

Pixels in the big picture

—farm plans, rural landscapes and livelihoods

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Abstract

Whole farm planning, or property management planning as it is now called, is a major plank in government policies aimed at improving the sustainability of Australian agriculture. One of the most significant initiatives in the evolution of property planning in Australia, was the privately-funded Potter Farmland Plan project, in which fifteen western Victorian farms were established as demonstrations of a farmer-based planning process in which ecological principles were integrated into farm design, layout and management. This paper is based on an after-dinner address to the ten year celebration of the Potter Farmland Plan (PFP) and the Dundas-Black Range Corridor group at the Hamilton Performing Arts Centre, on Friday 8 September 1995. It attempts to trace recent progress on Australia's path towards rural sustainability, and to reflect on the contribution of the Potter Farmland Plan, property management planning, and landcare. The paper concludes by looking much more broadly at some possible futures for Australia's rural landscapes and rural livelihoods, developing some themes which hopefully may stimulate ideas and discussion.

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Cover Photo: Looking North-east over "Helm View" in October 2005, about 20 years after the first year of revegetation efforts through the Potter Farmland Plan. This photo was added in 2008, whereas the rest of the paper was written in 1995. The whole farm plan for Helm View has been further developed, and the environmental and farm forestry efforts accelerated, since the property was purchased by Jigsaw Farms in 1998. [Andrew Campbell photo](#)

Preface

This paper is based on an after-dinner address given to the ten year celebration of the Potter Farmland Plan and the Dundas-Black Range Corridor group at the Hamilton Performing Arts Centre, on Friday 8 September 1995.

The audience on that occasion included farmers involved in the Potter Farmland Plan, the Dundas-Black Range Corridor Group, many other rural people interested in sustainability from the Hamilton region and elsewhere, several of the governors of the Ian Potter Foundation including Lady Primrose Potter, senior officials (including the Secretary) of the Victorian Departments of Agriculture, and Conservation and Natural Resources, and the Minister for Agriculture, the Right Honourable Bill McGrath. This audience knew all about the Potter Farmland Plan and the Dundas-Black Range group, having spent all day in the field visiting projects, and the speech was written accordingly, assuming extensive knowledge of both projects as given.

Since the Hamilton event I have received many requests for copies of this paper. I appreciate the offer of Professor Henry Nix to publish it as a CRES working paper. While the paper is in essence a personal reflection on the Potter project, it draws on doctoral research funded by the Land and Water Resources Research and Development Corporation and the Rural Industries Research and Development Corporation, carried out as a visiting fellow at the Centre for Resource and Environmental Studies (CRES) at the Australian National University.

Readers who wish to find out more about the Potter Farmland Plan are referred to an earlier book *Planning for Sustainable Farming; the Potter Farmland Plan story*, by Andrew Campbell, (Lothian Books, Port Melbourne 1991); *A Study of a Landcare Extension Service: the Hamilton Environmental Awareness and Learning project* by John Cary, (School of Agriculture and Forestry, University of Melbourne 1994); and the *Property Management Planning Manual* edited by Peter Dixon (Depts Agriculture and Conservation and Natural Resources, Melbourne 1994). Briefly though, the Potter Farmland Plan was a privately-funded project which established fifteen demonstration farms in western Victoria from 1984-88, funded with a total investment of around \$1 million by the participating farmers and the Ian Potter Foundation. It aimed to show, through practical demonstrations at a farm scale on real farms, how long-term ecological considerations could be incorporated into farm planning and land management to improve productivity, redress land degradation and develop.

For me the Potter Farmland Plan was an extraordinary break. To this day I don't understand how I was entrusted with the job of Project Manager. I owe much to the Potter Farmland Plan, to four years of intense effort with great support from John and Sue Marriott, the participating families and Victoria Mack, to far-sighted direction from John Jack, Pat Feilman and Peter Mathews, to wise counsel from Bill Sharp, Bill Middleton, Bob Campbell and Bob Piesse, and to the stimulation of interacting with hundreds of groups of visitors, students, volunteers and participants in farm planning courses. It was a wonderful honour to be invited to share some reflections on something which is personally so important to me. A heartfelt thanks to Sue Marriott, Lyn Milne, Banjo Patterson and their team for organising the celebration.

This paper attempts to trace recent progress on Australia's path towards rural sustainability, and to reflect on the contribution of the Potter Farmland Plan. Of course I cannot be objective about the place of the Potter project, among many other positive developments, even if I believed in objectivity. This is a partial perspective. The paper concludes by looking much more broadly at some possible futures for Australia's rural landscapes and rural livelihoods, developing some themes which hopefully may stimulate ideas and discussion.

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Introduction

The story of Australian agriculture since European settlement is a saga of attempting to farm the animals and plants of Europe in a radically different context—the inverse of covering England with a mantle of gums and wattles, and living off kangaroos and emus. It is a colourful history of constant adaptation and innovation, trying to farm tired old soils in contrary climates.

Each generation has farmed according to the tenor of its times. First survival, then increasing production, then improving productivity, and now pursuing sustainability, that slippery chameleon of a concept. The lessons learned along the way, and much of Australia's wealth and enviable lifestyles, have been hard won. The country has paid for the need, greed, ignorance and cultural dissonance displayed since European settlement, with escalating extinctions of native species of plants and animals, disastrous introductions of exotic species, declining yields and quality of fresh water, the destruction of two thirds of the tall forests and one third of the woodlands, and extensive salinity and acidification of agricultural soils.

All of these degrading processes are continuing, if not accelerating. Current land uses are mining Australia's natural capital, aided, even driven by, the imperatives of the dominant economic worldview—a perspective which is myopic in its consideration of time, blinkered in its attribution of value, and indifferent to the distribution of costs and benefits, winners and losers.

