisdc/inquiries/>.
- ⁵¹ Department of Planning and Community Development, *Delivering Melbourne's Newest Sustainable Communities: Report for Public Consultation, Urban Growth Boundary Review*, Victorian Government DPCD, East Melbourne, June 2009, 6.
- ⁵² In November 2009 this Committee tabled the final report from the *Inquiry into the Government's Decision to Change the Urban Growth Boundary*. The Committee sought clarification from government as to the exact amount of green wedge hectares to be rezoned. The information was not provided.
- ⁵³ Department of Planning and Community Development, *Delivering Melbourne's Newest Sustainable Communities*, 19.
- ⁵⁴ Department of Planning and Community Development, *Delivering Melbourne's Newest Sustainable Communities*, 19.
- ⁵⁵ Parsons Brinckerhoff Consulting, *Background Technical Report 1: Land Capability*, Victorian Government DPCD, June 2009, 139.
- ⁵⁶ Parsons Brinckerhoff Consulting, *Background Technical Report 1*, 143.
- ⁵⁷ Mr L. Hodgetts, *Transcript of Evidence*, 4 August 2009.
- ⁵⁸ Victorian Farmers Federation (Cardinia Branch), *Submission*, Number 44, 2 February 2009.
- ⁵⁹ Mr B. Luxford, *Transcript of Evidence*, 18 February 2009, 111.
- ⁶⁰ Wyndham City Council, *Submission*, Number 57, 10 February 2009, 8-9.
- ⁶¹ Mr T. Budge, *Transcript of Evidence*, 5 March 2009, 178.
- ⁶² Cr D. Gibb, *Transcript of Evidence*, 5 March 2009, 148-149.
- ⁶³ Peter Parbery, Roger Wilkinson and Komala Karunaratne, *Square pegs in green wedges? Landholders and natural resource management in Melbourne's rural hinterland*, DPI and Port Phillip and Westernport CMA, Parkville & Frankston, 2008, xv.
- ⁶⁴ For example, Mr D. Isola, *Transcript of Evidence*, 12 May 2009, 233; Mr G. Taylor, *Transcript of Evidence*, 6 October 2009, 508.
- ⁶⁵ Mr G. Taylor, *Transcript of Evidence*, 6 October 2009, 508.
- ⁶⁶ Mr I. Morgans, *Transcript of Evidence*, 5 March 2009, 159.
- ⁶⁷ For example, Pat Carmody, *Submission*, Number 36, 2 February 2009.
- ⁶⁸ Whittlesea City Council, *Submission*, Number 41, 2 February 2009, 10.
- ⁶⁹ Parsons Brinckerhoff Consulting, *Background Technical Report 1*, 15.
- ⁷⁰ See Casey & Cardinia, *Submission*, Number 4, 5 December 2008; Ratepayers of Werribee South, *Submission*, Number 29, 29 January 2009; Interface Group of Councils, *Submission*, Number 42, 2 February 2009, 12.

- ⁷¹ Casey and Cardinia Regional Agricultural Audit and Action Framework, 2004.
- ⁷² Wyndham City Council, *Submission*, Number 57, 10 February 2009, 4.
- ⁷³ Mr G. Taylor, *Transcript of Evidence*, 6 October 2009, 509.
- ⁷⁴ Mr G. Taylor, *Transcript of Evidence*, 6 October 2009, 509.
- ⁷⁵ VEIL, *Submission*, Number 64, 3 March 2009.
- ⁷⁶ Richard Hastings, *Submission*, Number 54, 9 February 2009.
- ⁷⁷ Victorian Young Farmers' Finance Council, *Annual report 2008*, 6.
- ⁷⁸ Richard Hastings, *Submission*, Number 54, 9 February 2009.
- ⁷⁹ Richard Hastings, *Submission*, Number 54, 9 February 2009.
- ⁸⁰ <http://www.soilassociation.org/Whatwedo/LandTrust/tabid/264/Default.aspx>
- ⁸¹ See <http://www.farmlinkontario.ca/home/>
- ⁸² For example, Pat Carmody, *Submission*, Number 36, 2 February 2009, 2; Dr G. Hunter-Payne, *Transcript of Evidence*, 6 October 2009, 490; Mr G. Taylor, *Transcript of Evidence*, 6 October 2009, 508. Mr Taylor commented: "we own four times the area of land in western Victoria than we do in Humevale, but we only pay half the amount in rates down there, and there is very little difference in services received."
- ⁸³ For example, Pat Carmody, *Submission*, Number 36, 2 February 2009, 2; Ms T. Alston, *Transcript of Evidence*, 12 May 2009, 271.
- ⁸⁴ Mr E. Cameron, *Transcript of Evidence*, 25 August 2009, 437-438.
- ⁸⁵ Nillumbik Shire Council, *Submission*, Number 31, 20 January 2009.
- ⁸⁶ Mr B. Luxford, *Transcript of Evidence*, 18 February 2009, 109.
- ⁸⁷ For example, Green Wedges Coalition, *Submission*, Number 46, 9 February 2009.
- ⁸⁸ For example, Mr B. Cleeland, *Transcript of Evidence*, 25 August 2009, 438.
- ⁸⁹ Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009.
- ⁹⁰ Mr T. Budge, *Transcript of Evidence*, 5 March 2009, 176-177.
- ⁹¹ Mr T. Budge, *Transcript of Evidence*, 5 March 2009, 182.
- ⁹² Rates are set with reference to market values, as assessed by valuers in line with guidelines laid down by the State Valuer General.
- ⁹³ Mr N. Roberts, *Transcript of Evidence*, 29 October 2009, 565-566.
- ⁹⁴ Interface Group of Councils, *Submission*, Number 42, 2 February 2009, 11.
- ⁹⁵ Department of Sustainability and Environment, "Melbourne 2030", <http://bit.ly/2wUCAv>
- ⁹⁶ Department of Planning and Community Development, "Victorian Planning Provisions", <http://bit.ly/6BeZzP>
- ⁹⁷ Victorian Planning Provisions, Clause 57.
- ⁹⁸ Municipal Association of Victoria, *Green Wedge Research Report*, November 2006, 26.
- ⁹⁹ Trevor Budge, "Farmland Preservation in Australia: Emerging Issues - Fragmented Responses," in Caldwell, W. Hilts, S. and Wilton, B. *Farmland Preservation: Land for Future Generations*, Volumes Publishing, Kitchener, Ontario, 2007.

- ¹⁰⁰ Interface Group of Councils, *Position Paper on Green Wedge Management: Submission to the Melbourne 2030 Audit*, September 2007, 2.
- ¹⁰¹ Melbourne 2030 Audit Expert Group, 13.
- ¹⁰² Mr I. Morgans, *Transcript of Evidence*, 5 March 2009, 158.
- ¹⁰³ David Nickell, *Submission*, Number 3, 4 December 2008.
- ¹⁰⁴ David Nickell, *Submission*, Number 3, 4 December 2008.
- ¹⁰⁵ Municipal Association of Victoria, 22.
- ¹⁰⁶ See <http://www.cpre.org.uk/campaigns/planning/green-belts>
- ¹⁰⁷ Victoria Di Poce, Ellise Goarley & Burkhard Mausberg, “Greenbelt Grown: A Profile of Agriculture in Ontario’s Greenbelt”, *Occasional Paper 9*, Friends of the Greenbelt Foundation, November 2009.
- ¹⁰⁸ See <http://www.greenbelt.ca/>.
- ¹⁰⁹ Mr I. Morgans, *Transcript of Evidence*, 5 March 2009, 158.
- ¹¹⁰ Mornington Peninsula Shire Council, *Submission*, Number 9, 8 December 2008.
- ¹¹¹ Mr D. Turnbull, *Transcript of Evidence*, 6 October 2009, 479.
- ¹¹² Gembrook Township Committee, *Submission*, Number 52, 5 February 2009.
- ¹¹³ For example, Melton Shire Council, *Submission*, Number 56, 9 February 2009.
- ¹¹⁴ Wyndham City Council, *Submission*, Number 31, 30 January 2009, 12; Ms K. Kilgour, *Transcript of Evidence*, 18 February 2009, 233.
- ¹¹⁵ Ms K. Kilgour, *Transcript of Evidence*, 18 February 2009, 233.
- ¹¹⁶ Wyndham City Council, *Submission*, Number 31, 30 January 2009, 12.
- ¹¹⁷ Mr D. Wilson, *Transcript of Evidence*, 17 February 2009, 66.
- ¹¹⁸ Cr D. Gibb, *Transcript of Evidence*, 5 March 2009, 147.
- ¹¹⁹ See <http://bit.ly/5qlbVU>
- ¹²⁰ Mr. R. Dobrzynski, *Transcript of Evidence*, 19 May 2009, 283.
- ¹²¹ Department of Planning and Community Development, *Draft Amendment VC55, Explanatory Report*, 2009, <http://bit.ly/9UOroo>.
- ¹²² Mr A. McKenzie, *Transcript of Evidence*, 12 May 2009, 253; Mr M. Gallace, *Transcript of Evidence*, 10 February 2009, 3; Mr T. Russell, *Transcript of Evidence*, 26 March 2009, 219; Mr G. Price, *Transcript of Evidence*, 25 August 2009, 444.
- ¹²³ Mr G. Price, *Transcript of Evidence*, 25 August 2009, 444.
- ¹²⁴ The approach to student training at the La Trobe University Dental School in Bendigo provides a possible model for this.
- ¹²⁵ Mr G. McQuillan, *Transcript of Evidence*, 4 August 2009, 375.
- ¹²⁶ Document provided at public hearing, 4 August 2009.
- ¹²⁷ Mr K. Wyatt, *Transcript of Evidence*, 10 February 2009, 12-13.
- ¹²⁸ Recommendation 113 -- Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, Parliament of Victoria, Melbourne, September 2008, <http://www.parliament.vic.gov.au/osisd/inquiries/>.

- ¹²⁹ See Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*, 2009, <http://tinyurl.com/mlzsmg>.
- ¹³⁰ SED, *Submission*, Number 53, 9 February 2009, 8.
- ¹³¹ Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009.
- ¹³² PCN is a wormlike organism that feeds on the roots of plants of the *Solanaceae* family, such as potatoes and tomatoes.
- ¹³³ Mr D. Nickell, *Transcript of Evidence*, 4 August 2009, 406.
- ¹³⁴ Mr D. Nickell, *Transcript of Evidence*, 4 August 2009, 407.
- ¹³⁵ US State Department of Agriculture, "Conservation Policy: Farmland and Grazing Land Protection Programs", <http://www.ers.usda.gov/Briefing/ConservationPolicy/farmland.htm>.
- ¹³⁶ Tom Daniels, "Challenging the Thinking on Planning in New South Wales – Perspectives and Directions from the United States", paper presented to the *Planning for the Future of Rural Land Conference*, Orange, 16 May 2002.
- ¹³⁷ American Farmland Trust, "The Farmland Protection Toolbox", Farmland Information Centre, October 2002, 3.
- ¹³⁸ Mark R. Rielly, "Evaluating Farmland Preservation through Suffolk County, New York's Purchase of Development Rights Program," *Pace Environmental Law Review*, 2000, 220, <http://bit.ly/43yYX>.
- ¹³⁹ US State Department of Agriculture, "Conservation Policy: Farmland and Grazing Land Protection Programs", <http://www.ers.usda.gov/Briefing/ConservationPolicy/farmland.htm>.
- ¹⁴⁰ Daniels, 2002.
- ¹⁴¹ SJB Planning, *Rural Resource Lands Study*, Penrith City Council, April 2006, 73.
- ¹⁴² Cited in Cynthia Nickerson, "Smart Growth: Implications for Agriculture in Urban Fringe Areas", *Agricultural Outlook*, USDA, April 2001, 26.
- ¹⁴³ Mr Mark R. Rielly, 217.
- ¹⁴⁴ SJB Planning, 72.
- ¹⁴⁵ SJB Planning, 75.
- ¹⁴⁶ SJB Planning, 74; American Farmland Trust, 7.
- ¹⁴⁷ Mr I. Morgans, *Transcript of Evidence*, 5 March 2009, 158.
- ¹⁴⁸ PPWCMA, *Submission*. Number 32 (2), 30 January 2009.
- ¹⁴⁹ Sonoma County, "Sonoma County 2007: Economic and Demographic Profile", http://www.sonoma-county.org/edb/pdf/2007/2007_sonoma_profile.pdf.
- ¹⁵⁰ Sonoma County Agricultural Preservation and Open Space District, *Annual Report 2007-08*, <http://bit.ly/43yYX>.
- ¹⁵¹ Sonoma County Agricultural Preservation and Open Space District, *Annual Report 2007-08*.
- ¹⁵² Victorian Farmers Federation (Cardinia Branch), *Submission*, Number 44, 2 February 2009, 2.
- ¹⁵³ Anne Langworthy and Tim Hackett, *Farming Real Estate? Challenges and Opportunities for Agribusiness on the Urban Fringe – Yarra Valley Region*, Yarra Ranges Agribusiness Forum, Lilydale, 2000.

- ¹⁵⁴ Rik Learmonth et al., *Living and Working in Rural Areas: A handbook for managing land use conflict issues on the NSW North Coast*, NSW Government DPI, Wollongbar 2007, 4.
- ¹⁵⁵ VFF Egg Group, *Submission*, Number 15, 10 December 2008, 2.
- ¹⁵⁶ Rik Learmonth et al., 1.
- ¹⁵⁷ Casey & Cardinia Councils, *Submission*, Number 4, 5 December 2009, 13; Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 17.
- ¹⁵⁸ Mr G. Ford, *Transcript of Evidence*, 26 March 2009, 184.
- ¹⁵⁹ Mr S. Donald, *Transcript of Evidence*, 29 October 2009, 585-586.
- ¹⁶⁰ Ms B. Apted, *Transcript of Evidence*, 6 October 2009, 498.
- ¹⁶¹ 'Right to Farm' Working Group, *Living Together in Victoria's Rural Areas*, Report to the Minister for Agriculture, December 2000.
- ¹⁶² *Sale of Land Act 1962*, s.32, 2, (cb).
- ¹⁶³ Ministry of Agriculture and Lands British Columbia, *Guide to Edge Planning: Promoting Compatibility Along Urban-Agricultural Edges*, working copy, June 2009, 18.
- ¹⁶⁴ See <http://bit.ly/aCXyIL>
- ¹⁶⁵ See <http://www.sca.nsw.gov.au/publications/publications/rural-living-handbook>.
- ¹⁶⁶ Ratepayers of Werribee South, *Submission*, Number 29, 29 January 2009, 14.
- ¹⁶⁷ Mick Keogh, "Farming beyond the farm gate – Does the gap between the city and the bush matter?", Mac Troup lecture to the Grasslands Society, 2007.
- ¹⁶⁸ It appears that agriculture is losing 'the contest for people'. There is demand for about 2000 agriculture graduates per year; universities are producing only around 800 nationally. Significant shortfalls in the major agricultural occupations are predicted: over the next six years there will be a shortfall of 34,000 livestock farmers, 21,000 farm hands, and 18,000 crop farmers, for example. Enrolment in training for all parts of the agrifood industry has declined from 2005 levels. The two exceptions are courses in 'animal care and management' and seafood. See <http://www.agrifoodskills.net.au/index.php>.
- ¹⁶⁹ Trevor Johnston, "Empathy, but little public support", *Weekly Times*, 22 October 2003, 28.
- ¹⁷⁰ F.M. Kelleher, J.J. Chant and N.L. Johnson, "Community Expectations and Perceptions of Agriculture in Peri-Urban Regions", *Proceeding of the 9th Agronomy Conference*, The Regional Institute, Wagga Wagga, July 1998.
- ¹⁷¹ <http://bit.ly/uAOcp>
- ¹⁷² Agforce. See http://www.agforceqld.org.au/index.php?page_id=153
- ¹⁷³ Peter Parbery, Roger Wilkinson & Matthew Klugman, *Urban-Rural: Not Such a Divide? Producers, Consumers and Agriculture*, Melbourne, Victorian Government DPI, 2005.
- ¹⁷⁴ Ms J. Clements, *Transcript of Evidence*, 6 October 2009, 505.
- ¹⁷⁵ Ms L. Strong, *pers. comm.*, 16 February 2009.
- ¹⁷⁶ Lynne Strong, "Bridging the urban rural divide", Presentation to the 2009 *Keep it Real TQA Conference*, Hobart, November 2009.
- ¹⁷⁷ Mornington Peninsula Shire Council, *Submission*, Number 9, 8 December 2008.

- ¹⁷⁸ Victorian Commissioner of Environmental Sustainability, *State of the Environment Report 2008*, 311.
- ¹⁷⁹ Minister Joe Helper, “\$100,000 fine a warning to all – Helper”, Media release, 26 February 2010.
- ¹⁸⁰ Mr. G. Fiskien, *Transcript of Evidence*, 19 May 2009, 304.
- ¹⁸¹ Mr. J. Webb-Ware, *Transcript of Evidence*, 12 May 2009, 247-248.
- ¹⁸² Mr A. McKenzie, *Transcript of Evidence*, 12 May 2009, 256.
- ¹⁸³ Recommendation 156 -- Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, Parliament of Victoria, Melbourne, September 2008, <http://www.parliament.vic.gov.au/osisdc/inquiries/>. See Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*, 2009, <http://tinyurl.com/mlzsmg>.
- ¹⁸⁴ Apparently introduced by VicRoads to stabilise roadway banks.
- ¹⁸⁵ Mr R. Edmunds, *Transcript of Evidence*, 17 February 2009, 89.
- ¹⁸⁶ Mr R. Harris, DPI, *Communication with Committee secretariat*, 4 November 2009.
- ¹⁸⁷ Nillumbik Shire Council, *Submission*, Number 31, 30 January 2009, 10.
- ¹⁸⁸ Mr B. Luxford, *Transcript of Evidence*, 18 February 2009, 109.
- ¹⁸⁹ Mr I. Anderson, *Transcript of Evidence*, 4 August 2009, 389.
- ¹⁹⁰ See <http://www.ppwcm.vic.gov.au/grow-west/>.
- ¹⁹¹ Aberdeen Hogg and Associates Pty. Ltd., *Metropolitan Farming Study*, Melbourne and Metropolitan Board of Works, 1977, 83.
- ¹⁹² Mr J. Webb-Ware, *Transcript of Evidence*, 12 May 2009, 248.
- ¹⁹³ Mr S. Diamond, *Transcript of Evidence*, 29 October 2009, 591.
- ¹⁹⁴ Mr A. McKenzie, *Transcript of Evidence*, 12 May 2009, 257.
- ¹⁹⁵ Hume City Council, *Hume Agribusiness Report*, 2004, 50.
- ¹⁹⁶ Whittlesea City Council, “Dog owners face heavy penalties for attacks on livestock”, Media release, 19 January 2009.
- ¹⁹⁷ State Council for the Rural Lands Protection Board (NSQW), *Submission to the inquiry into the impact on agriculture of pest animals*, House of Representatives Standing Committee on Agriculture, Fisheries and Forestry, 29 June 2004.
- ¹⁹⁸ Garth Jennens, “Dog attacks on livestock”, *Proceedings of the Urban Animal Management Conference 1998*, <http://bit.ly/a16ncW>.
- ¹⁹⁹ EPA Victoria, “Guidelines on noise from frost fans,” Publication no. 1043, May 2006.
- ²⁰⁰ Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 524.
- ²⁰¹ Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 524.
- ²⁰² Richard Aumann, *Submission*, Number 6, 8 December 2008, 2.
- ²⁰³ Mr T. Russell, *Transcript of Evidence*, 26 March 2009, 219.

- ²⁰⁴ Apple and Pear Australia, *Submission to Inquiry into the role of government in assisting Australian farmers to adapt to the impacts of climate change*, House Standing Committee on Primary Industries and Resources, Submission 36, 20 March 2009, 1, <http://bit.ly/43yYX>.
- ²⁰⁵ Mr T. Russell, *Transcript of Evidence*, 26 March 2009, 219.
- ²⁰⁶ Mr S. Chapman, *Transcript of Evidence*, 27 October 2009, 544.
- ²⁰⁷ Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009, 4.
- ²⁰⁸ Peter Cochrane, *Submission*, Number 22, 15 January 2009, 3.
- ²⁰⁹ Mr A. Mackenzie, *Transcript of Evidence*, 12 May 2009, 255.
- ²¹⁰ Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009, 4-5.
- ²¹¹ Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, Parliament of Victoria, Melbourne, September 2008, 448, <http://www.parliament.vic.gov.au/osisd/inquiries/>.
- ²¹² Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009. According to the Business Victoria website, the RIDF was established to improve the competitive capacity of regional Victoria and enhance economic development through investment, job creation and the promotion of export opportunities. The RIDF provides support for capital works that will enhance the development of rural and regional Victoria.
- ²¹³ See <http://bit.ly/2bmFYi>.
- ²¹⁴ Mr G. Jamieson, *Transcript of Evidence*, 17 February 2009, 87.
- ²¹⁵ Ken Jepson, *Submission*, Number 62, 2 March 2009.
- ²¹⁶ Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009, 5; Ken Jepson, *Submission*, Number 62, 2 March 2009.
- ²¹⁷ Mr G. Jamieson, *Transcript of Evidence*, 17 February 2009, 87.
- ²¹⁸ Victorian Farmers Federation, *Submission*, Number 27, 28 January 2009.
- ²¹⁹ American Farmland Trust, "Fact sheet: Right to farm laws", September 1998, <http://bit.ly/6g05Oq>
- ²²⁰ Ian Sinclair, "A Planning Perspective on Sydney's Rural Resource Lands for Agriculture – Past, Present and Future," in Elton Consulting, *Sydney's Agriculture – Planning for the Future: Forum Outcomes Report*, 27 February 2009.
- ²²¹ Alastair Kellock and Associates, *Green Wedges and Non-urban Issues: Technical Report 2*, Department of Infrastructure, Melbourne, September 2000, 38.
- ²²² American Farmland Trust, "The Farmland Protection Toolbox", October 2002, 4.
- ²²³ Matthew Wacker, Alvin D. Sokolow and Rachel Elkins, "County Right-to-Farm Ordinances in California: An Assessment of Impact and Effectiveness," *AIC Issues Brief*, 15, 2001.
- ²²⁴ Mr T. Budge, *Transcript of Evidence*, 5 March 2009, 148.
- ²²⁵ Kellock, 37.
- ²²⁶ ABC News Online, "Right to Farm bill passes Upper House", ABC News, 19 November 2009, <http://bit.ly/OPrPV>.

²²⁷ Agricultural Practices Board, *Annual Report 2008-09*, Government of Western Australia, August 2009.

²²⁸ Confidential, *Submission*, Number 33, January 2009.

²²⁹ Ministry of Agriculture and Lands British Columbia.

²³⁰ Ministry of Agriculture and Lands British Columbia, 4.

CHAPTER 5: LOOKING AHEAD: STRATEGIES AND OPPORTUNITIES

The traditional way of expansion to keep up with global markets is no longer an option for a large group of farmers. On top of that there is also the demand for more recreational use and landscape management. Added value must be created to keep our farmers profitable. And with them, all the benefits of high quality fresh food, landscape management and regional identity. To create added value we are looking at innovation. Innovation that combines the new challenges with the benefits of the proximity of the city.

It is my personal belief that farmers are willing to meet these challenges. But they have to be supported in the process of innovation. That is where regional and local authorities can play a crucial role.

They can provide room for experiments within their planning systems.

They can initiate demonstration projects.

They can help farmers to bridge the gap between city and countryside.

- Ms Lenie Dwarshuis, President of Peri-Urban Regions Platform Europe (PURPLE)¹

This chapter sets out the Committee's findings in relation to strategies and opportunities for agriculture and rural land use in peri-urban Melbourne, with a particular focus on the green wedges. It expands on the report's central contention that successful peri-urban areas need sustainable and successful agriculture. As a farmer from Somerville in Melbourne's south-east commented, "If you want us here for the future, then give us the incentive to stay on the land."²

5.1 Small farms and viability

In common with many western countries, Australia has seen both a reduction in the number of farms and a trend towards larger farms.³ In Victoria, the number of farms halved from 70,000 to 32,000 between 1963 and 2005, while at the same time the average farm size more than doubled from 210 hectares to 430 hectares.⁴

The consolidation of farms into larger units is one factor leading to higher levels of production and the transformation of agriculture into an increasingly intensive and industrialised industry. However, as DPCD has stated, agriculture does not purely depend on continuing farm consolidation into fewer, larger farm businesses.⁵ Many types of agriculture (such as aquaculture, poultry and egg farming) and some types of

horticulture do not depend on highly arable soils. Small farms can and do choose to diversify production and seek opportunities to value-add.

There is a trend for Australian farm families to earn a greater proportion of their income through off-farm employment.⁶ This is a particular characteristic of peri-urban agriculture. Peri-urban Melbourne has a diverse mix of small landholdings, many sub-commercial or 'lifestyle' oriented, others highly commercial, intensive and profitable. In their survey of Melbourne's green wedges, Parbery et al. report that only 14 percent of respondents derived 80 percent or more of their income from their property (although this finding may be skewed by the fact that a substantial proportion of respondents did not divulge their personal income).⁷

The economic viability of farms near Melbourne was a topic of some discussion in this inquiry. Discussion often focused on the question of the amount of land that constituted a viable agricultural unit. The Committee heard conflicting claims. Some witnesses stated that their current holdings were too small for viable farming (often a result of historical subdivisions) and pointed to the national trend towards larger farms seeking economies of scale. Other witnesses contended that their landholdings were too large and they noted the existence of highly productive businesses on holdings as small as 15 hectares as evidence of the viability of small farms. In both cases, the solution was often seen to be more subdivisions and smaller lots, enabling a transition to either different types of farming, rural residential living or urban development.

The Committee heard that the issue of farm viability has a different character in different parts of peri-urban Melbourne. In some locations, the future use of the land for agriculture has been constrained by, for example, adjacent development or land speculators allowing the land to degrade or by the emergence of limiting factors, notably a lack of water or the presence of soil contamination.

The Committee also heard from landowners who operated successful small-area businesses (particularly olives and vineyards) on large properties. The Committee heard arguments that easing subdivision controls in the green wedges would allow more families to successfully farm smaller areas, leading to an economic revitalisation of the local community or better natural resource management outcomes.

The Committee also notes that rural land around Melbourne is already highly fragmented. Around 80 percent of the rural land in Nillumbik has been subdivided below the minimum subdivision sizes specified in the planning scheme. In the productive Werribee South area, only 3.5 percent of properties meet the minimum allotment size of 15 hectares. Similar situations can be found in the other interface local government areas. Permitting further subdivision of agricultural land below current minimum lot sizes is likely to exacerbate, not resolve, the right to farm conflicts discussed in Chapter Four of this report.

On the issue of subdivision controls, Barr (2005) argues in a report that the 40 hectare minimum subdivision limit, and the allowance of a dwelling to be constructed as of right, has resulted in an "uneasy compromise" in peri-urban landscapes between amenity and

production. Barr argues that there are few places today where 40 hectares is a viable size for a farm unit and there will be fewer in the future. But equally he questions whether lifestyle landholders can manage weeds and pests on 40 hectare blocks to the standards of nearby commercial agriculture.⁸

The Committee also heard support from commercial-oriented producers for maintaining subdivision controls on green wedge land. For example, discussing minimum subdivision limits and their effect on land management outcomes, Ms Bronwyn Apted, orchardist in the Shire of Nillumbik, argued at a public hearing that larger lots helped an area to retain its agricultural identity and were more likely to be owned by people who took their land management obligations seriously. Small rural blocks in peri-urban locations typically have a high rate of turnover.⁹ Ms Apted stated:

In many respects we are rather fortunate in that we are in the northern reaches of Arthurs Creek and Strathewen, and we still remain within a 40 hectare minimum subdivision belt. ...This allows us to be part of a larger community that has a commitment to land management and production on their land. Their's is not a lifestyle attitude to the land they have purchased.

We believe — and I can affirm this from my work with Strathewen Landcare — that whether you purchase 40 hectares of grazing land or 40 hectares of bushland, it is a significant investment. Those who purchase that land under a strong planning scheme do so with the knowledge that they are making a commitment to manage that land in some manner. Some of our best neighbours own conservation zoned land. They understand the imperatives involved in land management and the fact that what they do on their land and what we do on our land are intertwined and impact each other.

In this 40 hectare subdivision area the attitude of land holders makes feral animal control and pest weed control much easier than when we cast our eye to our southern neighbours, who are 20 acre land holders. They are part of a very mobile residential base.¹⁰

The City of Greater Geelong, in a submission, argued that focusing on whether land is viable for agriculture, rather than able to be productively used, is the wrong approach. The viability of an enterprise is time-specific and depends on several factors, such as the product being farmed (i.e. wool, wheat, fruit etc.), climate, soil, productivity and whether the land is sought for other land uses (urban expansion, rural living and so on). The submission noted that farms in the Geelong region were becoming fewer, larger and moving away from the urban edge, but it rejected the notion that the remaining land should be ‘carved up’ for rural residential living. Rather, the City sought to encourage agricultural land use in rural areas in the following way:

- Removing or shifting the emphasis from ‘viable use’ to ‘productive use’;

- Recognising the value of agriculture in preserving the rural landscape;
- Using policy to actively encourage farming/agricultural activities;
- Provide secondary income sources; and
- Support emerging agricultural activities, eg shed-based agriculture and aquaculture.¹¹

This approach is also about strategically reserving land near the city which may in the future be suitable if new agricultural industries emerge or other conditions change – such as recycled water becoming available, new niche markets opening up, incentives for eco-system services or changes in the cost of agricultural inputs.

A 1999 report on Victorian planning schemes commented:

*Just because one activity ceases to be attractive because of low returns or management problems (for example, grazing), does not mean that the land ceases to be suitable for all forms of agriculture and should therefore be subdivided for rural residential purposes. These were the sort of pressures faced by the Yarra Valley 20 years ago. Fortunately the pressures were resisted. A different form of agriculture in the form of viticulture gradually took over, resulting in a thriving wine industry, which today brings far more economic benefit to the region and Victoria than residential use of the land was ever likely to do.*¹²

According to some researchers and commentators, small farms may have an increasingly important role to play in a carbon-constrained future. A major report released in 2009 by Deutsche Bank Climate Change Advisors, *Investing in Agriculture: Far-Reaching Challenge, Significant Opportunity*, considered how agriculture might meet the challenge of (at least) doubling productivity in order to feed a projected global population of 9 billion by 2050. One possible way forward was the development of an ‘alternative food system’ with a prominent role for small, energy producing, self-sufficient farms. This would include:

*... a re-vamping of the farm-to-food system, where production methods would be less resource-intensive, food would be grown and consumed locally and on a seasonal basis, and communities could participate in the growing of their food through local co-ops, farmers’ markets or Community Supported Agriculture.. But most of all, food production would be a less resource intensive enterprise that better mimics ecological systems rather than today’s industrial system.*¹³

5.1.1 Whole Farm Planning

Also known as Property Management Planning or Physical Farm Planning, Whole Farm Planning is a tool which can help landowners improve the productivity and sustainability of their properties. Whole Farm Planning involves looking at farm layout, water supply, land capability, soil type and other farm conditions and preparing a plan by which the landholder will manage their resources (such as paddocks, stock, land, staff etc.), manage environmental issues in a logical manner and set clear long term goals against seasonal, annual, daily and weekly activities.

