

### Going native and productive on the home “patch” – City residents too can “repair the land”

A. (Len) Puglisi is a former senior planner with 25 years of experience in State and local governments in Victoria. He writes therefore, not as an environmental scientist, but as an urban planner attempting a policy framework for upgrading suburbia towards something more environmentally sustainable. Here he tackles the home garden, that component of the urban scene which, aggregated, forms a huge proportion of the land coverage of Australian cities. Contact Len at: [moral@alphalink.com.au](mailto:moral@alphalink.com.au).

“Forget about Tuscany; forget about Provence. This is where it is all happening, here in Australia.” Given the common Australian habit of copying house plus garden designs from other countries, chef Stefano de Pieri’s spicy comments introducing his cooking show might also serve as an apposite introduction to the need for some changed attitudes towards gardening. For one place where a realisation of just how unique our environment is that has yet to have much effect is the private home garden, ‘our patch’. There are gardening programs and articles aplenty, but their mainstream discussion rarely promotes ecological responsibility as the basis for dealing with the unbuilt space around the home.

What attitudes pervade gardening habits? George Seddon, noted environmental scientist, comments: “The disciplines of scarcity are relaxed. Not only is water abundant and used wastefully. Fertilisers, pressure-pack sprays, pelleted snail-killer, all add to the convenience of gardening, as take-away foods, full of fat, sugar and salt, add to the convenience of eating. Gardening has become a conspicuous element in the consumer society.”<sup>1</sup>

We tend not to think about where the supplies for the garden might come from – pebbles from rivers, for example, and potting soils from out-of-state so that somewhere else is degraded. Neatness is a favourite attitude, expressed through expansive lawns, and bushes and trees that are not allowed to show their dropped branches and leaves. Also the supposed status and improved property value acquired by having a house ambience reflecting another region or historical era, be it Tuscan, Federation, Georgian, or what have you. Let’s not forget the “wow” effect, regardless of whether the plants will be suited to their new location and, judging by recent developments, we could add the whole question of whether gardens should exist at all! The tack that our society seems to be taking is that gardens should be minimalist, with non-native styles prevailing, or none at all. The notion of handing down land-nurturing and gardening skills from generation to generation of urban dwellers is forgotten.

Mary White pleads in the title of her book, “Listen...our land is crying”.<sup>2</sup> CSIRO’s Dr Graham Harris, echoing Mary White, says: “... this old continent, which has seen millennia of evolution in isolation, really is crying - crying because of landscape scale human impacts and

<sup>1</sup> Landprints, reflections on place and landscape, Cambridge,1998

<sup>2</sup> Kangaroo Press,1997

*crying out for new approaches to turn the tide of degradation.*"<sup>3</sup> So perhaps our efforts around the yard, the suburban "patch", need to be more pointedly understood; not just as some leisurely pastime, as suggested by the notion of "gardening", but as taking part in the gigantic task that awaits all Australians – the task of repairing the land left not only to country dwellers, but also a responsibility of those in cities.

What are some environmental realities that come into play when urban/suburban residents set about repairing their patch?

- Pressures on ecosystems, habitat, and biodiversity – including from enhanced greenhouse warming
- The spread of invasive weeds and pests
- Limits on the availability of water and its deteriorating quality
- Pesticide and chemical infiltration
- Land limits to food production.

Let's listen to a **selected but** wide spectrum of informed comment and analysis, based on the burgeoning fields of environmental science, regarding each of these environmental realities and then try to see the significance for city-dwellers as they go about the job of planting out their patch. These realities, though some may not at first sight appear serious in the Australian context, are made more arresting by global environmental developments.

### **Pressures on ecosystems, habitat, and biodiversity – including from enhanced greenhouse warming**

Taking a *geo-physiological* perspective from Australia's deep past, Mary White writes of an "*ancient landmass...stable through enormous lengths of geological time...some of the most ancient landscapes preserved anywhere in the world...nutrient-deficient soils...*" But this perspective comes with a shock view of the future for Australia's agriculture: 20 years on, our agricultural industry is going to be hard put to support Australians, let alone produce exports. Her concern has been reinforced by dire predictions about the extent of salinity, its impending course of development, and what will be needed to fix it (Murray-Darling Basin Audit, October 1999), and by estimates of land clearing, especially in Queensland.