Australian agriculture is profoundly unsustainable, in ecological, economic and social terms. We are only just beginning to comprehend the size and nature of the challenge ahead, just starting to ask the tough questions, to make the difficult decisions.

Rick Farley has said that Australia always does the right thing—when it is the only thing left to do. For example, it is extraordinary that it has taken until 1995 to cap water allocations in the Murray Darling Basin (and then at a level which sees drought flows at the mouth of the Murray two years in three, instead of the natural one year in twenty). In the driest (but for Antarctica), flattest, sunniest, most poorly drained continent on earth, with the most variable climate, our institutions have finally, formally recognised what common sense should tell us—that extra allocations and diversions cannot continue for ever, that fresh water is finite. Many more such decisions lie ahead.

For how much longer can we continue to clear more than a million acres a year (not counting regrowth or woody weeds)—a rate second only to Brazil?

For how much longer will we pump barely treated sewage into rivers and bays?

For how much longer will we tolerate blatant over-grazing and cultivation of marginal country?

For how much longer will we allow leases of public lands to be sold, with exaggerated advertised carrying capacities, without demanding any demonstrated competence in land or business management on the part of purchasers?

For how much longer can we get away with talking up our produce on the world stage as 'clean and green', in the face of startling algal blooms, world-leading rates of mammalian extinction and land clearing; meat and wool contamination; chemical inputs comparable to European levels (in active ingredient per unit output); salinity, acidification and so on?

Reflections on the Potter Farmland Plan

A landmark on the path to sustainability

The Potter Farmland Plan is unique, but not in terms of any single technical innovation or insight. When we started in 1984, farm planning had been around for decades, as had demonstration farms, philanthropic trusts, farm tree growers, strategic shelter, direct seeding, fencing to land types, efficient fence designs, laneways, perennial pasture, hydraulic rams, water reticulation and committed, far sighted farmers.

The genius of the Potter Farmland Plan was in the combinations, the synthesis of ingredients, the emphasis on the whole, and also in the attention to process, to stakeholder consultation and to thinking about the wider context of sustainability.

Yes, we had had demonstration farms, but they were mainly on government research stations, run by salaried scientists. Yes, we had had a long tradition of farm planning based on land capability, but these plans tended to be surface hydrology plans, were prepared mainly by government soil conservation officers, and tended to lie in drawers, rarely being used to their potential. Agronomic and engineering, rather than ecological priorities predominated, and any idea that ecological principles might inform farm design was confined to a few fringe-dwelling farmers, certainly not shared by research and advisory institutions, nor instilled at universities and agricultural colleges.

The Potter Farmland Plan was based on some key assumptions:

- That land degradation “problems”, are symptoms of inappropriate land management, and are most likely to be fixed if the required management changes benefit the land user. In other words, conservation and productivity must be complementary. Conservation works for their own sake are unlikely to be widely implemented.
- That any plan is ideally best prepared by the people who have to implement it, which means that the best people to be preparing farm plans are farmers. This does not preclude (rather it should encourage) the benefits of consultation with family members, neighbours or consultants.
- That farmers are generalists, used to integrating technical, financial and social information from diverse sources in decision making. So the farm planning process must be capable of dealing with more than just the physical layout of the farm.
- A farm plan is not an ideal map of the farm, it is simply an expression of the current state of a planning process, which is dynamic, responsive, on-going.

An innovative approach to extension

These assumptions underpinned a project (an extension project I suppose) which was quite different to anything hitherto seen in Australia. The Potter Farmland Plan was innovative, not just in **what** it tried to develop and convey, but in **how** it did so. Some distinctive features are worth reviewing:

- In the early stages of project conception, forty people, mostly farmers and mostly from the Hamilton region, met for two days to establish some key guidelines for the project, including its name, the criteria and process for selecting the demonstration farms, the basis for cost sharing and the local advisory structure;
- It developed a farmer-based farm planning process, and tried to illustrate this process by an accelerated implementation of plans on commercial properties;
- It was privately funded. The Ian Potter Foundation contributed on average 55% of the cost of on-ground works and the participating land users 45%; and the Victorian government provided valuable technical and administrative support;
- As the farm planning process evolved, it was extended to other farmers through group-based, 6-8 week farm planning short courses with specialist technical contributions organised by a course facilitator;
- There was a very significant program of on-ground works, which commenced within the first few months of the project;
- The project involved more than 20 local community groups and 300 people from sporting clubs to hall committees, in works on the demonstration farms;
- And the PFP and its offshoot, Hamilton Region 2000, targeted specific groups in the local community, from clergy to stock agents, challenging them to think about the sustainability of their district, to look at the linkages between the natural resource base and community and economic development.

A showcase of ideas in practice on real farms

In terms of its strictly technical and practical contribution to the development of more sustainable farming systems, the Potter Farmland Plan:

- pioneered cheap and simple farm plans based on enlarged aerial photographs, transparent film and coloured pens;
- developed an approach to designing farm layout based on the traditional land capability assessment of soil conservation plans, modified to place greater emphasis on identifying natural management units from the farmer's perspective;
- encouraged a more strategic approach to the design of shelter on farms, particularly mid-paddock shelter, pioneering octagons, decagons, 'boomerang' shelterbelts and several other refinements;
- developed and refined revegetation techniques, in particular hand planting systems for teams of unskilled volunteers;
- showed that the fencing required to modify farm layout and protect streams and vegetation need not be prohibitively expensive, by borrowing and demonstrating fencing innovations from wherever we could find them, in particular from the late Bob Piesse, who had more original ideas in his irascible lunchtimes than most of us have in our lifetimes—one of the unsung heroes of Australian agriculture.