Typically, a whole farm plan will consider the following issues:

- succession, retirement, financial, family and property development planning;
- wildlife habitat preservation, waterways health, land capability and aesthetics; and
- production capacity, and caring for the environment, family and business.¹⁴

The Committee is aware that Mitchell Shire Council (a peri-urban shire to the north of Melbourne) has made the completion of a whole farm plan a requirement for landowners with smaller lots (under 40 hectares) who apply for a permit to build a dwelling within the farm zone. This aims to ensure that landowners are best equipped to manage their small properties successfully and in a way that does not threaten the operations of nearby commercial agriculture. Short courses in Whole Farm Planning are run by the DPI and other providers.

Recommendation 50:

That the Victorian Government encourage landholders in farming zones to undertake a Whole Farm Planning course before applying for a permit to construct a dwelling.

5.2 Land stewardship

“Most good farmers that I know want to hand on their farms in better condition than when they started.”¹⁵

Most farmers feel a sense of stewardship for their land and are interested (at least) in preserving its environmental health. Landcare coordinator Ms Moragh Mackay told the Committee at a public hearing held on Phillip Island:

There was a study done by Allan Curtis and Terry De Lacy in 1998 that established that most farmers — or just about all farmers, I would say — consider themselves as being land stewards, and it demonstrated that their ethic and their passion values about the land were really strong. It is not a question about how they feel about the land, but often that ethic was not correlated strongly to their actual land management practices.

What that tells us is simply that it is about opportunities to provide training and skills development so that their practice is more strongly linked to their ethics and their passion for the land. It is really evident via many forums that have been held locally that our community wants to protect our rural landscape and strongly supports farmers in their role and how they provide that landscape management and land management practices.¹⁶

Investment in land management is urgently needed. The Melbourne region contains as much as 50 percent of all of Victoria's threatened species. Residential development is driving a loss of natural habitat and biodiversity and a degradation of waterways. In the urban Melbourne area of the Port Phillip and Westernport region, only five percent of original vegetation remains and almost all remnant bushland is badly affected by weeds.¹⁷ The volcanic plains of Wyndham and Melton are the most depleted bioregion in the state.¹⁸

There are emerging opportunities for peri-urban farmers and landowners to receive additional income through participation in environmental protection and restoration activities.

'Ecosystem services' are those public good services which generally come from natural areas but which can also result from the sustainable management of land and water. This includes the provision of clean air and water, maintenance of soil health, biodiversity and carbon sequestration.¹⁹

Agriculture in peri-urban areas provides ecosystem services which benefit the wider metropolitan community. The Committee heard that with appropriate support from government there is potential to enhance this role. Mr Ian Morgans from the PPWCMA told the Committee that his organisation sees "opportunities to invest in landholder ability and capacity to grow ecosystem services and to provide land stewardship services alongside the things that they do commercially and for profit."²⁰ Farmers would grow ecosystem services "alongside cattle, sheep, vegetables or broiler hens for that matter."²¹

The Committee heard that payments for land stewardship activities to produce these ecosystem services are used in other parts of the world and are considered to be an essential part of the next generation of environmental governance arrangements.²²

5.2.1 Barriers to investment

Participants in the inquiry noted three main barriers that prevent landowners from making greater investment in land management in peri-urban Melbourne. These are:

- (i) aspirations for the land;
- (ii) the cost of land management; and
- (iii) a lack of time.

Research in Melbourne's green wedges shows that where landowners aspire to the short term conversion of their land to residential uses they are less likely to invest in land management activities, presenting a barrier to achieving NRM goals in the region. According to the report by Parbery et al., in some of three green wedge regions (Western, Yarra and South East) significant proportions of landowners would not be displeased by the urban development of their land:²³

- In the Western green wedge, absentee landholders/speculators own as much as half of all rural land. This is reflected in the survey data on landholder aspirations for the future: 46 percent said they would be pleased with urban development in their area (compared to 20 percent across the other surveyed green wedges).²⁴ The major environmental issues are the loss of rare and endangered native vegetation, the spread of weeds and animal pests (large areas are subject to serious weed infestations), and water quality.;
- In the Yarra green wedge, holdings are dominated by lifestyle landowners (variously described as 'green', 'horse' or 'amenity'-lifestylers, depending on their intentions), although compared to the west of Melbourne, this region also has substantial and diverse commercial agriculture. There is a much greater level of attachment to the land and fewer landholders who would welcome urban development (11.4 percent). The natural resources of the region are in good condition, although pest plants and animals, erosion, nutrient management and other water quality issues are concerns; and²⁵
- The South East green wedge is made up of the rural areas of Casey and Cardinia. The region includes greater amounts of extensive agriculture than the Yarra green wedge, such as dairy and beef grazing. The survey found 20.8 percent of landholders would be pleased by urban development, although the majority (60.5 percent) would not. There are a number of environmental issues here,

particularly the loss of vegetation and biodiversity (as a result of farming and then urban development) leading to other problems, such as salinity. There is also substantial erosion, which is damaging the ecology of Westernport Bay.

The cost of land stewardship activities is a further barrier. The cost and effort required of farmers to manage their land is often not returned in higher commodity prices (although new opportunities are emerging in this area, see 5.7 below).²⁶ Landowner and agribusiness consultant Mr John Webb Ware informed the Committee at a public hearing held at Hume City Council:

...there is a trend across Australia for farmers to spend more on environmental land care issues on their farm. The real impediment for that to happen more is farmers have to live and fundamentally support their families. The average farm not being big enough, it is very difficult to be able to invest more back in the farm, particularly in dry seasons when profits are not good enough. But the reality is there is a trend for improving expenditure on land care. Most farmers are acutely aware of this—most serious farmers are acutely aware—and want to spend more on their farms. The other thing which I think is pertinent, that the more profitable farms are investing more in land care simply because they can. They have surplus funds to do it. That is as simple as that. Most farms would like to but they do not have the surplus funds to do it.²⁷

Green wedge farmers related their frustration that private investment in managing the landscape – an amenity enjoyed by the wider community – is rarely matched with government or public support. The Committee heard arguments for compensation or other arrangements to be made in recognition of this.²⁸ For example, at a public hearing held in Nillumbik, full-time farmer Mr David Magahy stated:

We are in the green wedge shire. I have had many discussions with what are termed 'greenies' — or, as I term them, the Eltham environmentalists. And they are passionate about their green wedge. We hear comments in Parliament about the green wedge, and it is 'our green wedge'. You will hear the environmentalists down in Eltham always talking about the green wedge. But I have had many discussions with them. I say, 'What are you prepared to do to support your green wedge?' — and I do not mean talking to the papers or something like that, or planting a couple of trees on the side of the road or cleaning up a little bit of rubbish, but actually cold hard cash — 'What are you prepared to do? How many thousand are you prepared to chip in?'. And without exception the answer is, 'Oh no! It's your place; you pay for it'. So they have got the best of both worlds. It is their green wedge when it suits them. There are restrictions brought in on what we are allowed

*to do — you are not allowed to do this, you are not allowed to do that, you are not allowed to do the other — but when it comes to paying for it, on the other hand, we hear, ‘Oh, it’s your green wedge’.*²⁹

Many landholders lack the time to invest in environmental stewardship activities. This is particularly relevant to peri-urban locations where landholders are likely to have off-farm jobs. The Shire of Yarra Ranges commented in a submission:

A survey of 30 rural landholders in the Shire on issues related to sustainable land management found: “the time spent on land management is significant for many families. Clearly many are “time poor” by having off-property employment and this currently, and into the future, is seen as a major barrier to implementing as many sustainable management strategies as people would like. For almost all interviewees, managing land resulted in a net cost, even for those who received income from the property. The cost of land management can not always be adequately met by off-property employment, and lack of finance is another important barrier to implementation. Together time and finance accounted for 70 percent of the barriers mentioned.

*In summary, environmental rural land management could become more problematic if commercial agriculture did not exist to the same extent in future, due to the barriers of time, finance and the lack of a business case for its implementation.*³⁰

5.2.2 Market-based programs

Market-based land stewardship programs – which offer incentives for landowners to achieve specific environmental goals on their land – are seen to have the potential to open up income opportunities for green wedge and peri-urban landowners.

‘EcoMarkets’ are market-based instruments aimed at addressing environmental decline. The main function of ecoMarkets is to encourage private landholders (who own 65 percent of Victoria’s land) to manage their land in ways that conserve and enhance the environment. Landholders earn income from ecoMarkets if they are able to achieve environmental improvements in a cost-effective way.³¹

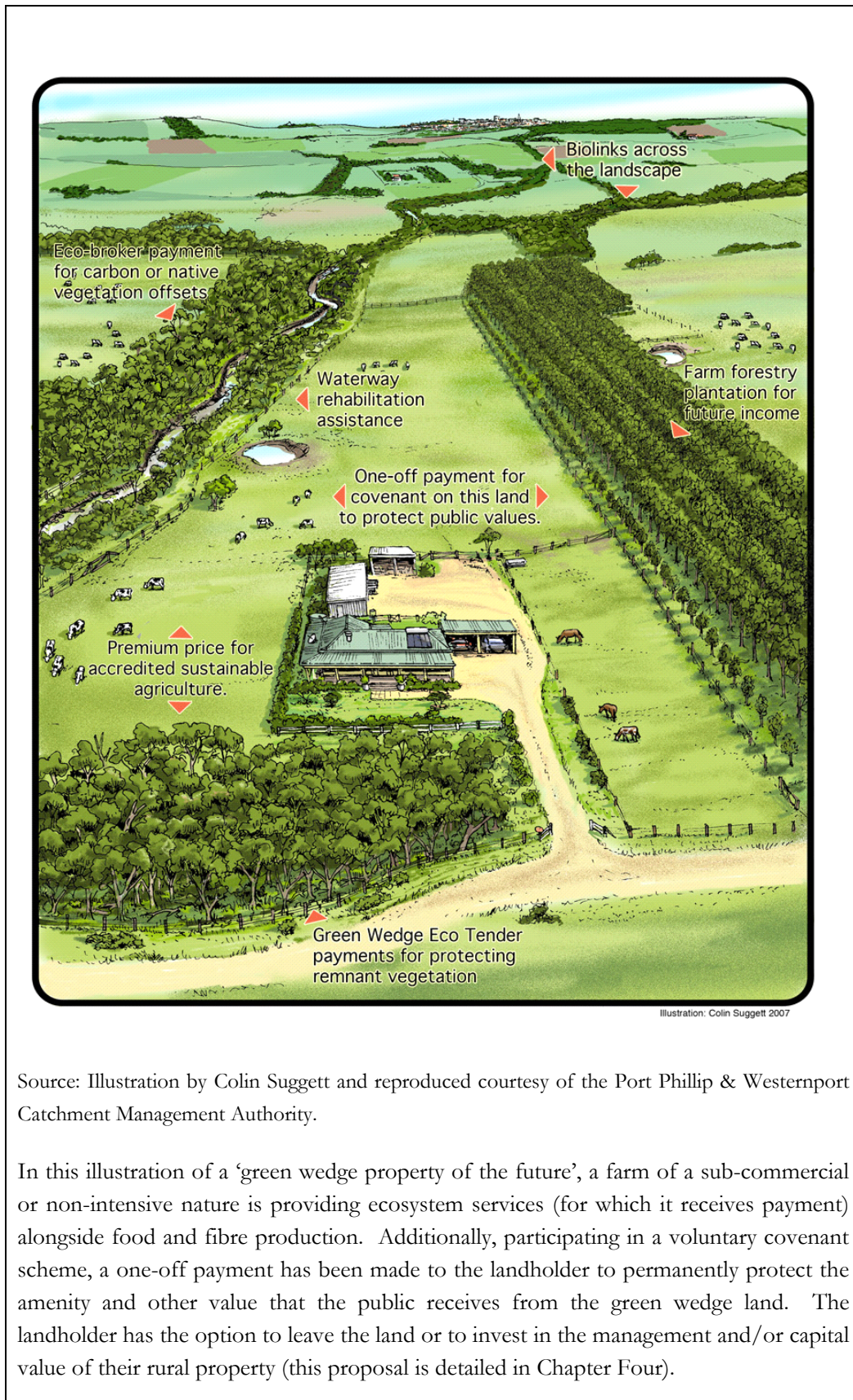
There are three Victorian Government ecoMarket programs: BushTender, EcoTender and BushBroker. The first two adopt auction-based approaches, while BushBroker is a system of tradeable credits. Under BushTender around 17,000 hectares of native vegetation on private land has been managed and protected since 2001. Interface councils are not eligible to participate in BushTender. EcoTender extends the program to include multiple environmental benefits. Landowners can be paid for actions like

weed and pest control, fencing and planting native vegetation, protecting gullies and wetlands and controlling stock.³²

Finally, under the BushBroker scheme, those who wish to clear native vegetation are able to purchase native vegetation credits from other landowners as offsets. Credits are listed on a register and can only be used once. Landowners have a potential new income stream and are able to improve biodiversity on their own land. Around 750 hectares of land has been protected under this scheme since its inception in 2006.³³

The Committee heard from various witnesses that there was a need for a market-based program specifically tailored to the green wedges, recognising that the green wedges provide substantial public benefits as the most visited rural areas near Melbourne and are also subject to a range of urban pressures not experienced elsewhere.³⁴

Figure 5.1: *Green wedge property of the future*



At a public hearing, Mr Peter Marshall, speaking on behalf of the Interface Group of Councils, outlined a proposal for a ‘green wedge tender’, to be run along the lines of BushTender:

The interface councils are seeking a commitment of \$4 million to fund a green wedge tender program for 2009–10 and beyond. This program will offer financial support to private landowners to implement land management priorities identified in the green wedge management plans. What we have in the green wedge are land holders who fundamentally have to look after the green wedge, protect the lungs of Melbourne in the green wedge areas, but really are disadvantaged in many ways. This fund would help them do those sorts of things. So private landowners under this program will be invited to tender to meet specified environmental objectives — for example, protect the threatened vegetation classes, improve river water quality and things like that. Initiatives would generally include fencing, weed control, pest animal control and replantings. The programs would also run potentially for three to five years for each of the 12 identified green wedges.³⁵

The Committee noted a similar suggestion from the PPWCMA (in a paper tendered as part of a formal submission) for a ‘Green Wedge Eco Tender’. This would be available to the managers of land in the green wedges and “would allocate new funds, perhaps in the order of \$10-20 million per year, to the enhancement of native vegetation, revegetation, creation of links across the landscape, salinity mitigation, pest control, water quality protection, erosion control, coastal protection and the like.”³⁶

Recommendation 51:

That the Victorian Government, through the Department of Sustainability and Environment, consider establishing a ‘green wedge eco tender’ for green wedge landholders, along the lines of the existing BushTender program.

5.3 Research and innovation

Globally, agriculture is experiencing a rapid rate of change. There have been shifts in food markets and the costs of agricultural inputs, such as energy, fertilisers, agro-chemicals, land and water. There is unprecedented demand for non-food production

and services from agricultural land – in carbon storage, fresh water yield, biodiversity conservation or values associated with amenity and lifestyle.³⁷

In a recent report, researcher Andrew Campbell (2009) argues persuasively that innovation will be critical to improve the resilience of the Victorian food and farming system in a future which will be carbon, water, energy and nutrient constrained.³⁸ Campbell writes:

*...the status quo is not good enough in terms of our ability to grow and market food profitably and sustainably in the current environment. It will struggle even more in future. While we could achieve big improvements simply through the better and more widespread application of existing knowledge and technologies, it is equally clear that we need new knowledge and new technologies to give us new ways of doing things and provide us with new options.*³⁹

The necessity of innovation and experimentation came through strongly during the Committee's investigations in Europe and North America. PURPLE, the European advocate for peri-urban regions, has called on governments to support experiments and demonstration projects within peri-urban planning schemes.⁴⁰

The Committee's meeting with Sustain, the GTAAAC, TransForum, InnovatieNetwork and others, demonstrated the effectiveness of small organisations working in partnership across policy areas. InnovatieNetwork, an independent Dutch agricultural 'thinktank' originally set up by that country's Ministry of Agriculture, Nature and Food Quality, argues that fundamental innovation very rarely comes out of large, established institutions (such as government departments), because often such innovations place existing structures, ways of thinking and interests under pressure. InnovatieNetwork has a brief to explore and implement ground-breaking ideas. These are sometimes controversial and often challenge government policy. One example of an InnovatieNetwork project is described later in this chapter.

The Victorian Eco-Innovation Lab (VEIL) seeks to identify and promote emerging technical and social innovations that could form part of future sustainable systems. VEIL is a partnership between the University of Melbourne, Monash University and RMIT University, supported by Sustainability Victoria. VEIL's recent research brings together a range of concerns about the sustainability of Victoria's food system and suggests possibilities for innovation. In a submission to the inquiry, VEIL argued that fundamental changes were needed:

We have opportunities now to protect and enhance sustainable and affordable food supplies, here and internationally. To do this, we must accept that incremental changes to a fundamentally unsustainable system will not be sufficient. We will

*need to explore and create new systems that build resilience for complex and often unpredictable challenges, as well as aspiring for the future we wish to create.*⁴¹

According to VEIL, one priority for supporting innovation will be to evaluate existing and proposed farming systems in terms of their effectiveness and sustainability. This calls for trials and, more generally, the removal of policy barriers to experimental activity. VEIL has noted: “the successes and failures of innovative experiments should be valued and shared to foster knowledge exchange and ‘evolutionary innovation’.”⁴²

Pasture cropping – Central Highlands Agribusiness Forum

The Central Highlands Agribusiness Forum (CHAF) works with agribusiness in small rural communities to help them become more profitable and more viable. CHAF covers the City of Ballarat, the Rural City of Ararat and the Pyrenees, Moorabool, Macedon Ranges and Hepburn Shires.⁴³

The President of CHAF, Mr Laurie Norman, related to the Committee some of the innovative projects undertaken since 2005. Using the organisation’s 40 hectare demonstration farm, many of the projects seek to improve productivity by trialling and introducing new farming methods. The Committee was interested to learn of CHAF’s work on the ‘Pasture Cropping’ project. This may have the ability to allow successful co-existence of native grasses and pasture cropping in the volcanic plains on the western side of Melbourne. In this process, seeds are direct drilled into the area of native grass while it is in its state of rest.

In answer to a question from Deputy Chair the Hon. Ken Smith MP about whether it was possible to get a worthwhile harvest from the technique, Mr Norman stated:

*In New South Wales, yes, they get a grain from it. Here we have done it in the last two years and the seasonal conditions were not conducive to growing a grain getting seed, but we did produce enough biomass to increase the carrying capacity with no detrimental impact on the native grass. ... We are also improving the water holding capacity which makes water more available to the crop when it is required and to the native grass. It is a very interesting concept and the view was to help protect native grassland by making it valuable.*⁴⁴

Investment in agricultural research is a key priority for agriculture worldwide. It also presents export possibilities for Victoria, as Mr Ram Gopal, agricultural scientist and educator, stated:

The challenge for the future is doubling the food production with 50 per cent of the water availability. How are you going to do it? It will require best practice development. It will require a special solution. You want to take this Australian technology, package it and export it to the countries which do not have these facilities.⁴⁵

The Victorian Government's *Future Farming* strategy will invest \$103.5 million to expand agricultural research and development (R&D) and practice change services in Victoria, including the development of new generations of drought, cold and salt resistant crops, improved plant and animal disease control, and new technologies to lift productivity.⁴⁶

However, notwithstanding this, Mr Norman and other witnesses argued that given the immense changes occurring in agriculture and the new opportunities opening up for farmers (some of which CHAF is trialling), greater investment in research was needed from all levels of government:

We are at a period of major change due to climatic conditions, due to commodity prices. A whole lot of agricultural activity is impacted. We are in a period of constant change in agriculture. Land and Water Australia has had their funding taken off them so they no longer exist. Land and Water Australia is a really valuable body and if they brought research organisations and funding bodies together to undertake research, so there is a lot of research undertaken through that organisation and now their funding has been cut out altogether so they no longer exist.

Rural Industries Research and Development Corporation has also had funding cuts. A valuable research body again has been required to cut back on R&D in the agricultural area because of funding. The Walpeup and Rutherglen Research Institutes have been closed down. I think at a time when there is major change, particularly in the cropping situation in those two research institutes, Rutherglen and Walpeup, were into the cropping situation, to have those institutes closed down I believe is a retrograde step as far as agriculture is concerned. I think we need government supported research to keep research independent.⁴⁷

There is a fear among some farmers that the increased involvement of the private sector could diminish the government's status as a trusted third party in conducting research and advising farmers. For instance, at a public hearing in Ballan, Mr Eric Sharkey noted:

For years perhaps governments have walked away from that sort of role but it is absolutely essential that governments still remain that third party when it comes to

new research, research done by private enterprise, that departments can still be there and assess that research and give us the information, rather than a commercial arrangement that might weaken [it]. We do not always trust some of the commercial people. Whether it be on national variety trials of grain or whatever it may be, I still believe in the absolute role.⁴⁸

5.3.1 Extension and advisory services

Both the Campbell and VEIL reports make the point that much of the knowledge that will be needed to make farming systems more sustainable already exists. For example, much is known already about techniques that restore the natural resources on which agricultural production relies, but often this knowledge isn't considered innovative, or is difficult to access and doesn't reach farmers.⁴⁹ It is the role of agricultural extension programs to take research findings and assist farmers to implement them.

A number of inquiry participants observed that a reduction in state government agricultural extension services (as far back as the 1980's) has made it more difficult for peri-urban landowners to get access to the expertise they need.⁵⁰ Mr Laurie Norman discussed this using the example of agroforestry:

There is also a concern about experienced extension staff. There seems to be a push to have extension facilities—and by extension I mean a transfer of knowledge from research to the farmer—go to agribusiness organisations like Elders or Landmark. I believe to keep the extension component independent, I think government has an important part to play in that and that does not seem to be happening now.

As an example, the agroforestry unit within DPI has now been reduced to only four people, virtually closed down, in a period when agroforestry or forestry which has an impact on climate change, carbon sequestration, bioenergy, now does not have the expertise within the department to provide that knowledge to farmers to improve agroforestry tree growing values on the property.⁵¹

Echoing these comments, Mr Ian Ada, from the Shire of Yarra Ranges, suggested there was a need for extension programs for irrigation within the region:

Now government investment in extension has never been strong in the Port Phillip region because the agriculture is a little bit fragmented with the city dividing it. A good example is irrigation programs: to my knowledge the government has never spent a dollar on extension irrigation programs helping farmers improve water use efficiency and that is compared to what they have spent north of the Great Dividing

Range in the Murray Darling basin area of the state. It seems that support is going to be further eroded by the devolution of industry programs to the private sector by Farm Services Victoria, which is the extension arm of DPI.⁵²

The DPI's strategy for the delivery of these services was explained to the Committee at a public hearing by Mr Ron Harris, Executive Director, Farm Services Victoria. Mr Harris stated:

DPI will consider who is best placed in terms of efficiency and effectiveness to deliver those services. So even though the government may have received some funding, that does not necessarily mean that a government agency would be delivering that service. That service may be delivered by another party. DPI will not compete with effective private providers or community groups. We have got a whole range of community groups, probably not so much in the peri urban areas apart from the Landcare groups but certainly some of the cropping groups like Birchip Cropping Group or some of those other groups, so we are working very much with them. Our aim is to grow the overall capability of all the range of service providers, be they government or non government, and manage some of the risks associated with that, and there are some significant risks in this.⁵³

The Committee notes that the DPI has run the Services and Information for New Landholders program (SINL) over the past four years, in that time engaging with around 5000 people. The program's target audience is the estimated 80,000 owners of small 'lifestyle' or 'tree change' rural lots in Victoria. The Committee heard the program has a strong focus on biosecurity – aiming particularly to improve the way landholders identify and control pests and weeds and manage livestock.⁵⁴ Since the Black Saturday fires of 2009 the program has also provided bushfire recovery information in a hands-on fashion to 260 small property owners on topics like pasture restoration after bushfire, fencing and soil erosion.

While visiting Portland (Oregon) the Committee was informed of the Small Farms Extension Program run from the Oregon State University. This impressive program is for commercial small farm entrepreneurs as well as non-commercial small acreage landowners and seeks to improve economic and environmental sustainability. It offers programs, materials and resources addressing conventional and organic/biological farming systems, soil health, direct marketing, agri-tourism, farmers' markets and other topics. There is also an annual small farms extension conference.⁵⁵ There are similar small farm programs at other US universities, including at Cornell University (New York), Washington State University and the University of Maryland.

Closer to home, the Small Farms Network on the south coast and southern highlands of NSW is a free support service for people who live on or manage rural and peri-urban

land. The Network supports all landholders ranging from half a hectare to several hundred hectares. According to their website, the range of services offered includes:

- Producing beef, sheep, goats, poultry, alpacas or worms;
- Horticultural crops, farm forestry, bush tucker or vegetables for family or commercial production;
- Weed control, pasture productivity and soil health advice;
- Project planning for bushland, creek restoration or shelterbelts design; and
- Training workshops and field days on a wide range of topics.⁵⁶

The Committee believes there is demand for extension and advisory programs targeted at both lifestyle landowners and commercial agribusinesses near Melbourne. There is a huge diversity of landowners in peri-urban Melbourne and to engage successfully with them multiple points of access are needed. As noted in Chapter Four, there may be scope for this demand to be met in part by lending support to peri-urban agribusiness forums (see Recommendation 17). The Committee also believes the DPI's Services and Information for New Landholders program is valuable and should continue, but with its focus expanded beyond biosecurity wherever possible to include other topics identified as being of interest to small rural landowners, such alternative farming systems, opportunities for involvement in ecosystem services schemes and value-adding opportunities (such as direct marketing and agritourism).

The Committee also heard suggestions for ways to assist lifestyle landholders to carry out necessary environmental works on their properties. One proposal put to the Committee saw potential for:

...more experienced landholders (including part-time and retired farmers) providing land management services to other landholders who lack the time, experience or equipment to do it themselves. This could have multiple advantages in providing off-farm income for farmers, being convenient for lifestyle landholders, improving NRM, and building a sense of connection between established and new landholders.⁵⁷

The Committee believes this is a practical suggestion which should be further developed by government.

Recommendation 52:

That the Victorian Government continue to invest in agricultural research and development and ensure that the Department of Primary Industries remains a robust source of advice for the industry.

Recommendation 53:

That the Victorian Government extend funding for the Services and Information for New Landholders program and seek opportunities to expand the range of services it delivers to peri-urban landowners.

Recommendation 54:

That the Department of Primary Industries establish a land management program in which experienced and/or retired farmers provide land management services to lifestyle landholders.

Recommendation 55:

That the Victorian Government work with Victorian Eco-Innovation Lab, Victorian universities and other stakeholders to establish an independent centre of agricultural innovation, along the lines of InnovatieNetwerk in the Netherlands, with a brief to design and trial innovative and challenging projects in food, farming and land use planning.

5.4 Soil

The Committee heard from several witnesses that there is a need for investment in soil research, leading to soil regeneration and improved management techniques.⁵⁸ The quality of the soil resource is crucial – as important to food production as water supply – and the production of food on degraded soils reduces its nutritional value and overall quality.⁵⁹

In 2007, the PPWCMA commissioned a report into the locations, causes and management actions for soil salinity across the Port Phillip and Westernport region. A summary of the report was provided to the Committee. Key findings are that salinity is present in all five of the *Melbourne 2030* urban growth areas and the most ‘at-risk’ horticultural land is on the Mornington Peninsula and at Werribee and Bacchus Marsh.⁶⁰

Participants in the inquiry identified a lack of data and practical information on the actual state of soil health – little is known about the extent and spatial distribution of soil problems.⁶¹ While some issues (such as salinity, erosion and acidification) have been widely recognised, less is known about others, such as structural decline (soil compaction), contamination (from fertilisers and pesticides) and loss of biological life in soils, and little is being done in these areas. There is a need for long-term monitoring of soil health and the impacts of physical, chemical and biological management in different areas of the state.⁶² Innovation and experimentation across diverse conditions is required.⁶³

In a similar vein, Bass Coast Landcare Network coordinator Ms Moragh Mackay informed the Committee at a public hearing:

There are some research gaps that have been identified in what actually represents sustainable agriculture in this area, particularly around soil health and how soil health improvements can support farmers to improve their productivity and profitability, but also in the ecosystem services provided by healthy soils. We are currently setting up some farm trials in cooperation with Monash University, EPA, DSE and some local soil scientists.⁶⁴

The Committee was also interested to learn from Mr Norman's presentation of the potential of raised bed cropping to improve grain yields in areas affected by waterlogging and poor soil structure.⁶⁵

The Shire of Yarra Ranges (and other inquiry participants) called for more investigation into the possibilities offered by biochar for soil amelioration and carbon sequestration. CHAF has also trialled biochars made from cereal grains and chicken manure at its demonstration farm.⁶⁶ Biochar is a charcoal which results from heating natural organic material in an oxygen-limited environment (in a process called pyrolysis). The production of biochar also produces bioenergy, in the form of synthesis gas.⁶⁷ The Shire's Mr Ian Ada, stated:

Growers in this area and we the shire believe that biochar seems to have enormous potential. We have got a huge waste stream out here in the eastern suburbs. At the moment it is going to landfill, it is going to be made into compost, but of course it is giving off a lot of carbon emissions while that is happening.

Some investigations have found that we have about 77 000 tonnes a year of fruit tree prunings alone from this area, which at the moment are largely being burnt and, again, releasing carbon. There is a tremendous opportunity to use both green waste from urban situations in this area and some of our prunings from both the vineyards and tree crops and to burn them in anaerobic conditions to produce

Agrichar or biochar, which has soil ameliorant benefits, appears to increase yields in research done interstate and potentially could also be used as a carbon store that farmers may be able to count towards carbon storage and capture in an emissions trading scheme. Just removing that 77,000 tonnes alone from burning would remove 23,000 tonnes of carbon emissions a year. We think some work needs to be done looking at biochar and its opportunities, and that is potentially a bigger issue than we can address ourselves.⁶⁸

Interest in the potential of biochar is increasing, although the CSIRO states that further research is needed around its use and its effectiveness in different types of soils.⁶⁹ In 2010 the Jeffries Group, which recycles more than 100,000 tonnes of organic material annually, and the South Australian No-Till Farmers' Association entered into a joint venture agreement to carry out research and trials on the use of organic material to produce energy and biochar.

There is also scope for much greater use of recycled organic compost and mulch to improve soils for agriculture. Forty seven percent of waste going to Victorian landfill sites is food and green waste, producing methane as it decomposes.⁷⁰ Sustainability Victoria informed the Committee that the practice of organic waste recycling for compost and mulch products has a range of benefits for the overall sustainability of the food growing sector:

- Reduces irrigation requirements by reducing evaporation of water through exposed soil surfaces;
- Helps hold water and reduce leaching loss; improves the drought resistance of plants;
- Adds organic matter which increases the soil's ability to retain water. This is critical in Victoria's carbon-poor soils;
- Reduces erosion;
- Reduces the need for synthetic fertilisers and pest control; and
- Significantly reduces greenhouse gas emission by keeping organic waste out of landfill.⁷¹

Greater use of compost and mulch within commercial agriculture is inhibited by a lack of understanding of these benefits and farmers being hesitant to change traditional farming practices. Price is another barrier.⁷² The transport of compost products over long distances is expensive due to their relative low density and high moisture content and agricultural markets are often distant from compost suppliers. Clearly the proximity of

peri-urban agriculture to the source of the waste presents an opportunity in regard to transportation costs.