Now that the severity of today's state of land degradation has been so publicly documented and recited, attention is turning more to land management and the techniques needed for revegetation in rural areas. But for the large cities too, thought needs to be given to their role as biophysical companion areas to the greater bulk of the country. Several perspectives are useful. There is, **firstly**, the *geo-physiological perspective*, so forcefully expounded by Mary White, which sees a wondrous history like no other in the formation of the land, the vegetation, the diverse fauna, its fragile soils and waterways.

There is **then** a second perspective: the change brought about by Europeans, and what is left – *the remnant view*. Speaking of the transformation of land into the Australian cities we know, Alan Chenoweth reminds us of the effects of urbanisation: "*The bush has been almost obliterated from the city, with a tremendous toll on native plants and animals over the past 200 years.... The complex structure of plant communities has been simplified, continuous forest cover reduced to scattered fragments, wetlands drained and filled, creeks straitened and canalised, and alien species have invaded the simplified ecosystems.*" But despite successive waves of clearing, "...pockets, remnants, corridors, strips and edges remain, representing the original suite of plant communities.....And almost all cities have a range of native animals well-adapted to life in the urban and suburban environment."<sup>4</sup>

---

<sup>3</sup> CSIRO, Land and Water, 1999

<sup>4</sup> *Community Nature Conservation and the Urban Environment*, QUT, Nov.1991.

It is no easy matter to hang on to these remnants, though there are many dedicated, **usually amateur and under-resourced** groups throughout the metropolitan areas trying to do so. Their task is made harder, as Chenoweth points out, by the need to accommodate not just plants, but also native animals that cause problems to householders in urban areas adjoining unbuilt land and waters (possums, kangaroos, snakes, crocodiles, etc.); that have special habitat needs (gliders, owls in tree hollows); or birds needing linked spaces; or ground dwelling animals that need forage space and assistance with defences against predators. What's more, the occurrence of periodic suburban fire disasters tells us that we still need to know a lot more about living with these remnants or planted areas if we are to avoid such catastrophes.

Of course, biodiversity is more than the diversity of species in remnant patches. It consists of the whole variety of life forms – the different plants, animals and organisms, their genes and their constituent ecosystems. So given the degree of land disturbance that has occurred, we can never return to the fullness of the earlier habitats and ecosystems. But these remnant patches are nevertheless invaluable.

But there is a third perspective also, that links these other two to the home patch. In cities, private green space, and even stylised public parks can provide complementarity to the remnant areas. In fact, all the green space in cities can be viewed in *the aggregate as habitat*, as integrated into corridors for wildlife (as well as providing street cooling, pollution mitigation and reducing run-off). This means that front and backyards, plazas, well-designed and located commercial open space and community parks can act as complements to publicly-retained conservation islands. By looking at their cities in these ways, the opportunity is there for city residents to experience a more fulsome awareness of their place in Australia's natural scene.

The notion of “ecological responsibility” may be a useful framework for adjusting to these various perspectives. What might it involve, applied to looking after our own patch? *“Most obviously, I suppose, it means avoiding plants that need excessive water, fertiliser, pesticides, or additives to change the pH of the soil. It means not importing soil from somewhere else. It involves making compost and mulches and making friends with worms... We should look for and use those plants that grow well on nutrient-deficient soils with little organic matter, surviving on the natural rainfall, with little supplementary water. Not only is water a limited resource, but too much of it washes unused nutrients into the groundwater, and causes untold havoc in rivers and estuaries.”*<sup>5</sup> And of course, we have to be sure that what we plant (whether exotic or native) does not escape to become a feral weed that drives out the local indigenous vegetation.

All perceptive advice, but you don't see too much action along those lines as you drive around the cities. What are our practical options?

Large lots (say 700 square metres and above), are still plentiful. If it is argued that they create problems – sprawling cities, loss of agricultural land, and so on – there are good ways to reduce their negative impact. We can change our gardening practices and design our patch without lawn (or with less lawn), grow large-canopied trees, put in shrubs (mainly, but not exclusively, indigenous) that will survive with mulching or minimal watering, use a tank to collect rainwater, produce more food and vegetables. These options are all immediately possible, but not happening with much energy as yet, despite recent severe drought situations.