I believe the Potter Farmland Plan achieved its central purpose—to refine and demonstrate the application of a farmer-based approach to planning integrating production and conservation on a whole farm basis—handsomely.

One of the most rewarding features of revisiting these farms ten years on, is that it is now difficult to distinguish the Potter farms from some of their neighbours, particularly those of members of the Dundas-Black Range corridor group, as so many others have followed the Potter Farmland Plan example.

A project without a sunset clause

Finally, the Potter Farmland Plan has managed to remain effective as an extension project long after the initial outside investment period, through the establishment of HEAL—Hamilton Environmental Awareness and Learning. This is due almost entirely to the energy, enthusiasm, arm-twisting abilities and nous of Sue Marriott. HEAL makes the Potter demonstration farms accessible to a wider audience in a way which is sustainable for the farmers, and it also embraces the wider landcare assets of the Hamilton region, which are considerable.

It is no accident that the Potter Farmland Plan was centred round Hamilton. Within an hour of Hamilton one can get an unparalleled insight into the development of Australian agriculture, the environmental problems which have emerged, and what can be and is being done about them. Farmers in this area were ahead of most in starting to come to grips with the environmental challenge, in particular the need for revegetation on farms. Superb, longstanding exemplar farms such as those of John and Cicely Fenton and Neil and Sue Lawrance; pioneering landcare groups such as the Dundas-Black Range group, with whom we are sharing this anniversary; the outstanding agroforestry, direct seeding and shelter research of Rod Bird and Keith Cuming at the Pastoral Research Institute; the wonderful Points Arboretum at Coleraine; the bandicoot rescue project at the Hamilton Institute for Rural Learning; and Aboriginal cultural interpretation centres at Brambuk and Condah, combine to make this area a centre of excellence in landcare.

John Cary, a self-confessed sceptic about the merits of spending large amounts of money on a few farms, interviewed 144 participants in HEAL tours (72% of them more than a year after they had visited Hamilton). He found that (Cary 1994:38-9);

...for those landholders who were sufficiently 'environmentally concerned' to make a visit to the HEAL demonstration sites, their attitudes towards farm planning, tree planting and reversing land degradation were strongly positive and further enhanced or reinforced by the experience...There was considerable behaviour change as a consequence of HEAL visits...in terms of both changed ways of thinking and changed behaviours, the HEAL program has been highly successful...

John Cary concluded that farm-scale extension demonstrations are a potentially efficient way for a large number of people to learn about land management systems, practices and techniques in a practical way. This is likely to be more effective than traditional forms of extension in which people are presented with abstract ideas, complex farming systems and long time-frames in much less tangible forms.

Learnings-insights with hindsight

Looking back after ten years it is tempting not to remove the rose coloured glasses. There is much that can be learned from the Potter Farmland Plan, from what we did well, but also from the gaps, from those things which should have been done or could have been done better. Again, this is a partial perspective, a personal reflection of what I would do differently as Project Manager, given the chance again. Any inferred criticism of others involved is unintended.

The dominant memory I have of 1984-88 is relentless intensity, pressure to get things done, constant deadlines imposed by seasons and the perceived need to change the landscape, to have something to show for the Potter money and the farmers' efforts, to have something to talk about within the three year funding horizon.

With hindsight, we could have hastened more slowly. I believe a five year timeframe would have been more realistic, even with the same Potter Foundation investment. This would have enabled the development of a broader ownership base for the project; it would have allowed for a much more profound re-thinking of existing farm management and development of a more holistic planning process; and it would have helped to establish more solid foundations for on-going inputs into and monitoring of the Potter farms by the Departments of Agriculture and Conservation and Natural Resources, and tertiary institutions.

Deepening and widening the farm planning process

One of the basic tenets of the Potter Farmland Plan is that ownership of the farm planning process is fundamental, that the changes which occur inside the farmers' heads are as important as those on the ground. Yet I believe that we needed to invest much more time in achieving this than we did. We had a great pressure to plan and implement works on the ground to show in a practical way how land conservation and agricultural productivity can be complementary. This biased our farm planning towards changes to farm layout and working out a farm revegetation plan. It also meant that the farm plans were developed at our pace, that of John Marriott and me, rather than according to the rhythms of the participating farmers. John and I had too much input into the planning process on the demonstration farms, and the farmers, particularly family members other than the principal farm manager, too little.

In 1987, Ernesto Sirolli looked around these farms and asked (at the Hamilton Region 2000 national conference); "*Andrew, do you really think they will be farming sheep here in one thousand years?*" I found that hard to answer, because we had simply not asked questions at that level. We had not gone back to basics and examined our farming systems from an ecological perspective. Despite the rhetoric, we were refining the status quo rather than applying ecological principles, we were tackling symptoms rather than causes. This remains true throughout Australian agriculture.

Furthermore, we were interrogating the sustainability of existing farming systems mainly in terms of physical evidence of land degradation. We did not question the profitability of existing systems and were focused on the affordability of the works we were planning, rather than analysing the capacity of existing farming systems to support the investments required to start managing the landscape as if we were here to stay. In essence we were suggesting that the existing grazing systems were sustainable, given the incorporation of perennial species including indigenous trees and shrubs within improved farm layout and management.

Given the chance again, I would take more time in the farm analysis and diagnosis phase early in the project, working with the families involved (as many members as possible) through a much more searching analysis of their land, their impact on it, their lifestyle and livelihood, and their aspirations for all three—landscapes, lifestyles and livelihoods. I'd like to think that some more profound changes to land management, land use and/or farm enterprises might have emerged from such a process.

