

DEVELOPING SUCCESSFUL AGRICULTURE

An Australian Case Study



Zhang-Yue Zhou



Index

Note: *Italic page numbers indicate figures and tables; numbers in brackets preceded by *n* refer to endnotes.*

- abalone 27, 28
- ABARES (Australian Bureau of
Agricultural and Resource
Economics and Sciences) 18,
114–115
- Aboriginal people 12, 39, 40, 41, 92,
138, 146
and sustainable farming 158, 159,
163, 167
- ABS (Australian Bureau of Statistics) 18,
147–148, 170
- ACF (Australian Conservation Foundation)
147
- ACIAR (Australian Centre for International
Research) 123, 124–125, 133
- ACT *see* Australian Capital Territory
- AEC (Australian Environment Council) 37
- AgForce Queensland 58, 64
- AGO (Australian Greenhouse Office) 160
- agricultural colleges 129
- Agricultural Council of Australia and New
Zealand 36
- agricultural education 114, 128–129,
132, 187, 188
- agricultural exports 24, 25, 26, 28–31,
29, 30
assistance for 103
- deregulation of 84, 96
regulation of 75, 76, 80, 82
- agricultural extension 111, 115, 124,
126–128
- agricultural shows and 114, 127
- challenges with 132, 133
- communications media and
127–128, 133, 134
- conservation/sustainability
programmes 126
- diversity of 127–128
- agricultural inputs 16, 20–21, 20, 21
and carbon tax 160
- fodder 20, 20, 23
- seed 20, 20, 48
- subsidies on 81, 82, 191
- wages 20, 20
see also fertilizers; herbicides
- agricultural market *see* marketing
- agricultural outputs 16, 21–28
- agricultural regulation 74, 75–83
bounty payments 75–76, 77–78
- buffer schemes 78, 80, 82, 84
- Commonwealth intervention 75
- discriminatory pricing 76, 80
- diversity of instruments/schemes
82–83

- agricultural regulation *continued*
 - federalism and 82
 - and IAC/Green Paper (1974) 82
 - and marketing crises 75–76
 - origins of 75
 - price stabilization schemes 78–79, 82
 - problems with 83, 190–191
 - and rural reconstruction/adjustment (1970s) 81–82
 - subsidies on inputs 81, 191
 - of tobacco 77, 79–80
 - wheat policy, 1930s 76–77
 - for wool 80
- agricultural service institutions 47–48, 49
 - and cooperatives 58
 - private sector 48
- agricultural shows 114, 127
- agricultural trade 16, 24, 25, 26, 28–29, 29, 65
 - and institutional arrangements 35
 - interstate 35, 36, 49
 - liberalization of 66–67
 - regulation of *see* agricultural regulation
 - see also* marketing
- Agriculture – Advancing Australia (AAA)* 90–91
- agriculture departments, state 41, 44, 48, 49
- Agriculture, Fisheries and Forestry Dept 115, 118, 120
- Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) 36–37
- AHA (Animal Health Australia) 182, 183
- alienated (privately owned) land 39–40, 40
- ALP (Australian Labor Party) 43, 74, 81, 91–94
- Anderson, John 39
- animal feed 23, 48, 76
- Animal Health Australia (AHA) 182, 183
- animal health products 21
- animal welfare 65, 125
- ANZECC (Australia New Zealand Environment and Conservation Council) 37
- apple/pear growing 19, 155
- AQIS (Australian Quarantine and Inspection Services) 5, 48
- aquaculture 28, 37, 125
- aquifers 12
- ARMCANZ (Agriculture and Resource Management Council of Australia and New Zealand) 36–37
- ASCC (Australian Soil Conservation Council) 36
- ASEAN (Association of South-east Asian Nations) 180
- Austrade 103, 180
- Australia
 - agricultural development in 3, 12–31
 - agricultural environment in 6, 8–12, 145–147
 - Agriculture/Fisheries/Forestry Dept *see* DAFF
 - climate of 9–10, 11
 - Constitution of *see* Australian Constitution
 - economy of 16, 29–31, 30
 - Federal Government 15, 36–37, 38, 39, 44–48, 55, 93, 94–95
 - federal-state powers in *see under* institutional arrangements
 - geographical isolation of 138–139
 - institutional arrangements of *see* institutional arrangements
 - land/soil of 12, 13, 16
 - marine environment of 27–28
 - rivers/lakes of 11–12
 - rural politics in *see* rural politics
 - settlement history of 8, 12–14, 138, 139, 145–147
 - state structure of 8–9
 - topography of 10–11
- Australia New Zealand Environment and Conservation Council (ANZECC) 37
- Australian Agricultural Council 36
- Australian agriculture 12–31
 - as business/industry 96
 - contribution to Australian GDP of 29–31, 30
 - farm inputs/costs *see* agricultural inputs
 - farm numbers/rural employment in 16–18, 17
 - future of 7, 188
 - high quality/standards of 5
 - industry distribution of 18, 19
 - land available for 16, 29, 30