Sustainability Victoria further informed the Committee that trials are being undertaken to achieve more widespread use of recycled organic mulch and compost in the viticulture and horticulture sectors:

The DPI and Sustainability Victoria are trialling the use of compost in vegetable growing at Gazzola Farms in Somerville. Successful trials have also been conducted at a number of vineyards in winegrowing regions around Melbourne. Many of these vineyards are now purchasing mulch on an ongoing basis. The results of these trials are expected to show that these products can be used to increase the sustainability of these industries through the numerous benefits they provide...⁷³

Recommendation 56:

That, in view of the high level of interest in biochar, the Victorian Government ensures that it contributes to Australian research on the issue and makes the latest information available to primary producers.

Recommendation 57:

That the Victorian Government recognise the need for further investment in ongoing soil monitoring and research and the implementation of soil conservation practices.

Recommendation 58:

That the Victorian Government seek opportunities to increase awareness of the benefits of using organic compost and mulch within agriculture, including progressing this as part of its compliance with the Australian Government's National Waste Policy.

‘Temporary Nature’ - InnovatieNetwerk

In a meeting with the Committee, the Dutch agriculture and land use ‘thinktank’ InnovatieNetwerk discussed a project called ‘Temporary Nature.’ This was developed in response to the land management problems caused by vacant rural land on the edge of cities in the Netherlands.

Temporary Nature is aimed at run-down ex-farmland with no environmental assets and which has been marked for future development. Many years can go by from the point at which land is re-zoned for development and the start of construction. In the meantime, landowners will mow or plough the land to discourage wildlife from colonising the site, as any rare plants or animals would jeopardize the planned development.

Legislation passed in the Dutch Parliament in 2007 means that landowners who choose to take up the Temporary Nature model receive an exemption from the applicable wildlife protection legislation so that the planned development can proceed, whether or not rare species later colonise the land. As a trade-off, the public must be allowed to access and enjoy the space. From an ecological viewpoint, InnovatieNetwerk claims that these ‘temporary greenbelts’ benefit plant and animal life, giving them time to strengthen and establish their numbers. Nothing is lost by allowing such nature to occur on land that would otherwise be developed.

5.5 Organics

Organic food is rapidly becoming a mainstream choice. The global organic food market generated sales of US\$52 billion in 2008. The market is projected to be worth \$US85 billion by 2013.⁷⁴ Analysts expect continued double digit growth into the foreseeable future,⁷⁵ although reports in 2009 suggested sales have slowed with worsening economic conditions in various countries.⁷⁶

The organic sector in Australia has a current total retail value estimated at \$623 million. This is still less than one percent of total retail market value in Australia and organic farm businesses represent only around two percent of Australian farm businesses.⁷⁷ However, according to global industry research company IBISWorld, revenue from the organic farming industry will grow by 14.8 percent from 2009 and employment is expected to grow by 2.6 percent.⁷⁸

Victoria is home to one in four of Australia’s certified organic producers and is the nation’s leading producer of organic milk and the leading organic food processor, particularly of dairy products, fruit juices, flour and flour mixes.⁷⁹ Strong consumer support for organic products in the Asia-Pacific region – driven by health and food safety concerns – opens up export opportunities for Victoria: the Japanese market alone is expected to be worth AU\$6.5 billion by the end of 2010.⁸⁰ Currently Victoria lags behind competitors, such as New Zealand, as an exporter of organic foods.⁸¹

The Victorian Government's *Future Farming* strategy (2008) allocates \$1.08 million over three years to assist the Victorian organics sector to develop its resilience and further differentiate and substantiate organic products. The funding will be used to develop a reference group to help the industry tackle current challenges and capture emerging opportunities. In October 2009, the Minister for Regional and Rural Development Hon. Jacinta Allan MP also announced \$400,000 worth of grants available (from *Future Farming* funding) to organic businesses and industry projects.⁸²

Consumer demand for organic food is promoted to a large degree by a perception that organics and similarly produced foods are of a better quality and healthier because of reduced chemical use, even if consumers do not fully understand the principles and rigorous standards that lie behind the farming techniques.⁸³ Debate continues on health benefits: an extensive review in 2008 found that “organic plant-based foods are, on average, more nutritious.”⁸⁴ A 2009 French review concluded that organic plant products contain more dry matter and minerals – such as iron and magnesium – and more antioxidant polyphenols like phenols and salicylic acid, whereas data on carbohydrate, protein and vitamin levels are insufficiently documented.⁸⁵ However, the UK's Food Standards Agency states categorically that its own commissioned review found no nutritional benefits, or other health benefits, from organic compared to conventional food.⁸⁶

The increased cost of agricultural inputs is one driver for farmers to adopt organic agriculture and similar farming systems that reduce or eliminate chemical intervention. In a future likely to be defined by climate change, rising energy and nutrient costs, increasing water scarcity and (hence) prices, Victorian farming will be under pressure to use inputs more efficiently. This will include greater use of organic as opposed to synthetic nitrogen, integrated pest and weed management systems and careful water management.⁸⁷

The Committee notes that the use of sprays and chemicals is a cause of land use conflict in peri-urban farming areas. Farmers report receiving complaints from neighbours about spraying, despite the chemicals being declared safe to use and despite precautions taken to avoid spray drift.⁸⁸ Farming methods that use minimal or no-chemicals may therefore be particularly suited to areas near cities.

The Committee heard from an organic farmer who is in the early stages of establishing a small (two hectare) farm on highly degraded land alongside a railway line in Gippsland, with the intention of it becoming a visible and public demonstration of successful sustainable farming methods. From the perspective of this farmer, conventional agricultural methods of controlling weeds through chemical use sets up long-term costs:

If I was to consider spraying out weeds on the land I own, at best I would be assuming a biannual task required to be maintained for 50 to 70 years, at the same time, however creating barriers between myself and each and every one of the complementary outcomes I had wished to access, weakening further the structure of

the soil, increasing the risk of pest, weed and disease, retarding the efficient use of water and nutrients, toxifying the environment and limiting adaptability...⁸⁹

The Committee heard that despite increasing community interest and consumer support for organic products, organic agriculture remains on the periphery of the agricultural 'establishment', with one witness describing it as "a major paradigm shift for conventional farmers to accept organic."⁹⁰ Campbell (2008) argues that the divide between the organic and conventional farming sectors needs to be overcome.

The point about the need for the organic sector and the conventional sector to work more closely together is not about getting farmers to become certified organic, although some may choose to do so. Rather, it is about the broader need to reduce reliance on external inputs, lower pesticide and herbicide runoff, build soil carbon and improve soil health, make greater use of organic nitrogen and recycled nutrients, improve sustainability performance along the whole value chain and so on.

There are many insights from the experience of organic farmers around the world that can be brought to bear on these challenges, which are now mainstream.⁹¹

On the other hand, within the mainstream of agriculture, there is already a trend towards reducing inputs and environmental impacts, often using discoveries and techniques from the organic or biological farming fields, as the Committee heard in evidence from Mr Tony Russell, General Manager of Apple and Pear Australia Ltd:

...there is a growing interest in this area of agriculture. I might say, though, that in the practices now there has been a very clear trend of reducing usage of pesticides and the like and using softer pesticides and integrated pest management systems to reduce levels of pesticide usage right across the board, and that will continue. We do not see that stopping. I am not saying it will go to organic, but it will go to zero residue type agriculture. The New Zealanders have already made enormous strides in this area to get their production in that zone, because a lot of their production is actually exported to Europe, so they have got a lot of pressure to get there a lot quicker than perhaps we have. But nevertheless it is one of our strategic directions to move down the same path.⁹²

The Committee notes the findings of the VEIL report (2008) and the work of Andrew Campbell (2008) that this merging of knowledge and practice between low-input and conventional agriculture should be accelerated. Both reports identify research gaps that

remain around the costs and benefits of low-input farming in Victoria. The Committee considers that the commitment of funds to the organic industry in *Future Farming* should provide the base for building up a much larger focus within the DPI on research, training and extension in low and no-input farming methods.

Recommendation 59:

That the Department of Primary Industries progressively scale-up its research, training and extension services for organic agriculture in Victoria. This should also include training for relevant departmental officers in organic agriculture.

Recommendation 60:

That the Department of Primary Industries identify and support initiatives which facilitate a greater exchange of information between organic and conventional growers.

5.6 Hydroponics

Hydroponics is the production of crops in isolation from the soil, with their total water and nutrient requirements supplied by the system. Production takes place either in a greenhouse/glasshouse or outdoors.⁹³

In Victoria, hydroponic greenhouse growing systems for vegetables and flowers are concentrated in the peri-urban Melbourne region, with other pockets of activity in Gippsland, the Bellarine Peninsula and northern Victoria. Flavorite, based in Baw Baw Shire, is one of Australia's leading hydroponic tomato producers.

The value of the Australian hydroponic vegetable and cut flower sector has been estimated at approximately \$1.3 billion per annum in farm gate prices – equivalent to around 25 per cent of the total value of vegetable and flower production.⁹⁴ Direct and indirect employment is estimated at around 20,000 people nationally.⁹⁵

The water-efficiency of hydroponic and greenhouse production systems is particularly relevant to Victoria. The Committee heard that hydroponic crops produced in closed systems can produce \$100 of output from as little as 600 litres of water, compared to 37,900 litres per \$100 of output for non-hydroponic crops. The Committee also heard that production of 40 tonnes per megalitre of water could be achieved in the greenhouse, compared to around nine tonnes per megalitre of water in the field.⁹⁶

On the topic of water use, Ms Anne Shaw, a hydroponic grower located on the Mornington Peninsula, informed the Committee at a public hearing:

Hydroponic farmers are among the most productive producers in terms of water consumption in the country. As I said, in a fully closed recycling system they use around about 5 per cent of the water of the same crop grown in the ground. That is why I think it is important that government recognises that that is the way the industry is looking at that. There is a move within the industry. In years gone by many hydroponic farms were run to waste, where the water went in one end and out the other end. We have always had a closed system, but there is a move with hydroponic growers to be operating in those closed recycling systems with very little loss of water through evaporation. It is a very efficient use of water.⁹⁷

While hydroponic growing systems can be efficient users of water, the water inputs must be of a high quality. In answer to a question from the Chair on what the industry needed to expand in Victoria, Mr Graeme Smith, President of the Australian Hydroponic and Greenhouse Association, informed the Committee:

We would need quality water; we are okay with recirculated water, but it does need a reasonable level of treatment. There is a minimum level. If we are going to close off a system, we do not want to be accumulating sodium chloride salts, and that just builds up because the plants do not use it. So we do need to bring quality water in.⁹⁸

A further advantage for the industry is the ability to grow produce with minimal or no-pesticides and herbicides, using alternative methods of pest and weed control such as integrated pest management and biotechnology.

Mr Smith went on to discuss the applicability of modern hydroponic systems to the urban and peri-urban environment:

Modern greenhouse growers now, we are very much a technology driven industry, and we capture our wastewater and recycle it, so we have zero or very low effluent numbers. We are not worried about quality of land because we are not using the soil. We are worried about contours and being able to build greenhouses or protected cropping systems; however, the quality of the soil is not an issue to us; it is just about where we can fit, but topography and geography clearly is. Controlled environment allows better use of integrated pest management strategies, so we use

beneficial insects to predate on key greenhouse pests, which can lead to either much reduced or zero sprays, which is what we are all heading towards.

Given that we are controlling the inputs and the environment, we have higher sugar levels, sweeter food and longer shelf life. It is good for the retailers and the consumers, with year round supply of consistent quality and quantity to meet the needs of consumers. We use an environmentally sound, sustainable and responsible growing system. The key point for us we can produce local foods close to the urban environment, keeping our food miles down, which is not big on the radar here but certainly is overseas, and I suspect it will continue to come to this part of the world as well — that is, some sort of assessment, not just of CO2 equivalents but also the food miles in terms of the production of that product. Hopefully, all going well, there are higher returns for the farmers' efforts compared to traditional farming activities.⁹⁹

The Netherlands is a world leader in the greenhouse industry with an estimated 12,000 hectares of land under glass. While in the Netherlands, the Committee heard that the Dutch government seeks to encourage various industries – including agriculture (on farms and in greenhouses) – to employ cogeneration technology. Cogeneration uses one energy source, often natural gas, to provide electrical power and thermal heat. In greenhouses systems, CO₂ emissions are also recycled to encourage the faster growth of plants. This proven technology can improve local energy efficiency, reduce a facility's carbon impact in excess of 25 percent, reduce electricity costs and provide other benefits.¹⁰⁰ Cogeneration has been well established in the Netherlands for some years. Barriers in Australia are mainly to do with difficulties in connecting cogeneration projects into the electricity grid.¹⁰¹

Through cogeneration and related technologies, greenhouses can be tied into the resources of the city. Ms Gerda Verburg, the Dutch Minister of Agriculture, Nature and Food Quality, has commented: “I can see opportunities for the energy-producing greenhouse in urban areas in particular, where homes and other properties have to be heated. In those areas, there is not only a major demand for intensive food production, but also good potential for bringing energy supply and energy demand into line with one another.”¹⁰²

In Chapter Two the Committee has recommended the extension of gas pipelines to assist horticulture in peri-urban Melbourne. The Committee notes that the hydroponics industry in Victoria is still relatively small however the potential role it could play in food and energy production close to urban areas warrants further investigation by government.

Recommendation 61:

That the Victorian Government encourage the development of clusters of hydroponic greenhouses in those peri-urban areas which are unsuitable for soil based agriculture and have access to class A recycled water.

Recommendation 62:

That the Victorian Government, through the Department of Primary Industries and Sustainability Victoria, support the development of technologies that enable farmers to produce their own electricity, fuels and other energy inputs.

5.7 Opportunities for direct marketing

Small and medium-sized producers are increasingly using direct marketing to by-pass supermarkets and sell direct to consumers. Direct marketing can return a higher price to the producer and create valuable links with the local community.

Shortening the supply chain between producer and consumer also allows producers to make visible specific attributes of their produce and farming methods – attributes which add value and might otherwise be overlooked in supermarket supply chains. For example, there are now dozens of farms around Australia selling beef, lamb and other meat direct to consumers through their websites.¹⁰³ In many cases, producers give information about the land and water management practices employed on their farms and any environmental accreditation programs they are involved in. Farmers can also point out positive attributes of the way in which the livestock have been raised and treated. This might include the absence of antibiotics, hormones or rumen manipulators; free range rather than feedlots; or the fact that the business transports its own animals to ensure minimal stress.

The Committee received evidence on three avenues of direct marketing used by peri-urban producers: Community Supported Agriculture (CSA), farm gate sales and farmers' markets.

5.7.1 Community Supported Agriculture

In a basic CSA scheme, subscribers buy shares or invest in a farm at the beginning of the season and in exchange receive weekly supplies of fresh produce. The farmer gets a guaranteed market and income at the start of the planting season (rather than at the end).

The consumer establishes a personal connection to the farm and is able to exactly identify the origin of their food.

There are now over 12,500 farms in the US involved in CSA schemes.¹⁰⁴ The rise of CSA is linked to the increased popularity of farmers' markets, the growth of the organic fruit and vegetable industry, and greater consumer interest in eating locally grown food.¹⁰⁵ The average number of subscribers in a CSA scheme is 89 (up from 59 in 2007). Eighteen percent of farms are certified organic and 66 percent produce to organic standards, but are not certified.¹⁰⁶

CSA has potential as a direct marketing opportunity for small farms in peri-urban Melbourne. The Shire of Yarra Ranges informed the Committee in a submission:

*Two CSA programs are now fully subscribed to in the Shire of Yarra Ranges, and differ distinctly from the several local and traditional farmers markets held around the region. Namely CSA consumers make a long-term upfront financial commitment that directly supports the participating food producers for the whole growing season, whilst farmers markets involve both a mix of regular and intermittent income, which can only be gained once production is complete.*¹⁰⁷

According to a recent analysis, what began as an 'ideologically-driven' effort to connect consumers with their food is now an established technique that is "definitely headed for the mainstream."¹⁰⁸ The submission from the Shire of Yarra Ranges agreed:

*It is not unreasonable to expect more CSA programs to evolve locally and around Australia, as local urban communities embrace the simplicity, ease and empowerment created when supporting local food production in this way; especially around major urban and regional centres, where urban residents and communities increasingly lack the land and skill to grow their own supply.*¹⁰⁹

However, despite its success in North America, Japan and Europe and the fully subscribed schemes in the Shire of Yarra Ranges, genuine CSA schemes are rare and the concept remains relatively unknown in Australia, for reasons that are not entirely clear.¹¹⁰

Recommendation 63:

That the Department of Primary Industries provide advice and practical assistance to peri-urban farmers seeking to establish Community Supported Agriculture schemes.

5.7.2 Farm gate sales

The Victorian Planning Provisions (VPP) prohibit retail premises in the green wedges, except where the premises are of a certain type: specifically, “manufacturing sales, market, plant nursery, primary produce sales and restaurant.” The term ‘primary produce sales’ is then defined as: *Land used to sell unprocessed primary produce, grown on the land or adjacent land.*¹¹¹

A number of submitters put the view to the Committee that the definition in the VPP unreasonably limits what can be sold from roadside stalls and farm gates within the green wedge: “in a strict sense while a farm can sell strawberries, it could not ... sell strawberry jam, as the strawberries are no longer unprocessed primary produce and therefore this value adding would not comply with the [green wedge] provisions.”¹¹²

Wineries are an exception and are allowed to sell retail vineyard products and other food and drink for on-site consumption. Direct sales through cellar doors are lucrative for the wine industry – making up roughly 30 percent of wine sales in the case of the Mornington Peninsula. The Committee believes other producers need to be able to access direct sales as an income stream, should it be in their interests. This was supported in evidence from Mr Ian Ada, from the Shire of Yarra Ranges:

*Cellar doors are specifically mentioned as being allowed with a permit in green wedges. What you are really doing is selling the processed produce of the grapes you grow on your property, but with farm gate sales you can sell raw produce at the farm gate but you cannot sell value added produce. So if you make yoghurts, ice creams or jams from your strawberries, under the VPPs the sale of those is seen as being in a retail shop, which is prohibited in the green wedge — and very rightly so; we do not want to see strip shopping along the Maroondah Highway between here and Healesville, for example. So there needs to be an amendment that allows you to sell your own produce — even if it is processed off farm, like many wines are — if you can show that it has been grown on your property. We need to allow those producers the same rights as vineyards and wineries have. That would be the way to do it.*¹¹³

In its report *Inquiry into Local Economic Development in Outer Suburban Melbourne* (2008), the Committee argued that roadside stalls, farm shops and cellar doors all add to the colour and visitor experience of travelling through Melbourne's green wedges, which in turn improves the tourism potential of these areas. The Committee recommended:

The Victorian Government consults with all interface councils, the VFF and other stakeholders to develop updated planning regulations and guidelines to expand the approved operation of farm shops in the interface/green wedge areas. Once this occurs, the Victorian Government and relevant authorities should embark on an education process to better inform farmers of their legal rights and obligations.¹¹⁴

The subsequent government response lent 'in principle support' to this, stating that DPCD was examining options and consultation was anticipated for early 2009.¹¹⁵ The government, through the DPI, did not inform the Committee of any progress made towards this in 2009. As discussed elsewhere in this report, the Committee is very keen to see a greater range of methods and locations available for farmers to sell their produce direct to the public in Melbourne's interface and peri-urban areas. This includes roadside stalls, farmers' markets, 'community supported agriculture' and, where appropriate, farm shops. These also have the benefit of making fresh produce more easily available to locals.

Support for direct sales is consistent with government tourism objectives, such as Tourism Victoria's strategies to support and enhance food and wine events. The promotional material for the 2009 Melbourne Food and Wine Festival, for example, embraced the currently-fashionable theme of 'local food' and featured photos of farm gate sales.

Recommendation 64:

That the Department of Planning and Community Development consult with interface local councils on amendments to the Victorian Planning Provisions to allow the direct sale of value-added produce in the green wedges. This change should be widely publicised (in cooperation with local government) to ensure producers are aware of the new rules and their associated rights and responsibilities in selling direct to the public.

Recommendation 65:

That the Victorian Government ease restrictions on farm shops in the green wedge zones.

5.7.3 Farmers' markets

There has been a rapid proliferation of farmers' markets in Victoria in recent years, with one estimate in 2009 putting the number of markets at 70.¹¹⁶ From an economic development point of view, farmers' markets act as business incubators and are an ideal outlet for small farmers and artisan food producers in peri-urban Melbourne. They are also a valuable 'add on' to the tourism offer in these regions.

Various issues were raised with the Committee in discussion of farmers' markets, including:

- Authenticity – ensuring that the produce sold at farmers' markets meets the claims made for it (particularly with regard to its origins);
- Registration and permits – reducing the need for stallholders to apply for multiple permits to sell food at markets in different local government areas;
- Location – the geographic spread of Melbourne's farmers' markets; opportunities to co-locate markets with shopping centres;
- Cost – the relative cost of produce sold at farmers' markets compared to other outlets; and
- Stallholder development – encouraging more producers to feel confident about selling at markets.

At a late stage in the inquiry the Committee received a reference from the Legislative Assembly to undertake a new inquiry into farmers' markets and given this, the Committee has chosen not to look further into this topic in this report.

The terms of reference of the new inquiry are:

- 1) Identify the types of farmers' markets operating in interface municipalities and peri-urban areas;

- 2) Investigate the history and growth potential of this form of retail/agricultural activity and the demands created for products sources from interface and peri-urban areas;
- 3) Examine the structures, codes of practice, strategic planning and economic viability of farmers' markets and any barriers or impediments to their development and long term growth;
- 4) Examine how farmers' markets can contribute to increasing the viability of small scale farming enterprises located in the interface and peri-urban municipalities, especially in the designated 'Green Wedge' zoned land; and
- 5) Identify any barriers to access farmers' markets for producers to supply or retail at these markets.

The Committee is to report to the Parliament no later than 31 August 2010.

5.8 Tourism

In its report *Inquiry into Local Economic Development in Outer Suburban Melbourne* (2008), the Committee looked in detail at the contribution of tourism to the economic development of outer suburban Melbourne and the tourist infrastructure needs in these areas.¹¹⁷ A number of recommendations were put forward for consideration by government.¹¹⁸

In the following section the Committee has considered evidence received on how tourism can interact with and support agriculture.

The contribution of tourism to the Victorian economy is significant. Tourism generated \$15.1 billion in 2006/07, representing 6.1 percent of total gross state product. Projections for the tourism industry in Victoria estimate it will be worth as much as \$18 billion by 2016 and employ around 225,000 Victorians.¹¹⁹

Victoria's production of food and wine is rightly celebrated as particular strength of this state and Melbourne itself is promoted as a culinary destination of international renown. La Trobe University academic Mr Trevor Budge told the Committee at a public hearing:

...we have built much of the profile of Melbourne around the food industry, when you think of the tourism marketing that exists and when you think of the way in which Melbourne is projected. Melbourne quite rightly lays claim to being a food centre, whether you talk about the markets or whether you talk about the restaurant industry, and we certainly promote around that. In fact what we are saying is it is not just an important part of the economy, but it is actually integrated into the whole way in which we project the city.¹²⁰

5.8.1 Agritourism

‘Agritourism’ is the term used to describe a business conducted by a producer for the enjoyment or education of the public, to promote the products of the farm and to generate additional farm income. A broad definition of agritourism includes such things as agricultural festivals, farm tours, demonstration farms, farm stays, working holidays, farm gate sales, wineries and micro-breweries, pick-your-own orchards, processing plant tours, nursery trails and agricultural museums.

In many parts of the state, tourism and agriculture go hand-in-hand. The Yarra Valley is an example of a region where more people visit for the food and wine than for any other reason. Food and wine tourism provides jobs in cellar doors, restaurants and accommodation as well as in local food processing businesses.¹²¹ On the Mornington Peninsula, the production of food and wine and provision of accommodation and food services directly accounts for more than one in seven jobs (and almost one in five in the southern section of the shire).¹²² In 2007, Tourism Victoria estimated that visitors to the Peninsula spent about \$644 million.¹²³

Recent research suggests that around 23 percent of Melbourne’s green wedge farms are involved in some other kind of business activity which adds value to their agricultural enterprise, such as tourism, hospitality, direct marketing, niche marketing and so on.

The downside of this strategy is that it often requires substantial new skills, infrastructure and paperwork.¹²⁴ The issue of skilling-up farmers who wish to diversify into agritourism is discussed later in this chapter.

According to the report *Food and Wine Tourism in Australia*, the increasing number of people participating in food and wine tourism is part of a general trend towards experience-oriented holidays and day-trips. For wine regions, scenic and natural beauty is the number one attractor for tourists (45 percent), followed by high quality wines and wineries (31 percent) and accessible/close to home/easy to get to (21 percent). Food (including local produce and restaurants) is the fifth reason given for the appeal of a wine region.¹²⁵

Tourists seek an authentic experience when they visit a farm business. Winemaker Mr Ken King reinforced this point to the Committee in a discussion about visitors to cellar doors:

Generally they tend to be very good spenders because they are getting the feeling that they are meeting the maker — and they are meeting the maker — and they are seeing where the wine is actually being produced. Whilst it is only a small operation, the experience is what people are looking for in cellar doors. They are not just wanting to see a bow tie and some young person selling the wine. They are actually wanting to see where it is done: they are wanting to see hoses, they are wanting to see the winemaker in overalls and with his hair ruffled up a bit — it is that experience that they are looking for. That is one of the things which I am

*trying to lead other small producers in the district to do — to get back to this meet the maker concept where you actually do become a destination because of that. When the product is finally consumed, whether it be on the same day or in a year's time, that 'meet the maker' memory will flood back. I think that is the key to tourism in the agribusiness sector if you are in Nillumbik.*¹²⁶

As noted, many farmers go into agritourism to supplement their farm income. A successful case in point is the Sunny Ridge Strawberry Farm on the Mornington Peninsula. Sunny Ridge now ranks as one of Victoria's top regional tourist attractions, despite only being open to the public for six months of the year. At a public hearing in Mornington, the Committee heard from operator Mr Mick Gallace.

We started growing apples and cherries, because that was what everyone else did, plus we grew a variety of vegetable crops including potatoes, beans, tomatoes and peas. Around 1967 we helped harvest our neighbour's strawberries. The following year my father decided strawberries were the go as they seemed to thrive in the fertile soils in this maritime climate. One third of an acre was a lot of strawberries back in those days, so from sun up to sundown we picked and packed strawberries. The strawberry enterprise grew to 1 acre by 1974.

By 1985 strawberries had become our principal crop. We were growing 5 acres of strawberries — approximately 80 000 plants. It was about this time that visitors began arriving at our farm to buy fresh from the farm gate. Gradually we succumbed to pressure from customers wanting to pick their own fresh strawberries.

Our fate was sealed. Twenty four years later visitation to our strawberry facility approaches 250 000 people annually. We have an annual production of around 8 million punnets of strawberries from 200 acres, which is almost 10 per cent of the entire Victorian strawberry industry. We also grow 10 acres of blueberries, glasshouse raspberries and a few avocados as well.

The tourist facility at Sunny Ridge was initiated after we had experienced a couple of seriously bad financial years. Crop insurance was too expensive and we needed to ensure our viability if we were to eke out a living from our rural holding.

*Our agritourism business has ensured our survival...*¹²⁷

Mr Gallace also spoke on the wider community benefits of his business – such as health promotion, education, recreation and the preservation of cultural and historical knowledge. These are examples of the more intangible benefits of retaining agriculture near cities and they demonstrate the ability of agriculture to produce value in addition to food and fibre. Mr Gallace told the Committee:

There are many lost rural arts and historic agricultural practices, for instance, that present an enormous opportunity for educating the public. The government has an obligation to assist them in their endeavours to be viable if it is to superimpose agricultural restrictions on them in an attempt to preserve our natural heritage. They need to know how best to do it without losing what we have.

The city folk are looking to us to understand what happens in the country. They want the experience, without the hard work of course. They are idealistic about country life. Therein lies an opportunity for small agricultural operators on our peninsula to create a rural experience they can share with the public.

There is a growing interest among consumers as to where their food comes from. In our case the entire business model of Sunny Ridge is based around the activity of harvesting strawberries. People simply enjoy getting back to basics and collecting their own food the way nature intended. Could we not capitalise on this and turn the rural regions of the peninsula into one big farmers market?¹²⁸

In the hinterland of Hobart the Committee visited a smaller ‘pick-you-own’ operation, the Sorrell Fruit Farm, run by Mr Bob Hardy. While not of the scale of Sunny Ridge, Sorrell Fruit Farm is well known in Tasmania and offers an experience increasingly sought after by tourists from Asian countries, notably in this case, China and Singapore. The Committee understands that direct marketing by agritourist ventures into Asian markets can reap rewards. Brochures, websites and other kinds of information written in Asian languages are among the strategies being used successfully by Sorrell Fruit Farm.¹²⁹

The evidence suggests tourists are more interested than ever in experiencing local produce. However, restaurants, hotels and other food retailers often find local food difficult to access. Mr Kevin Wyatt, President of Mornington Peninsula Gourmet, suggested that on the Mornington Peninsula, the indirect regional food chain meant that the tourist demand for local produce was not able to be met:

We need help to undertake a scoping project for the development of regional food chains. I constantly come under pressure from restaurateurs, in the main, saying, ‘When can we get access to locally raised beef? When can we get local vegetables?’. To some extent that happens at the moment, but to a very large extent the vegetables that you saw today, along with those of all the other producers of vegetables, go up to Footscray. It might come back, or another region’s vegetables might come back. Why is that taking place?

We have an increasing number of tourists who come to the region in order to savour the produce of the region and, if possible, talk to the actual producers, and so restaurants are under pressure to provide regional produce. They know they can put their price up, they know it is going to cost more for local produce, but they know there is a clientele there prepared to pay the extra if the product is there.¹³⁰

Problems identified with typical supply chains (such as that described above by Mr Wyatt) include a low profit margin for producers, a loss of produce quality due to over-handling, reduced variety and possibly greater environmental costs associated with transportation.

Recommendation 66:

That the Victorian Government assist and encourage private sector and community organisations across peri-urban Melbourne to conduct studies of local food supply chains and develop provedoring or similar services, with the aim of supporting local producers and increasing the consumption of local produce.

Case study: Hawkesbury Harvest

Hawkesbury Harvest is a community organisation which supports and promotes local agribusiness in the Sydney Basin. It was formed in 2000 by local farmers and others interested in food issues in Sydney. Since then, the organisation has set up farmers' markets in outer suburban locations, including Castle Hill and Penrith, a sophisticated network of farm gate trails (with over 100 destinations), open farm days, a provedoring service and encouraged alternative marketing channels for farmers. The Committee found the organisation is highly regarded by local governments and producers across the Sydney region.