What of the other trend for our patch, to markedly reduce its size, or to eliminate it altogether – as in the now common 300-500 square-metre lots, or apartment settings. This gives little if any private space for the inhabitants to participate in learning about plants and soils at first

---

<sup>5</sup> George Seddon (1999) In: *The Nature of Gardens*, ed., Peter Timms, Allen & Unwin, 1999

hand, remembering that there is a lifetime of learning to be had. Trees and local wildlife lead a precarious life around houses or units surrounded by swathes of hard surface. Many of the on-site practices that **are** described for larger lots are not feasible, or at least more difficult to incorporate. If small lots and apartments are to be the way of the future in some areas, hopefully an aggregation of common open spaces will be achieved to accommodate any remnant areas in the neighbourhood, and allow residents the opportunity to use community allotments.

A brief note about enhanced global warming is in place here. As Ed Ayres of Worldwatch points out, writing on a global level: *"It seems only two or three years since the time when global warming was viewed by most people as a minor issue – if an issue at all. Some apparently thought it only meant that the weather would just get a little bit balmy, or that everyone's lawns would just be a little greener. The coal and oil industries' PR campaigns even managed to convince many people that warming might not be happening at all. We've come a long way since then. It's now clear not just to the climate scientists who began issuing warnings in 1992, but to a growing portion of the media and public, that human-caused climate change could affect just about everything - including what we eat, how safe we are, what prices we pay, what risks we take, what insurance we have, what illnesses we are vulnerable to. All these things are connected."*<sup>6</sup>

One of the recognised responses for ameliorating the impact of warming is to increase the vegetative cover over land. The surface-absorbing area of the leaves of eucalypts and other trees, which can be anywhere between 100 and 1000 times their drip-zone area on the ground below, can be very efficient at absorbing greenhouse gases. So the local planting of trees, especially where they are incorporated into a habitat enriched with an understorey of bushes and ground cover, can make a valuable contribution.

### **The spread of invasive weeds and pests**

Professionals in quarantine agencies and other researchers have been concerned for a long time with the consequences of the introduction of these intruders into Australia. Today, large numbers of ships and aircraft with greatly increased capacity, both for goods and people, move rapidly around the world, severely testing the ability of officials to keep them under supervision. In recent times, these professionals and researchers have been joined by prominent international writers who have projected into the global future the effects of this so-called "bioinvasion". One, David Quammen,<sup>7</sup> predicts that life on earth will deteriorate within five or six generations to the lowest, toughest, remnant life-forms – weeds, rats, crows, etc. Another, Chris Bright,<sup>8</sup> also presents a world overview of the effects of a disappearing indigenous plant and animal life, and gives particular emphasis to the opportunities and weaknesses of global trade regimes and regulations.

In his comprehensive text, the Australian biologist, Tim Low, brings together a startling collection of scientific research, observation and governmental experience regarding the blow-out, largely uncontrolled, in the movement of these life-changing bioinvaders – both those we are aware of now and the unknown "sleepers".<sup>9</sup> In restrained language, given the overwhelming evidence that the majority of plant and animal life on earth is being swamped by invading weeds and pests, Low calls for some radical changes to the way the global processes of trade are conducted (giving authorities the resources to deal more effectively with carriers of goods, plants, fish, birds, etc.), and for similarly profound changes in our gardening habits, especially in the vicinity of nature reserves (don't grow problem plants), or when dealing with exotics.

---

<sup>6</sup> Worldwatch Institute, Nov./Dec.,1998

<sup>7</sup> *Planet of Weeds*, Australian Financial Review,16 October1999

<sup>8</sup> *Life out of Bounds - Bioinvasion in a Borderless World*, Worldwatch Institute 1998

<sup>9</sup> *Feral Future*, Viking Press,1999

For George Seddon<sup>10</sup>, the responsibility and the practice are clear: *“Weeds are one of the most serious threats both to primary production and to the natural environment in Australia, and we haven’t seen the worst of it yet...Those who engage in the introduction, propagation, sale and use of exotic plants carry a heavy burden of responsibility into the future. Australia’s natural flora is one of incomparable interest and richness: our real heritage and responsibility in global terms...Keep your exotic plants, and especially those from Mediterranean climates, locked securely within your enclosure, along with your cat, and have them all neutered. That is now my mission statement.”*