- land ownership in *see* land tenure
- low government support for 3, 4, 6, 28
- origin/evolution of 12–15
- outputs/productivity of 16, 21–28
- success of 3, 4–5, 6, 31, 44, 50, 188
- sustainability of 5
- trade/exports *see* agricultural exports
- Australian Bureau of Agricultural and Resource Economics and Sciences (ABERES) 18, 114–115
- Australian Bureau of Statistics (ABS) 18, 147–148, 170
- Australian Capital Territory (ACT) 9, 18, 150
 - land tenure in 40
- Australian Centre for International Research *see* ACIAR
- Australian Conservation Foundation (ACF) 147
- Australian Constitution 35–39, 49
 - Section 51 35, 36
 - Section 92 35, 36
 - Section 128 38
 - and state/territory government 35, 36
- Australian Dairy Farmers' Limited 64
- Australian Environment Council (AEC) 37
- Australian Greenhouse Office (AGO) 160
- Australian Livestock Exporters' Council 64
- Australian Livestock and Property Agents Association 64
- Australian Quarantine and Inspection Services (AQIS) 5, 48
- Australian Soil Conservation Council (ASCC) 36
- Australian Veterinary Association 64
- Australian Wine Research Institute 116
- Australian Wool Realization Commission 86
- Australian Year of the Farmer (2012) 104, 187
- Australia's Farming Future* programme
 - 91–94, 102, 159, 181
 - and drought assistance 92–93
 - elements of 92
 - and welfare payments 93–94
- AWB (Australian Wheat Board) 59, 83–84, 87, 94
- AWBI (Australian Wheat Board International) 84
- AWC (Australian Wool Corporation) 80, 85
- AWRC (Australian Water Resources Council) 36
- Barclay, E. 183
- barley 13, 22, 23, 24
 - export prices 29
- Beechworth Honey Pty Ltd 64
- beef farming *see* cattle/beef farming
- beekeeping 19, 157
- berry fruit growing 19, 155
- biodiversity 12, 27, 61, 66, 146, 147, 159, 162, 164, 167
- biofuels 125
- bioregions 162, 164, 173–174(*n3*)
- biosecurity 47, 48, 66, 94, 96, 125, 182–183, 187
- Boran cattle 140–141
- bounty payments 75–76, 77–78
- Brahman cattle 140–141
- brewing industry 76
- Britain (UK) 78
- Brown, Wes 141, 169
- BSES (Bureau of Sugar Experiment Stations) 116, 117
- Burdekin River 11
- bushfire 10, 148, 149
- business management 60–61, 106–108
- business sector 62, 65, 69, 96
- butter 15, 26, 76, 77
- Cairn Group Farm Leaders Forum 67
- Campbell, K.O. 39, 43, 57, 98(*nn1, 2*)
- Canada 4, 8, 180
- cane toads 147
- CANEGROWERS 64
- canned fruits 76
- capacity building 91, 92, 168, 182
- Carbon Pollution Reduction Scheme (CPRS) 160
- carbon sequestration 160, 181
- carbon trading/tax 160, 181
- Caring for our Country programme *see* CFC
- Cattle Council of Australia 58, 59, 64
- cattle/beef farming 18, 19, 26, 125, 150, 153, 155
 - cross-breeding and 140–141
 - entrepreneurship in 108–109