Hawkesbury Harvest is an exemplary model which demonstrates what might be possible for agriculture and tourism in the green wedge areas of Melbourne. Its core strength lies in its focus on promoting the local business owners who are its members. It also seeks opportunities to work in partnership, wherever possible linking up with different local government areas, universities, developers, economic development boards and the private sector.

The Committee met with board members in June 2009 and was impressed by the work of this dynamic organisation. The Committee heard that Hawkesbury Harvest emerged in part as an attempt to counteract urban sprawl. Board member Mr David Mason explained to the Committee that agriculture on the edges of cities was generally not strong enough to stand by itself. Due to the high short term profit to be made by turning farmland into housing, many farming landowners felt they had little choice but to take the windfall on offer.

Mr Mason explained that several elements are converging to give force to the debate around farmland preservation near Sydney. Health problems in the community (rising

levels of obesity and diabetes, for example) call for greater access to fresh fruit and vegetables. The cost of oil is thought to be on an upwards path, making food transportation over long distances progressively more expensive. Consumers are becoming more aware of ‘food miles’ and resultant carbon emissions, and more interested in knowing where their food comes from and how it is produced. Small producers are dissatisfied with their options for selling their goods through the two major supermarket chains. Finally, Mr Mason explained that farming areas further from Sydney were experiencing drought and suffered from poor soil quality, giving rise to questions about the security of the city’s food supply.

Hawkesbury Harvest emphasised to the Committee that peri-urban agriculture needed to be tied in with these other imperatives if it was to withstand urban sprawl.

5.8.2 Training and support

The Committee heard from a number of witnesses of the need for training opportunities and targeted assistance for farmers who want to develop agritourism ventures. Mr Daryl Wilson from Wyndham City Council recommended to the Committee:

...that the government recognise that if water supply can be secured, agritourism has significant potential within the municipality, and that funding programs should be developed with the aim of assisting farmers to undertake feasibility studies and develop business plans for diversified agritourism enterprises. What we are saying there is there is potential, particularly given the interface within the tourism precinct. If we focus on Werribee South again, we have got the tourism precinct, we have got the RAAF base, and we have got the winery, the mansion and so forth. There are opportunities, should farmers so choose, to develop some agritourism activities within their existing farms. What we know — and it is no reflection on farmers — is that farmers are expert at farming but they are not necessarily expert at developing agritourism facilities, and we would be seeking some sort of support from government to facilitate that and fund programs that would assist in that regard.¹³¹

At a public hearing held on Phillip Island, Mr Geoff Kirton, Director of Agribusiness Gippsland, discussed the lack of available training programs for agritourism. In answer to a question from Committee member Ms Colleen Hartland MP on what skills were lacking, Mr Kirton replied:

Total skills, right from OH&S through to running an agritourism type business. There is just no real training in it. We have AussieHost for that sort of training

*but it does not really suit the agritourism sector. There is a whole new skill set that has to be developed on how to handle the whole thing with farming and visitors to agricultural and agribusiness areas.*¹³²

An agribusiness survey report prepared for Baw Baw Shire Council in 2007/08 highlighted that farmers themselves see opportunities to develop agritourism and are interested in developing skills and knowledge.¹³³ A range of suggestions for training programs to help farmers tap in to the tourist market were put to the Committee.¹³⁴ Winemaker Mr Ken King stated at a public hearing:

*I think there is a need to have a small growers association across all small block farming enterprises — whether that enterprise be somebody doing grapes, olives or raspberries; there are even some blueberries in the southern part of the shire. I am not aware of any association that is actually trying to pull together all the small growers and guide them in a direction that will produce a value added product that then brings outside wallets into the green wedge, so there is outside money in the form of tourism and into places like the farmers' market, where these local products can be marketed.*¹³⁵

Recommendation 67:

That Tourism Victoria provide funding, through peak bodies, local government or community organisations, for agritourism training programs in peri-urban Melbourne.

5.8.3 Issues for planning

The VPP require a nexus between agriculture, rural industry or a winery and any proposed tourist facilities, such as a function centre, group accommodation, restaurant or residential hotel. The intent is to ensure that agricultural land is not lost through development and agribusinesses are not affected by adjoining non-compatible land uses. The VPP also state that function centres, group accommodation, restaurants etc., can only be considered for a permit if the lot on which the use is conducted is at least the minimum subdivision area “specified in a schedule to this zone. If no area is specified, the lot must be at least 40 hectares.” Where the minimum allotment size cannot be met, the use is prohibited.

In general, the interface councils are of the view that the VPP are overly restrictive in their treatment of tourism proposals. Melton Shire Council pointed out that ‘environmentally sensitive’ tourism developments in the green wedge zone would not meet the VPP, unless associated with agriculture, rural industry or a winery. At a public hearing Mr Brett Luxford from Melton Shire Council expanded on this:

Having worked in areas like Macedon Ranges and now here I know the true nature or the reading of the planning regulations that indicate that activities such as ecotourism — tourism has to be related to an agricultural purpose under the planning regulations.

We have some lovely vistas down here on [the] Werribee River, birds of prey and large fish that swim in the area, which are all within the green wedge zone. If we were to have a proposal come before us to utilise the land for things like eco huts or something like that, under the planning regulations that would be prohibited; it would not be allowed to go ahead. We need a little bit more flexibility within the green wedge zones for uses that do not inhibit agricultural production. That would be something that we would well and truly support.¹³⁶

At a public hearing held at Broadmeadows, Mr Dominic Isola, CEO of Hume City Council, informed the Committee:

We believe our rural areas may also be able to play a larger role in agriculture, particularly around winery, winery related tourism, but again requires significant investment. We believe the green wedge area within the planning framework, in order to support sustainable rural living and tourism related activity, requires reassessment. The planning framework is far too restrictive and does not support the trends towards rural living or the opportunities of other uses, apart from agricultural, to support better land management outcomes.¹³⁷

On the related issue of minimum lot size requirements for tourist-related facilities, including those that pass the ‘in-conjunction with agriculture test’, Nillumbik Shire Council identified:

...an opportunity to review whether the prohibition on restaurants if the lot is less than the minimum lot size, is a poor alternative to having a strategic justification for the capacity of a site and the locality to handle the demands of a restaurant and other ‘in conjunction’ uses.

If the current controls are seeking to act as a proxy measure of whether or not the agricultural activity is actually legitimate, rather than a 'pretend' vineyard to avoid the in-conjunction test, it is a poor proxy.

Research undertaken with local agribusinesses also identified the potential for future business opportunities to be associated with the development of farm stays and other types of overnight accommodation. As such, there is also an opportunity to review the prohibition on group accommodation where the lot is less than the minimum lot size. As identified above, in relation to restaurants, using a minimum lot size is a poor alternative to having a strategic justification for the capacity of a site and its location to sustain appropriate accommodation facilities.¹³⁸

A submission from Horticultural Services Australia, while not opposing the 'in-conjunction' test, also argued that the restrictions regarding minimum lot sizes did not allow municipalities much scope to realise the potential for agritourism:

As it stands, there are usually limited opportunities to develop agritourist facilities. In the case of Werribee South, the guiding factor of ensuring minimal loss of land for agriculture prevents whole-scale changes to the predominant horticultural land use. However, State amendments have virtually eliminated any future potential...

The Green Wedge Zone does not allow complementary land uses to exist without demonstration of a strong nexus with the primary agricultural land use. This nexus should be the most important test in the development of agri-business in Werribee South, not subdivision size nor land use alone.

Planning scheme changes at the local level often contain policy support and encouragement of agribusiness but embodied strategic intent is often at odds with policy. For example, agritourism in Werribee South has the potential to attract groups of international clients for visits to farms, orchards, vineyards and nurseries to witness best practice as well as take advantage of the Werribee Park Tourism Precinct, also located in Werribee South.¹³⁹

A practical example of this was provided by Mr Isola at a public hearing held in Hume:

A couple of weeks ago at a council meeting we rejected an application for a winegrower¹⁴⁰ to add some other commercial elements to his property. The reason why we had to reject it was because he was two hectares short of the requirement of land to have that facility under planning guidelines, so for two hectares of space—and I cannot remember how big his land was—an \$8 million investment we had to

reject because the planning framework restricted his use of the land to operate functions of that nature. We think there are great opportunities to have that investment in our green wedge to support the activities that groups of people might want to undertake. Whilst we rejected it we noted that we would lobby hard to support the application because we thought it had merit and it had an \$8 million investment potential.¹⁴¹

In previous reports the Committee has considered planning issues relating to tourism in the green wedges. The Committee's *Inquiry into Local Economic Development in Outer Suburban Melbourne* recommended a review of planning regulations to facilitate high quality tourism and accommodation developments in the green wedge zones.¹⁴² While supporting the recommendation 'in principle', the government's response stated (in part):

On the basis of evidence such as the recent Government investigation of the rural and green wedge zones, the Government will implement appropriate fine tuning of these zones to facilitate tourism development consistent with the primary purpose of the zones.¹⁴³

The Committee was not informed by the state government of progress towards achieving this recommendation. The Committee re-affirms the need for fine tuning and believes it will largely be welcomed in the interface local government areas. Inquiry participants have identified opportunities for capitalising on the tourism potential inherent in the green wedge landscapes where minimal impact on agriculture and amenity can be achieved. Wider community sentiment in the same direction is demonstrated in consultation reviews prepared in interface municipalities as part of the GWMPs.

The Committee appreciates that tourist developments do have the potential to permanently alienate agricultural land from productive use in the green wedges. This might occur simply through the establishment of buildings, car parks and associated facilities on agricultural land. The mixture of tourist and farm traffic can generate complaints and subsequently, restrictions on the movement of agricultural machinery. Similarly, the normal and sometimes noisy practices of agriculture can compromise nearby tourist facilities that trade on their peaceful surroundings, such as gardens and bed and breakfasts.¹⁴⁴

As always in the green wedges, a balance between diverse and sometimes competing objectives and values needs to be achieved. This is of particular community concern in the Yarra Ranges, Mornington Peninsula and Nillumbik. A high standard of environmental design is required. The Friends of Nillumbik organisation noted in a submission:

Conventional tourist accommodation & entertainment such as is commonly found anywhere in Australia is inappropriate in the green wedge. The Nillumbik green wedge is a resource that could provide opportunities that offer the tourism market something 'different' (eg. health & well being, exercise and artist studios, vineyards)...¹⁴⁵

On the other hand, areas to the west and north of Melbourne have less developed tourism offers and there is a case that agritourism here is held back by restrictive planning provisions. The Committee supports an urgent re-appraisal of the VPP with a view to allowing high quality tourism developments meeting certain conditions. This is in keeping with the Committee's core concern to improve the opportunities for sustainable agribusiness in the green wedges and accords with previous recommendations made to government on this issue.

Recommendation 68:

That the Victorian Government introduce greater flexibility into the Victorian Planning Provisions to promote the development of agritourism in the green wedges.

5.9 Recreation

With careful planning and negotiation with landowners, there is potential to 'open up' the productive green wedge landscapes to the public for recreation purposes. Mr Gallace, proprietor of Sunny Ridge Strawberry Farm on the Mornington Peninsula outlined one possible future in that area:

Imagine a peninsula that is crisscrossed by quiet country tracks used only by walkers, joggers, pushbikes and the like, all joined together to provide a huge farming experience. Such a system exists in countries like Belgium.¹⁴⁶

A similar suggestion was put to the Committee for green wedge landholders to provide passive recreational services to the community:

In the UK, the public are able to walk across designated paths (called 'public right of way') on private farm land. The creation of such paths on farms in the green wedges would enable residents (including residents in neighbouring growth corridors) to realise the intended recreational value from the green wedges areas, and thereby encourage them to actively value and support these areas. In return for permitting such access, farmers would need to receive some benefit: potentially a (modest) direct payment.¹⁴⁷

These paths would connect with farm gate trails, cafes, 'pick-your-owns', farm stays and other hybrid activities to provide additional commercial opportunities to farmers. The submission suggests these "could be enhanced through local festivals, potentially timed to coincide with particular points in the growing cycle (eg when fruit trees are in blossom, or being harvested)."¹⁴⁸ Promoting the scheme to neighbouring urban growth areas would increase awareness of the green wedges and improve liveability in the growth corridors.

A network of recreation and tourism trails will not be relevant to all interface landscapes nor of interest to all producers and landowners, particularly those focused on intensive commercial production. Some will inevitably be concerned about the possibility for increased crime, dog problems or the insurance implications. Nevertheless, the Committee strongly supports this kind of innovation and believes that the next iteration of the Victorian Trails Strategy (currently 2005-2010) should give specific thought to the opportunities for enhancing the accessibility of the green wedges.

As suggested by Mr Gallace, cycling is an area where the Committee sees particular opportunities. Peri-urban areas are ideal locations for these sorts of tourism/recreation events. Toronto's annual Tour de Greenbelt – a cycling event – operates on these lines, with the aim of promoting Greenbelt food and farming and raising awareness.

Cycling has grown rapidly in Victoria as a mode of exercise, recreation and daily transportation (the annual Around the Bay in a Day ride attracted over 16,000 riders in 2008 and the Great Victorian Bike Ride rapidly sold out at its limit of 5,000 riders in 2009).¹⁴⁹ Tourism Australia sees bicycle tourism emerging as a high-value niche in the tourism market, offering an ecologically sustainable product.¹⁵⁰

In rural areas, Victorian Rail Trails (decommissioned railway lines converted to walking, horse-riding and cycling paths) are increasing in popularity and cyclists are spending more money in the local communities around the trails, according to recent research out of La Trobe University.¹⁵¹ The Victorian Cycling Strategy released in March 2009 announced \$115 million for improvements to cycling infrastructure and included funds to improve safety and connectivity on the popular Lilydale-Warburton Rail Trail.¹⁵²

Recommendation 69:

That the Victorian Government work with green wedge landholders and local government to expand walking trails in Melbourne's green wedge areas.

Recommendation 70:

That the Department of Transport direct funding to relevant organisations, such as Bicycle Victoria, to work with local community organisations and food and wine bodies to ensure cycling trails and events promote primary producers in the green wedges.

5.10 Farming and health care

A highlight of the Committee's visit to Tasmania was the opportunity to visit the Sorrell Fruit Farm near Hobart. The owner, Mr Bob Hardy, spoke to the Committee about the unanticipated social functions of his 'pick-your-own' farm, observing that a small cohort of visitors come from aged care facilities. The farm offers the elderly an active, pleasurable and affordable outdoors experience within easy reach of the city.

The idea that access to nature can be mentally and physically beneficial is supported with evidence from a growing body of literature¹⁵³ and it underpins the care farming or 'green care' model now practiced by thousands of farms across Europe, many of them in peri-urban areas.

Care farms use the combination of natural landscapes, contact with animals (in some cases) and a meaningful workplace to deliver formal programs tailored for a broad spectrum of clients – including the mentally ill, the elderly, at-risk young people and the disabled. Most care farms are involved in dairy, however others can be found involved in horticulture, animal husbandry, mixed farming, or nature and landscape conservation. Care farms offer day care, supported workplaces and sometimes residential accommodation.

There are many different business models. Some farms are production-oriented and earn their main income from what they produce and sell. The farmer receives payment for taking patients, 'free' labour and continues to sell the commodities they produce. Other care farms may be organised more as a healthcare service than a farm, with most of their income coming through their clients rather than what they sell.¹⁵⁴ However organised, all care farms are based around a paradigm that is described as "recovery-oriented, empowerment-oriented and strengths-based" and can be situated in opposition to the dominant medical model of diseases and cure.¹⁵⁵

There is a wealth of anecdotal information around the positive benefits of care farming, however most commentators argue that more rigorous studies are needed to build the evidence-base.¹⁵⁶ In the UK, a recent survey of 72 participants from seven care farms was conducted to gather data addressing psychological health and wellbeing effects. Participants included people with mental health needs, those who were unemployed, homeless or vulnerably housed, disaffected young people, those recovering from drug and alcohol misuse, older people, offenders, ex-offenders and people recovering from accident or illness.¹⁵⁷ There was a 64 percent improvement in participants' self-esteem after spending time on the care farm and 88 percent of participants experienced improvements in their overall mood. According to the authors of the survey report, care farm activities reduce feelings of anger, confusion, depression, tension and fatigue, whilst also enabling participants to feel more active and energetic.

There are an estimated 800 care farms operating in the Netherlands providing services to more than 12,000 clients.¹⁵⁸ There are another 650 care farms in Norway, 300 in Germany and 250 in Austria.¹⁵⁹

The Committee visited two examples of care farms in the village of Eemdijk, near Utrecht in the Netherlands. Both farms hosted clients with specific needs on a day-care basis and when the Committee visited, clients were involved in farm activities such as wood cutting, tree planting and looking after animals.

The Dutch care farming sector has developed over three decades and is widely accepted and economically viable. In 2003 the sector was boosted by the introduction of a 'personal budget' in the Dutch health system. A personal budget is provided through the public health insurance scheme and can be spent freely by an individual depending on their care needs. This has strengthened the trend towards a more professionally managed and commercial care farming sector.¹⁶⁰ Other reasons for the success of care farms in the Netherlands include their exemption from certain taxes, the existence of a national support centre and the quality of the work activities that clients participate in.¹⁶¹

Care farms are eminently suited to the modern health care trend towards community-based care, in which tailor-made care packages are offered that seek to reconnect the individual client with his/her community. Given this, the Committee believes that the care farms model will gain attention in Australia, as it has in the last few years in the United Kingdom with the launch of the National Care Farming Initiative in 2005 and Care Farming Scotland in 2009. Both organisations are active and laying the foundations for care farming to be strengthened as a model of care.

Care farms have the potential to provide alternative income streams for some farmers (particularly on small farms). There is evidence they can also contribute to rural regeneration, improve a farmer's job satisfaction and support farmland to stay in productive use. Care farming is particularly appropriate to the accessible location of the urban fringe and the multifunctional land use patterns already existing. In the Netherlands, the greatest concentration of care farms is in the most densely populated provinces.¹⁶²

In December 2008 Australia's first farm to specifically support dementia patients was opened at Lara, near Geelong, by the Federal Minister for Ageing, the Hon. Justine Elliot MP. The St Laurence Care Farm is patterned on the non-commercial European green care model and has vegetable and herb gardens, animals and fruit groves. The Committee is aware of other successful community-based farms in Melbourne, such as the Horseshoe Bend Farm and the Collingwood Children's Farm, although these have more of an educational focus.

The Committee finds there is an opportunity for Victoria to lead in this exciting area. Doing so will require all levels of government and the health sector to firstly recognise the potential of care farming and then to determine workable financing arrangements.

Recommendation 71:

That the Victorian Government recognise the potential for care farming (as shown by current developments in care farming in the UK, Europe and elsewhere) and undertake a study of care farming and its applicability to Victoria, including an examination of suitable public and private funding arrangements.

Chapter 5 Endnotes:

¹ Lenie Dwarshuis, “Food and agriculture in Europe’s peri-urban regions”, speech to *Sustainable Food Planning Conference*, Almere, 9 October 2009. PURPLE (Peri-Urban Regions Platform Europe) advocates for and promotes the interests of peri-urban regions within Europe.

² Luis Gazzola, *Submission*, Number 58, 10 February 2009.

³ Productivity Commission, *Trends in Australian Agriculture*, Research Paper, Canberra, 2005, 31.

⁴ Department of Planning and Community Development, *Future Farms: Providing for Victoria’s Future Rural Land Use, Discussion Paper*, Victorian Government DPCD, Melbourne, April 2009, 12.

⁵ Department of Planning and Community Development, *Future Farms*, 12.

⁶ Australian Bureau of Statistics, *4102.0 - Australian Social Trends, 2003*, ABS, released 6 April 2003, <http://bit.ly/7rcW65>.

⁷ Peter Parbery, Roger Wilkinson and Komala Karunaratne, *Square pegs in green wedges? Landholders and natural resource management in Melbourne’s rural hinterland*, DPI and Port Phillip and Westernport CMA, Parkville & Frankston, 2008.

⁸ Neil Barr, *Understanding Rural Victoria*, Victorian Government Department of Primary Industries, April 2005, 27.

⁹ Caroline Hollier and Michael Reid, *Small farms: valued contributors to healthy rural communities*, Report for the Rural Industries Research and Development Corporation, No 07/187, November 2007, 6.

¹⁰ Ms B. Apted, *Transcript of Evidence*, 6 October 2009, 497.

¹¹ City of Greater Geelong, *Submission*, Number 20, 22 December 2008.

¹² Helen Gibson, Chief Panel Member, *Final Report: New Format Planning Schemes*, April 1999, 16.

¹³ DB Climate Change Advisors, *Investing in Agriculture: Far-Reaching Challenge, Significant Opportunity*, June 2009, 17.

¹⁴ See <http://svc018.wic008tv.server-web.com/page.asp?pID=119>

¹⁵ Ms T. Alston, *Transcript of Evidence*, 12 May 2009, 273.

¹⁶ Ms M. Mackay, *Transcript of Evidence*, 25 August 2009, 434.

¹⁷ Parbery et al., *Square pegs*, 2.

¹⁸ Victorian Commissioner of Environmental Sustainability, *State of the Environment Report 2008*, 58-59.

¹⁹ Victorian Catchment Management Council, *Ecosystem Services through Land Stewardship Practices: Issues and Options*, Victorian Government DSE, April 2003, 1. Other ecosystem services include pollination, insect pest control, water filtration, and maintenance and provision of genetic resources. See <http://bit.ly/6m9oLb>

²⁰ Mr I. Morgans, *Transcript of Evidence*, 5 March 2009, 158.

²¹ Mr I. Morgans, *Transcript of Evidence*, 5 March 2009, 160.

²² Cr B. Bendtsen, *Transcript of Evidence*, 29 October 2009, 559.

²³ Parbery, *Square Pegs*.

- ²⁴ Parbery, *Square pegs*, xv-xvi.
- ²⁵ Parbery, *Square pegs*, xxii.
- ²⁶ Ms M. Mackay, *Transcript of Evidence*, 25 August 2009, 431.
- ²⁷ Mr. J. Webb-Ware, *Transcript of Evidence*, 12 May 2009, 246.
- ²⁸ For example, Mr W. Earle, *Transcript of Evidence*, 18 February 2009, 116; Mr G. Ford, *Transcript of Evidence*, 26 March 2009, 186.
- ²⁹ Mr D. Magahy, *Transcript of Evidence*, 29 October 2009, 579.
- ³⁰ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 8.
- ³¹ DSE, 'Conservation and environment: ecoMarkets,' <http://tinyurl.com/n6mueu>.
- ³² DSE, 'Conservation and environment: EcoTender,' <http://tinyurl.com/mo4td3>.
- ³³ Peter Hunt, "Green scheme a 'flop'," *Weekly Times*, 24 September 2009, <http://tinyurl.com/lpectq>.
- ³⁴ For example, David Nickell, *Submission*, Number 3, 4 December 2009.
- ³⁵ Mr P. Marshall, *Transcript of Evidence*, 5 March 2009, 149.
- ³⁶ PPWCMA, *What might a true steward of our land and biodiversity do right now? Ideas for consideration in the development of the Victorian Government Green/White Paper on Land Health and Biodiversity*, June 2007.
- ³⁷ BA Keating and PS Carberry, "Emerging Opportunities for Australian Agriculture?," *Proceedings of the 14th Australian Society of Agronomy Conference*, 21-25 September 2008.
- ³⁸ Andrew Campbell, *Policy Propositions For Sustaining Food and Farming Systems*, Australian Conservation Foundation, Melbourne, 2009.
- ³⁹ Campbell, *Policy Propositions*, 22.
- ⁴⁰ Dwarshuis, "Food and agriculture in Europe's peri-urban regions."
- ⁴¹ VEIL, *Submission*, Number 64, 3 March 2009, 4.
- ⁴² VEIL, *Sustainable and Secure Food Systems for Victoria: What do we know? What do we need to know?*, (Summary), University of Melbourne, 2008, 7.
- ⁴³ See <http://www.chaf.org.au/>.
- ⁴⁴ Mr L. Norman, *Transcript of Evidence*, 19 May 2009, 323.
- ⁴⁵ Mr R. Gopal, *Transcript of Evidence*, 17 February 2009, 99.
- ⁴⁶ See <http://new.dpi.vic.gov.au/about-us/dpi-publications/future-farming>.
- ⁴⁷ Mr L. Norman, *Transcript of Evidence*, 19 May 2009, 320.
- ⁴⁸ Mr E. Sharkey, *Transcript of Evidence*, 19 May 2009, 328.
- ⁴⁹ VEIL, *Sustainable and Secure Food Systems for Victoria*, 9.
- ⁵⁰ For example, Pat Carmody, *Submission*, Number 36, 2 February 2009; Mr S. Murphy, *Transcript of Evidence*, 10 February 2009, 21.
- ⁵¹ Mr L. Norman, *Transcript of Evidence*, 19 May 2009, 320.
- ⁵² Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 524.
- ⁵³ Mr R. Harris, *Transcript of Evidence*, 8 September 2009, 464.
- ⁵⁴ Mr R. Harris, *Transcript of Evidence*, 8 September 2009, 463.

- ⁵⁵ See <http://smallfarms.oregonstate.edu/>.
- ⁵⁶ See <http://www.smallfarms.net.au/index.html>.
- ⁵⁷ Peter Parbery, *Submission*, Number 63, 2 March 2009, 2-3.
- ⁵⁸ For example, Moorabool Shire Council, *Submission*, Number 55, 9 February 2009; Baw Baw Shire Council, *Submission*, Number 65, 3 June 2009.
- ⁵⁹ Organic Agriculture Association, *Submission*, Number 47, 2 February 2009.
- ⁶⁰ PPWCMA, *Submission*, Number 32, 30 January 2009.
- ⁶¹ Moorabool Shire Council, *Submission*, Number 55, 9 February 2009.
- ⁶² Mornington Peninsula Shire Council, *Submission*, Number 9, 8 December 2008.
- ⁶³ VEIL, *Sustainable and Secure Food Systems for Victoria*, 17-18.
- ⁶⁴ Ms M. Mackay, *Transcript of Evidence*, 25 August 2009, 432.
- ⁶⁵ Mr L. Norman, *Transcript of Evidence*, 19 May 2009, 323.
- ⁶⁶ Mr L. Norman, *Transcript of Evidence*, 19 May 2009, 319.
- ⁶⁷ CSIRO, "Biochar", CSIRO Land and Water, <http://www.csiro.au/files/files/pnzp.pdf>.
- ⁶⁸ Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 524.
- ⁶⁹ CSIRO, "Biochar", CSIRO Land and Water, <http://www.csiro.au/files/files/pnzp.pdf>.
- ⁷⁰ VEIL, *Sustainable and Secure Food Systems for Victoria*, 21.
- ⁷¹ Sustainability Victoria, *Submission*, Number 43, 2 February 2009, 7.
- ⁷² Compost Australia, *Submission to the Senate Standing Committee on Environment, Communications and the Arts - Inquiry into Management of Australia's Waste Streams*, Sub no. 88 attachment B, 2008.
- ⁷³ Sustainability Victoria, *Submission*, Number 43, 2 February 2009, 7.
- ⁷⁴ Datamonitor, *Organic Food: Global Industry Guide*, research report, April 2009.
- ⁷⁵ Wyld Group, *Victorian Organic Industry Sector Plan*, 2008, 1, <http://bit.ly/9WXATS>.
- ⁷⁶ For example, Australian Food Network, "Organic food sales an 'illusory trend'", <http://bit.ly/8vM8ih>; International Supermarket News, "Organic Food Sales In Germany Stagnant", <http://bit.ly/cdpomv>.
- ⁷⁷ Wyld Group, 1.
- ⁷⁸ IBISWorld, "Industries to Fly and Fall in 2010", Media release, 4 January 2010.
- ⁷⁹ Regional Development Victoria, *Victorian Organic Products Directory*, Government of Victoria, 2009, 1. There are no current data to indicate precisely the current size, value and make up of the Victorian organic sector.
- ⁸⁰ Cited in Austrade, "Japan Market Report", Vol. 1, 1, December 2006.
- ⁸¹ Andrew Campbell, *Paddock to Plate: Food, Farming and Victoria's Progress to Sustainability*, The Future Food and Farm Background Paper, Australian Conservation Foundation, Melbourne, October 2008, 114.
- ⁸² Minister for Rural and Regional Development, "\$400,000 boost for organic food producers", Media release, 20 October 2009, <http://bit.ly/dBLsqE>.
- ⁸³ Mr S. Cross, *Transcript of Evidence*, 26 March 2009, 207.
- ⁸⁴ VEIL, *Sustainable and Secure Food Systems for Victoria*, 28.

- ⁸⁵ Foodnavigator.com, “French study says organic food is healthier”, 11 September 2009, <http://bit.ly/35Yjbk>.
- ⁸⁶ Food Standards Agency, “Organic review published”, 29 July 2009, <http://bit.ly/1BPgVK>.
- ⁸⁷ Campbell, *Paddock to Plate*, 112.
- ⁸⁸ For example, Mr E. Sharkey, *Transcript of Evidence*, 19 May 2009, 325.
- ⁸⁹ Mr S. Cross, *Transcript of Evidence*, 26 March 2009, 204.
- ⁹⁰ Mr L. Norman, *Transcript of Evidence*, 19 May 2009, 323.
- ⁹¹ Campbell, *Paddock to Plate*, 115.
- ⁹² Mr T. Russell, *Transcript of Evidence*, 26 March 2009, 221-222.
- ⁹³ Hassall & Associates, *Hydroponics as an agricultural production system*, Rural Industries Research and Development Corporation, No. 01/141, 2001.
- ⁹⁴ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 356.
- ⁹⁵ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 356.
- ⁹⁶ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 356.
- ⁹⁷ Ms A. Shaw, *Transcript of Evidence*, 10 February 2009, 24.
- ⁹⁸ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 351.
- ⁹⁹ Mr G. Smith, *Transcript of Evidence*, 16 June 2009, 351.
- ¹⁰⁰ Sustainability Victoria, *Submission*, Number 43, 2 February 2009, 2-3.
- ¹⁰¹ Sustainability Victoria, *Submission*, Number 43, 2 February 2009, 3.
- ¹⁰² Maripositas Greenhouse Technology, “Greenhouse systems built from 2020 will be energy-neutral”, posted at <http://bit.ly/bqWspe> and reproduced from Syngenta Peppers Today, July 2009.
- ¹⁰³ Examples include Gippsland Lean Beef, Bimbadeen Angus & Brangus Cattle on Phillip Island and Little Creek Beef, based at Seville in the Yarra Valley.
- ¹⁰⁴ USA Agricultural Census 2007, <http://bit.ly/5i9idW>.
- ¹⁰⁵ University of Kentucky Cooperative Extension Service, “2009 Survey of Community Supported Agriculture Producers”, *Agricultural Economics Extension Series 2009-11*, July 2009, 3. The authors also suggest that the number of CSAs is likely to be significantly greater than the 1500 counted by the US Ag Census.
- ¹⁰⁶ University of Kentucky Cooperative Extension Service, 7.
- ¹⁰⁷ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 23-24.
- ¹⁰⁸ University of Kentucky Cooperative Extension Service, 23.
- ¹⁰⁹ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 23-24.
- ¹¹⁰ VEIL, *Sustainable and Secure Food Systems for Victoria*, 111.
- ¹¹¹ Victorian Planning Provisions, Definitions, Clause 74 – Primary produce sales.
- ¹¹² Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 12.
- ¹¹³ Mr I. Ada, *Transcript of Evidence*, 27 October 2009, 526-527.