This would include a much more comprehensive analysis of the farm business, farm financial management, estate planning and so on, along the lines of the diagnostic processes developed by Nigel McGuckian and Mike Stephens for the Farm Management 500 project. We tended to assert that other farmers should be able to afford to do what the Potter farmers did, but at a slower pace. The economic analyses on which we based this assertion were rubbery at best. We should have been in a much better position to compare the Potter farms to those around them and in the wider region, across a whole range of indicators. The benchmarking techniques

developed now by FM500 and others would have amplified our capacity to learn from the Potter farms by providing a more rigorous basis for monitoring and comparing these farms with others.

We could also have made a more valuable contribution to the debate about who should pay for the transition towards more sustainable land use. More of that later.

Sharing ownership and ensuring continuity

Hindsight provides a marvellous vantage point. What I've just suggested was not possible with the resources and timeline we had. Resources and schedules were however, as much due to the way I ran the Hamilton operation as to directives from the project executive. I was 24 when I started as Project Manager, lacking in experience, if not in energy and enthusiasm. I was acutely conscious of the gap of more than a decade in age and experience between me and the next youngest of the field who had applied for the position, several of whom were working in Hamilton. I was determined to prove that I was up to it. I lacked the self-confidence to ask for help and advice from people who were in a good position to offer it, particularly within the local departments of agriculture and conservation.

Because we ran everything as a two-man show, flat out, and because the works program placed such immediate demands on our time, John and I were slow to involve farm management consultants, staff from government departments, or people from universities and colleges of agriculture. A lot of information gathering and monitoring could have been done by others had we invested in the necessary linkages and built structures which could survive beyond the implementation phase of the project.

A similar observation applies to farmers outside the Potter Farmland Plan. Although we offered farm plans to those who applied unsuccessfully to be involved in the project, and although we started to run farm planning courses in district halls from 1987, looking back I think we could have done much more to share some of the resources and ownership of the project by involving a wider network of farmers. For example, we could have explored possibilities based on clusters of farms, each with one or two core demonstration farms upon which the Potter funds would be concentrated, complemented by works extending outwards in an integrated way across a network of farms in the same catchment or land system, supported by fully developed whole farm plans, with some cash support for implementation.

Of course the Dundas-Black Range Corridor Group were already pioneering such an approach, which is now much more common as landcare groups scale up to implementation of catchment plans. But I believe we missed an opportunity to underline the potential of the concept, as we could have used the Potter funds as leverage to prise resources from state and federal governments and possibly private sponsors such as the fencing companies, to assist a wider network of farmers. This would have shifted the project from its exclusive focus on the individual farm (an undoubted strength) towards a more cooperative group approach, and it would have defrayed some of the jealousy directed towards the fifteen demonstration farms. This is not to suggest that we should not have concentrated funding to create visual impacts. I don't doubt for a moment the importance of really making a difference at particular sites, as the striking changes to landscapes within a decade have shown so graphically. Nevertheless it would have been great to complement these core sites with linkages at a catchment scale. John Jack, Chairman of the Project Executive, certainly envisaged such an extension in considering a catchment-based approach in first the Hopkins catchment, and later the Upper Maribyrnong catchment.

There is little to be gained from pondering what might have been. Nevertheless it is poignant for me because I can see that opportunities were missed, principally because of my management approach, having neither the experience nor the confidence to argue for more time to consolidate the planning process and build the inclusive relationships which could have made the project more effective and influential.

Farm Planning and Sustainability

Developments in farm planning

Since the Potter Farmland Plan started there has been an explosion in farm planning activity around Australia. The Tax Act has been amended to allow a much broader interpretation of deductible land conservation activity, providing it is done according to an approved property plan. The Rural Training Council of Australia is developing competency standards for accreditation of farm planning consultants. Property and catchment planning is a core activity for landcare groups. State government agencies and others produce a raft of information and courses supporting farm planning, or property management planning, as it has been known

since Minister Crean announced a national Property Management Planning (PMP) campaign in 1992. This campaign currently employs eighty full-time facilitators around the country, who are mainly occupied running PMP courses and workshops for farmers. About twenty percent of farmers have already completed such courses. National investment in PMP will be further boosted by the outcomes of the Prime Minister's Land Management Task Force, with funding increased by \$32M over four years in the Our Land statement of January 1996, with a target of involving more than half Australian farmers in PMP workshops and courses.

It would be facile and inaccurate to suggest that all this activity was catalysed by the Potter Farmland Plan. There were many forces in addition to the PFP example, all pointing to the need for and potential of farm planning. Let's review some recent trends, then step back a bit to think about how far we've really come along the track to sustainability.

During the Potter Farmland Plan and since, we have seen:

- a move away from 'fixing' land degradation problems (albeit tentative and partial) towards developing better land management systems;
- greater emphasis on integrating farm business management into the property planning process;
- a continual shift in the centre of property planning gravity from public servants and consultants to land users;
- accelerating acceptance of catchment and/or district plans which encompass broader ecological issues, for example remnant vegetation, river management and catchment hydrology;
- an increasing emphasis on **process** (recognising the importance of involvement and ownership) and flexibility of output—the presentation of the plan is less important than commitment to an on-going planning process

Sustainability

The sustainability debate since the term was coined at the Stockholm conference of 1972 has been characterised by fruitless searches for a precise definition, with the only consensus settling on the official definition of sustainable development adopted by the 1992 United Nations Earth Summit at Rio de Janeiro, as "*development which meets the needs of current generations without compromising the ability of future generations to meet their own needs.*" This is sufficiently vague as to be useless in operational terms, although it is politically and philosophically important in its explicit recognition of the rights of future generations. However it is unconstructive to dismiss the idea of sustainability as indefinable. To accept the vacuity of the UN definition is to consign the concept to limbo. Natural resources and the assimilative capacities of the environment are finite, extinct species cannot be recreated, there are biological thresholds which it would seem imprudent to transcend. While knowledge of such thresholds may always be evolving and precise definition will remain ephemeral, attempting to identify limits and describe desirable states is worthwhile. The key is **how** this is done.