- cattle/beef farming *continued*
 environmental issues/sustainability in
 150, 153, 155, 167–168
 export prices 28–29
 and GHG emissions 166
 traceability in 5
 Central Lowlands 10
 Central West Farming Systems (CWFS,
 NSW) 142
 CFC (Caring for our Country) programme
 153–159, 158, 167, 168
 priority areas for 158, 159
 CFI (Carbon Farming Initiative) 181
 cheese 26, 77
 ChemClear programme 165
 chemicals, use/disposal of 165–166, 185,
 191
 Chile 180
 China 50, 70, 180
 citrus fruits 19, 155
 climate 9–10, 11
 see also weather
 climate change 61, 125, 146, 147
 adjustment assistance for 92–94
 and livestock sector 166
 responses to 159–160, 164, 181
 Climate Change Research Programme
 114
 COAG (Council of Australian
 Governments) 36, 38
 coarse grains 23, 24
 coffee 77
Commonwealth Authorities and Companies
Act (1997) 122
 Commonwealth Scientific and Research
 Organization *see* CSIRO
 community networks 93
 see also Landcare movement
 CONCOM (Council of Nature Conservation
 Ministers) 37
 Connors, Tom 56, 62–63, 73(n1)
 conservation 16, 67, 126, 147
 Cooperative Research Centres *see* CRCs
 Cooray, M. 43
 Corporate Agricultural Group 64
Corporations Act (2001) 118
 cotton 19, 23, 24, 29, 104–105, 119,
 125, 156
 Cotton Australia 64
 Council of Australian Governments
 (COAG) 36, 38
 Country Law Firm Member Benefit
 Program 62
 Country party *see* National Party
 CPRS (Carbon Pollution Reduction
 Scheme) 160
 CRCs (Cooperative Research Centres)
 113–114, 123–124, 125,
 133
 areas of activity 124
 Directory 124
 term of 124
 crisis management 93, 94
 crop exports 24, 25
 crop production 21, 22–23, 22, 24–25,
 150
 environmental issues in 150, 156
 and weather conditions 23
 cropping systems 13, 163, 169–170
 CRRDC (Council of Rural Research and
 Development Corporations) 117,
 120, 121, 121, 122
 CSIRO (Commonwealth Scientific and
 Research Organization) 112, 113,
 116, 125, 126, 133
 CWFS (Central West Farming Systems,
 NSW) 142
 DAFF (Dept of Agriculture, Fisheries and
 Forestry) 48, 91, 92, 114, 115,
 126–127
 policies/programmes of 95
 and rural RDCs 119, 121
 and sustainable farming 153
 Dairy Australia 119, 122, 126, 129
 dairy farming 18, 19, 23, 26, 119, 125
 deregulation of 85
 environmental issues in 153, 156
 farmer organizations for 58, 64
 and farmers' incomes 81
 and regulation 76, 77, 78
 share-farming model of 43
 see also butter; cheese; milk
 Debt Reconstruction with Interest Subsidy
 (DRIS) 89
 debt relief 88, 89, 97
 deer farming 19, 157
 deforestation 147
 deregulation 6, 31, 36, 47, 74–99
 adjustment assistance for 87–94,
 96–97

- Agriculture – Advancing Australia*
(AAA) package 90–91
Australia's Farming Future *see*
Australia's Farming Future
and climate change 92
of dairy industry 85
developing countries and 97–98
of egg industry 85
lessons from Australian experience
96–98
regulation regime prior to *see*
agricultural regulation
resistance to 87–88, 97
and role of government 94–95
Rural Adjustment Scheme *see* RAS
Rural Reconstruction Scheme (RRS)
88
success of 95
of sugar industry 86–87, 88
of wheat market 83–84, 94
of wool industry 85–86
- DERM (Dept of Environment and Resource
Management, QLD) 161–162
developing countries 6, 124–125, 134,
135, 144
farmers' interests in 72
regulation/deregulation in 97–98,
190–191
- diseases 5, 48, 94
control 21, 22, 47, 66, 182
- Donald, C.M. 138
- Donovan, P. 163
- dried fruits 76, 77
- Dried Fruits Australia 64
- DRIS (Debt Reconstruction with Interest
Subsidy) 89
- drought 10, 11, 60, 92, 103, 141, 181
- drumMUSTER programme 165–166
- Eastern Highlands 10–11
- economies of scale 49
- ecotourism 107–108
- education 65, 66, 67, 109, 153, 168, 184
agricultural 114, 128–129, 132,
187, 188
see also training
- Education Dept 128
- egg industry 119
deregulation of 85
regulation of 79
- elections 44, 54–55, 65, 70–71, 186
malapportionment approach to 71
- EMDG (Export Market Development
Grants) scheme 103
- emerging challenges 7, 65–66, 119, 125,
131–132, 179–188
biosecurity threats 182–183, 187
environmental protection 185
farm succession 183–184, 188
labour/skills shortage 184
price/currency fluctuations 75, 181
uncertain world markets 179–181,
187
urban/rural divide 186–187
volatile weather 181–182, 187
- employment 16–18, 17, 51
labour shortage 184, 188
- entrepreneurship 7, 31, 49, 68–69,
101–110
assistance programmes/grants for
102–103
availability of information for 103
business diversification 106–108
case studies 104–109
challenges of 109
cultural change towards 102
institutions/measures for 10–14
lessons for 105–106
need for 101, 110
rewarding 103–104
state-level assistance for 103
tourism and 107–108
vertical integration 108–109
see also innovation
- environmental education 153
- environmental issues 5, 37, 38, 66, 67,
105, 145–147
biodiversity *see* biodiversity
biosecurity 47, 48, 66, 94, 96, 125,
182–183, 187
chemical use/waste 165–166, 185
climate change *see* climate change
and farming community 147–153
industry level 150–153, 154–157
introduced species 147
land clearance 14, 28, 81, 145–146,
147
pests *see* pests
soil erosion/salinity 12, 145–146,
147, 150
state level 148–150, 149, 151–152