- ¹¹⁴ Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, Parliament of Victoria, Melbourne, September 2008, 450, <http://www.parliament.vic.gov.au/osisdc/inquiries/>.
- ¹¹⁵ Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*, 2009, 13, <http://tinyurl.com/mlzsmg>.
- ¹¹⁶ Lorna Edwards, "Farmers' markets to weed out dodgy operators", *The Age*, 28 August 2009. The website of the Victorian Farmers' Markets Association listed 47 markets in February 2010.
- ¹¹⁷ Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*.
- ¹¹⁸ See Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*.
- ¹¹⁹ Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*, 29.
- ¹²⁰ Mr T. Budge, *Transcript of Evidence*, 5 March 2009, 175.
- ¹²¹ Yarra Ranges Shire Council, *Submission*, Number 34, 30 January 2009, 6.
- ¹²² Mr K. Wyatt, *Transcript of Evidence*, 10 February 2009, 10.
- ¹²³ Mr K. Wyatt, *Transcript of Evidence*, 10 February 2009, 10.
- ¹²⁴ Parbery et al., *Square pegs*, 92.
- ¹²⁵ Sustainable Tourism Cooperative Research Centre, *Food and Wine Tourism in Australia*, CRC for Sustainable Tourism, 2008.
- ¹²⁶ Mr K. King, *Transcript of Evidence*, 29 October 2009, 575.
- ¹²⁷ Mr M. Gallace, *Transcript of Evidence*, 10 February 2009, 2.
- ¹²⁸ Mr M. Gallace, *Transcript of Evidence*, 10 February 2009, 2-3.
- ¹²⁹ Mr B. Hardy, *Briefing to the Committee*, Hobart, 22 May 2009.
- ¹³⁰ Mr K. Wyatt, *Transcript of Evidence*, 10 February 2009, 9.
- ¹³¹ Mr D. Wilson, *Transcript of Evidence*, 17 February 2009, 66.
- ¹³² Mr G. Kirton, *Transcript of Evidence*, 25 August 2009, 453.
- ¹³³ Amiproject, *Baw Baw Shire Agribusiness Survey Report 2007/08*, Baw Baw Shire Council.
- ¹³⁴ Bass Coast Shire Council, *Submission*, Number 12, 2 February 2009.
- ¹³⁵ Mr K. King, *Transcript of Evidence*, 29 October 2009, 573.
- ¹³⁶ Mr B. Luxford, *Transcript of Evidence*, 18 February 2009, 109.
- ¹³⁷ Mr D. Isola, *Transcript of Evidence*, 12 May 2009, 228.
- ¹³⁸ Shire of Nillumbik, *Submission*, Number 31, 30 January 2009, 5.
- ¹³⁹ Horticultural Skills Australia, *Submission*, Number 51, 4 February 2009.
- ¹⁴⁰ Later in the hearing the occupation was clarified as being an 'olivegrower'.
- ¹⁴¹ Mr D. Isola, *Transcript of Evidence*, 12 May 2009, 227-8.
- ¹⁴² Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, 432.

¹⁴³ Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*, 31.

¹⁴⁴ Tania Martin, "Chorus over bird noises," *Mountain Views Mail*, 19 June 2007, <http://www.starnewsgroup.com.au/story/43913>; Tania Martin, "Bird scare fear," *Mountain Views Mail*, 7 March 2007.

¹⁴⁵ Friends of Nillumbik, *Submission*, Number 14, 9 December 2008.

¹⁴⁶ Mr M. Gallace, *Transcript of Evidence*, 10 February 2009, 3.

¹⁴⁷ Peter Parbery, *Submission*, Number 63, 2 March 2009, 5.

¹⁴⁸ Peter Parbery, *Submission*, Number 63, 2 March 2009, 5.

¹⁴⁹ Bicycle Victoria, 'Great Rides,' <http://www.bv.com.au/great-rides/>.

¹⁵⁰ Tourism Australia, "Cycle Tourism," <http://tinyurl.com/lzmf6b>.

¹⁵¹ Sue Beeton, *Regional Communities and Cycling: The Case of the Murray to the Mountains Rail Trail, Victoria, Australia*, Cycling Resource Centre, 2006. Cyclists on Victorian rail trails spend an average of \$258 per day on food and beverages.

¹⁵² Victorian Government, *Victorian Cycling Strategy*, Melbourne, March 2009.

¹⁵³ See citations in Jules Pretty, "From Green Exercise to Green Care: A New Opportunity for Farming in the UK?", research summary, University of Essex, <http://bit.ly/c8fe3E>.

¹⁵⁴ Joost Dessein ed., *Farming for Health*, Proceedings of the Community of Practice Farming for Health, Belgium, 6-9 November 2007, 72.

¹⁵⁵ HPA Eweg and J. Hassink, "Business models of Green Care in the Netherlands", Paper presented at *Special session on Care Farming -- VII International PENSA Conference*, Sao Paulo, Brazil, 2009, 4.

¹⁵⁶ Sarah Skerratt and Fiona Williams, *Establishing the state of play of care farming in Scotland and the implications for policy*, scoping study, Scottish Agricultural College, November 2008.

¹⁵⁷ Rachel Hine, Jo Peacock and Jules Pretty, *Care farming in the UK: Evidence and Opportunities*, National Care Farming Initiative, 2008.

¹⁵⁸ Eweg and Hassink, 4.

¹⁵⁹ Debbie Wilcox, "What is Care Farming?", National Care Farming Initiative UK, Presentation to the launch of Care Farming Scotland, 19 May 2009.

¹⁶⁰ Eweg and Hassink, 3.

¹⁶¹ Wilcox.

¹⁶² Eweg and Hassink.

CHAPTER 6: FOOD AND THE CITY

As the change in climate becomes more intense, we need to be looking at a long term viable food supply. We should be looking to supply as much of the produce that can be grown in Victoria in Victoria with consideration of food miles and the cost of transportation. Fresh food grown locally is important and this importance will become more evident in the future.¹

The food sector represents 12.3 percent of Melbourne's Gross Value Added and currently employs around 210,000 people.²

This chapter discusses evidence received by the Committee on different aspects of Melbourne's (and Victoria's) food system. The Committee heard various concerns about the quality of the food Melbourne eats; how it is produced, distributed and accessed; its contribution to diet-related illness; and the resilience of its supply.

As detailed in previous chapters, there is a food dimension to many areas of public policy. Food is a genuinely cross-cutting issue, intersecting with agriculture, land use planning, health and wellbeing, tourism, environment and climate change policy. In Victoria, a food policy is yet to be articulated and no government agency has responsibility for taking a lead in this area.

In its investigations overseas, the Committee encountered several examples of cities and regions working to coordinate food policy across government and develop comprehensive food strategies. A common thread in all these is the importance of integrating food policy with land use planning.

The chapter begins by looking at the topic of local food, including the issues of food miles, public sector procurement and food labelling. The related issues of food security and health are then discussed, along with the topic of urban agriculture – growing food within cities. The final part of the chapter details food strategies in other jurisdictions and notes recent developments aimed at establishing food strategies for Melbourne and Victoria.

6.1 Local food

There is currently strong consumer interest in identifiably local produce. This presents opportunities for peri-urban food producers, who are located close to city markets. At a public hearing, Mr John Roach, CEO of Fresh State Ltd, informed the Committee:

The big move overseas, which has just been picked up in Australia, is for local produce... In the last couple of years, I have been to America for a Produce Marketing Association conference. It is very big in America and is taking over from things like food miles, carbon footprints et cetera. The UK is starting to pick up on local produce and the affinity to local — although I must add that that is still undefined — and consumers are becoming much closer and hence the rise of farmers markets and those sorts of things. It is rising, particularly in suburban and outer suburban Melbourne and around different parts of Australia. It is a small segment of the market but it will continue to rise. It is about touching on the affinity with where produce is produced and consumption, where consumers feel close to areas of consumption and we have some big ones here in Victoria.³

There is no standard definition of what is meant by 'local food'. The arbitrary '100 miles' (161 kilometres) boundary is sometimes used.⁴ More frequently, local food is distinguished not only by where it originates but also how it is produced and who produces it. Sustain UK takes the view that local food, while having a geographical limit of some kind, will also be produced in a way that promotes the health and welfare of people, animals and the environment, enriches society and promotes equity.

A report of the UK Cabinet Office notes that the demand for local food has multiple motivations, including wanting to support local food producers, a growing interest in provenance and its associations with quality and in some instances, a perception of lower environmental impact. The report considers that the local food movement can:

- play a part in reconnecting consumers with food producers;
- provide new market opportunities for farmers and small-scale food manufacturers;
- strengthen social capital within communities; and
- provide a focus for local economic development.⁵

The role that local food businesses can play in local economic development is gaining attention. With the shift in consumer demand towards local food, these businesses – also called Community Food Enterprises (CFEs) – have transformed factors that once limited their performance and profitability – smaller scale, local ownership and high social standards – into competitive advantages enabling them to compete against multinational food businesses. CFEs are making use of telecommunications technology to reach consumers and gain information about market opportunities. The ability of CFEs to provide an authentic 'story' with their food products is another key factor in their emergence.⁶

Other research from the UK cautions against an uncritical insistence on the local origin of food, with an evaluation of one local food program finding that: the market for local food is not as large as made out; the ‘local food message’ is easily appropriated by large producers and large retailers; the non-local food system may be more efficient in terms of reducing waste; and often non-local food is cheaper.⁷

6.1.1 Food miles

‘Food miles’ refers to the distance travelled between the production and purchase of food. The concept is based on the fact that transportation of food is a part of the environmental impact of the food system. As a measure of sustainability, food miles is now considered simplistic, even misleading.⁸ In terms of greenhouse gas emissions, transport is now thought to be a relatively small contributor to the overall environmental impact of the food system. The manner in which the food has been produced and handled post-harvest needs to be taken into account. A submission to the Committee from the Organic Agriculture Association stated:

While acknowledging ‘food miles’ has merit, the need is also there to not only consider how far but how efficiently food has been transported and the type of footprint that is made. In addition, we also need to be taking account of things like how long an item has been in storage or what preservatives and chemicals have been used or required to reach the point of market. With both hard and soft commodities, there is the need to consciously recognise the shift of nutrients away from the point of production and begin to answer how to close that loop in a practical way.⁹

In 2005, a New Zealand study found that the total energy cost of producing selected exported products in New Zealand (lamb, apples and onions were studied) and shipping them to the UK was significantly less than if they had been produced in the UK itself.¹⁰

Further, the environmental costs of shipping food long distances are small compared to the cost of moving food by road within countries of origin.¹¹ To put it another way, how the consumer gets their shopping home (‘car miles’) is generally more significant than how the food got to the shop in the first place:¹² “driving six and a half miles to a shop to buy food emits more carbon than flying a pack of green beans from Kenya to the UK.”¹³ This is a particularly relevant consideration for a city as spread out as Melbourne.

The Committee notes that the debate about the environmental impact of food is moving away from “a simplistic debate about food miles – good or bad”¹⁴ towards attempts to factor in the intensity and sustainability of production systems in different locations. This is a message that geographically isolated exporting countries such as Australia and

New Zealand are especially keen to promote.¹⁵ Reflecting on the implications of climate change and carbon pricing, a submission to the Committee from the VEIL stated:

For some foods, local production and distribution will make sense, for others they won't. Seasonality makes a difference and will be important to low emissions food systems. In Melbourne, seasonality does not indicate severe hardship! ...Changes to where and how (and what) food is produced will be needed and there are no simple answers but there are lots of opportunities for innovative models to be explored. Businesses that can eliminate or substantially reduce emissions from transport, storage, packaging etc., (all of which may be affected by more direct supply chains) will have a competitive offering, here and into export markets.¹⁶

The Committee also notes that producers selling direct to consumers (for example, through farmers' markets) do not need to use the food miles angle as a marketing tool: surveys show that consumers are more likely to purchase locally produced food for reasons other than food miles, such as authenticity, taste, quality and a desire to support local farmers and the rural economy.¹⁷

6.1.2 Public sector procurement

There is potential for the Victorian public sector to leverage off the meals it provides every day in public sector institutions, such as schools, hospitals, aged care facilities and prisons, by ensuring that the food it procures is sustainable and, wherever possible, locally sourced.

According to researcher Andrew Campbell, in reference to the Victorian public sector:

There is a glittering opportunity to use public sector foods to drive innovation in the system by setting mandatory sustainability and health standards for these foods, shortening food chains and rewarding producers who meet high sustainability and health standards.

The institutional food sector should be a pilot for exploring and demonstrating new approaches to improving its environmental and health performance. This would set a great example (the best form of leadership) and would deliver significant public health and environmental benefits in its own right. Conversely, if government is incapable of lifting its own game with the parts of the food system it controls, then its credibility in leading reform of the wider food and farming system is compromised.¹⁸

Several national, state and city governments around the world have launched initiatives along these lines. For example, the US state of Illinois recently legislated a requirement for state agencies to increase to two percent or more by 2011 the amount of food they purchase that is grown and processed ‘in-state’, with a further goal of 10 percent within five years and 20 percent within 10 years. Further discussion of this initiative is at the end of this chapter.

The UK government’s Public Sector Food Procurement Initiative, launched in 2003, seeks to increase the proportion of locally produced food purchased by the public sector (although it expressly does not seek to achieve self-sufficiency for the UK in food production as this is seen as making the food supply less secure). Other goals relate to increasing the proportion of organic and sustainably-produced food purchased and an emphasis on seasonality in public sector menus. A February 2010 evaluation of the initiative found most departments had increased the proportion of UK food as a percentage of all food supplied. Eight departments sourced 100 percent of their fish purchases from sustainably managed sources and a further nine had increased their percentage of ‘farm assured’ food (that is, accredited for safety, animal welfare and environmental protection).¹⁹

Sustain UK’s ‘Seven principles of sustainable food’

The Committee met with prominent UK organisation Sustain in London and heard about Sustain’s various projects aimed at supporting local and sustainable food. Guidelines issued by Sustain advise that people and businesses adopting a sustainable approach to food should:

- Use local, seasonally available ingredients as standard, to minimise energy used in food production, transport and storage;
- Specify food from farming systems that minimise harm to the environment, such as certified organic produce;
- Limit food served of animal origin (meat, dairy products and eggs), as livestock farming is one of the most significant contributors to climate change and promote meals rich in fruit, vegetables, pulses, wholegrains and nuts. Ensure that meat, dairy products and eggs are produced to high environmental and animal welfare standards;
- Exclude fish species identified as most ‘at risk’ by the Marine Conservation Society and choose fish only from sustainable sources - such as those accredited by the Marine Stewardship Council;
- Choose Fairtrade-certified products for foods and drinks imported from poorer countries, to ensure a fair deal for disadvantaged producers;
- Avoid bottled water and instead serve plain or filtered tap water in reusable jugs

or bottles, to minimise transport and packaging waste; and

- Promote health and wellbeing by cooking with generous portions of vegetables, fruit and starchy staples like wholegrains, cutting down on salt, fats and oils and cutting out artificial additives.²⁰

Sustain UK runs the Good Food on the Public Plate program which provides information and services to public sector agencies to help them purchase sustainable food. The Committee heard that the program has achieved several successes with agencies shifting their procurement towards local and sustainable food producers.

The Committee notes some Australian governments are using public sector purchasing to support sustainable food producers. For example, the Australian Capital Territory government announced that its agencies would only procure free range eggs from May 2009 and a number of local councils have moved to do the same. The Committee agrees there is an opportunity for the Victorian Government to also lead in this area.

Recommendation 72:

That the Victorian Government adopt Sustain UK's 'Seven principles of sustainable food', for its public sector food purchasing.

Recommendation 73:

That the Victorian Government set gradual and achievable goals for increasing the amount of local and sustainably produced food purchased and served by departments, statutory authorities and other government bodies.

6.1.3 Labelling

Some of the world's biggest retailers are responding to consumer demands for more information about the food they purchase.

In July 2009, the American supermarket giant Walmart announced that every product sold in its stores would be labelled with a 'green rating' to show its social and environmental impact. Walmart had sales of US\$401 billion (\$497.4 billion AUD) in 2009 and employs more than 2.1 million people worldwide. To create the label, Walmart

will ask its 100,000 suppliers around the world to answer a 15 question survey focusing on energy and climate; material efficiency; natural resources; and people and community. The survey is reproduced in Appendix D.

Labelling to show more information about a product's origin and manner of production will become increasingly common in Australian stores. At a public hearing in Melbourne, the Chair of the Committee, Mr George Seitz MP, discussed this point with Mr John Roach, of Fresh State Ltd:

The CHAIR — As I said, in the European markets, consumers not only demand but they have a label of where it is grown and which region and where it is coming from there for their green groceries.

Mr ROACH — As it should be. Truth in labelling — where it comes from, what you are consuming — I have always been for consumers right to know and that was a lot of the drive behind Australian Grown. You will note that since September Safeway down here, and I know Woolworths on a wider basis, has undertaken, even in their home brands, instead of saying they are being produced for Woolworths, they are actually saying the farm where it is produced and often the time and place as well. That is a shift that as an industry, we have been able to pressure the supermarket chains. I know Coles is in consideration of that at the moment, IGA is much closer and Aldi is seriously looking at at the moment. I see that as a very positive move...²¹

The Committee notes that the West Australian and South Australian state governments have launched campaigns and labelling initiatives to draw attention to produce from those states. In Western Australia, under the auspices of the Department of Agriculture and Food, the slogan 'Buy West Eat Best' is used, while in South Australia, through the Government of South Australia and the not-for-profit organisation, Advantage SA, advertisements tell shoppers to 'Buy South Australian. It's Better For You'.

The Committee supports further exploration of the merits of branding Melbourne's locally produced food to support urban and peri-urban food producers and capitalise on Melbourne's reputation as a food and wine destination. Local branding could occur in conjunction with (rather than as a replacement for) existing sub-regional brands, such as those used by the Yarra Valley and the Mornington Peninsula.

Recommendation 74:

That the Department of Primary Industries examine the feasibility of establishing a 'Melbourne Food' brand (or similar), to identify and promote locally produced food.

6.2 Food security

While the Committee received only a small amount of evidence in relation to food security, the topic is worthy of further discussion in light of a number of developments occurring in Victoria.

6.2.1 What is meant by ‘food security’?

There are several definitions in popular use, with the term originating in the international development literature in the 1960’s and 1970’s, with enhanced public interest as a result of the world oil crisis and food crisis of 1972-74. Originally, the term covered the volume and stability of food supplies but now encompasses food safety and nutrition.

In brief, for the developing world, malnutrition is linked to hunger with malnutrition being defined as ‘...the failure to achieve nutrient requirements, which can impair physical and/or mental health.’²² In the developed world, food insecurity is ‘the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways or the uncertainty that one will be able to do so.’²³

Some groups have sought to provide alternatives to the term ‘food security’, in an effort to differentiate it from ‘food safety’ or to widen the focus that ‘food insecurity’ conjures, namely hunger and poverty.²⁴

For instance, the World Health Organization (WHO) refers to the 1996 World Food Summit, which defined food security as existing ‘when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life.’²⁵ The WHO further elaborates, noting that ‘food security is defined as including both physical and economic access to food that meets people’s dietary needs as well as their food preferences.’²⁶

The WHO identifies the ‘three pillars’ of food security as:

- Food availability: sufficient quantities of food available on a consistent basis;
- Food access: having sufficient resources to obtain appropriate foods for a nutritious diet; and
- Food use: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation.²⁷

Similarly, the Food and Agriculture Organization (FAO) of the United Nations argues that ‘food security’ means food is available at all times, that all persons have means of access to it; that it is nutritionally adequate in terms of quantity, quality and variety; and that it is acceptable within the given culture. Only when all these conditions are in place can a population be considered ‘food secure’.

In their report on Household Food Security for the United Nations Children's Fund and the International Fund for Agricultural Development, editors Simon Maxwell and Timothy Frankenberger noted that a sustainable food system is one which satisfies basic human needs, without compromising the ability of future generations to meet their needs. On this basis, they argue that different definitions of food security raise questions linked to the production, distribution and consumption of food in human society:

Who should get food?	Everyone/all people (universality)
When?	At all times/sustained access (stability)
How?	Through normal food channels/not from emergency food assistance programs (dignity)
How much food?	Enough/enough for a healthy active life (quantity)
What kind of food?	Safe and nutritious (quality) Culturally appropriate (quality) Produced in environmentally sustainable ways that promote strong communities (quality) ²⁸

In Victoria, a DPI paper on food security divides the concept into the following five broad contexts:

- Global food security – production and distribution of sufficient food to meet fundamental nutritional requirements around the world;
- National food security – a nation's ability to meet domestic food demand;
- Household food security – a household or community's ability to access food (particularly healthy food), given physical and income constraints;
- Emergency food security – continuity of food supply in the face of sudden disruptions; and
- Future food security – given resource constraints and the threat of impacts from climate change, sustainable production of sufficient food to meet domestic and global food demands in the future.

In relation to the national food security context, DPI's Mr Luke Wilson told the Committee at a public hearing on 8 September 2009:

I think there has been some reasonable data in the press about global food security and statements about the amount of food that is held at any particular point in time relative to the population but when it comes to other measures — local food security or the ability, for example, of Victoria to feed itself — if you are looking at a sustenance sustaining-life-type question, then we certainly produce much more than is required to do that several times over. Again, it depends on the particular topic being addressed.²⁹

Yet, for agriculture researcher Andrew Campbell, in Victoria, food security is more appropriately discussed in terms of the ability of the food system to be *resilient*. Campbell also acknowledges that despite a number of food distribution problems over recent decades leading to malnutrition and poverty, in particular, in Sub-Saharan Africa and South Asia, global food supplies have tended to meet global demand for food, although this will be severely challenged due to population growth and changing diets.³⁰

6.2.2 International trends and developments

Identifying structural problems of underinvestment leading to global under-nourishment, especially in the wake of the Global Financial Crisis, the FAO has called for increased investment in the agriculture sector to help eradicate hunger. The FAO has estimated that during 2009, 1.02 billion people were under-nourished worldwide.³¹

Renowned community food security activist and Toronto Food Policy Council coordinator, Wayne Roberts, has argued that governments worldwide:

...spend billions every year funding self-cancelling subsidies at the beginning and end of the food cycle. At the front end, governments in wealthy economies pay hefty subsidies to farmers and fishers who provide cheap food, supposedly a precondition of good health. At the back end of the food cycle, governments pick up most medical bills related to poor diets. Diet has joined tobacco and inactivity as one of the Big Three chronic killers of the age, even though diet, unlike tobacco and inactivity, has every potential to prevent diseases, including a third of all cancers.³²

Wayne Roberts has noted the term ‘food security’ was developed at a time after World War II when security in reconstructing the new world order was paramount: ‘when social security, job security, union security and old age security expressed an ethic of overcoming anxiety and scarcity by sharing life’s risks and good fortune’.³³ Yet, in acknowledging the definition may now be dated, he later states ‘...informal polling of people I know tells me that most people hear security alarms when they hear ‘security’

and think food security is about protecting the food supply from contamination, by bio-terrorists or avian flu'.³⁴

6.2.3 National initiatives

The Australia 2020 Summit, held in Canberra on 19-20 April 2008, included an Agriculture sub-group as part of the 'Rural Australia' policy area. The sub-group's discussion on food security made the following recommendations:

- Establishment of a government unit to consider national and global food security matters and develop and implement new policies;
- Examination of projected national food demands and the production systems required to enable sufficient food production to continue to be achieved within Australia's environmental and resource constraints;
- Promotion of healthy food to tackle societal problems such as obesity and measures that ensure human capital is retained in remote, rural and regional Australia;
- Future policy being careful not to create food shortages by providing more favourable incentives for agriculture to participate in carbon markets;
- Assessment of the crucial role of honey bee pollination in food production and adequate support for the honey bee industry; and
- Implementation of safeguards and building of industry capacity to preserve the genetic diversity of our plants and animals, including protection from exotic disease incursions through biosecurity measures.³⁵

At the national level, there have been two recent initiatives by the Parliament of Australia with direct relevance to this inquiry. On 25 June 2008, an inquiry was referred to the Senate's Select Committee on Agriculture and Related Industries, with the reference being to inquire into food production in Australia and how to produce food that is:

- Affordable to consumers;
- Viable for production by farmers; and
- Of sustainable impact on the environment.

At the time of this report being tabled, the Senate's Select Committee on Agriculture and Related Industries was continuing to work on its Inquiry into food production in

Australia, having published its third interim report on 26 November 2009 and expanding the inquiry to look at the impact of Managed Investment Schemes.

Providing a local perspective, VicHealth made the following recommendations in its submission to the Senate Committee:

- Nutrition as the basis of a healthy, sustainable food system: the principles of healthy eating need to guide decision making and policy development in seeking an affordable, environmentally sustainable food supply system;
- Tax reform and economic incentives: tax reform on food groceries is needed. Such reforms should aim to ensure that healthy foods are more affordable along with taxation of energy dense foods. Pricing reform should also reflect the true costs, e.g. environmental resource use and potential impact on chronic disease;
- Low-impact, shorter supply chains are needed to sustain our food supply: in relation to the effect on land and soil of high impact food production systems – comprehensive soil nutrition research should be undertaken to measure the impact of intensive farming (soil degradation, water constraints, salination) on the nutrient availability of our food supply;
- Current food system involving long supply chains: research is needed which explores the feasibility (including an economic analysis) of low-impact, shorter supply chains; and
- Current food supply is vulnerable to converging threats: food supply modelling is needed for Australia to ensure our food system is resilient to these converging threats (drought, natural disasters, peak oil, terrorism and agricultural disasters).³⁶

On 19 March 2008, in a separate initiative, the House of Representatives Standing Committee on Health and Ageing, resolved to undertake an inquiry into the prevalence of obesity in the Australian population, focusing on future implications for Australia's health system. The Committee tabled its report in June 2009. To date, the Australian Government has yet to table its response to the Committee's report.

While the majority of recommendations focused on ways to address obesity through the management of weight, diet and physical activity levels, food labelling, advertising and nationally consistent urban planning guidelines, two recommendations in particular (recommendations 10 and 19) are directly relevant to this inquiry, namely:

Rec. 10: The Committee recommends that the Treasurer and the Minister for Health and Ageing investigate the use of tax incentives to improve the affordability of fresh, healthy food and access to physical activity programs for all Australians, particularly those living in rural and remote areas.

Rec 19 The Committee recommends that the Federal Government continue to support initiatives such as community garden projects, cooking classes and the Stephanie Alexander Kitchen Garden Program, in order to teach children and adults about:

- The benefits of growing and eating fresh fruit and vegetables; and
- Preparing and enjoying healthy nutritious meals.³⁷

Recommendation 75:

That the Victorian Government support the recommendations of the House of Representatives Standing Committee on Health and Ageing's Inquiry into Obesity, in particular recommendations 10 and 19, as stated below:

- Rec. 10: The Committee recommends that the Treasurer and the Minister for Health and Ageing investigate the use of tax incentives to improve the affordability of fresh, healthy food and access to physical activity programs for all Australians, particularly those living in rural and remote areas.
- Rec 19: The Committee recommends that the Federal Government continue to support initiatives such as community garden projects, cooking classes and the Stephanie Alexander Kitchen Garden Program, in order to teach children and adults about:
 - The benefits of growing and eating fresh fruit and vegetables; and
 - Preparing and enjoying healthy nutritious meals.

6.2.4 Victorian initiatives

The VLGA and VicHealth have been increasingly active in the area of food security. In October 2009, the VLGA hosted the release of a final report commissioned by VLGA, funded by VicHealth and prepared by Trevor Budge and Christine Slade from the Community Planning and Development Program at La Trobe University Bendigo Campus, titled 'Land Use and Community Food Security in Victoria: Implications and Responses for the Future'. The in-depth report was launched by the Minister for Planning, the Hon. Justin Madden MP and the launch included addresses by Sustain-UK's Jeanette Longfield and Trevor Budge.

The VLGA report argues that there is little connection in government decision making between community food security and land use planning. The report suggests ways to

address this gap and includes a literature review, results of consultations with local government, a section on global best practice in food security and land use planning, planning issues, the role of state and local governments in providing leadership and the importance of food in the economy.

The report makes a series of recommendations including: a government department being allocated responsibility for community food security; that Victoria's land use planning system be amended to include an increased focus on health and community food security; additions should be made to the State Planning Policy Framework so productive agricultural land is retained to protect community food security; and a new zone be introduced in the Victoria Planning Provisions which specifically provides for urban agriculture.³⁸

Prior to this, during 2008-2009 the VLGA and DHS, as part of the Food Security Project, undertook a food security audit, community consultations and interviews, involving the Cities of Greater Geelong and Wyndham. The work aimed to support food security equity in the local communities of Heathdale (Wyndham) and Corio Norlane (Geelong), with a series of recommendations focused on local food production or availability and the provision and access to local food supplies, involving both the local community and council.³⁹

At a public hearing in March 2009 Trevor Budge explained food security and its various linkages further, in response to a question from Committee member Ms Colleen Hartland MP:

Ms HARTLAND — I was interested in your submission about linking it to food security. In my previous life as a councillor at Footscray, we were involved in a number of food security projects. Can you talk a little bit about the importance of food security in the inner urban situation?

Mr BUDGE — I think it is emerging. It is not just an inner urban situation, it is right across parts of metropolitan Melbourne. When we did the consultations, we had them at Brimbank and out in the south-east at Casey. The issue of food security was just as strong in the inner as it was in the outer. There are a couple of aspects that I would point to. In inner areas, despite the apparent proliferation of more outlets, the mapping work that has been done by councils like Moreland and Maribyrnong — and I am sure you are aware of it — simply shows that there is greater access to alcohol outlets and to take-away food stores — —

Ms HARTLAND — Brandon had 13 take-away outlets and about 8 alcohol but no fruit and vegetable.

Mr BUDGE — No fruit and vegetable. If you start to do the 400-metre circle from these places, there are large proportions of people in the inner areas, but the same work has been done at Casey and in fact, in many respects, it is worse at

Casey because of the lack of public transport in those areas whereas there is a greater variety of public transport options in the inner city area.

The work that has been done by VicHealth and others has shown that at any one time — in any one month period — 6 per cent to 8 per cent of the population said they went without fresh food for reasons of income or access. I suspect that in the current circumstances, those percentages are going to increase. Access to fresh quality food, particularly in the sort of environment we have at the moment with floods and bushfires and whatever, is only going to increase the price.

It is interesting that when we raised the issue of food security in those consultations we had very mixed reactions. Most of the growers cannot believe this is an issue; they are not exposed to it on a day-to-day basis, but we had people from local government and from various agencies — NGOs and so on — and they are faced with this issue on a daily basis. In one sense, we have argued to date in the work we have been doing that the words 'food security' might not be doing a great service to this because when you talk about food security, people immediately think about Third World countries.