A scientist alone at a keyboard, wrestling with indicators and formulae and rationally weighing alternatives to develop a coherent and unambiguous view of sustainability, is missing the point. When we try as a society or a community to answer the simple questions: "*Sustain what? Over what area? For how long? For whose benefit? Measured by what criteria?*", sustainability as a concept reveals its usefulness. A group of people sitting around a table or engaging in debate on these simple questions during everyday interactions over months or years, have to confront their multiple perspectives, their different views of reality, their various values and the priorities they ascribe to economic, or social, or environmental dimensions of sustainability; they bring to the debate what they know and their ignorance; they are faced with choices about the 'us, here and now' versus the 'them, there and later'; and they can focus on preferred futures, not just the gloom and doom of current problems, thus improving their capacity to influence desired change. It is a debate which society cannot afford to leave to scientists, economists, lawyers and politicians.

A working definition of sustainable agriculture, my favourite of more than one hundred I have seen, is that of the International Federation of Agriculture Producers, now headed by Graham Blight. According to IFAP, sustainable agricultural systems are generally:

stable: do not disrupt ecological systems or over-exploit natural resources. There is a rational use of renewable resources, the physical condition of the soil is maintained, there is no long term build up of

weeds, pests, diseases, acidity or toxic elements. Genetic resources in plant and animal species are conserved and options for future generations as to how to use natural resources remain open;

regenerative: minerals and nutrients removed by crops and livestock are replenished in the soil;

productive and profitable: capable of continuous reliable production levels, creating surpluses above family needs for minimum survival;

resilient: can absorb changes, retaining characteristics in the face of disturbances such as climatic extremes, or attacks by pests and diseases;

appropriate: reflecting, and adapted to the needs, skills, training and finances of land users as well as to the environmental constraints of climate, soils and topography;

self-reliant: based on the efforts and ideals of the farmers themselves on a regional level—minimising dependence on non-renewable, often imported resources;

non-disruptive: compatible with the socio-cultural environment. Not, for example, forcing people to adopt practices against normal behaviours and traditions, or resulting in migrations of rural people to cities.

A quick scan of these criteria with Australian farming systems in mind confirms what intuition and common sense already know—that much of rural Australia is suffering from unsustainable land use and management. Clearly there are internal inconsistencies here, and some trade-offs—for example it is difficult to see a transition to more sustainable farming systems occurring in some regions of Australia without some disruption or adoption of practices ‘against normal behaviours and traditions’, especially if minimising reliance on non-renewable or imported resources is a high priority. One of Australia’s great advantages however, is the fact that our traditions are probably more malleable than most. Our farming systems and our political and social institutions were transplanted here, they did not evolve through the centuries in this cultural context.

The value of criteria such as those above is that they focus debate, they can expose diverse perspectives and value systems, they can guide the search for meaningful information to assess progress towards sustainability, and they provide a structure through which to assess existing farming systems or property planning processes. Such characteristics are most valuable if they are developed in a consciously public way, as a discursive tool, at a farm and community level. Through such processes, the standard of debate may rise.

Too many property plans have been prepared (and are still being prepared and accredited) which essentially rationalise existing farming systems, rather than rigorously analysing them against criteria such as these, setting long-term goals and outlining a path to achieve them. Equally, most attempts at developing more sustainable agricultural systems have been piecemeal and *ad hoc*, concentrating at the paddock scale, rather than evolving from a planning process which integrates social, economic and ecological parameters at paddock, farm and catchment scales.

Property and catchment planning can potentially assist individual land users at the paddock and farm scales, and groups of land users at the catchment scale, to gather, analyse, synthesise and apply information to move towards sustainability. However some debate about the elements of a more sustainable system is essential to determine what sort of information is required, and also how the performance of the system can be assessed. There is no design ethic or tradition in Australian agriculture. Ted Lefroy has suggested that we would be better off trying to develop farming systems structurally and functionally analogous to natural ecosystems in a given context. For example, on the sand hills of WA’s northern wheatbelt, this approach leads to alley farming systems based on leguminous fodder shrubs, a dramatic change from the sea of wheat, lupins and expanding salt flats. Disciplines other than agricultural science, with a stronger planning base, may prove more useful in refining property planning and in particular, catchment planning processes.

The convergence of sustainable agriculture and rigorous property planning is still a long way off for the vast majority of Australian land users, and for the agricultural education establishment. Most land users still do not have a comprehensive, well-thumbed property plan and would be unaware of any catchment plan in their area. Certainly very few have been involved in the development of catchment plans. I believe that with the current emphasis on farm business management in PMP, the wheel has turned too far. There has been a general drift away from the ecological principles which were a key feature of the Potter project. We need to focus again on blending considerations of the natural resource base with those of the enterprises it supports.

Looking through the macroscope

Macrosopes are for looking at big pictures.

The big picture for rural Australia, its landscapes and livelihoods, is grim. Admittedly the picture is patchy. Some regions and some sectors are doing well, but overall trends are clear: aging, depressed farmers going broke, shops and businesses closing down, services being withdrawn, the land is flogged, towns withering, young people leaving. Farm families report that many of the attractions of the rural quality of life have long gone, as both husband and wife work long hours, increasingly off-farm, and the weight of debt puts pressure on relationships. The average level of education of Australian farmers has actually declined in recent years, as many of those who have left agriculture have been the younger, better trained people with greater opportunities to find alternative employment.