- environmental issues *continued*
 - weed problems 148, 149, 150, 154
 - see also* NRM: sustainable farming
- Environmental Stewardship
 - programme 66, 67, 159
- Environmental Sustainability Action Plan (Orange City, NSW) 164
- European Union (EU) 4, 6
- Exceptional Circumstances (EC) assistance
 - measures 92
- Export Market Development Grants (EMDG) scheme 103
- Eyre, Lake 9, 11
- family farms 16–18, 183–184
- Farm Household Support (FHS) scheme 90
- Farm Management Deposits Scheme 91, 181
- farm ownership 18
- farm succession 183–184, 188
- FarmBis/Farm Help 91
- farmer organizations 56–69, 71, 72, 142
 - apolitical nature of 68, 72
 - associations 44, 49, 58, 60–62, 61
 - and business management 61
 - cooperatives 54, 57–58, 59–60
 - councils 58
 - data gaps for 59
 - divisions between 62–64
 - federations 58
 - grass-root/state/national level 58–59
 - leadership in 68
 - legal services offered by 62, 63
 - literature on 72–73(n1)
 - membership/finances of 60, 61, 62, 63, 64, 68–69
 - and National Party 54–55, 57
 - national-level 58–59
 - number of 59
 - operation/structure of 59–67
 - state-level 58
 - success of 62, 67–69
 - types of 57–58
- farmers 53–72, 192
 - agricultural services for 47–48
 - entrepreneurship *see* entrepreneurship
 - incomes of 16–18, 23, 31, 81, 190
 - inducements for industry exit 81, 88, 89, 93, 94
 - involved in policy process 47
 - non-discriminatory policies for 49, 50, 51
 - number of 16–18, 17
 - poverty and 71, 191
 - and rural politics *see* rural politics
 - succession planning 183–184, 188
 - and sustainability 169–170
 - Year of the 104, 187
- farmers' interests, protection of 6, 44–45, 53, 55, 98
 - healthcare provision 69–70, 72
 - infrastructure provision 66, 70, 188
 - lessons from Australian experience 72
 - rural voting power 70–71
 - welfare provision *see* social security
- FarmReady 102, 181
- farms, foreign-owned 18
- fencing 81, 172
- fertilizers 5, 20, 20, 21, 81, 130, 140, 152
- FHS (Farm Household Support) scheme 90
- financial management 101, 102
- fire risk 148, 149
- Fisheries RDC (FRDC) 119, 119
- Fisheries Resources Research Fund 114
- fishing industry 27–28, 30, 37, 119, 125
 - aquaculture 28, 37, 125
- Fitzroy Basin Association 126
- Fitzroy River 11
- floods 10, 92
- floriculture 19, 154
- fodder 20, 20, 23
- food prices 97
- food safety 95, 182
- food security 6
- forestry 16, 28, 30, 37, 119, 125
- FRDC (Fisheries RDC) 119, 119
- free trade agreements (FTAs) 180–181
- free trade/market 66–67, 94, 96, 101, 180
- freehold land 3, 39, 40, 42
- fruit/nut farming 18, 19, 128, 150, 155
- fungicides 21, 22, 48
- GAB (Great Artesian Basin) 12
- Garnaut Climate Change Review 159
- gender issues 109

- GGIPs (Grower Group Innovation Projects) 142–143
- Gillard, Julia 160
- Goat Industry Council of Australia 58, 64
- gold mining 14
- grain farming 18, 19, 21, 22, 119, 119, 125, 150, 153
- coarse 23
- environmental issues in 150, 153, 155, 156
- and feed grains/livestock production 23, 76
- seed inputs 20, 20, 48
- see also* wheat
- GrainCorp 64
- Grains RDC (GRDC) 122, 126
- Granshaw family 143
- grapes *see* viticulture
- grass-root farmer organizations 58
- grazing 13, 16, 149, 163, 164
- and land tenure 41
- see also* pastoral management
- Great Artesian Basin (GAB) 12
- Great Depression 15
- Great Dividing Range 10, 11
- Greenhouse Challenge Program 159–160
- groundnuts 23
- Grower Group Innovation Projects (GGIPs) 142–143
- grower groups 126, 142–143
- HAL (Horticulture Australia Limited) 119
- Harris, D. 85
- harvesting 48, 60, 181
- Hay Caps 143
- health care 69–70, 72
- health and safety 62, 95
- heatwaves 10
- herbicides 21, 22, 48, 149
- horse farming 19, 157
- horticulture 125, 128, 164
- Horticulture Australia Limited (HAL) 119
- household support *see* social security
- Howard, John 159–160
- Hunter River 11
- IAC (Industry Assistance Commission) 82, 86–87, 88
- IC (Industry Commission) 87
- import restrictions 48, 78, 82, 182
- India 50, 70
- industrial relations (IR) 62, 63, 65, 66
- industrialization 72, 75, 81
- industry-owned corporations (IOCs) 118, 120, 121
- information, access to 103, 127–128
- infrastructure 66, 70, 72, 188
- innovation 5, 7, 14, 31, 50, 94, 95, 137–144
- cross-breeding cattle 140–141
- encouraging/fostering/rewarding 141–143, 144
- and geographical isolation 138–139
- and Grower Group Innovation Projects (GGIPs) 142–143
- and lack of indigenous agriculture 138
- need for 137–139
- optimization of operations 139–140
- pasture management 141
- sediment trapping 141
- and survival 139
- see also* entrepreneurship
- Innovation, Science and Research, Dept of 114, 115, 123
- insecticides 21, 22, 48
- institutional arrangements 6, 31, 35–51, 71
- agricultural services *see* agricultural service institutions
- agriculture departments/ministers 41, 44
- ARMCANZ 36–37
- Constitution and *see* Australian Constitution
- federal-state powers 35, 36–37, 38–39, 47–48, 49, 94–95
- interstate cooperation 35, 36, 47–48, 49
- land tenure *see* land tenure
- lessons for other countries 50–51, 192
- natural resources management (NRM) issues 37
- non-discriminatory 49
- policy/public inquiry process 45–47, 49
- private sector 48, 50
- public servants and 44
- R&D *see* research and development