In particular, I found that the most negative reaction to the idea of food security in an Australian context came from large farmers in non-metropolitan Victoria. A former councillor from the Strathbogie shire — and I have dealt with the woman for years; she is a top councillor — said, 'What are you talking about? This is not an issue'. We went to Swan Hill. They said, 'What are you talking about? There is no food security situation'. People tend to think of it in an Australian context. They say, 'We are not running out of food' although interestingly, the balance of trade on horticultural products shows that we had a \$300 million deficit in the last financial year but in an overall sense, we are not running out of food. It is a very hard thing to get a resonance with a lot of people. In policy areas at council, only those who are on a day-to-day basis touched by it recognise what that issue means in an advanced Western country.

Ms HARTLAND — Especially people who get food parcels. There is this great story which is part of the food security project in Maribyrnong. A group of Taiwanese Buddhists who were based in Box Hill came to a food security meeting. They wanted to do something, so then they started buying the fruit and vegies from the Braybrook shop that council helped set up and now are delivering fresh fruit and vegetables to the newly arrived Sudanese community. It can happen but that was the first time agencies had been involved, where you were delivering fresh fruit and veg to people on food parcels because it is all tinned stuff.

Mr BUDGE — That is right.

Ms HARTLAND — It is that issue about food security. You can give someone a tin but you are not giving them anything fresh.

Mr BUDGE — And giving them culturally appropriate food is a real issue.⁴⁰

Part of the explanation for any reticence to address food security issues – and here researcher Andrew Campbell refers to the focus of food authorities in Australia and NZ being about food safety rather than the ‘broader notion of food system sustainability’⁴¹ – rests on the following assessment:

Unlike many European countries in successive world wars, or many developing countries, particularly in Africa, Australians have not since the earliest days of the settlement at Sydney Cove, had to confront the possibility of not being able to feed ourselves. That is important in the national psyche – we think of ourselves as major food producers, not just feeding ourselves but also feeding tens if not hundreds of millions of people in other countries as well. Because of our space, our natural resources and our distance from everywhere else, we also tend to assume that we can grow almost anything we need.⁴²

Campbell draws on the UK experience, noting a UK Cabinet Office report in 2008, which concluded that the major issue for the British food system is not so much food security as it is the resilience of the food system, by which is meant how well it can cope with constant and rapid change, how well it can withstand and recover from shocks, whether they be climatic, market based or trade induced.⁴³ Campbell further elucidates:

Even after several very poor seasons, Victoria still exports almost twice as much food by value as it imports, so for the foreseeable future, absolute food security should not be a problem for Victoria. The insight from the UK Cabinet Office that the issue is not food security, but resilience, seems to be equally valid in Victoria.⁴⁴

On the issue of health and its linkage with food security, for Canadian researcher Lynn McIntyre:

Food security is perhaps the most precious of all determinants of health. If we make the necessary investments, we can reap a food security dividend that enriches all of society with payoffs in health, social capital, sustainability of our physical and social environments, justice and cost savings and wealth creation.⁴⁵

McIntyre further notes that fresh fruit and vegetables are more susceptible to price inflation (through increases in production, storage and transportation costs) than more energy-dense, less healthy food choices and this is thought to explain why the highest

rates of obesity are observed among consumers of limited economic means. As noted previously, access to healthy food is an important element of food security.

In its submission to the Senate inquiry into food production in Australia, noted above, VicHealth made the following comments regarding health impacts:

Health education alone is ineffective in shifting food behaviours. Healthy choices need to be easy choices. This means having access to a sustainably produced, affordable, nutritious and culturally appropriate food supply (known as food security).

Food insecurity is associated with lower nutrient intake, lower general physical wellbeing and poorer mental health status in adults. There is also evidence that being food insecure is linked to obesity (particularly in women and children). The risk of obesity is 40 per cent higher in women who have low incomes and are experiencing food insecurity. This is observed consistently across the United States, Europe and Australia. There is convincing evidence that obesity is linked to several chronic diseases.

Geographic and economic access to healthy food is an important determinant of food security. Ready access to affordable fast food has been shown to be associated with obesity and fast food outlet density is significantly higher in low socio-economic areas than in high socio-economic areas. Planning for liveable communities means ensuring access to a range of healthy food options. This requires changes in the current planning laws and regulations.⁴⁶

VicHealth's submission to the Senate inquiry, noted their involvement over the past eight years in identifying food security as an emerging issue for Victorians. With *at least* 5 percent of Victorians estimated to be experiencing food insecurity (and with some geographic areas experiencing rates of *up to* 11.5 percent), VicHealth considers it a vital issue requiring resolution. The submission also stated that VicHealth began funding nine local government authorities in 2005 (two in rural areas and seven in metropolitan or urban fringe areas) to address systemic and infrastructure barriers to healthy eating.

A direct consequence of an unhealthy diet, Access Economics reported that, as at 2005, 3.25 million Australians were estimated to be obese, with this figure expected to reach 7 million by 2025.⁴⁷ Access Economics also calculated that the total cost of obesity in 2008 was \$58.2 billion.⁴⁸

Recommendation 76:

That the Victorian Government expand public awareness of the health and other benefits of eating fresh, locally produced food. As part of this, the government should consider providing incentives for schools, men's sheds, community centres and community groups, to develop fruit and vegetable gardens and small farms.

6.3 Urban agriculture

There has been a revival of interest in urban agriculture in recent years, exemplified by the planting of the first vegetable garden at the White House since WWII and the city of New York overturning a longstanding ban on urban beekeeping.⁴⁹ Enthusiasm for urban food production is being driven by a multiplicity of factors: food safety concerns, health and nutrition programs, a desire to reduce the environmental impact of the food system and increases in food prices. There is also emerging evidence of numerous social and health benefits from participation in urban agriculture.⁵⁰

Some organisations, such as those participating in the 'Transition Towns' movement,⁵¹ see urban agriculture as part of building community resilience to future disruptions to the food supply. In *Harvest of the Suburbs*, historian Andrea Gaynor notes that the low cost of food in the modern food system depends on an energy intensive system of cheap pest control, cheap fossil fuel for transport and cheap nutrient inputs (such as fertiliser). According to this line of argument, were any of these to become substantially more expensive (in, for instance, a 'peak oil' scenario), urban agriculture would be one option of meeting food shortages and providing lower cost produce to the community.⁵²

Urban agriculture takes place mainly in community gardens and private backyards, however nature strips, rooftops ('green roofs') and marginal or vacant city spaces are all used to produce food. *Harvest of the Suburbs* describes a varied tradition of urban agriculture in Melbourne, where different events and motivations have played their part:

- Backyard food production was critical during the Great Depression of the 1930's: by one estimate, 70 percent of Melbourne households grew some of their own food and around one in six kept their own poultry;
- During WWII Australia faced the prospect of food shortages for the first time. Farm labourers were leaving the land to enlist, imported pesticides were scarce, meat was rationed and civilian food supplies were diverted to feed the enormous influx of servicemen into Australia. The Commonwealth Government's 'Victory garden' campaign saw public flower beds turned into vegetable patches and families patriotically digging up lawns for the war effort;
- The post-war waves of migration (particularly from Southern Europe) of people who were experienced in growing food and accustomed to diets rich in fresh

vegetables, led to a flourishing of suburban backyards as sites of intensive food production; and

- In the 1970's, questions began to be asked about the safety and environmental effects of chemical sprays, the modern environmental movement emerged and there was renewed interest in self-sufficiency.⁵³

Gaynor concludes that urban agriculture has advanced “material well-being, satisfying neighbourhood relations and personal fulfilment whilst also helping to produce a more liveable suburban environment.”⁵⁴

The following section examines two forms of urban agriculture: community gardens and edible landscapes.

6.3.1 Community gardens

Melbourne's recent history of community gardening is traced to the Nunawading Community Garden, established in 1977 and seen as a founding model for community gardens in Australia.⁵⁵ There are now dozens of community gardens, most within Melbourne's established inner and middle ring suburbs. One organisation, Cultivating Community, manages 20 community gardens on public housing estates.⁵⁶

Anecdotally, there is a high level of demand from the public for community garden sites and this is likely to increase. Community gardens contacted by the Committee reported waiting lists for access to plots and many gardeners travelled from other council areas where there were no community gardens. Higher-density urban developments mean that less space is available for households to produce their own food. This is as true in a new urban community under construction in Melton (for example) as it is now in the high-density streets of St Kilda. In the UK, the demand for council-owned allotments (private plots within community gardens) is such that there are 30 applicants for every plot and in one extreme case, there is a waiting list of 40 years.⁵⁷

The Committee encountered very few examples of community gardens in masterplanned outer suburban estates. The New Rouse Hill near Sydney is a Lend Lease/GPT development which currently has 200 residents and will consist of around 1,800 homes at completion (scheduled for 2018). A residents' garden was incorporated into the design of the estate and was subsequently launched in June 2009. The developer has ensured access to recycled water, gardening tools and provided other forms of support. The developer indicated that the garden was already proving to be a popular community activity and there may be scope for other gardens in future. It is worth noting that the garden is for the use of residents of the estate, only rather than the surrounding community. In general, there is limited scope for community gardens if they have not been planned beforehand, however the cost of land means that allocating space away from housing is unlikely to be attractive to many developers.

In Melbourne, community gardens are generally negotiated on a case by case basis with the local council. By contrast, in the UK, allotment gardening has its own legislation – the *Small Holdings and Allotments Act 1908* (the principal statute on allotments for England and Wales). Under the Act, a local government must provide a ‘sufficient’ number of allotments. The Act also confers powers on municipal authorities for the compulsory acquisition of land for allotments.

The Committee notes Melbourne’s community gardens are often established as temporary land uses. While the short-term nature of the garden may be understood and appropriate, there are examples of this leading to tension when urban land prices eventually create pressure for residential development.⁵⁸ Additionally, community gardens can generate opposition if they encroach on public open space. Local policies are needed to encourage community gardens and ensure they are better received and supported by the local community.

A major food security study conducted in 2009 for the VLGA argued for state and local governments to recognise food production within planning schemes and to support urban agriculture with special zoning. The report states that “local planning that incorporates food strategies and policy can be extremely influential in improving community food security.”⁵⁹

‘Food in the City’ is a project of the Brisbane City Council (the most populous local government area in Australia), which aims to increase resident and community participation in food gardening, increase the economic value of food gardening and local processing and reduce food miles. As part of the project, the council is examining barriers within the planning scheme to local food production and is preparing a community gardens strategy.⁶⁰

The Committee believes that community gardens should be considered important components of developing more sustainable and resilient outer suburban communities in Melbourne.

Recommendation 77:

That the Victorian Government work with local governments to identify available government-owned land suitable for new community gardens.

Recommendation 78:

That the Victorian Government work with developers and local governments to ensure that space in new housing developments is allocated for community gardens.

Case study: Viet Village, New Orleans

The Viet Village Urban Farm is being developed in stages in the hurricane-affected New Orleans East area.⁶¹ It is envisaged that, in time, the 11 hectare farm will be a combination of small-plot gardening for family consumption, larger commercial plots focused on providing food for local restaurants and grocery stores in New Orleans and a livestock area for raising chickens and goats. A market on the site will allow individual farmers to supplement their income and will serve as a central meeting space for the Vietnamese community. As many as 3,000 people are expected to visit the site for a Saturday market. Local Vietnamese restaurants will have a space to sell prepared food during market days. There will also be a small lake and artificial wetland for collecting and cleaning runoff to irrigate fields.

Though yet to be completed, the farm provides a model for community-based economic development using partnerships between government, ethnic communities, restaurants and food distribution networks. In 2008, the design won an American Society of Landscape Architects award for planning excellence.

6.3.2 Edible landscapes

In this context, ‘edible landscaping’ refers to the planting of food-producing trees and bushes along streets and parks as part of the landscape design of urban areas. The Australian Institute of Landscape Architects has developed guidelines and suggests that planners should aim to include a proportion of edible landscapes within urban and suburban areas.⁶²

A rare example of an edible landscaping project is proposed for VicUrban’s Meridian development in Dandenong South. When completed, Meridian will feature ‘urban orchards’ of fruiting trees and shrubs on nature strips – examples include crab apples, bay trees, olives, pomegranates, carob, fig, apple, plum, pear, quince and pineapple guava.⁶³ The estate will use water sensitive urban design principles, including stormwater harvesting and “the anticipated delivery of recycled water to the neighbourhood by 2012... helping to keep the entire place green even in the hottest of summers.”⁶⁴ A contribution of \$200 per year will be collected from each of the 280 households to maintain the plantings and surrounds. For the initial three years, maintenance will be done by a private landscaping company and following that, VicUrban expects a homeowners’ association to take over.

Recommendation 79:

That the Victorian Government encourage developers to work with local governments, gardening clubs and local schools to promote the practice of edible landscaping in new and existing communities.

6.3.3 Planning and food

The Committee received evidence on the need to incorporate food production and distribution within the planning of urban communities. Typically, food has not been an area of interest for urban planning nor has food been considered within metropolitan strategies.⁶⁵ In a study in which it was found that food is absent from most planning practice, research and education, Pothukuchi and Kaufman (2000) concluded that the food system is too important for planners to continue to ignore.⁶⁶

A submission to the Committee from VEIL discussed the concept of ‘food sensitive urban design’ – an adaptation of water sensitive urban design principles aimed at integrating urban planning with the production, distribution and accessibility of healthy food. This means:

- Trying to make use of urban productive capacity and resources to provide secure, healthy and sustainable food;
- Optimising synergies between food, energy, water and nutrients; and
- Reducing the need to transport food (hence water and energy) by producing it closer to where it will be eaten.

VEIL further argues that “the forthcoming design of new precincts, suburbs and developments in and around Melbourne offers opportunities to plan and build integrated, sustainable, healthy and prosperous food systems.”⁶⁷ Access to water is a key consideration. Food sensitive urban design would involve a scaled-up approach to harvesting water in urban areas:

Food grown in or around urban areas can make use of appropriately managed greywater, as well as rainwater and stormwater that currently runs off impervious surfaces and is wasted. A recent study of water availability and use in the City of Melbourne has found that over 80 percent of Melbourne’s current water use could be met with the rain that falls on the city (if it was captured), and that almost 3GL (approx. 12 percent of total) water is used to irrigate open spaces (≈ 1GL) and private gardens (≈ 2GL). A conservative redistribution of some of this water

to food production could produce between \$5.7 million (Australian average) and \$29.4 million (best practice small-scale) worth of fruit and vegetables. These calculations are based on prices from 2001 and 2005 respectively – the value of that quantity of food would be significantly higher now.⁶⁸

The Committee also heard from Mr Richard Hastings, a lifetime ‘agriculturalist’, who outlined a design for self-sustainable peri-urban farming in a submission to the Committee.

Imagine a cluster of houses in a rural environment with power, telephone, gas and water delivered in an underground conduit. Self contained sewage plant set up for gas production. Effluent and stormwater retained and distributed in a secondary water supply system. An outer fenced buffer area for recreation (horses) and fire protection (30 metres wide) and small stock paddocks leased from surrounding farms... Visually and effectively, agriculture could be economically carried out in a peri-urban area.⁶⁹

Calls for a rethinking of the design of outer suburban communities in light of future challenges to our food system are supported by researcher Andrew Campbell, who has argued there is considerable scope to expand near-urban agriculture, “especially if that can be integrated with public transport and re-engineering of waste streams to provide recycled water, energy and nutrients for food production.”⁷⁰

We need to develop new models of peri-urban development that look less like suburbs on a larger scale (every house with its own driveway, power lines, water supply and a few hectares of under-utilised land) and more like much of Europe, with clusters of dwellings and small villages surrounded by lands that remain primarily agricultural.⁷¹

Campbell suggests a pilot project in Melbourne could be developed to take an integrated approach to urban design – food production, water harvesting, energy, waste, residential design and public transport all considered and planned for. The project would look at co-locating community gardens and market gardens with areas of high population density. It would seek opportunities to connect nearby public sector institutions (such as prisons, hospitals and aged care facilities) into the local food system. An international design competition could be used to provide a starting point for the project.

The Committee notes that ‘fresh food access’ and ‘food production’ are included as two indicators of liveability in a report prepared for the Growth Areas Authority in March 2008. *A Strategic Framework for Creating Liveable New Communities* identifies that access to affordable food, water and other household essentials is a priority for liveable new communities. Precinct Structure Plans should ensure that people “have the opportunity to shop locally for fresh fruit and vegetables and other household essentials” and “have the opportunity to grow, produce and sell local foods.”⁷²

Recommendation 80:

That the Department of Planning and Community Development:

- conduct an assessment of the Victorian Planning Provisions in regards to removing the barriers for urban agriculture in Melbourne; and
- amend the Victorian Planning Provisions to include a zone for urban agriculture.

Recommendation 81:

That the Victorian Government partner with the Victorian Eco-Innovation Lab, local government and other stakeholders to pilot an urban development project based on ‘food sensitive urban design’ principles in an outer suburban location.

6.4 City and state food policies

6.4.1 San Francisco

In July 2009, San Francisco’s Mayor, Gavin Newsom, issued an executive direction setting out a vision for a food policy for the city and identifying steps the city would take to achieve it. The vision is ambitious, calling for a food system with nutritious food for all, shorter distances between consumers and producers, urban agriculture, protections for workers’ health and welfare, reduced environmental impacts and strengthened connections between urban and rural communities.

The Mayor’s direction established a San Francisco Food Policy Council with responsibility to integrate sustainable food principles into municipal planning documents and strategies and to monitor progress. No detail is available on funding for the initiative

however some of the mandatory actions set out in the directive are highly specific and worth noting, including:

- All city departments must conduct an audit to find land suitable for or actively used for agricultural purposes;
- Food sold by vendors (under permits issued by the city) must meet health and sustainability standards;
- All city departments purchasing food for city meetings will purchase healthy, locally produced and/or sustainably certified foods to the maximum extent possible;
- Nutrition standards to be developed for all vending machines on city property;
- Integrate the food policy goals into the city's planning strategies;
- Rules and regulations will be developed for local farmers' markets in order to "support healthy neighbourhoods, regional farmers and ensure equitable access to local food"; and
- Publicly recognise retailers who incorporate health and sustainable food and business practices.

Urban agriculture in San Francisco will be coordinated by the City's department of recreation and parks, who will provide access to tools and materials, organise community events and outreach, connect volunteers and serve as an advocate for increasing food production within the San Francisco area.

The farmland in the wider San Francisco area is among the most fertile in the world and, for all the promotion of urban agriculture, it is notable that the Mayor's food policy takes a wider regional approach. This is supported by a 2008 study, *Think Globally, Eat Locally: San Francisco Foodshed Assessment*, which examined the opportunities and challenges in moving towards a more local food system for San Francisco.⁷³

6.4.2 Illinois

In 2007, the US state of Illinois established the Illinois Local and Organic Food and Farm Task Force. Illinois is a predominantly rural state – 80 percent of the land area is farmland (11.5 million hectares; the comparable figure for Victoria is 13 million hectares, or 61 percent) and the state is a leading producer of corn, soybeans and hogs. Agricultural commodities are worth nearly US\$9 billion a year to Illinois.

The taskforce was formed to respond to several concerns. Of the US\$48 billion a year spent on food in the state, nearly all of that was found to go to producers and companies

based outside Illinois. Illinois was also losing around 100,000 acres of productive farmland to development every year, particularly in counties surrounding Chicago. At the same time, public health experts were expressing concern about access to fresh and healthy food and its links with obesity and nutrition related illness.

In 2009, the taskforce delivered its report: *Local Food, Farms & Jobs: Growing the Illinois Economy*. Illinois will aim to achieve a 20 percent increase in the amount of food consumed that is produced, processed and distributed by Illinois farms and enterprises by 2030. The taskforce claims this will result in US\$10 billion dollars annually in new sales for farmers, processors and distributors and US\$20 - \$30 billion of new economic development in the state.⁷⁴

Several obstacles will have to be overcome. More farmers will be needed – the taskforce set a target of 5,000 new local food farmers by 2020. To attract young people, support programs are able to be made more accessible and the government will provide training and technical assistance; “farming should once again be touted as a viable career opportunity.”⁷⁵ To overcome the related problem of farming land being too expensive for young farmers, the taskforce recommended various measures, including that the state encourage (through incentives) public agencies to rent out their unused land. Another program would match landowners with farmers seeking land and a committee would coordinate federal and state funding in order to purchase development rights and place easements on farmland. To build cooperation between farmers and to encourage capacity building, the taskforce further recommended support for place-based food and farm action groups.

The Illinois taskforce found room for improvement in the food distribution system. Farmers had limited knowledge, access and/or trust in current market opportunities. Equally, many businesses (such as restaurants) were willing to buy local produce but unable to access the producers, or had concerns about supply. The taskforce identified an opportunity for state-run institutions (hospitals, schools, prisons) to increase their purchase of locally produced food. A goal was set (subsequently signed into law in August 2009) for state agencies to increase to 2 percent or more by 2011, the amount of food they purchase that is grown and processed ‘in-state’, with a further goal of 10 percent within five years and 20 percent within 10 years. Under the new law, suppliers bidding for contracts to supply state agencies will be favoured if they can supply Illinois-grown food, even if their prices are higher by up to 10 percent.

The taskforce also recognised the existence of ‘food deserts’: communities dependent on food products from petrol stations, convenience stores, liquor stores and fast food outlets where food tends to have high concentrations of sugar, salt and fat. One suggested solution was to link local farmers with service industries and neighbourhood stores.

Finally, the plan calls for public awareness campaigns to build on the growing popularity of the local food movement. Campaigns will promote the common benefits of a statewide effort to support local farm and food production. Urban agriculture is viewed as another method for educating urban people about where their food comes from.

6.4.3 Toronto

The Canadian city of Toronto is a global leader in municipal food policy development. Toronto's Food Policy Council was established in 1991 with representation from food and health experts, citizens, business and community groups and over the past few decades it has launched several public health and food security initiatives, including a Food Charter for the city.

Toronto has recently begun a process of developing a new food strategy which incorporates an emphasis on the role of the food system in promoting health, building stronger communities, protecting the environment and strengthening the economy. A 2010 report outlines several strategies related to connecting the city with its peri-urban area through food, including:

- Local food procurement;
- Participating in a regional food strategy process;
- School food and food literacy;
- Promoting diverse crop production; and
- City to farmer linkages and training through urban agriculture.⁷⁶

Other food and farming initiatives from Toronto are discussed elsewhere in this report.

6.4.4 London

The city of London is heavily dependent on imported food and by one estimate, has only three or four days' stocks of food in the event of any disruption to supply.⁷⁷ Over the past few years, there has been considerable activity from different levels of government (and from non-government organisations) examining food issues and proposing reforms to the food system. In 2006, the then Mayor of London, Ken Livingstone, released a food strategy for the city. Seventeen of the London boroughs have developed their own food policies.

The Mayor's Food Strategy discusses the need to target actions towards primary production as part of a holistic approach to London's food system. While the report is clear about the limitations of focusing solely on producing food in the London region (and it discusses the disadvantages of such a strategy), it does see opportunities to support local farmers. Actions mentioned in the report include:

- Increase food production within London, in response to demand;
- Deliver training, advice and market information for farmers;

- Develop producer collaboration schemes;
- Ensure farmers are able to access and use water supplies in a sustainable fashion;
- Implement brokerage service to improve intra and inter-regional links between farmers and consumers;
- Expand individual and community growing in response to demand; and
- Increase product diversification to supply and meet the London market.⁷⁸

At the national (UK) level, in 2008 the Cabinet Office produced a major report analysing trends in food production and consumption and setting out the objectives of a future food strategy. This led to the Department for Environment, Food and Rural Affairs (Defra) releasing *Food 2030* – Defra’s 2010 report which aims to coordinate food policy across government to meet the ‘big challenges’ that lie ahead:

*It is now clear that we face a big challenge in feeding the world. With a growing population, climate change and the pressure we are putting on land, we will have to produce more food sustainably. We also need to provide the right information for people to make more informed choices about what they eat. Diet will have a huge impact not only on our health and our economy but most importantly, on sustainability.*⁷⁹

6.4.5 Towards a Melbourne food policy

The Committee noted that there is as yet, no food policy for Victoria or Melbourne, although recent developments suggest moves in that direction and are to be encouraged.

In 2009 and 2010 VicHealth has been working with VEIL on a project titled ‘Victorian Food Supply Scenarios: Impacts on Availability of a Nutritious Diet’. This project aims to improve the understanding of the risks to, and opportunities for, Victoria’s food supply. The project involves a partnership between Melbourne and Deakin universities, CSIRO and DPCD. The project sponsors believe an interdisciplinary approach will provide important information that identifies the best scenario to achieve a sustainable and nutritious quality food supply for Victoria.

There have been two major workshops hosted by Professor Chris Ryan and Kirsten Larson from VEIL, involving a collection of stakeholders with an interest or expertise in the Victorian food supply system. The final report is due to be published in August 2010.

In addition, the Committee notes the recent establishment of the Food Policy Coalition, which is a membership based organisation, with the stated aims of advocating to the Victorian Government and the food industry, “...for select policies and legislation to

promote a food system that is healthy, fair, economically viable and environmentally sound.”⁸⁰ The Coalition works with its membership to:

- Provide leadership and a collective voice for food policy and legislative reform in Victoria;
- Identify and analyse the policy options that will make improvements to the food system;
- Strengthen the knowledge base to inform food policy, legislation, and practice; and
- Act as a resource for other agencies who work to improve the food system for the Victorian population.⁸¹

The Food Policy Coalition is funded by VicHealth and sits within the Food Policy Unit of the WHO Collaborating Centre for Obesity Prevention at Deakin University. The Coalition was formed in late 2009 and is currently developing its work priorities and membership base, with membership to comprise of organisations which do not distribute profit to private stakeholders and which therefore operate in the public interest.⁸²

The Food Policy Coalition has made the following recommendations to the Committee in relation to land use planning and food supply and access:

Supply:

- Identification and mapping of rich agricultural land in rural and periurban Victoria;
- Protection of this rich agricultural land through exclusive, non contestable zoning of land designated for agriculture, resulting in ‘exclusive farming zones’;
- Protection and promotion of land in urban Victoria to produce food and involve the community in that production; and
- Long term secure protection of the green wedges.

Access:

- Development of transport and distribution models and infrastructure which allow for efficient movement of people and food from where they live and where it is grown to where people can purchase it; and
- Local government control over the retail mix of their local communities in order that they can protect and encourage access in all communities to retail outlets that sell healthy, sustainably produced food.⁸³

The Committee welcomes the recent establishment of the Food Policy Coalition and similar initiatives which aim to generate discussion and put food issues on the government agenda.

The Committee is also strongly of the view that peri-urban agriculture needs to be central to any discussion on Melbourne's food policy.

Recommendation 82:

That the Victorian Government actively engage with the Food Policy Coalition.

Recommendation 83:

That an existing government agency is allocated specific responsibility for coordinating food policy across the Victorian Government.

Recommendation 84:

That the Victorian Government develop a comprehensive food strategy for the Melbourne region which integrates agricultural policy with land use planning.

Chapter 6 Endnotes:

-
- ¹ Ms A. Shaw, *Transcript of Evidence*, 10 February 2009, 24.
- ² SGS Economics and Planning, *Economic Significance of the Food Sector*, La Trobe University report prepared for Victorian Local Governance Association, March 2009.
- ³ Mr J. Roach, *Transcript of Evidence*, 5 March 2009, 167.
- ⁴ For example, the London Farmers' Markets group defines its local food region as within '100 miles of the M25'.
- ⁵ Strategy Unit, UK Cabinet Office, *Food Matters: Towards a Strategy for the 21st Century*, Cabinet Office, July 2008, 15.
- ⁶ See the Wallace Centre International online report, "Community Food Enterprises", <http://www.communityfoodenterprise.org/>.
- ⁷ East Anglia Food Link, "Limitations of a Provenance approach to Local Food", <http://www.eafl.org.uk/LocalFood.asp>.
- ⁸ AEA Technology, "The Validity of Food Miles as an Indicator of Sustainable Development", Defra, 2005.
- ⁹ Organic Agriculture Association, *Submission*, Number 47, 2 February 2009, 6.
- ¹⁰ Caroline Saunders, Andrew Barber and Greg Taylor, *Food Miles: Comparative Energy/Emissions Performance of New Zealand's Agriculture Industry*, Research Report No. 284, Lincoln University, July 2006.
- ¹¹ Jules Pretty et al., "Farm Costs and Food Miles: An Assessment of the Full Cost of the UK Weekly Food Basket," *Food Policy*, 30, 2005, 1.
- ¹² East Anglia Food Link, "Limitations".
- ¹³ Strategy Unit, UK Cabinet Office, *Food Matters*, 15.
- ¹⁴ VEIL, *Submission*, Number 64, 3 March 2009.
- ¹⁵ The current Federal Agriculture Minister Tony Burke has called food miles "another excuse for protectionism."
- ¹⁶ VEIL, *Submission*, Number 64, 3 March 2009.
- ¹⁷ Cited in Lindsay Hogan and Sally Thorpe, *Issues in Food Miles and Carbon Labelling*, Research report 09.18, ABARE, December 2009, 19; see also Food Standards Agency, *Omnibus Research Report*, March 2007, <http://bit.ly/dnm8b3>.
- ¹⁸ Andrew Campbell, *Policy Propositions For Sustaining Food and Farming Systems*, Australian Conservation Foundation, Melbourne, 2009, 7.
- ¹⁹ Department for Environment, Food and Rural Affairs, *Proportion of domestically produced food used by government departments and also supplied to hospitals and prisons under contracts negotiated by NHS Supply Chain and National Offender Management Service (previously HM Prison Service)*, Third report, 1 April 2008 to 31 March 2009, Defra, February 2010, <http://bit.ly/an2n1k>.
- ²⁰ See <http://www.sustainweb.org/sustainablefood/>.