For most of its European history, Australia has 'developed' the bush, through investments in roads, railways, electricity, communications, clearing, irrigation, reticulated water, schools, hospitals and services, and protection of rural industries. But current trends are towards disinvestment—'rationalisation' of government services, closure of schools, hospitals and railways, and dismantling of protection. Rural people do not have the same access to education and health and welfare services enjoyed by city people, they already pay higher prices for petrol, and they fear rising costs for utilities such as electricity, water, mail and telephones as the era of privatisation, user pays and cost recovery penetrates further into everyday life. There is a general sentiment that they have been left behind, that the country no longer feels it needs them. Outpourings of urban sympathy and public appeals during droughts, floods or fires paradoxically serve to mask the underlying structural unsustainability of farmers at the bottom of the food chain on distorted global commodity markets dominated by transnational agribusiness and American and European trade policies.

Landcare and farm and catchment planning are critical ingredients for an improvement in the outlook for rural Australia. But they are insufficient, mere pixels in the big picture. Fundamental constraints to developing better ways of using the land and sustaining rural communities remain. They include: limited human resources in rural areas; a lack of technically sound, practical and profitable solutions to land degradation problems; institutional cultures within agricultural institutions (including, perhaps especially, farm organisations); the overwhelmingly technocentric training of professionals in research and extension in Australia; and a feeling among farmers of being blamed for land degradation, which does not foster a stewardship ethic. Finally, underlying these constraints, the essentially colonial structure of Australian agriculture, producing raw undifferentiated products which are mostly processed and marketed abroad, means that Australian farmers are very exposed to declining terms of trade.

No-one, not even Australian farmers, suggests that they should be protected by expensive, cumbersome, inequitable and inefficient price support regimes like their American or European competitors. Equally however, Australia as a nation needs to do more than hope that GATT, the WTO and continued globalisation in trade and deregulated capital markets will deliver sustainable development. Patently they will not. A continuation of current trends will entrench the Murray-Darling river system as a sewer, will accelerate our world record rates of mammal and bird extinctions, and will see the demise of half the farmers and many rural communities over the next generation. We need, as a nation, to decide whether we want our food and fibre produced by a hundred thousand families, as at present, or by a few hundred companies like the mining industry.

This essay is based on the premise that the former option is more likely to progress the social and environmental dimensions of sustainability than the latter. We have been seduced by the elegance of efficiency as a criterion for public policy assessment, and hamstrung by the influence of myopic economic theory which is incapable of integrating less tangible and quantifiable criteria such as inter- or intra-generational equity, social cohesion and ecological integrity. Taking sustainability seriously means moving beyond the comfort zone of dry accountancy, embracing technical uncertainty, value conflicts and risk.

So where to?

Rural people, scientists and economists all recognise that Australia's essentially colonial primary industries and the economy as a whole must undergo profound change. There is less consensus as to the directions of that change. Economic fundamentalists promote the dictates of global capital markets (lean, mean and hungry private outfits work ever smarter to remain internationally competitive); greens argue for retiring land, extending reserves and leaving nature to her own devices (where humans fit and how they make a living is problematic); and farm families feel that they are the real source of Australian wealth (undervalued, socially and politically marginalised, and deserving of at least a decent quality of life). These are admittedly caricatures. However there has yet been no national debate about the future of rural Australia. We have

tended to see fairly simplistic prescriptions emerging from entrenched interests, rather than an exploratory, open minded debate starting from the premise that issues are complex, facts are uncertain, values are in dispute, yet the need for change is paramount if natural and human capital (landscapes and communities in the arid language of economics) is not to be irreversibly depleted and degraded.

The country is crying out for national leadership in natural resource management. Much of the demoralisation in the landcare movement and rural Australia in general, stems from feelings of not knowing where we are going, of not having a sense of direction, even in the vaguest long-term sense.

We are told that these are merely the symptoms of an inevitable period of 'adjustment', from which we will emerge better placed to grasp the fruits of being on the edge of the fastest growing region on earth. Yet rural people perceive that decline is happening by default, that adjustment is now business-as-usual, that Australian agriculture and rural land use is being swept along by international forces beyond our influence, to the approval of free market idealogues in their salaried security. They feel that no-one is steering this ship, or if they are, it is without chart and compass. There is no sense of a shared corporate strategy for natural resource management, nor for rural Australia as a whole. The big picture themes of the republic, Aboriginal reconciliation, multiculturalism and economic reform have yet to be complemented with a vision for the development of the underlying wealth of Australia—its extraordinary natural resources and its people.

Partnerships of all kinds are needed at many levels: for example between governments, between government and private investors, between researchers, producers and marketeers, and between business, unions and community groups. Establishing a framework within which such engagement can take place, partnerships can develop and investments can mature will only be possible under the umbrella of a coherent national strategy. Investment on the scale needed over the necessary timeframes will not be delivered by the market, nor is there any point in long-term investment on the part of private firms and individuals without the security of a supporting strategic national direction and complementary policy framework.

The Natural Country—elements of a rural development policy

This is not the forum to present an alternative policy framework for rural Australia. However it may be worth canvassing some ideas that I hope will evolve into a coherent framework for uniting the environmental, economic and social dimensions of the challenge for rural Australia. The tentative term for these ideas is the Natural Country. The Natural Country is a work in progress, not a shiny policy blueprint. It will be developed and refined, but I would like to introduce some of the key themes and welcome feedback.