The benefits of all this to-ing and fro-ing of trade around the world are said to be the greater opportunities for people to engage in commerce and other interactions. It is apparently a given that we are not to rigorously question Free Trade Agreements for environmental risks, so long-term environmental effects are not yet sufficiently within mainstream consideration. In Australia, the notion of “the more trading activity the better” reigns virtually unqualified amongst most economic and international commentators, with those urging caution and more analysis of risk having to resort to street protests and the like to be heard. Similarly, current fashions and fancies in gardening and housing are inspired by international lifestyles and, especially in cities, our responsibility in the face of the bio-invaders spoken of by Seddon and Low is hardly being discharged.

### **Limits on the availability of water and its deteriorating quality**

While many countries already have water supplies below the critical annual level of 1700 litres per person for drinking, sanitation and food production<sup>11</sup>, human requirements for fresh water supplies are expected to rise markedly in the early decades of the 21<sup>st</sup> century. Some world regions such as North Africa, the Middle East, South Asia and southern Africa could face chronic scarcity, worsening as the century progresses.

To increase water supplies from irrigation works would not seem to be a viable option. Many systems are in trouble, and there are some nasty shocks in store. A study by the World Watch Institute that examined prospects for increasing water from irrigation concluded that: *“With population growing rapidly in many of the most water-short regions, water problems are bound to worsen. The number of people living in water-stressed countries is projected to climb from 470 million to 3 billion by 2025... Already many countries do not have enough water to meet domestic demands for food, creating a source of potential political instability.”*<sup>12</sup> Most countries face continuing population growth and therefore greater demand for water, as well as massive infrastructure costs to stabilise water sources, for purification of water supply for daily use and to reduce water borne diseases.

Against this background of serious water stress, particularly poignant in some world regions, the conclusion is clear: no country can ignore available processes to improve water management. Australia does not stand outside these pressures – to minimise water waste, use it efficiently, maintain or re-establish its quality, while at the same time, allowing it to play its historic role as a component of living ecosystems. This means that water’s multiple uses, including its embodiment in food for export, are an important public, environmental concern.

### Water supply and allocation

Mary White considers that *“Australia today, with its current management practices – agricultural, urban, commercial – is already functioning at the limit of its water resources...”* In another assessment, the ATSE<sup>13</sup> concludes that a reasonable rate of economic growth (projected to continue at about 3% per year at least to the year 2020) need not be

---

<sup>10</sup> In: *The Nature of Gardens*, ed., Peter Timms, Allen & Unwin, 1999

<sup>11</sup> See e.g., Peter Fisher’s review, *Troubled Water*, Australian Financial Review, 21 May,1999.

<sup>12</sup> *Pillar of Sand: Can the Irrigation Miracle Last?* Sandra Postel,1999

<sup>13</sup> *Water and the Australian Economy*, The Australian Academy of Technological Sciences and Engineering (ATSE),1999 – [www.atse.org.au](http://www.atse.org.au)

constrained by water shortage. But it predicates this growth, firstly on limiting water usage in low-value water uses and re-allocating this water to high value uses and the environment, and secondly on the introduction of a considerable range of infrastructure improvements. This would involve regional shifts in producer industries, and hence other environmental costs. The assessment concludes: “...when water availability is considered in relation to the regional distribution of the intensive irrigation industries, it is clear this rate of growth in national water use is unsustainable within the current regional developments” under a current trend scenario.

Even accepting (which many would not) that the environmental impacts of new development in pristine or near-pristine regions of Australia could be satisfactorily managed, the ATSE findings involve highly controversial approaches to water allocation. Debates about water rights in the Murray-Darling Basin and the relative merits of sending some of its water to the Snowy River make it clear that disputes are not limited to inter-nation situations and that we can expect some more very tense internal conflicts if major changes to water allocation are mooted.