- institutional arrangements *continued*
 - and responsible government 44, 49
 - transparency in 45, 47, 50, 51
 - see also* agricultural regulation; deregulation
- insurance 48
- Intergovernmental Agreement for a National Water Initiative 67
- international community 6, 180
- international market 5, 6, 94, 101
 - free trade agreements (FTAs) 180–181
 - uncertainty in 179–181, 187
 - see also* agricultural exports; import restrictions
- Internet 62, 70, 103, 108–109, 116, 128, 182
- interstate cooperation 35, 36, 47–48, 49
- introduced species 147
- IOCs (industry-owned corporations) 118, 120, 121
- IR (industrial relations) 62, 63, 65, 66
- irrigation 23, 75, 81, 139–140, 146, 185
- Japan 4, 6, 180^e
- Kefford, B. 126
- Keogh, M. 129, 130, 132
- Kerin, John 39, 118, 125
- Kilpatrick, S.K. 184
- Kimberley region 10
- kiwifruit 19, 155
- Kyoto Protocol 160
- labour costs 75
- lakes 11–12
- lamb 26, 27, 86, 109
- land clearance 14, 28, 81, 145–146, 147
- land tenure 18, 35, 39–43, 49, 50
 - and Aboriginal people 39, 40, 41
 - freehold 39, 40, 42, 43
 - importance of 39
 - and land improvement 43
 - leasehold *see* leasehold land
 - private leases 42
 - and public/private ownership 39–40, 40, 43
 - and selling of land 51(n1)
- share-farming 43, 106–107
 - see also* farm ownership
- land use 16, 29, 30, 35
- Landcare movement 93, 158, 159, 166–169, 173, 187
 - Little River (NSW) 168–169
 - Roper River (NT) 167–168
- Landline (TV show) 127
- Law Society 62
- leasehold land 39, 40–42
 - forfeits/fines and 41–42
 - pastoral/general 41
 - perpetual 43
- Leckie, Ross/Prue 169, 172
- legal services 62, 63
- Liberal party 54, 55
- Little River Landcare Group (NSW) 168–169
- LiveCorp 119, 122
- livestock imports 48
- livestock production 21–22, 22, 119, 150, 157
 - feed grains and 23
 - sustainable 166
 - see also* cattle/beef farming; sheep farming
- livestock slaughtering 21, 22, 26, 108, 109
- Lloyd, A.G. 74, 82, 98(n1)
- lobby groups 67, 69, 171
- lobster 27
- lupins 22, 106–107, 169
- McColl, J. 91
- maize 13, 23
- malapportionment 71
- Malaysia 180
- Malcolm, B. 186
- Marcus Oldham agricultural college 128
- margarine 78
- market access 48, 94, 95, 179–180
- marketing 4–5, 20, 20, 35, 44, 48, 55, 61
 - cooperatives and 59–60
 - crises in (1920s) 75–76
 - deregulation *see* deregulation
 - and entrepreneurship 101, 102
 - international *see* international market
 - regulating 75, 77
 - wheat 59–60, 80, 83–84, 94
 - see also* agricultural trade; free trade/market