What images surface when people think of Australia? Vast blue skies, red earth, open landscapes and white beaches, the scent of eucalyptus, the incomparable bounce of the kangaroo and the quizzical stupor of the koala; perhaps laced with iconic visions of a tough outback, remorseless droughts and terrible fires; further confused by quirky films, suburban soaps, sport? What do people know of Australian products? When they wear Armani do they think of Australian wool? Do they think of Aboriginal art, environmental quality, energy efficiency, biological diversity managed sensitively, livable cities, healthy lifestyles or community landcare? What Australian images come to the fore? A creative, tolerant, multicultural society in tune with its natural heritage? An economy based on smarter resource use, green technologies and institutional innovation? A country where you can get a superb twenty-first century education, acquiring relevant skills and insights? Do they imagine a country which bounds market forces with considerations of social equity and ecological integrity?

No they don't. But they could, given vision and energy here over the next decade. Such perceptions (or contrasting ones) will gel rapidly and extensively when the world spotlight focuses on Australia in 2000. One can imagine a twenty-first century response to the question "*how would you like to live your life?*" – **Australian....naturally!**

The Natural Country provides a framework for constructively tackling the major challenge of our time—how to develop a vibrant, self-reliant economy and sustain a reasonable quality of life, equitably shared, without depleting or degrading the resources upon which we and future generations depend. This challenge is universal, grappling with it is the one certain growth industry of the next century, and Australia is uniquely placed to make an important contribution.

Redefining the relationship between people and land

Australian land use and management still reflects our origins as a gaggle of English colonies, exporting raw materials for the mother country, not using natural resources as if we were here for the long term. In line with a general redefinition of Australia, we have a wonderful opportunity to assert that this unique island continent is ours, we are here for good, and we are going to respect and manage it accordingly. This does not just mean getting serious about conservation of priceless biodiversity. It means celebrating the uniqueness of Australia, of what it means to be Australian, and using that uniqueness as the basis of a new trajectory of economic and cultural development. Artists, writers, musicians, dancers, films and television all have a crucial role to play in such celebration, in the integration of the Natural Country into Australians' sense of place, self and country.

Celebrating nature as a development trajectory (beyond 'clean and green')

The Natural Country will be economically viable marketing distinctively Australian products and services. Yes, we already have a 'clean and green' campaign, but it is just that—a marketing campaign, not a substantive basis for more sustainable natural resource management. We still regard environmental standards and regulation with suspicion and resentment, something to be negotiated at minimum cost. This culture sponsors lowest common denominator environmental management, tolerating poor and dirty operators, land clearance, stream pollution. Several other countries could claim with reason that their agriculture is far less damaging to their environment. A quick exposé of the Darling in full algal bloom, intensive feedlots, effluent discharge, saline rivers and lakes, mammal and bird extinctions, or the social dimensions of rural decline would soon give the lie to Australia's clean and green spiel.

The Natural Country is deeper and broader, much more encompassing than clean and green (yet not incompatible with it). It is about jumping off the treadmill of competing in distorted commodity markets with declining terms of trade, not just by dramatically improving current practices, but by developing new industries for new and emerging markets. The Natural Country could be a common thread running throughout Australian natural resource management, permeating how Australia presents itself and its products to the world. Clichéd national images are powerful marketing tools: "Japanese efficiency"; "Swiss precision"; "German engineering"; "Italian design". What about "uniquely, naturally Australian"? Clothing, food, holidays, water management systems, solar energy systems, software (eg for biodiversity modelling and management), social technologies (eg Land Literacy programs); all marketed under a generic theme—"Australian....naturally".

A sustainable economy

Investing in fundamental land use change and rural development is macro-economic reform which will accelerate the process of creating a more autonomous and robust economy. The Natural Country is not a blueprint, but rather a guiding theme which adds value and direction to many currently disparate threads of economic activity. It is a theme capable of weaving together art, tourism, natural resource management, education and training, manufacturing and information technology into a distinctively Australian pattern which will become more and more recognisable, and with which Australian enterprises and agencies will want to be identified. The Natural Country is a story capable of distinguishing Australian products on world markets, using an angle which by definition no other country can emulate—the sheer uniqueness of the island continent, exemplified by its natural cornucopia; and uniquely placed in geopolitical terms as a multicultural English speaking society on the fringes of Asia, culturally of the north and geographically of the south, able to take an independent line on most issues and to act as a broker in international fora, a young/ancient technologically advanced, rich nation, engaged in a fascinating phase of redefining its sense of itself and its context.

The Natural Country will require strategic investment, in thinking, in communicating, in researching, and in facilitating new industries and enterprises to establish a critical mass of intellectual and commercial effort. The nature of Australia and our capabilities in several fields suggest a number of activities in which we are capable of international leadership, identified with the distinctive themes of the Natural Country.

Natural resource management

This is at the heart of the Natural Country—if we get this wrong, the rest falls over. Unless Australian land use systems urgently move to a more sustainable footing, the opportunity to build on Australia's uniqueness will be lost, and the record of species extinctions and depletion and degradation of natural resources will be so lamentable that any attempts to promote a natural, or even a merely 'clean and green' image, would be risible. Opportunities are still there, but must be grasped immediately with a serious long-term commitment. Australia has expertise in many of the necessary disciplines, but there is as yet no overall framework and direction for marshalling this talent, nor for investing the necessary resources to turn intellectual energy into new industries, enterprises and products. The Natural Country can foster a culture of long-term thinking, long-

term investment horizons and cooperation across sectors and disciplines to achieve agreed national goals, a core of which is sustainable natural resource management.

Several issues spring to mind, each with widespread international relevance: water conservation and management; coastal zones and fisheries; management of weeds and feral animals; biodiversity management (particularly outside reserves); native species industries; indigenous land management; and tourism.

For each of these issues, generic activities need to be planned for, managed and resourced: such as resource assessment, inventory and monitoring; natural resource accounting; research and development, stakeholder participation; reconciling intrinsic/utilitarian, market/non-market and social/private values; resource use planning; setting environmental standards; developing regulatory frameworks; structural adjustment and enterprise development. The social processes, technical content and institutional delivery mechanisms within each of these areas would be consistent with Natural Country principles. They would of course be eminently marketable.