For growing metropolises, too, like Melbourne, the political dimension of these allocation issues is important. Claire Miller<sup>14</sup> could write before the dry summer of 1999-2000 that “Melbourne’s supply is in relatively good shape with its reservoirs holding 58 per cent of capacity. However, the supply is secured in part by topping up from reservoirs outside the city’s natural catchment, such as Thomson Dam. Many people resent the gift, especially under drought conditions when major reservoirs such as Rocklands, west of the Grampians, have negligible water left.” The situation now is, of course, more controversial still, not least because produce farmers, for example at Werribee near Melbourne, are being required to supplement their water supply from recycled sources about which the quality guarantees are controversial.

This is not to mention the contentious cost factor. In the cities, water supply and drainage infrastructure are very capital intensive, while compensation for reduction in rural water draw-down rights is a current issue. So, while governments may try to obfuscate any trade-offs, potential sources of conflict over funding between country and city constituents can be expected to fester. For nobody expects the populations of the major metropolises to stop growing – and therefore the fresh water supply demands by way of new dams to continue into the future - if Australia’s population overall goes on increasing, do they?

#### Water quality

As commented in the State of the Environment report: “Human settlements dramatically increase stormwater run-off from land... We do not know the level and content of such discharges on a national basis, but in places, stormwater can carry significant quantities of suspended sediments, nutrients and pesticides, chemicals from domestic and industrial discharge and accidents, vehicle-emission wastes from roadways and litter.”<sup>15</sup>

Many chemicals accumulating in rivers and streams are from sources previously unsuspected.<sup>16</sup> The current enthusiasm for the recycling of waste waters to meet general water requirements should be dampened. For can we be confident that there are known ways, within reasonable cost limits, of removing from sewage loads the often potent pharmaceuticals and hormone residues from an increasingly medicated society? Clearly, we are irresponsible if we fail to take action, both as a society and personally, to reduce the pollution stream.

---

<sup>14</sup> *The politics of water*, In: *The Age*, Melbourne 31/7/99

<sup>15</sup> SoE, 1996, 8-9 - [www.deh.gov.au/soe/](http://www.deh.gov.au/soe/)

<sup>16</sup> Peter Fisher, *Tell me, just what is in my water?*, Australian Financial Review 9/7/99; *Medicating our environment*, Australian Financial Review 9/6/2000

### Home efficiency measures

Made six years ago, and in the light of the current water stress publicity throughout most towns and cities of Australia, water expert Professor Michael Knight's broad estimate, that the east coast of Australia may face a water crisis in 20 years if water is not used more efficiently, is no longer alarmist. The nature of Australia as the driest inhabited continent means that it is important for Australian cities to minimise their water use; yet garden and lawn watering, both major users, are only now just starting to receive concerted attention from water supply authorities.

While city planners world-wide will continue to argue the relative merits of building compact cities versus more traditional garden suburbs, people are opting for both in Australia. The fact that so many people already live in homes surrounded by their own private green space, while additional development still includes a large component of detached housing, means that becoming more water efficient involves a mighty effort to address the great bulk of householders where they live now so as to encourage their adjustment to more sustainable practices.<sup>17</sup>

The efficiency measures needed to save water on our patch have been enunciated frequently by authorities and experts. Dr Wendy van Dok, for example, suggests: "installing a rainwater tank; reusing laundry and bathroom water in the garden; fixing leaks; and installing dual-flush toilets and low-flow shower heads." As Dr van Dok points out, the water-inefficient households of Melbourne could be wasting enough water annually to fill one of Melbourne's major reservoir's the Upper Yarra.<sup>18</sup>

A useful starting-point for considering the individual property owner's options for saving and re-using water is Michael Mobbs' book *Sustainable House*.<sup>19</sup> While his house is situated in an inner Sydney area on a very small "patch", many of the basic sums are done, equipment described, suppliers named, and so on. Not everybody will be, or would want to be, so restricted in their outdoor space, and especially in what they can produce in their garden. Nevertheless, the work done to cost, choose and install water collection and re-use facilities (as well as many other self-sufficiency items), and then to carefully document it all, is invaluable.

### ***Pesticides and chemical infiltration***

Do we gain anything by way of healthier eating by growing our own vegetables, and not purchasing from commercial outlets? It depends. Can we do better than eating commercially sold foods? Yes.