- ²¹ Mr J. Roach, *Transcript of Evidence*, 5 March 2009, 168.
- ²² Lynn McIntyre, “Food Security: More than a determinant of health”, *Policy Options*, Canada, March 2003, 46.
- ²³ McIntyre, 46-47.
- ²⁴ Maxwell, S and Frankenberger, T, *Household Food Security: Concepts, Indicators, Measurements – a technical review*, UNICEF and IFAD, New York and Rome, 1992, 20.
- ²⁵ WHO, see: www.who.int/trade/glossary/story028/en.
- ²⁶ WHO, see: www.who.int/trade/glossary/story028/en.
- ²⁷ WHO, see: www.who.int/trade/glossary/story028/en.
- ²⁸ Maxwell, S and Frankenberger, 21.
- ²⁹ Mr L. Wilson, *Transcript of Evidence*, Melbourne, 8 September 2009, 465.
- ³⁰ Andrew Campbell, *Paddock to Plate: Food, Farming and Victoria’s Progress to Sustainability*, The Future Food and Farm Background Paper, Australian Conservation Foundation, Melbourne, October 2008, 38.
- ³¹ Food and Agriculture Organization of the United Nations, *The State of Food Insecurity in the World: economic crises – impacts and lessons learned*, FAO, Rome, 2009.
- ³² Wayne Roberts, *The No-Nonsense Guide to World Food*, New Internationalist, Oxford, 2008, 16.
- ³³ Roberts, 31-32.
- ³⁴ Roberts, 52.
- ³⁵ Australian Government, *2020 Summit Final Report*, Australian Government, Canberra, 2008, 92-93, <http://bit.ly/bNMBvE>.
- ³⁶ VicHealth, *Submission to the Senate Inquiry into Food Production*, 2008, 3-6.
- ³⁷ Parliament of the Commonwealth of Australia, *Weighing it up: Obesity in Australia*, House of Representatives Standing Committee on Health and Ageing, Canberra, Print and Publishing Office, House of Representatives, May 2009, xvi-xvii.
- ³⁸ Trevor Budge and Christine Slade, *Integrating Land Use Planning and Community Food Security: A New Agenda for Government to Deliver on Sustainability, Economic Growth and Social Justice*, VLGA, October 2009, 26.
- ³⁹ For a detailed description see: DHS, VLGA and City of Wyndham, *Food Security Project – Local Government and Neighbourhood Renewal*, 2009; and DHS and VLGA, *The Food Security Project: Municipal Food Security Dimensions and Opportunities*, Summary report of the trial RAP Survey, 2008. The VLGA website also has information on food security projects. See: http://www.vlga.org.au/Projects___Campaigns/Climate_Change/Food_Security4.aspx.
- ⁴⁰ Mr T. Budge, *Transcript of Evidence*, 5 March 2009, 178-179.
- ⁴¹ Campbell, *Paddock to Plate*, 61.
- ⁴² Campbell, *Paddock to Plate*, 44-45.
- ⁴³ Campbell, *Paddock to Plate*, 45.
- ⁴⁴ Campbell, *Paddock to Plate*, 45.
- ⁴⁵ McIntyre, 51.

-
- ⁴⁶ VicHealth, *Submission to the Senate Inquiry into Food Production*, 2008, 1-2.
- ⁴⁷ Campbell, *Paddock to Plate*, 45.
- ⁴⁸ Access Economics, *The growing cost of obesity in 2008: three years on*, Report to Diabetes Australia, Canberra, August 2008, iv.
- ⁴⁹ In March 2009 Michelle Obama, wife of the US President Barack Obama, began digging up a section of lawn to plant the first vegetable garden at the White House since World War II. The kitchen garden (run along organic principles) came after months of lobbying by advocates and attracted worldwide media attention. It aims to encourage healthy eating through the consumption of fresh fruit and vegetables at the same time as promoting the environmental and recreational benefits of backyard food production.
- ⁵⁰ Jane M. Dixon et al; "Functional foods and urban agriculture: two responses to climate change-related food insecurity", *NSW Public Health Bulletin*, Vol. 20(1-2), 2009, 16.
- ⁵¹ The Transition Towns Movement is described as a 'community led response to the pressures of climate change fossil fuel depletion and increasingly, economic contraction' (<http://www.transitionnetwork.org/>). For a history of, and resources on, the Transition Towns movement, which began in Ireland in 2006, see <http://www.transitionnetwork.org/initiatives>.
- ⁵² Andrea Gaynor, *Harvest of the Suburbs: An environmental history of growing food in Australian cities*, University of Western Australia Press, Crawley, 2006, 198.
- ⁵³ Gaynor, 74.
- ⁵⁴ Gaynor, 200.
- ⁵⁵ Dana E. Kennedy, *Melbourne's Community Gardens: Harvesting More Than Just Vegetables*, SIT, December 2005, 5.
- ⁵⁶ See: <http://cultivatingcommunity.org.au/cc/>.
- ⁵⁷ Rupert Jones, "Allotment demand leads to 40-year waiting list," guardian.co.uk, 2 June 2009.
- ⁵⁸ Samina Raja, Branden Born and Jessica Kozlowski Russell, *A Planner's Guide to Community and Regional Food Planning*, American Planning Association, August 2008; see also Elise Harris, "The role of community gardens in creating healthy communities", *Australian Planner*, vol 46, 2, 2009, 24-27.
- ⁵⁹ Budge and Slade, 26.
- ⁶⁰ See Brisbane City Council, http://www.brisbane.qld.gov.au/BCC:BASE::pc=PC_5050.
- ⁶¹ See: <http://www.asla.org/awards/2008/08winners/411.html>.
- ⁶² See <http://www.aila.org.au/sustainablecanberra/005-fern/guide.htm>.
- ⁶³ VicUrban, "Smarter homes, edible landscapes, a future friendly neighbourhood and a return to community lifestyle", Media Release, 20 February 2009.
- ⁶⁴ See VicUrban <http://bit.ly/a09LVU>
- ⁶⁵ Trevor Budge, "Creating localised food systems: the role of the metropolitan planning strategy", presentation to Localised Solutions conference, VEIL, 30 November 2009.
- ⁶⁶ Kameshwari Pothukuchi and Jerome L. Kaufman, "The Food System: A Stranger to the Planning Field", *Journal of the American Planning Association*, v. 66, 2, Spring 2000.
- ⁶⁷ VEIL, *Submission*, Number 64, 3 March 2009.
-

- ⁶⁸ VEIL, *Submission*, Number 64, 3 March 2009.
- ⁶⁹ Richard Hastings, *Submission*, Number 54, 9 February 2009, 2-3.
- ⁷⁰ Campbell, *Paddock to Plate*, xvii.
- ⁷¹ Campbell, *Policy Propositions*, 27.
- ⁷² Sue West and Marie Badham, *A Strategic Framework for Creating Liveable New Communities*, Final Report, Growth Areas Authority, March 2008, 17.
- ⁷³ Thompson Jr, Harper and Kraus, *Think Globally—Eat Locally: San Francisco Foodshed Assessment*, American Farmland Trust, 2008.
- ⁷⁴ Illinois Local and Organic Food and Farm Task Force, *Local Food, Farms & Jobs: Growing the Illinois Economy*, Report to the Illinois General Assembly, March 2009.
- ⁷⁵ Illinois Local and Organic Food and Farm Task Force, 20.
- ⁷⁶ Toronto Public Health, *Food Connections: Toward a Healthy and Sustainable Food System for Toronto: A consultation report*, February 2010.
- ⁷⁷ London Assembly, *Cultivating the Capital: Food growing and the planning system in London*, Greater London Authority, January 2010, 9.
- ⁷⁸ London Development Agency, *Healthy and Sustainable Food for London: the Mayor's Food Strategy*, May 2006, London,.
- ⁷⁹ Defra, *Food 2030*, HM Government, January 2010, 4.
- ⁸⁰ Food Policy Coalition, email correspondence to Committee secretariat, 7 April 2010.
- ⁸¹ Food Policy Coalition.
- ⁸² Food Policy Coalition.
- ⁸³ Food Policy Coalition.

APPENDIX A LIST OF SUBMISSIONS

No.	Submission Received	Name	Affiliation
1	24.11.2008	Confidential	
2	28.11.2008	Carl & Joe Firrito	
3	5.12.2008	David Nickell	
4	5.12.2008	Garry McQuillan, Chief Executive Officer, Cardinia Shire Council	<i>Joint Submission for Shire of Cardinia and City of Casey</i>
5	8.12.2008	Marjorie E. Aumann	<i>H. Aumann & Sons</i>
6	8.12.2008	Richard Aumann	
7	8.12.2008	Gavin Jamieson	<i>Victorian Apiarists' Association Inc</i>
8	8.12.2008	Alex Arbuthnot AM, Chairman	<i>Agribusiness Gippsland Inc.</i>
9	8.12.2008	Shane Murphy, Manager Economic Development	<i>Mornington Peninsula Shire</i>
10	8.12.2008	Shane Schnitzler, President	<i>Fresh State Ltd</i>
11	8.12.2008	Dennis Corbett, Manager Catchments, Waterways Group	<i>Melbourne Water</i>
12	2.02.2009	Stephanie Symes, Economic Planner	<i>Bass Coast Shire Council</i>
13	2.02.2009	Kelly Brooks-MacMillan, Vice President	<i>Cardinia Environment Coalition Inc.</i>
14	9.12.2008	Colleen Hackett, Chair	<i>Friends of Nillumbik Inc.</i>
15	10.12.2008		<i>Victorian Farmers Federation, Egg Group</i>
16	11.12.2008	Alma J. Reynolds, Deputy General Manager	<i>Apple & Pear Australia Ltd.</i>
17	17.12.2008	Tony Imeson, Executive Officer	<i>Vegetable Growers Association of Victoria Inc.</i>
18	19.12.2008	Peter Schreurs	<i>Vegetable Growers Association of Victoria Inc.</i>
19	19.12.2008	Caryn Anderson, Executive General Manager, Business & Planning	<i>Port of Melbourne Corporation</i>
20	22.12.2008	Terry Demeo, Manager Planning Strategy & Economic Development	<i>City of Greater Geelong</i>
21	13.01.2009	Tom Elevato, Chairman	<i>Water for Werribee</i>
22	15.01.2009	Peter Cochrane	
23	16.01.2009	Daryl Cox, President	<i>Land Owners Rights Association Inc.</i>

Inquiry into Sustainable Development of Agribusiness

No.	Submission Received	Name	Affiliation
24	19.01.2009	Ralph Kenyon, Chief Executive Officer	<i>Port of Hastings Corporation</i>
25	20.01.2009	Tom Schreurs, Director	<i>J & JM Schreurs & Sons</i>
26	21.01.2009	Craig Arnott, Director	<i>Arnotts Vegetable Farms Pty Ltd</i>
27	28.01.2009	Madeliene Wilson, Policy Research Officer	<i>Victorian Farmers Federation</i>
28	29.01.2009	Amadis Lacheta, Director	<i>Village Well</i>
29	29.01.2009	Nik Tsardakis	<i>The Rate Payers of Werribee South Inc.</i>
30	30.01.2009	Vince Garretto	
31	30.01.2009	Margaret Abbey, Group Manager, Environment & Planning Services	<i>Nillumbik Shire Council</i>
32	30.01.2009	Emmaline Froggatt, Regional Catchment Strategy Land Programs Coordinator	<i>Port Phillip and Westernport Catchment Management Authority</i>
33	30.01.2009	Confidential	
34	30.01.2009	Glenn Patterson, Chief Executive Officer	<i>Shire of Yarra Ranges</i>
35	30.01.2009	Neil G Bibby AFSM, Chief Executive Officer	<i>Country Fire Authority</i>
36	2.02.2009	Patrick Carmody	
37	2.02.2009	Neil Firrito	<i>Firrito & Sons Pty Ltd</i>
38	26.03.2009	John & Rosalie Counsell	
39	2.02.2009	Trevor Budge, Senior Lecturer	<i>La Trobe University</i>
40	2.02.2009	Robert & Lynne Hobson	
41	2.02.2009	David Turnbull, Chief Executive Officer	<i>City of Whittlesea</i>
42	2.02.2009		<i>Interface Group of Councils</i>
43	2.02.2009	Anita Roper, Chief Executive Officer	<i>Sustainability Victoria</i>
44	2.02.2009	Ian Anderson, President Cardinia Branch	<i>Victorian Farmers Federation</i>
45	2.02.2009	Bob Elkington, Manager Economic Development	<i>Murrindindi Shire Council</i>
46	9.02.2009	Rosemary West, Coordinator	<i>Green Wedges Coalition</i>
47	2.02.2009	Stephen Cross, President	<i>Organic Agriculture Association Inc.</i>
48	3.02.2009	Kahn Franke, President	<i>Green Wedge Protection Group Inc.</i>
49	3.02.2009	Stacey Gardiner, Senior Strategic Planner	<i>Hume City Council</i>

No.	Submission Received	Name	Affiliation
50	3.02.2009	Graeme Legge	
51	4.02.2009	Pamela Ryan, Organisational Development Manager	<i>Horticultural Skills Australia</i>
52	5.02.2009	Jennifer Petersen, Secretary	<i>Gembrook Township Committee</i>
53	9.02.2009	Anita Buczkowsky, Executive Officer	<i>South East Development (Melbourne) Area Consultative Committee</i>
54	9.02.2009	Richard Hastings	
55	9.02.2009	Robert Dobrzynski, Chief Executive Officer	<i>Moorabool Shire Council</i>
56	9.02.2009	Brett Luxford, Manager Business Growth & Sustainability	<i>Shire of Melton</i>
57	10.02.2009	Daryl Wilson, Economic Development Coordinator	<i>Wyndham City Council</i>
58	10.02.2009	Luis Gazzola, Senior Director	<i>Gazzola Farms Pty Ltd</i>
59	10.02.2009	Kevin Wyatt	<i>Mornington Peninsula Gourmet</i>
60	10.02.2009	Vicky Davison, Farmers' Market Manager	<i>Mornington Peninsula</i>
61	18.02.2009	John Rees, President	<i>Exford Residents and Landowners Association Inc.</i>
62	2.03.2009	Ken Jepson	
63	2.02.2009	Peter Parbery,	
64	3.03.2009	Kirsten Larsen, Policy Research Manager	<i>The Victorian Eco-Innovation Lab, University of Melbourne</i>
65	3.06.2009	Peter Kulich, Economic Development Co-ordinator	<i>Baw Baw Shire Council</i>

APPENDIX B LIST OF WITNESSES

No.	Date	Witness Name	Affiliation
10 Feb 2009 Public Hearing Mornington Peninsula			
1		Mick Gallace	<i>Sunnyridge Strawberry Farm</i>
2		Kevin Wyatt, President	<i>Mornington Peninsula Gourmet</i>
3		Shane Murphy, Manager Economic Development	<i>Shire of Mornington Peninsula</i>
4		Anne Shaw	<i>Mornington Peninsula Hydroponic Growers</i>
5		Martin Spedding, Vice President	<i>Mornington Peninsula Vignerons Association</i>
6		Vicky Davison, Farmers' Market Facilitator	<i>Farmers' Market Development</i>
7		Ric Clarke, Manager Sustainable Water	<i>South East Water</i>
8		David King, Alternative Water Technical Field Officer	<i>South East Water</i>
9		Daryl Cox, President	<i>Land Owners Rights Association Inc</i>
10 Feb.2009 Site Visit Mornington Peninsula			
10		Lou Gazzola	<i>Gazzola Farms</i>
17 Feb 2009 Public Hearing Wyndham			
11		Daryl Wilson, Economic Development Coordinator	<i>Wyndham City Council</i>
12		Nik Tsardakis, Member & Past President	<i>The Rate Payers of Werribee South Inc.</i>
13		Carmello Santamaria	<i>The Ratepayers of Werribee South Inc.</i>
14		Tom Elevato, Chairman	<i>Water for Werribee</i>
15		Carmello Santamaria	<i>Water for Werribee</i>
16		Harry Velisha	<i>Water for Werribee</i>
17		Andrew Frangapane	<i>Water for Werribee</i>
18		Gavin Jamieson, Vice-Chairman	<i>Victorian Apiarists Association</i>
19		Robert Edmunds	<i>Victorian Apiarists Association</i>
20		Ram Gopal, Head of School	<i>Horticultural Skills Australia</i>
21		Pam Ryan, Organisational Development Manager	<i>Horticultural Skills Australia</i>
17 Feb 2009 Site Visit Wyndham			
22		Colin Richmond	<i>Rose Grange Pastoral</i>

No.	Date	Witness Name	Affiliation
	17 Feb 2009	Site Visit	Wyndham continued
23		Paul Harrison, Executive Officer	<i>Mainstream Aquaculture</i>
24		John Menegazzo, Director	<i>'Fresh Select' Distribution Facilities</i>
25		John Said, Director	<i>'Fresh Select' Distribution Facilities</i>
26		Con and Adam Ballan	<i>'Fresh Select' Distribution Facilities</i>
	18 Feb 2009	Public Hearing	Melton
27		Neville Smith, Chief Executive Officer	<i>Melton Shire Council</i>
28		Cr Renata Cugliari, Mayor	<i>Melton Shire Council</i>
29		Brett Luxford, Manager Business Growth & Sustainability	<i>Melton Shire Council</i>
30		Bill Earle, Secretary	<i>Exford Residents and Landowners Association</i>
31		John Rees, President	<i>Exford Residents and Landowners Association</i>
32		Tony Rammuno	<i>Witchmount Estate Winery</i>
33		Kay Kilgour, Chairperson	<i>AgriWest</i>
34		Kristina McMennemin Business Development Manager	<i>Harness Racing Victoria</i>
	5 Mar 2009	Public Hearing	Melbourne
35		Cr David Gibb, Mornington Peninsula Shire Council	<i>Interface Group of Councils</i>
36		Peter Marshall, Chief Executive Officer Wyndham City Council	<i>Interface Group of Councils</i>
37		Emmaline Froggatt, Land Programs Coordinator	<i>Port Phillip and Westernport Catchment Management Authority</i>
38		Ian Morgans, Regional Catchment Strategy Manager	<i>Port Phillip and Westernport Catchment Management Authority</i>
39		John Roach, Chief Executive Officer	<i>Fresh State Ltd</i>
40		Trevor Budge, Senior Lecturer	<i>Faculty of Humanities & Social Sciences, La Trobe University</i>
	26 Mar 2009	Public Hearing	Melbourne
41		Graeme Ford, Executive Manager, Policy	<i>Victorian Farmers Federation</i>
42		Madeleine Wilson, Policy Adviser, Land Management	<i>Victorian Farmers Federation</i>

No.	Date	Witness Name	Affiliation
<i>26 Mar 2009 Public Hearing Melbourne continued</i>			
43		Kirsten Larsen, Policy Research Manager	<i>Victorian Eco-Innovation Lab</i>
44		Stephen Cross, President	<i>Organic Agriculture Association</i>
45		Kelly Brooks-MacMillan, Secretary	<i>Cardinia Environment Coalition</i>
46		Frances Overmars, Co-ordinator	<i>Western Plains North Green Wedge Coalition Group</i>
47		Louis Delacretaz, Vice-president	<i>Green Wedges Coalition</i>
48		Rosalie Counsell, Delegate	<i>Southern Ranges Green Wedge</i>
49		Arnie Azaris, Joint Co-ordinator	<i>Green Wedges Coalition</i>
50		Rosemary West, Joint Co-ordinator	<i>Green Wedges Coalition</i>
51		Tony Russell, General Manager	<i>Apple & Pear Australia Ltd</i>
<i>12 May 2009 Public Hearing Hume</i>			
52		Cr Jack Ogilvie Mayor	<i>Hume City Council</i>
53		Domenic Isola, Chief Executive Officer	<i>Hume City Council</i>
54		Selwyn Custance, Planning Consultant	<i>Custance and Associates</i>
55		Scott McCormick	
56		John Webb Ware	<i>Landowner</i>
57		Alan McKenzie	<i>Farmer</i>
58		Alex Sloan	<i>Betta Foods</i>
59		Simon Crone	<i>Betta Foods</i>
60		Tid Alston,	<i>Landowner</i>
<i>19 May 2009 Public Hearing Moorabool</i>			
61		Cr Michael Tudball, Mayor	<i>Moorabool Shire Council</i>
62		Robert Dobrzynski, Chief Executive Officer	<i>Moorabool Shire Council</i>
63		John Wilkinson, Managing Director	<i>Western Region Water Corporation</i>
64		Robert Franklin, General Manager Sustainability	<i>Western Region Water Corporation</i>
65		Geoff Fiskien	<i>Central Victorian Farm Plantations</i>
66		Frank Ruffo	<i>Bacchus Marsh Irrigators</i>
67		Laurie Norman, Executive Officer	<i>Central Highlands Agribusiness Forum</i>
68		Eric Sharkey	<i>Farmer</i>

No.	Date	Witness Name	Affiliation
	19 May 2009	Site Visit	Moorabool
69		Tim Bloomfield, Co-ordinator	<i>Grow West</i>
70		Frank Ruffo	<i>Tripod Farmers</i>
	21 May 2009	Meeting	Tasmania
71		Wes Ford, General Manager	<i>Primary Industries Division, Department of Primary Industries and Water, Tasmania</i>
72		The Hon. Michael Polley MP, Speaker	<i>Tasmanian Parliament</i>
73		Debra Hill, General Manager, Industry Development	<i>Department of Economic Development and Tourism, Tasmania</i>
74		Heather Chong, President & Chief Executive Officer	<i>Tasmanian Food Industry, Qew Orchards</i>
	22 May 2009	Meeting	Tasmania
75		Bob Hardy, Owner	<i>Sorrell Fruit Farm</i>
76			<i>Barilla Bay Oyster Farm</i>
77		Lucy Gregg, Business Development Manager	<i>Fruit Growers Tasmania Inc.</i>
78		Tim Reid, President and Managing Director	<i>Fruit Growers Tasmania Inc., and Reid Fruits</i>
	23 May 2009	Site Visits	Tasmania
79			<i>Salamanca Market, Hobart</i>
	16 June 2009	Public Hearing	Melbourne
80		Dr Martin Kent, Chief Executive	<i>Southern Rural Water</i>
81		Bill Earle, Secretary	<i>Exford Residents and Landowners Association</i>
82		Kaye Kilgour, Chair	<i>AgriWest</i>
83		Graeme Smith, President	<i>Australian Hydroponic & Greenhouse Association of Victoria</i>
84		Christopher Williams, Manager, Treatment & Recycling	<i>Melbourne Water</i>
85		Elizabeth Roder, Team Leader Water Recycling	<i>Melbourne Water</i>
86		Dennis Corbett, Manager Catchments, Waterways Group	<i>Melbourne Water</i>

No.	Date	Witness Name	Affiliation
17 June 2009 Briefings Sydney			
87		Dr Frances Parker	<i>University of Western Sydney</i>
88		Lynne Saville, President	<i>Sydney Food Fairness Alliance</i>
89		Russ Grayson, Vice President	<i>Sydney Food Fairness Alliance</i>
90		Liz Millen, Secretary	<i>Sydney Food Fairness Alliance</i>
91		Catriona MacMillen, Management Committee	<i>Sydney Food Fairness Alliance</i>
92		Norma Shankie-Williams, Director, Metropolitan Planning	<i>Metropolitan and Regional Strategies, New South Wales Department of Planning</i>
18 June 2009 Briefings Sydney			
93		Renata Brooks, Executive Director, Science & Research	<i>Intensive Industries Development, Agriculture and Fisheries, NSW Department of Primary Industries</i>
94		Delia Dray, Acting Executive Director	<i>Intensive Industries Development, Agriculture and Fisheries, NSW Department of Primary Industries</i>
95		Bob Germaine, General Manager	<i>Greater Western Sydney Economic Development Board</i>
96		Peter Whitehead, Business Development Officer	<i>New South Wales Department of State and Regional Development</i>
19 June 2009 Briefings Sydney			
97		David Mason, Foundation Chair	<i>Urban Agriculture Leader, New South Wales Department of Primary Industries</i>
98		Ian Knowd, Treasurer	<i>Hawkesbury Harvest</i>
99		John Maguire, Farmer	<i>Enniskillen Orchard Grose Vale</i>
100		Bill Shields, Farmer and Chair	<i>Shields Orchard</i>
101		John Reynolds, Farmer	<i>Nashdale Fruit Orchard</i>
102		Eric Broken, EarthCare Centre Board Member and Ranger	<i>Ranger National Parks and Wildlife Service</i>
103		Alan Eagle, Secretary	<i>Hawkesbury Harvest</i>
104		Andrew Docking, Agricultural Environment Officer, Sydney Region	<i>New South Wales Department of Primary Industries</i>

No.	Date	Witness Name	Affiliation
	19 June 2009	Briefings	Sydney continued
105		Ted Byers, Chairman, Region 7	<i>New South Wales Farmers Association</i>
106		Fred Haskins, Executive Councillor	<i>New South Wales Farmers Association</i>
107		Cr Jim Aitken, OAM, Mayor	<i>Penrith City Council</i>
108		Alan Stoneham, General Manager	<i>Penrith City Council</i>
109		Wayne Mitchell, Group Manager, Infrastructure	<i>Penrith City Council</i>
110		Ruth Goldsmith, Group Manager, Leadership	<i>Penrith City Council</i>
111		Roger Nethercote, Group Manager, People & Places	<i>Penrith City Council</i>
112		Glen McCarthy	<i>Penrith City Council</i>
113		Frances Vella, Regional Services Manager	<i>New South Wales Farmers Association</i>
114		F. Pirovic	<i>Penrith City Council</i>
	13 July 2009	Meeting	London
115		Graeme Willis, Rural & Food Policy	<i>Campaign to Protect Rural England</i>
116		Paul Miner	<i>Campaign to Protect Rural England</i>
	14 July 2009	Meeting	London
117		Helen Evans, Communications Manager	<i>New Covent Garden Market Authority</i>
118		Jeanette Longfield MBE, Co-ordinator	<i>Sustain, United Kingdom</i>
119		Maresa Bosano	<i>Sustain, United Kingdom</i>
120		Rosie Blackburn	<i>Sustain, United Kingdom</i>
121		Seb Mayfield	<i>Sustain, United Kingdom</i>
122		Anna Terzi	<i>Sustain, United Kingdom</i>
	16 July 2009	Meeting	Netherlands
123		Dr Henk van Latesteijn, General Manager	<i>TransForum, Amsterdam</i>
124		Dr Rik Eweg, Project Manager	<i>TransForum, Amsterdam</i>
125		Bart Jan Krouwel	<i>TransForum, Amsterdam</i>
126		Marga de Jong	<i>ETC Urban Agriculture</i>
127		Rene van Veenhuizen	<i>ETC Urban Agriculture</i>
128		Dorine Rueter	<i>ETC Foundation</i>

No.	Date	Witness Name	Affiliation
17 July 2009		Meeting	Netherlands
129		Mayor J. Van der Tak, Mayor of Westland	<i>Greenport, Westland</i>
130		Dr Antoon van de Ven, Senior Policy Adviser	<i>Greenport, Westland</i>
131		Dr Matthieu Wagemans	<i>Innovation Network</i>
132		Dr Jan de Wilt	<i>Innovation Network</i>
21 July 2009		Meeting	Toronto
133		Laurel Davis, Policy Advisor	<i>Ontario Ministry of Agriculture, Food and Rural Affairs</i>
134		Dorene Collins, Agriculture Development Branch	<i>Ontario Ministry of Agriculture, Food and Rural Affairs</i>
135		John Cumming, Policy Advisor	<i>Ontario Ministry of Agriculture, Food and Rural Affairs</i>
136		Michele Doncaster	<i>Ontario Ministry of Agriculture, Food and Rural Affairs</i>
137		John Turvey	<i>Ontario Ministry of Agriculture, Food and Rural Affairs</i>
138		Mike Relf Manager, Central/West Region	<i>Ontario Ministry of Agriculture, Food and Rural Affairs</i>
139		David Wilkes, Senior Vice President, Trade & Business Development	<i>Canadian Council of Grocery Distributors</i>
22 July 2009		Meeting	Toronto
140		Peter Lambrick, Director	<i>Ontario Federation of Agriculture</i>
141		Janet Horner, Coordinator	<i>Greater Toronto Area Agricultural Action Committee (GTAAAC)</i>
142		Allan Wells, Chair	<i>Whittamore Farm and Rouge Park Alliance</i>
143		Michael Wolfson, Food & Beverage Specialist	<i>City of Toronto</i>
144		Kathy Macpherson, Research & Policy Director	<i>Friends of the Greenbelt Foundation</i>
145		Janice Etter, Chair	<i>Toronto Food Policy Committee</i>
146		Jim Brandle, Director Planning Near Urban Areas	<i>Vineland Research & Innovation Center</i>
147		Nancy Rutherford, Planner, Durham Region	<i>Vineland Research & Innovation Center</i>

	Date	Witness Name	Affiliation
	22 July 2009	Meeting	Toronto continued
148		Isabel Dopta, Director of Stakeholder Relations	<i>Vineland Research & Innovation Center</i>
149		Fred Osterhoff, Dairy Farming in Near Urban Area, Beamsville	<i>Vineland Research & Innovation Center</i>
150		Magdelana Kaiser-Smit, Local Food & Wine Speaker	<i>Peninsula Ridge Winery</i>
151		Dr Lauren Baker, Director	<i>Sustain Ontario</i>
152		Bill Robinson, Deputy Director	<i>Agriculture and Agri-Food Canada</i>
153		Alon Ozery, Co-President	<i>Ozery's Pita Break Inc</i>
154		Jamie Reaume, Executive Director	<i>Holland Marsh Growers' Association</i>
	23 July 2009	Meeting	Portland
155		Richard Benner, Senior Attorney	<i>Metro Portland</i>
156		Robert Clay, Supervising Planner	<i>Bureau of Planning, City of Portland</i>
157		Joseph Zehnder, Principal Planner	<i>Bureau of Planning, City of Portland</i>
	24 July 2009	Meeting	Portland
158		Nancy Hales, Program Manager	<i>First Stop Portland, Portland State University</i>
159		Jillian Detweiler, Senior Land Development Planner	<i>TriMet</i>
160		Derek Abe, Graduate Research Assistant	<i>Portland State University</i>
161		Shelby Rihala, Government Affairs Assistant	<i>Washington County, Oregon</i>
162		Brent Curtis, Planning Manager	<i>Washington County, Oregon</i>
163		Alwin Turiel, Long Range Planning Supervisor	<i>City of Hillsboro</i>
164		James Johnson, Land Use & Water Planning Coordinator	<i>Oregon, Department of Agriculture</i>
165		Ruthie Reinert, CTP, President/CEO	<i>Washington County, Oregon Visitors Association</i>

	Date	Witness Name	Affiliation
	<i>24 July 2009</i>	<i>Meeting</i>	<i>Portland continued</i>
166		Peter Brandom, Project Manager II – Sustainability	<i>City of Hillsboro, Administration Department</i>
167		Robert Davis, County Administrator	<i>Washington County, Oregon</i>
168		Dennis Mulvihill, Government Relations	<i>Washington County, Oregon</i>
169		Rudy Marchesi, Proprietor	<i>Montinore Estate</i>
170		Rich & Joelle Hildner, Owners	<i>Smith Berry Barn</i>
171		Mark Bigej	<i>Al's Garden Center</i>
	<i>4 Aug 2009</i>	<i>Public Hearing</i>	<i>Cardinia</i>
172		Cr Bill Pearson, Mayor	<i>Cardinia Shire Council</i>
173		Gary McQuillan, Chief Executive Officer	<i>Cardinia Shire Council</i>
174		Liam Hodgetts, Manager, Strategic Development	<i>City of Casey</i>
175		Ian Anderson, President, Cardinia Branch	<i>Victorian Farmers Federation</i>
176		Peter Schreurs	<i>Peter Schreurs & Sons</i>
177		Tom Schreurs, Director	<i>J & JM Schreurs & Sons</i>
178		Craig Arnott, Director	<i>Arnotts Vegetable Farms Pty Ltd</i>
179		John Cascone	
180		Carl Firrito	<i>Firrito & Sons Pty Ltd</i>
181		David Nickell, President	<i>Gembrooke Township Committee</i>
182		Arthur Giaccotto	<i>Market Gardener</i>
183		Allan McDonald	<i>Asparagus Grower</i>
184		Maurice Cafra	<i>Asparagus Grower</i>
185		Tom Knox, Associate Member	<i>Australian Asparagus Council</i>
	<i>25 Aug 2009</i>	<i>Public Hearing</i>	<i>Bass Coast</i>
186		Peter Francis, Economic Development Manager	<i>Bass Coast Council</i>
	<i>25 Aug 2009</i>	<i>Site Visits</i>	<i>Bass Coast</i>
187		Roslyn Jenzen, Economic Development Co-ordinator	<i>Bass Coast Council</i>
188		Moragh Mackay, Network Co-ordinator	<i>Bass Coast Landcare Network</i>
189		Greg Price, Director	<i>Alex Scott and Staff</i>
190		Alex Arbuthnot, Chairman	<i>Agribusiness Gippsland Inc.</i>
191		Susan Webster, Executive Officer	<i>Agribusiness Gippsland Inc.</i>
192		Geoff Kirton, Director	<i>Agribusiness Gippsland Inc.</i>