- Mauldon, R.G. 74, 83, 88, 98(n1)
 MDBA (Murray-Darling Basin Authority) 172
 meat exports 26, 27
 meat inspection/standards 108, 109
 Meat and Livestock Australia (MLA) 119, 166
 media 127–128, 133, 134, 153
 medical care 49
 mice 13
 Mieglich, John 139–140
 milk 139–140
 regulation and 76
 mining 14, 165
 Mitchell River 11
 MLA (Meat and Livestock Australia) 119, 166
 MMC (Molong, Manildra and Cumnock) Co-op 57, 58, 59–60, 69
 mountains 10
 Mullen, J.D. 130
 Murray Goulburn Co-operative 58
 Murray River 11
 Murray-Darling Basin 10, 11, 172, 185
 Murray-Darling Basin Authority (MDBA) 172
 mushroom growing 18, 19, 154
 mutton 26
- National Adaption and Mitigation Initiative 126
 National Farmers' Federation *see* NFF
 National Party (NP, prev. Country Party) 54–56, 57, 71
 National Reserve System 159
 Native Vegetation Act (1991) 163
 natural resources management *see* NRM
 Natural Resources Management Ministerial Council (NRMMC) 37, 38
 New South Wales (NSW) 1, 8, 10, 11, 75
 Agriculture Dept/DPI in 95, 98(n4), 99(n4)
 crop production in 23
 deregulation in 85, 95
 entrepreneurship in 104–106
 environmental issues in 149, 150, 151, 152
 farm ownership in 18
 Farmers' Association 58, 62, 63, 64, 68
 farmers' cooperatives in *see* MMC
 forestry in 28
 innovation in 141, 142, 143
 land tenure in 40, 42
 Ricegrowers' Association of Australia in *see* RGA
 sustainable practices in 164, 169, 170
 New South Wales Egg Corporation 85
 New Zealand 36, 37, 51, 180
 newspapers/magazines 127–128
 NFF (National Farmers' Federation) 58, 59, 62–67, 90, 187
 communications/publications of 65
 external committees and 66
 formation of 62–64
 and grass-root/national level issues 64–65
 Members' Council/committees 65–66
 policy areas influenced by 66–67
 structure/members/funding 64, 64
 success of 67
 taskforces 65, 66
 nitrogen fertilizer 20, 21, 48, 81
 Northern Territory (NT) 9, 11, 140–141
 agricultural land in 16
 Cattleman's Association (NTCA) 58, 64, 68–69
 environmental issues in 148, 149, 150, 151, 152, 170
 farm ownership in 18
 land tenure in 40
 NP (National Party, prev. Country Party) 54–56, 57, 71
 NQ Dry Tropics NRM (QLD) 164–165
 NRM (natural resources management) 37, 94, 95, 96, 147–148, 169, 170
 see also sustainable farming
 NRMMC (Natural Resources Management Ministerial Council) 37, 38
 nursery production 19, 154
- oats 22, 23, 29
 OECD (Organisation for Economic Cooperation and Development) 4
 OH&S (occupational health and safety) 62, 95
 oilseeds 21, 22, 24, 77
 olive growing 19, 155

- Orange City (NSW) 163–164
 Ord, River 11, 12
 organic farming 108–109
- Parkinsonia 167
 Pastoral Act (1936) 163
 pastoral leases 41
 Pastoralists' Association of West Darling 64
 pasture management 81, 141, 161, 163
 PBSA (Pastoral Board of South Australia) 161, 163
 PC (Productivity Commission) 45–47, 49, 51, 84, 117, 130, 131, 132
 pests 5, 13, 48, 94, 147, 148, 150, 151, 154–157, 170
 control 21, 22, 42, 47, 66, 165, 182–183
 PHA (Plant Health Australia) 182, 183
 phosphates 20, 21
 PIEF (Primary Industries Education Foundation) 186, 187
 PIERD (*Primary Industries and Energy Research and Development*) Act (1989) 117–118, 120, 121–122
 pig farming 19, 27, 119, 125, 128, 157
 Piggott, R. 85
 PIMC (Primary Industries Ministerial Council) 37, 38, 125
 Plant Health Australia (PHA) 182, 183
 pollution 5, 12, 164, 173, 185
 population growth 8, 14, 75, 81, 97, 188
 pork production 19, 27, 119, 125, 128, 157
 Porter, Bob/Dawn 169–170
 Potard, G. 130, 132
 potash 20, 21
 potatoes 29, 43
 poultry farming 19, 27, 125, 128, 153, 156
 see also egg industry
 price discrimination policies 76
 price fluctuations 75, 181
 Primary Industries Education Foundation (PIEF) 186, 187
 private sector 50
 and rural R&D 48, 112, 112, 113
 production efficiency/improvements 29, 48
 Productivity Commission *see* PC
- PSE (producer support estimate) 4, 4
 public inquiries 45–47, 49
 public opinion/understanding 170–172, 173, 186–187
- QSC (Queensland Sugar Corporation) 87
 quarantine 47, 48, 66, 182
 Queensland (QLD) 8, 10, 11, 13, 139
 agricultural land in 16
 Agriculture Dept/DPI in 98–99(n4)
 conservation in 147
 crop production in 23
 deregulation in 86–87
 DERM (Dept of Environment and Resource Management) 161–162
 entrepreneurship in 108–109
 environment protection management in 161–162, 163
 environmental issues in 149, 150, 151, 152
 farm ownership in 18
 innovation in 139, 143
 land tenure in 40
 sugar industry in 75, 86–87
 vegetation management in 161–162
 Queensland Sugar Corporation (QSC) 87
 quotas 78, 80
- R&D *see* research and development
 Rabobank 183–184
 rainfall 9, 12, 107, 141, 163
 rangelands 163
 RAS (Rural Adjustment Scheme) 36, 37, 88–91
 Advisory Council 90
 DRIS and 89
 Exceptional Circumstances/Farm Productivity subsidies 89–90
 Farm Household Support (FHS) scheme 90
 first review of (1988) 89
 re-establishment grants 89, 90
 rehabilitation loans 89
 second review of (1992) 89–90
 third review of 90–91
 reduced tillage farming 21
 referenda 38
 see also elections