Firstly, it depends on how careless home growers are with their use of pesticides and insecticides. These can be positively dangerous if used as a quick solution to make our patch look neat and tidy, or to get rid of "bugs". It also depends in the longer term on treatment of the soil.

Soils are the home of a wide range of organisms – bacteria, protozoa, fungi, insects, worms. They need to be nurtured with a great deal of care. So "... you can't have healthy soil if it is indiscriminately or carelessly treated with unnatural, chemical fertilisers. If poisonous sprays are used on soils or plants, they must kill living things and therefore disrupt the natural balance of life." "When good, fertile soil is sprayed with poisons or mistreated with highly volatile, chemical fertilisers – mainly to try and extract from it more than it can normally produce – everything gets thrown out of balance. Many of the living things which help

---

<sup>17</sup> *Going Native: Living in the Australian Environment*, Mike Archer & Bob Beale, Hodder Headline Australia, 2004.

<sup>18</sup> Dr. Wendy van Dok, in: *The Age*, Melbourne, 29 July 1999.

<sup>19</sup> Michael Mobbs (1998) *Sustainable House*; Choice Books, Marrickville, NSW. ISBN: 0 947277 48 X

*maintain this balance are destroyed. If this mistreatment is kept up, year after year, the soil loses much of its life and structure.”*<sup>20</sup>

World-wide, agricultural chemicals, along with such improvements as higher yielding grains, have helped to triple the food supply in the period 1950-1990. The adverse effects of pests, however, have not been eliminated. Chemicals lose their effectiveness, a single type of crop grown continuously becomes vulnerable, and natural predators are disrupted.

On a positive note, the 1992 Australian Market Basket Survey by the National Food Authority “determined that dietary intake of agricultural and veterinary chemicals and heavy metals was within safe limits set down by the World Health Organisation.”<sup>21</sup> So that’s the first hurdle. Provided these standards are uniformly maintained, and provided our methods of detection are adequate to the task, then Australian food quality can be adjudged safe by international standards. Furthermore, there is plenty of evidence that many farmers want to keep usage of chemicals to a minimum and establish a reputation for producing “clean, green food”. We can be thankful for these developments.

At a second level, however, these achievements only take you so far. There remains the problem of accumulating “nasties”: chemicals from multiple sources (chemicals in food, vehicle emissions in the air or taken into plants through soils near roads, cigarette smoke, indoor chemicals), chemicals taken in over a number of meals and over time (some eighty different ones are used on fruit and vegetables), and chemicals draining into water systems. Recent more refined analyses are showing up a wider range of previously unsuspected active chemicals accumulating in our environment, water and foods. (Not to mention some recent indications that imported dried vegetables contain chemical residues such as DDT.)

We are thus faced with avoiding as many of these nasties as we can. We could do no better than turn to organic practitioners for advice. Because it is small, a home patch can be an ideal place to start pest management without (or with strictly limited) use of chemical fertilisers and sprays.

What’s stopping us? Apart from the fact that we may not have much garden space, or time, we are seduced by the look of those perfectly presented, unblemished shop products – such a wide variety of fruit and vegetables, and only as many as you need at a time. Forget about taste, forget about waste, and forget about adding some level of toxic chemical residue to the soils of an already over-stressed land and water chain.

### **Land limits to food production**

In an overview of the ‘land for production issue’, Lester Brown of the Worldwatch Institute concludes that: “*The option of expanding world grain production by cultivating more land has virtually disappeared.*” Some gains may occur in Brazil, in the Congo River Basin and in some of the outer islands of Indonesia. But there will be losses as lands in countries such as India are taken out of production for housing for an expanding population. Some poorer quality, degraded and arid lands that are currently in production could also become unavailable.<sup>22</sup> When we add to these limitations on the availability of further land for food production, other effects of land clearance such as water degradation, loss of biodiversity and greenhouse enhancement, the seriousness of the situation is obvious. This overall picture should be seen in the light of repeated reports that the current distribution of food to developing countries has already reached crisis point. A common estimate is of an inadequately fed 840 million people, mainly in developing countries.