No.	Date	Witness Name	Affiliation
	25 Aug 2009	Site Visits	Bass Coast continued
193		Ewen Cameron	<i>Dochanassie Farm</i>
194		Michael Van Der Zwet	<i>Australian Flower Corporation</i>
195		Carly Van Der Zwet	<i>Australian Flower Corporation</i>
196		William Cleeland	<i>Cleeland Pastoral Company</i>
	8 Sep 2009	Site Visit	Williamstown
197		Matthew Harrison, Managing Director	<i>Aqueous Solutions</i>
	8 Sep 2009	Public Hearing	Melbourne
198		Ron Harris, Executive Director	<i>Farm Services Victoria, Department of Primary Industries</i>
199		Luke Wilson, Executive Director	<i>Agriculture and Natural Resources Policy Division, Department of Primary Industries</i>
	6 Oct 2009	Public Hearing	Whittlesea
200		Cr Mary Lalios, Mayor	<i>City of Whittlesea</i>
201		David Turnbull, Chief Executive Officer	<i>City of Whittlesea</i>
202		John Francis, Director, Corporate & Economic Development	<i>City of Whittlesea</i>
203		Dimitrios Konas, Director	<i>Hellenic Cheese</i>
204		Dr Gwynedd Hunter- Payne	<i>Merri Merri Olive Estate</i>
205		Eric South, Director	<i>Glen Ard Cool Stores</i>
206		Bronwyn Apted, Business Manager	<i>Leslie Apted & Sons Pty Ltd.</i>
207		Judy Clements, President, Whittlesea Branch	<i>Victorian Farmers Federation</i>
208		Gordon Taylor	<i>Local Farmer</i>
	6 Oct 2009	Site Visit	Whittlesea
209		Dimitrios Konas, Director	<i>Hellenic Cheese, Epping</i>
210		Dr Gwynedd Hunter- Payne	<i>Merri Merri Olive Estate, Beveridge</i>
211		Darryl Smith, General Manager;	<i>Mushroom Exchange, Mernda</i>
212		Don Trewin, National People & Culture Manager	<i>Mushroom Exchange, Mernda</i>
213		Kel Kilner, National Sales & Marketing Manager	<i>Mushroom Exchange, Mernda</i>
214		Richard Bell, National Technical Manager	<i>Mushroom Exchange, Mernda</i>





No.	Date	Witness Name	Affiliation
27 Oct 2009		Public Hearing	Yarra Ranges
215		Cr Graham Warren	<i>Shire of Yarra Ranges</i>
216		Claudette Fahy, Executive Officer, Strategic Planning	<i>Shire of Yarra Ranges</i>
217		Ian Ada, Agribusiness Officer	<i>Shire of Yarra Ranges</i>
218		Richard Howden, General Manager	<i>Yarra Valley Wine Growers Association</i>
219		Leo Koelewyn, Nursery Grower and Member	<i>Nursery and Garden Industry of Victoria</i>
220		Steve Chapman	<i>Cherry/Berry Grower</i>
221		Paul Casey	<i>Blue/Raspberry Grower</i>
27 Oct 2009		Site Visit	Yarra Ranges
222		Wayne Rieschieck	<i>Orchardist</i>
223		David Mathews, Director	<i>Protea Flora</i>
29 Oct 2009		Public Hearing	Nillumbik
224		Cr Bo Bendtsen, Mayor	<i>Shire of Nillumbik</i>
225		Neil Roberts, Owner	<i>Rising Vineyard</i>
226		Ken King	<i>Kings of Kangaroo Ground</i>
227		David Magahy	<i>Farmer</i>
228		Stuart Donald	<i>Farmer</i>
229		Shane Diamond	<i>Sheep Farmer</i>

APPENDIX C CONFERENCES & SEMINARS

Date	
3-4.03.2009	<i>Outlook 2009: A Changing Climate for Agriculture</i> Conference hosted by the Australian Government, Canberra
26.03.2009	<i>A Role for Agribusiness in the Carbon Offset Market</i> Seminar sponsored by Agribusiness Association of Australia, Melbourne
28-29.04.2009	<i>Melbourne Planning Summit</i> , Melbourne
10.06.2009	<i>Future Farming Workshop</i> Sponsored by the Department of Primary Industries, Koo Wee Rup
14.09.2009	<i>Thriving or Just Surviving in Our Cities?</i> Seminar presented by Future Leaders in partnership with Melbourne Conversations, Federation Square, Melbourne

APPENDIX D WALMART'S SUPPLIER SUSTAINABILITY ASSESSMENT

Sustainability Supplier Assessment Questions

Energy and Climate <i>Reduce energy costs and greenhouse gas emissions</i> 	<ul style="list-style-type: none"> 1. Have you measured and taken steps to reduce your corporate greenhouse gas emissions (Y/N) 2. Have you opted to report your greenhouse gas emissions and climate change strategy to the Carbon Disclosure Project (CDP)? (Y/N) 3. What are your total annual greenhouse gas emissions in the most recent year measured? (Enter total metric tons CO₂e, e.g. CDP 2009 Questionnaire, Questions 7-11, Scope 1 and 2 emissions) 4. Have you set publicly available greenhouse gas reduction targets? If yes, what are those targets? (Enter total metric tons and target date, e.g. CDP 2009 Questionnaire, Question 23)
Material Efficiency <i>Reduce waste and enhance quality</i> 	<ul style="list-style-type: none"> Scores will be automatically calculated based on participation in the Packaging Scorecard in addition to the following: 5. If measured, please report total amount of solid waste generated from the facilities that produce your product(s) for Walmart for the most recent year measured. (Enter total lbs) 6. Have you set publicly available solid waste reduction targets? If yes, what are those targets? (Enter total lbs and target date) 7. If measured, please report total water use from the facilities that produce your product(s) for Walmart for the most recent year measured. (Enter total gallons) 8. Have you set publicly available water use reduction targets? If yes, what are those targets? (Enter total gallons and target date)
Nature and Resources <i>High quality, responsibly sourced raw materials</i> 	<ul style="list-style-type: none"> 9. Have you established publicly available sustainability purchasing guidelines for your direct suppliers that address issues such as environmental compliance, employment practices, and product/ingredient safety? (Y/N) 10. Have you obtained 3rd party certifications for any of the products that you sell to Walmart? If so, from the list of certifications below, please select those for which any of your products are, or utilize materials that are, currently certified.
People and Community <i>Vibrant, productive workplaces and communities</i> 	<ul style="list-style-type: none"> 11. Do you know the location of 100% of the facilities that produce your product(s)? (Y/N) 12. Before beginning a business relationship with a manufacturing facility, do you evaluate their quality of production and capacity for production? (Y/N) 13. Do you have a process for managing social compliance at the manufacturing level? (Y/N) 14. Do you work with your supply base to resolve issues found during social compliance evaluations and also document specific corrections and improvements? (Y/N) 15. Do you invest in community development activities in the markets you source from and/or operate within? (Y/N)

Source: Walmart, Supplier Sustainability Assessment, p.4. Retrieved, 17 March 2010.

BIBLIOGRAPHY

- ABC News Online, "Right to Farm bill passes Upper House", ABC News, 19 November 2009, <http://bit.ly/OPrPV>.
- Aberdeen Hogg and Associates, *Metropolitan Farming Study*, Melbourne and Metropolitan Board of Works, 1977.
- Access Economics, *The growing cost of obesity in 2008: three years on*, Report to Diabetes Australia, Canberra, August 2008.
- Advisory Committee Established by the Minister for Planning and Local Government, *Review of Issues on the Urban Fringe, Final Report*, November 1996.
- AEA Technology, *The Validity of Food Miles as an Indicator of Sustainable Development*, Defra, 2005.
- Agribusiness Association of Australia, "Welcome to Agribusiness Association of Australia", <http://www.agribusiness.asn.au/index.php>.
- Agricultural Practices Board, *Annual Report 2008-09*, Government of Western Australia, August 2009.
- Alastair Kellock and Associates, *Green Wedges and Non-urban Issues: Technical Report 2*, Victorian Government Department of Infrastructure, Melbourne, September 2000.
- American Farmland Trust, *Right to farm laws*, Fact Sheet, Farmland Information Centre, September 1998, <http://bit.ly/6g05Oq>.
- American Farmland Trust, *The Farmland Protection Toolbox*, Farmland Information Centre, October 2002.
- Apple and Pear Australia, *Submission to Inquiry into the role of government in assisting Australian farmers to adapt to the impacts of climate change*, House Standing Committee on Primary Industries and Resources, Submission 36, 20 March 2009, 1, <http://bit.ly/43yYX>.
- Austrade, *Japan Market Report*, Vol. 1, 1, December 2006.
- Australian Bureau of Statistics, *4102.0 - Australian Social Trends, 2003*, ABS, released 6 April 2003.
- Australian Bureau of Statistics, *7121.0 - Agricultural Commodities, Australia, 2007-08*, ABS, released 22 May 2009.
- Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2005-06 (Reissue)*, ABS, reissued 6 June 2008.
- Australian Bureau of Statistics, *7125.0 - Agricultural Commodities: Small Area Data, Australia, 2006-07*, ABS, last update 6 June 2008.
- Australian Bureau of Statistics, *8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2003 to June 2007*, ABS, released 14 December 2007.
- Australian Bureau of Statistics, *8221.0 - Manufacturing Industry, Australia, 2006-07*, ABS, released 26 August 2008.

- Australian Government, *2020 Summit Final Report*, Australian Government, Canberra, 2008.
- Australian State of the Environment Committee, *Australia State of the Environment 2006: Independent report to the Australian Government Minister for the Environment and Heritage*, Department of the Environment and Heritage, Canberra, 2006.
- Barr, N, *Understanding Rural Victoria*, Victorian Government Department of Primary Industries, April 2005.
- Beeton, S, *Regional Communities and Cycling: The Case of the Murray to the Mountains Rail Trail, Victoria, Australia*, Cycling Resource Centre, 2006.
- Bellotti, B, “Food for thought”, *The Land*, 15 June 2009, <http://preview.tinyurl.com/mcacbs>.
- Buxton, M, & Goodman, R, *Maintaining Melbourne’s Green Wedges: Planning Policy and the Future of Melbourne’s Green Belt*, RMIT University, December 2002, 24.
- Caldwell, W, Hilts, S. & Wilton, B, *Farmland Preservation: Land for Future Generations*, Volumes Publishing, Kitchener, Ontario, 2007.
- Campbell, A, *Paddock to Plate: Food, Farming and Victoria’s Progress to Sustainability*, The Future Food and Farm Background Paper, Australian Conservation Foundation, Melbourne, October 2008.
- Campbell, A, “Converging insecurities - water, energy, carbon and food”, presentation to Australian Academy of Science, Canberra, 4 November 2009.
- Campbell, A, *Policy Propositions For Sustaining Food and Farming Systems*, Australian Conservation Foundation, Melbourne, 2009.
- City of Casey & Shire of Cardinia, *Casey and Cardinia Regional Agricultural Audit and Action Framework*, 2004.
- Compost Australia, *Submission to the Inquiry into Management of Australia’s Waste Streams*, Senate Standing Committee on Environment, Communications and the Arts, Sub no. 88 attachment B, 2008.
- Cribb, J, “A world hungry for answers”, *The Australian*, 24 January 2007, <http://bit.ly/d0Hcp3>.
- Daniels, T, “Challenging the Thinking on Planning in New South Wales – Perspectives and Directions from the United States”, paper presented to the *Planning for the Future of Rural Land Conference*, Orange, 16 May 2002.
- Datamonitor, *Organic Food: Global Industry Guide*, research report, April 2009.
- DB Climate Change Advisors, *Investing in Agriculture: Far-Reaching Challenge, Significant Opportunity*, June 2009.
- Denholm, M, “Bye-bye Apple Isle, hello national food bowl,” *The Australian*, 18 August 2009, <http://bit.ly/apzd0I>.
- Department for Environment, Food and Rural Affairs, *Food 2030*, HM Government, January 2010.
- Department for Environment, Food and Rural Affairs, *Proportion of domestically produced food used by government departments and also supplied to hospitals and prisons under contracts negotiated by NHS Supply Chain and National Offender Management Service (previously*

- HM Prison Service), Third report, 1 April 2008 to 31 March 2009, Defra, February 2010.
- Department of Agriculture, Fishery and Forestry, "Case Study Number 1", *Made in Australia*, 6, 1, November 2005, 13.
- Department of Education, Employment and Workplace Relations, *SkillsInfo: Employment Outlook for Agriculture, Forestry and Fishing*, Australian Government DEEWR, 2009.
- Department of Planning, *City of Cities – A Plan for Sydney's Future*, NSW Department of Planning, December 2005.
- Department of Planning and Community Development, *Delivering Melbourne's Newest Sustainable Communities: Report for Public Consultation, Urban Growth Boundary Review*, Victorian Government DPCD, East Melbourne, June 2009.
- Department of Planning and Community Development, *Melbourne 2030: a planning update, Melbourne @ 5 million*, Victorian Government DPCD, December 2008, <http://tinyurl.com/qd945m>.
- Department of Planning and Community Development, *Future Farms: Providing for Victoria's Future Rural Land Use*, Discussion Paper, Victorian Government DPCD, Melbourne, April 2009.
- Department of Planning and Community Development, *Draft Amendment VC55, Explanatory Report*, 2009, <http://bit.ly/9UOroo>.
- Department of Planning and Local Government, *Planning Strategy for the Outer Metropolitan Adelaide Region*, South Australian Government DPLG, December 2007, <http://tinyurl.com/1772z8>.
- Department of Premier & Cabinet, "Growing Victoria Together", 2005, <http://tinyurl.com/s468b>.
- Department of Primary Industries, *Future Farming: Productive, Competitive and Sustainable*, Victorian Government DPI, April 2008.
- Department of Primary Industries, *Summary of Victorian Food and Fibre Export Performance, 2008 Calendar Year*, Victorian Government DPI, Melbourne, 2009.
- Department of Primary Industries and Water, *Tasmanian Food Industry ScoreCard 2005-07*, Tasmanian Government DPIW.
- Department of Sustainability and Environment, *A plan for Melbourne's growth areas*, Victorian Government DSE, East Melbourne, 2005.
- Department of Sustainability and Environment, *Land and Biodiversity at a Time of Climate Change: Green Paper*, Victorian Government DSE, Melbourne, April 2008.
- Department of Sustainability and Environment, *Land and Biodiversity: Securing our natural future*, Victorian Government DSE, Melbourne, December 2009.
- Department of Sustainability and Environment, "Melbourne 2030", <http://tinyurl.com/q9444w>.
- Department of Sustainability and Environment, *Our Water Our Future: The Next Stage of the Government's Plan*, Victorian Government DSE, Melbourne, June 2007.

- Department of Sustainability and Environment, *Sustainable Water Strategy Central Region: Action to 2055*, Victorian Government DSE, Melbourne, 2006.
- Dessein, J (ed.), *Farming for Health, Proceedings of the Community of Practice Farming for Health*, Belgium, 6-9 November 2007, 72.
- Di Poce, V, Goarley, E & Mausberg, B, "Greenbelt Grown: A Profile of Agriculture in Ontario's Greenbelt", *Occasional Paper 9*, Friends of the Greenbelt Foundation, November 2009.
- Dixon, JM et al., "Functional foods and urban agriculture: two responses to climate change-related food insecurity", *NSW Public Health Bulletin*, Vol. 20(1-2), 2009.
- Dwarshuis, L, "Food and agriculture in Europe's peri-urban regions", speech to *Sustainable Food Planning Conference*, Almere, 9 October 2009.
- Edwards, L, "Farmers' markets to weed out dodgy operators", *The Age*, 28 August 2009.
- Elton Consulting, *Sydney's Agriculture – Planning for the Future: Forum Outcomes Report*, 27 February 2009.
- Environment and Natural Resources Committee, *Inquiry into Melbourne's Future Water Supply*, Parliament of Victoria, June 2009.
- Eweg, HPA & Hassink, J, "Business models of Green Care in the Netherlands", Paper presented at *Special session on Care Farming -- VII International PENSA Conference*, Sao Paulo, Brazil, 2009, 4.
- Flintoff, P, "Why we forgot how to grow food," *The Sunday Times*, 19 April 2009.
- Food and Agriculture Organization, *Food, agriculture and cities: challenges and priorities*, October 2009, <http://bit.ly/5eG88Q>.
- Food and Agriculture Organization, *The State of Food Insecurity in the World: economic crises – impacts and lessons learned*, FAO, Rome, 2009.
- Food Standards Agency, *Omnibus Research Report*, March 2007, <http://bit.ly/dnm8b3>.
- Frost, W, "Agriculture", *E-Melbourne: the city past and present*, <http://www.emelbourne.net.au/biogs/EM00041b.htm>.
- Gaynor, A, *Harvest of the Suburbs: An environmental history of growing food in Australian cities*, University of Western Australia Press, Crawley, 2006.
- Gibson, H, *Final Report: New Format Planning Schemes*, April 1999.
- Glyde, Phillip, "Outlook for Australia's commodity sector", presentation at the *ABARE Outlook 2009 Conference*, Canberra, 3 April 2009, <http://www.abareconomics.com/interactive/outlook09/>.
- Government of South Australia, *Planning the Adelaide we all want: Progressing the 30-Year Plan for Greater Adelaide*, draft for consultation, June 2009.
- Government of Victoria, *Victorian Government Response: Inquiry into Local Economic Development in Outer Suburban Areas*, 2009, <http://tinyurl.com/mlzsmg>.
- Greater London Authority, *Proposal for a Review of the Role of the Planning System in Supporting and Encouraging Commercial Food Growing in London*, Report Number 7, 9 June 2009.
- Harris, E, "The role of community gardens in creating healthy communities", *Australian Planner*, 46, 2, 2009, 24-27.

- Harris, G, *Melbourne's Green Belt and Wedges*, RMIT University, April 2005.
- Hassall & Associates, *Hydroponics as an agricultural production system*, Rural Industries Research and Development Corporation, No. 01/141, 2001.
- Hawkesbury City Council, *HARTDAC Project report*, August 2005.
- Henke, R, "The best of both worlds – what lies between town and countryside? The PURPLE case", abstract of paper presented at METREX meeting, Paris, 12-17 May 2009.
- Hine, R, Peacock, J & Pretty, J, *Care farming in the UK: Evidence and Opportunities*, National Care Farming Initiative, 2008.
- Hogan, L & Thorpe, S, *Issues in Food Miles and Carbon Labelling*, Research report 09.18, ABARE, December 2009.
- Hollier, C & Reid, M, *Small farms: valued contributors to healthy rural communities*, Report for the Rural Industries Research and Development Corporation, No 07/187, November 2007.
- Houston, P, "Re-valuing the Fringe: Some Findings on the Value of Agricultural Production in Australia's Peri-Urban Regions", *Geographical Research*, 43, 2, June 2005, 209-223.
- Hunt, P, "Green scheme a 'flop'," *Weekly Times*, 24 September 2009, <http://tinyurl.com/lpectq>.
- Illinois Local and Organic Food and Farm Task Force, *Local Food, Farms & Jobs: Growing the Illinois Economy*, Report to the Illinois General Assembly, March 2009.
- Interface Group of Councils, *Position Paper on Green Wedge Management: Submission to the Melbourne 2030 Audit*, September 2007.
- Jennens, G, "Dog attacks on livestock", *Proceedings of the Urban Animal Management Conference 1998*, <http://bit.ly/a16ncW>.
- Johnston, T, "Empathy, but little public support", *Weekly Times*, 22 October 2003, 28.
- Jones, "Allotment demand leads to 40-year waiting list," guardian.co.uk, 2 June 2009.
- Jones, T, "Overview on issues for farms in the green belt; recommendations to support fringe farmers", presentation to *Growing Food for London Conference*, London, 30 June 2008.
- Keating, B, & Carberry, P, "Emerging Opportunities for Australian Agriculture?," *Proceedings of the 14th Australian Society of Agronomy Conference*, 21-25 September 2008.
- Kelleher, F, Chant, J & Johnson, N, "Community Expectations and Perceptions of Agriculture in Peri-Urban Regions", *Proceedings of the 9th Agronomy Conference*, The Regional Institute, Wagga Wagga, July 1998.
- Kennedy, DE, *Melbourne's Community Gardens: Harvesting More Than Just Vegetables*, SIT, December 2005.
- Keogh, M, "Farming beyond the farm gate – Does the gap between the city and the bush matter?," Mac Troup lecture to the Grasslands Society, 2007.

- Langworthy, A & Hackett, T, *Farming Real estate? Challenges and Opportunities for Agribusiness on the urban fringe – Yarra Valley Region*, Yarra Ranges Agribusiness Forum, Lilydale, 2000.
- Learmonth, Rik et al., *Living and Working in Rural Areas: A handbook for managing land use conflict issues on the NSW North Coast*, NSW Government DPI, Wollongbar, 2007.
- London Assembly, *Cultivating the Capital: Food growing and the planning system in London*, Greater London Authority, January 2010.
- London Development Agency, *Healthy and sustainable food for London: The Mayor's food strategy*, London Development Agency, London, May 2006.
- Low Choy, D, Sutherland, C, Gleeson, B, Dodson, J & Sipe, N, *Change and Continuity in Peri-Urban Australia: Peri-Urban Futures & Sustainable Development*, Monograph 4, Griffith University, Brisbane, 2008.
- Mahr, K, "The Rent-a-Country", *Time Magazine*, 23 March 2009, 35-36.
- Martin, T, "Bird scare fear," *Mountain Views Mail*, 7 March 2007.
- Martin, T, "Chorus over bird noises," *Mountain Views Mail*, 19 June 2007, <http://www.starnewsgroup.com.au/story/43913>.
- Matthews, K, "Adaptations to Climate Change: The Victoria we imagine in 50 years time", address to *Victorian Water Sustainability Seminar*, Melbourne, 8 May 2008.
- Maxwell, S & Frankenberger, T, *Household Food Security: Concepts, Indicators, Measurements – a technical review*, UNICEF and IFAD, New York and Rome, 1992.
- McIntyre, L, "Food Security: More than a determinant of health", *Policy Options*, Canada, March 2003, 46-51.
- Melbourne 2030 Audit Expert Group, *Audit Expert Group Report*, Victorian Government Department of Planning and Community Development, March 2008.
- Melbourne Water, *Essential Facts, Western Treatment Plant Upgrade*, September 2005, Victorian Government, Melbourne.
- Melbourne Water, *Melbourne Water Sustainability Report 2008/2009*, Melbourne, Victorian Government, 2009.
- Melbourne Water, *Werribee Irrigation District Recycled Water Scheme Regional Environment Improvement Plan*, Victorian Government, November 2004.
- Ministry of Agriculture and Lands, *Guide to Edge Planning: Promoting Compatibility Along Urban-Agricultural Edges*, Government of British Columbia, working copy, June 2009.
- Ministry of Agriculture, Nature and Food Quality, *Facts and Figures of the Dutch Agri-Sector 2008*, The Hague, January 2008.
- Municipal Association of Victoria, *Green Wedge Research Report*, November 2006.
- Nickerson, C, "Smart Growth: Implications for Agriculture in Urban Fringe Areas", *Agricultural Outlook*, United States Department of Agriculture, April 2001.
- Oregon Department of Agriculture, "State of Oregon Agriculture", January 2009, http://oregon.gov/ODA/pub_bd_rpt.shtml.

- Outer Suburban/Interface Services & Development Committee, *Inquiry into Sustainable Urban Design for New Communities in Outer Suburban Areas: Final Report*, Parliament of Victoria, Melbourne, September 2004.
- Outer Suburban/Interface Services & Development Committee, *Inquiry into Building New Communities: Final Report*, Parliament of Victoria, Melbourne, July 2006.
- Outer Suburban/Interface Services & Development Committee, *Inquiry into Local Economic Development in Outer Suburban Melbourne*, Parliament of Victoria, Melbourne, September 2008.
- Outer Suburban/Interface Services & Development Committee, *Inquiry into the State Government's Decision to Change the Urban Growth Boundary*, Parliament of Victoria, Melbourne, November 2009.
- Overbeek, G & Vader, J, "Rural Goods and Services (RGS) in Rural Areas Under Urban Pressure", paper for the XXI Congress of the European Society for Rural Sociology, Keszthely, 22-27 August 2005.
- Parbery, P & Ransom, M, *Detailed Examination of Farm Industries within the PPWP Catchment*, – appendix from interim report, February 2007.
- Parbery, P, Wilkinson, R & Karunaratne, K, *Square pegs in green wedges? Landholders and natural resource management in Melbourne's rural hinterland*, DPI and Port Phillip and Westernport CMA, Parkville & Frankston, 2008.
- Parbery, P, Wilkinson, R & Klugman, R, *Urban-Rural: Not Such a Divide? Producers, Consumers and Agriculture*, Melbourne, Victorian Government DPI, 2005.
- Parliament of the Commonwealth of Australia, *Weighing it up: Obesity in Australia*, House of Representatives Standing Committee on Health and Ageing, Canberra, Print and Publishing Office, House of Representatives, May 2009.
- Parsons Brinckerhoff Consulting, *Background Technical Report 1: Land Capability*, Victorian Government DPCD, June 2009.
- Peri-Urban Regions Platform Europe (PURPLE), *PURPLE's response to the Green Paper on Territorial Cohesion*, PURPLE, Brussels, February 2009, <http://tinyurl.com/lok7rs>.
- PLUREL, *Analysis of regional spatial planning and decision making strategies and their impact on land use in the urban fringe: Case study of The Hague Region*, September 2009, 11.
- Pothukuchi, K & Kaufman, JL, "The Food System: A Stranger to the Planning Field", *Journal of the American Planning Association*, 66, 2, Spring 2000.
- Pretty, J, "From Green Exercise to Green Care: A New Opportunity for Farming in the UK?", research summary, University of Essex, n.d., <http://bit.ly/c8fe3E>.
- Pretty, J, et al., "Farm Costs and food Miles: An Assessment of the Full Cost of the UK Weekly Food Basket," *Food Policy*, 30, 1, 2005, 1-19.
- Productivity Commission, *Trends in Australian Agriculture*, Research Paper, Canberra, 2005.
- Raja, S, Born, B & Kozlowski Russell, J, *A Planner's Guide to Community and Regional Food Planning*, American Planning Association, August 2008.
- Regional Development Victoria, *Victorian Organic Products Directory*, Government of Victoria, 2009.

- Rielly, M, "Evaluating Farmland Preservation through Suffolk County, New York's Purchase of Development Rights Program," *Pace Environmental Law Review*, 2000, 197-220.
- 'Right to Farm' Working Group, *Living Together in Victoria's Rural Areas, Report to the Minister for Agriculture*, December 2000.
- Roberts, W, *The No-Nonsense Guide to World Food*, New Internationalist, Oxford, 2008.
- Saunders, C, Barber, A & Taylor, G, *Food Miles: Comparative Energy/Emissions Performance of New Zealand's Agriculture Industry*, Research Report No. 284, Lincoln University, July 2006.
- SGS Economics and Planning, *Economic Significance of the Food Sector*, La Trobe University report prepared for VLGA, March 2009.
- Sinclair, I, et al., *From the Outside Looking In: The Future of Sydney's Rural Land, Background Issues and Workshop Outcomes*, May 2004.
- SJB Planning, *Rural Resource Lands Study*, Penrith City Council, April 2006.
- Skerratt, S & Williams, F, *Establishing the state of play of care farming in Scotland and the implications for policy*, scoping study, Scottish Agriculture College, November 2008.
- Skills Victoria, "Agriculture, Forestry and Fishing Industry: Complete Outlook", <http://tinyurl.com/me979z>.
- Soil Association, *An inconvenient truth about food: neither secure nor resilient*, 2008, 9, <http://bit.ly/a9izQu>.
- State Council for the Rural Lands Protection Board (NSQW), *Submission to the inquiry into the impact on agriculture of pest animals*, House of Representatives Standing Committee on Agriculture, Fisheries and Forestry, 29 June 2004.
- Strategy Unit, *Food Matters: Towards a Strategy for the 21st Century*, United Kingdom Cabinet Office, July 2008.
- Strong, L, "Bridging the urban rural divide", presentation to the 2009 *Keep it Real TQA Conference*, Hobart, November 2009.
- Sustainable Tourism Cooperative Research Centre, *Food and Wine Tourism in Australia*, CRC for Sustainable Tourism, 2008.
- Sydney Food Fairness Alliance, "Sydney Basin Agriculture, Local Food, Local Economy", December 2006, <http://tinyurl.com/n93ac6>.
- Thompson Jr, E, Harper, AM, and Kraus, S, *Think Globally –Eat Locally: San Francisco Foodshed Assessment*, American Farmland Trust, 2008.
- Toronto Public Health, *Food Connections: Toward a Healthy and Sustainable Food System for Toronto: A consultation report*, February 2010.
- University of Kentucky Cooperative Extension Service, "2009 Survey of Community Supported Agriculture Producers", *Agricultural Economics Extension Series 2009-11*, July 2009.
- Vegetable Growers Association Victoria, *Strategic Plan: 2009-2012*, 2009.
- Victorian Catchment Management Council, *Ecosystem Services through Land Stewardship Practices: Issues and Options*, Victorian Government DSE, April 2003.

- Victorian Commissioner of Environmental Sustainability, *State of the Environment Report*, Victorian Government, 2008.
- Victorian Government, *Quality Recycled Water for the Werribee Plains, Salt Reduction Strategy*, Melbourne, 2005.
- Victorian Government, *Victorian Cycling Strategy*, Melbourne, March 2009.
- Victorian Local Governance Association, *Integrating Land Use Planning and Community Food Security: a new agenda for Government to deliver on sustainability, economic growth and social justice*, La Trobe University Bendigo, October 2009.
- Victorian Young Farmers' Finance Council, *Annual report 2008*, 2008, <http://www.ruralfinance.com.au/pages/default.aspx?PageID=1&id=1>.
- Vidal, J, "Coming up roses? Not any more as UK gardeners turn to vegetables," *The Guardian*, 22 March 2008.
- Wacker, M, Sokolow, A & Elkins, R, "County Right-to-Farm Ordinances in California: An Assessment of Impact and Effectiveness", *AIC Issues Brief*, 15, 2001.
- West, S & Badham, M, *A Strategic Framework for Creating Liveable New Communities*, Final Report, Growth Areas Authority, March 2008.
- Wilcox, D, "What is Care Farming?" presentation at the launch of Care Farming Scotland, 19 May 2009.
- Wyld Group, *Victorian Organic Industry Sector Plan*, 2008.