- rehabilitation grants 88
- research and development (R&D) 7, 31, 44, 47, 61, 66, 94, 111–135, 144, 188
 - ACIAR and 123, 124–125, 133
 - and agricultural education 114, 128–129, 132
 - and agricultural extension *see* agricultural extension
 - challenges of 131–132, 133–134
 - Cooperative Research Centres *see* CRCs
 - CSIRO and 112, 113, 116, 125, 126, 133
 - government departments and 114–115, 115
 - international collaboration in 124–125
 - lessons from Australian experience 134–135, 192
 - private sector and 48, 112, 112, 113, 116, 129–130
 - public funding of 111, 112–114, 112, 113, 115, 131, 133, 134
 - RDC model *see* rural RDCs
 - state/territory governments and 114
 - universities/CRCs and 112, 113–114, 116, 123–124, 125, 126, 129
- responsible government 44, 49
- rice 19, 23, 25, 77, 140, 155
 - marketing 61
- Ricegrowers' Association of Australia (RGA) 58, 60–61, 61, 64
 - membership/fees 61
 - organizational structure of 60, 61
 - six committees of 60
 - Strategic Plan 60–61
- Ridley Corporation 64
- RIRDC (Rural Industries Research and Development Corporation) 118, 119, 122, 184
- risk management 93, 94, 101
- rivers 11
- Riverside Sanctuary (WA) 106–108
- Roper River Landcare Group (NT) 167–168
- Roseworthy Agricultural College 129
- RRS (Rural Reconstruction Scheme) 88
- Rudd, Kevin 160
- runoff 20, 185
- Rural Adjustment Scheme *see* RAS
- rural incomes 16–18, 20, 20, 23, 31, 81, 190
- Rural Industries Research Act* (1985) 117
- Rural Industries Research and Development Corporation *see* RIRDC
- rural politics 53–72
 - conservatism of 54
 - elections *see* elections
 - farmer organizations *see* farmer organizations
 - importance of 53
 - influence of 55–56, 71
 - and National Party 54–56, 57
 - political parties/pressure groups 54–55
- rural RDCs (Research and Development Corporations) 116–123, 130, 142, 183, 184
 - Australian Government and 119–120, 121
 - autonomy of 120–121
 - boards of directors 120
 - co-investment by 112, 117, 133
 - collaborations 122–126, 133
 - funding arrangements 118–120, 131–132, 133
 - governance 120–122
 - IOCs and 118, 120, 121
 - John Kerin and 118
 - monitoring of 121–122
 - National Primary Industries Framework 125, 133
 - origin/evolution of 117–118
 - priority setting framework 120–121, 121
 - role of 117
 - sectoral approach of 118, 119
 - uniqueness of model 112, 116, 123, 133
- Rural Research and Development Corporations, Council of *see* CRRDC
- SAFF (South Australian Farmers' Federation) 58, 69
- salinity of soil 12, 146, 147, 150, 152, 164, 168–169
- SCoPI (Standing Council on Primary Industries) 38