---

<sup>20</sup> Peter Cundall (1993) *Guide to Organic Gardening*, Gardening Australia Collector’s Series

<sup>21</sup> State of the Environment Report (SoE, 6-49)

<sup>22</sup> *State of the World 1999*, Worldwatch Institute

Other factors are also coming into play. For example, with China entering the world market for grain – as its population increases, the acreage under crop is reduced by urbanisation of farmland, and increasing affluence stimulates a demand for more protein rich foods – its vast purchasing power could act to push up food prices beyond the reach of poorer nations. The effect of increasing affluence on food habits is not trivial. As affluence increases, people move up the food chain in such a way that ‘relative conversion efficiencies’ come into play. Lester Brown of Worldwatch describes these, for example, as: *“For cattle in feedlots, an additional kilogram of live weight requires roughly 7 kilograms of grain. For pork, it is close to 4 kilograms of grain per kilogram of live weight. For poultry, it is just over two.”*



The food production situation in Australia leaves no room for complacency. As pointed out by Mary White: *“The first settlers had learned their agriculture in non-arid, temperate lands with deep, productive soils and predictable weather patterns. The farming practices which they knew, and which were satisfactory in Britain, were transported and applied without question to Australia... Two hundred years have not made a great deal of difference to the philosophies which determine land-use in Australia, and the degradation of our primary life supporting resources of soil and water continues and has reached crisis point.”*

Within the expansive Australian cities, is it “back to basics”? City residents can, in a space the size of a modest garage, grow enough food to support a family for a year. Should these activities be encouraged? While they may not be attractive or practical for some, we should not be dismissive of what might be achieved. Change is hard but the results may not be inconsequential. For example, the wartime “Victory Gardens” of the U.S. in 1944 produced 44% of that country’s vegetable supply.

In 1992, the annual average Australian home garden production was 70 kilograms of vegetables and 49 kilograms of fruit.<sup>23</sup> It would be quite feasible to increase this output substantially if householders applied themselves, on average, to a garage-size space. It would certainly change perspectives on what green space around the house is for!

Will we see a ground-swell of public sentiment along the lines of “We must do something”? It would be an act of common decency if urban Australians used their patch to produce much of their own food, thereby increasing the amount available for export from commercially grown crops without clearing more land.

### ***Facing up to ecological responsibility***

To face up to 200 years of damage to land and waters, Australians expect farmers to change their farming habits and techniques – for example, by no longer grazing some areas, moving into agro-forestry and ceasing land clearing. What should we ask of city residents?

By the plants and designs they select for gardens, city residents too can help to reverse the damage the land is suffering and re-establish landscapes that are more compatible with measures of sustainability – by complementing the remnant habitats of their area, by preventing feral escapes, and by avoiding excessive use of water and pesticides. At the same time, by using their patch to grow more food, city dwellers could take their place with others around the world in making a responsible contribution to the world food supply.

But perhaps before trying all that, the way we look at the land will need to change.

We can’t moralise about new arrivals like Raimond Gaita’s father (in *Romulus, My Father*) who at first see the Australian countryside as “desolate”. We *all* have a long way to go, if Mary White’s perspective on the land is to take hold. But to think that we don’t need to

<sup>23</sup> Australian Bureau of Statistics (ABS) 1992

acquire such a perspective because, being city dwellers, we are different, or it's irrelevant to us, or because we are frightened of being dubbed "provincial", could be disastrous.

The scientific evidence of crisis in the state of the environment is now incontrovertible; only some of the details of the most suitable responses, such as the best strategies for dealing with salinity, or the nature and extent of controlled burning, are debatable. Attitudes that pervade much of the discourse on gardening today – following fashions from other continents – are confronted by a certain reality: If all Australians (not just country dwellers for whom salt and blue-green algae are serious facts) don't take management of the limitations of Australian land and water seriously, then life for all creatures, human and others, will soon be noticeably degraded. Further, if city dwellers ignore opportunities at home to make a commitment to the most basic needs of a growing world population, they face, at the very least, being called callous.

The stress-filled scenarios, both from around the world and within Australia itself, suggest that the early decades of the 21<sup>st</sup> century are absolutely crucial for action on several fronts if serious deterioration of the world's environment is to be stemmed. And that action includes city-dwellers, wherever they live, facing up to the task of repairing the land which is their own home patch.