- Second World War 77, 78, 81
 sediment trapping 141
 seed 13, 20, 20, 48
 share-farming 43, 106–107
 sheep farming 18, 19, 23–27, 150, 153, 155
 environmental issues in 150, 153, 155, 169–170
 export prices 28–29
 meat production 27, 125
 wool production 26, 27, 29
 Sheepmeat Council of Australia 58, 64
 Silkwood Drainage Board (QLD) 141
 Singapore 180
 skill shortage 184, 188
 small-scale farms 44–45, 81, 98
 Snowden, Phil/Lynda 143
 Snowy Mountains 11, 12
 soil 13, 141, 148, 154–157
 erosion/salinity 12, 146, 147, 150, 152, 164, 168–169
 sorghum 23
 South Australia (SA) 8, 11, 13
 deregulation in 85
 environmental issues in 149, 150, 151, 152
 land tenure in 40
 pastoral management in 163
 sustainable farming in 169
 South Australian Farmers' Federation (SAFF) 58, 69
 Soviet Union, former 72
 soybean 23
 SRDC (Sugar Research and Development Corporation) 142–143
 Standing Council on Primary Industries (SCoPI) 38
 state/territory government 35, 36–37, 38–39
 storms 10
 subsidies 3, 4, 6, 89–90, 191
 sugar industry 19, 25, 75, 76, 119, 125, 141, 156
 awards in 143
 deregulation of 86–87, 88
 Sullivan, Jim 140–141
 summer crops 23
 Sustainability, Environment, Water, Population and Communities Dept 153
 sustainable farming 5, 7, 31, 61, 61, 66, 126, 145–173
 barriers to 170, 171–172
 Caring for our Country programme *see* CFC
 and climate change 159–160
 community level *see* Landcare movement
 disposal of chemical waste 165–166
 and environmental education 153
 environmental issues addressed by *see* environmental issues
 federal government and 153–160
 and general public 170–172, 173
 history of 147
 and indigenous people 158, 159, 167
 industry and 165–166
 lessons from Australian experience 172–173
 livestock 166
 local governments and 163–164
 on-farm experience and 169–170
 pastoral management 163
 regional collaboration and 164–165
 state governments and 161–163
 success in 170–171, 172–173
 Sustainable Planning Act (2009) 162
 TAFE (technical and further education) colleges 128
 tariffs 78, 79–80
 Tasmania (TAS) 8
 agricultural land in 16
 environmental issues in 148, 149, 150, 151, 152
 forestry in 28
 land tenure in 40, 42
 Tasmanian Farmers and Graziers Association (TFGA) 58, 64
 taxation 66, 67, 80, 81, 97, 113
 technologies, new 95, 143
 telecommunications 49, 70, 114, 182
 television 127, 133, 134
 temperatures 9
 TFGA (Tasmanian Farmers and Graziers Association) 58, 64
 tobacco 77, 79–80
 tourism 107–108, 165
 Townsville (QLD) 163, 164

- training 63, 66, 67, 88, 89, 90, 132, 184, 188
 see also education
 transparency 45, 47, 50, 51, 68
 transportation 48, 65, 70
 tree-planting 67, 108, 152
 see also forestry
 triticale 22, 23
 TTP (Trans-Pacific Partnership) Agreement 180–181

 United States (US) 4, 6, 159, 180
 urban population 44, 45, 50, 51, 72, 186–187
 reconnecting with rural communities 187

 vegetable growing 18, 19, 154
 vegetation management 161–162
 Vegetation Management Act (VMA, 1999) 162
 Victoria (VIC) 8, 11, 13, 60
 agricultural land in 16
 environmental issues in 149, 150, 151, 152
 farm ownership in 18
 forestry in 28
 land tenure in 40, 42
 Victorian Farmers' Federation 58, 64
 viticulture 19, 29, 119, 155

 wages *see* rural incomes
 Warhurst, J. 55
 water demands of agriculture 5, 20, 23, 29, 30, 35, 66, 103, 104–105, 125
 and access/sharing/responsibility issues 60, 61
 conservation/sustainable use 67, 139–140, 170, 185
 Water for the Future programme 159
 water policy 37, 38, 94
 water quality 12, 126, 147, 148

 weather 9–10, 23, 181–182, 187
 adverse, and support payments 4, 94, 182
 weeds 148, 149, 150, 154–157, 170
 control of 165
 welfare 49, 70, 72, 89, 90, 93–94, 97, 182
 Western Australia (WA) 8, 10, 11, 13, 84
 agricultural land in 16
 crop production in 23
 deregulation in 85, 90, 92–93
 entrepreneurship in 106–108
 environmental issues in 148, 149, 150, 151, 152
 farm ownership in 18
 land tenure in 40
 sustainable farming in 169–170
 Western Australian Farmers Federation 58, 64
 Western Plateau 10
 wheat 13, 15, 22, 25, 107, 169
 market deregulation of 83–84, 94
 marketing 59–60, 80
 price protection (1930s) 76–77, 81
 price stabilization scheme for 78–79
 prices 28–29, 76–77, 83–84
 share-farmed 43, 106–107
 stockfeed 84
 storage of 60
 world prices of 76, 79
 Wheat Exports Australia 84
 Whitlam government 74, 82, 94, 96
 winemaking 76, 104–106, 119, 125
 winter crops 22–23
 wool industry 26, 27, 29, 117, 119, 125, 128
 deregulation of 85–86
 regulation of 80
 world price of 86
 Wool International (WI) 86
 Wool Producers Australia 59, 64
 WoolStock Australia Ltd 86
 World trade Organization 65

 Zhou, Z.Y. 58