Native species industries

We have an extraordinarily rich flora and fauna, yet we persist in commercialising European species (essentially those which came on the first fleet). Australian agricultural research investment remains overwhelmingly biased towards refining the status quo, rather than developing more sustainable and uniquely Australian land use systems. This is not a call to abandon current farming systems, but to complement them, starting in the most marginal areas, with new forms of land use. These may not be exclusively agricultural or pastoral, but might involve combinations with tourism, nature conservation or other secondary and tertiary industries, so that most land users have several income sources. Developing Australian farming systems will involve looking much more systematically with a long-term outlook at industries based for example on kangaroos and emus, bush tucker and bush medicine (especially on Aboriginal lands), essential oils and pharmaceuticals, native timbers, high quality fibre and leather, fruits, nuts, herbs and flowers. There is little merit in being purist about endemic or even indigenous species in many regions, given the ecological disturbance which has already taken place. Introduced species of plants and animals will continue to play a role, but within farming systems much more structurally and functionally analogous to undisturbed ecosystems (for example based on perennials rather than annuals, and browsing rather than grazing animals), and thus more compatible with conservation of biodiversity in less severely disturbed areas.

Of course roos, emus and bush tucker are as potentially damaging to the environment as sheep, cattle and wheat, depending upon how they are managed. Lifting our management game is by far the greatest need and opportunity in Australian agriculture. To return to Ernesto Sirolli's question, I do believe wool can be sustainably produced around Hamilton. Wool is a fantastic product, in which we have a comparative advantage (which we are mad to dilute by exporting our technology and genetics), and this is one of the best places in the world in which to grow it.

There may always be a place for wool, cereals and beef in the more productive zones, providing these industries learn from the wine and dairy sectors about product differentiation, about targeting niche markets, about value adding and retaining equity in downstream/off-shore processing and marketing; and providing the highest environmental standards are not only observed, but celebrated. There are also opportunities to develop import replacement industries, especially in forest products and food. In the longer term however, one can imagine that key features of European farming systems such as cloven-hoofed animals, soil cultivation and flood irrigation will have been displaced from much of the Australian landscape.

Nature conservation, biodiversity, and water management

As one of the dozen most biologically diverse countries on earth, alone among the rich industrialised economies, Australia has unique opportunities to both conserve its natural resource endowment and to celebrate nature as a defining element of national identity. An obvious path along which some progress has already been made is the establishment of a comprehensive system of parks and reserves, which could be substantially augmented (it is as yet far from adequate or representative) and much better resourced and managed. Such a network must be integral to the tourism industry to ensure that human impacts complement biodiversity management. We need a spectrum of reserves (in terms of the type/intensity of human interaction) from wilderness to urban parks. We also need to rethink the management and funding of such reserves, especially in the rangelands, to move away from the assumption that reserves must be managed by a government agency and funded from the public purse. An area in which drastic improvements are needed is biodiversity management in the 95% of the landscape which is outside the reserve system—on farms, along roads and streams, in urban and coastal areas and so on.

The driest, flattest, sunniest, most poorly drained continent with the most variable climate has compelling reasons to be a world leader in water management: in water use efficiency, water pricing, demand management, in improving water quality, and in valuing and protecting wetlands. There will be many commercial spin-offs from excellence in this field, from the household to the city, the farm, the factory and the water authority. The emerging water crisis in Asia (supply and quality, fresh water and marine resources) will see huge export opportunities—opportunities from which we will be excluded if we have sold off our water utilities to other countries.

Other elements of the Natural Country natural resource management framework which are being developed but are beyond the scope of this presentation include: coastal zone management; energy and waste management; green manufacturing processes; and urban renewal. Tourism is a related area which is also integral to the Natural Country approach.

Education for a clever, natural country

The Natural Country will be information-rich, and information management will be a key to the more ecologically sensitive resource management needed worldwide. This will of course require technical knowledge, but also the social processes and institutional frameworks to manage change, generating a demand for people with relevant skills and expertise. The Natural Country will fall flat on its face if its marketing is merely cosmetic, if environmental regulation is still seen as 'green tape' to be dodged or complied with grudgingly, rather than seen as a competitive edge to be honed and promoted. This mandates a change of culture within Australian industry, Australian management and Australian government, a cultural shift which will mark the end of the colonial era. Bringing about such a shift will require significant investment in human resources—in training existing staff and in producing graduates committed to Natural Country principles and able to make it happen. This investment has huge potential spin-offs, because most other countries need to bring about similar changes. Australia already has an excellent education infrastructure, which could underpin significant export earnings. In keeping with the Natural Country theme however, we need to move beyond traditional models of education based on universities, bricks and mortar, and didactic teaching, and build on our expertise in distance education and participatory training to develop new ways of providing Natural Country information and skills. Courses, software, curriculum materials, social technologies and consultancies are significant potential exports.

Doing the hard things

The vision sketched here—of a vibrant, diverse Australia, living with the land, producing uniquely and unmistakably Australian, high value products for carefully cultivated markets, reinvigorating rural communities, providing attractive locations for people and for 21st century activities, easing pressure in the cities—will remain a dream without some fundamental changes in national thinking. An early step, for example, is to reform the national accounts in an attempt to account for resource depletion and degradation and the non-market economy. Such changes would underpin institutional and legislative reform to help market forces to encourage resource conservation, rather than depletion and degradation.

This paper lays out some broad themes, concentrating on the what, not the who, how or when. Much detail remains to be filled in. Many existing policies, programs and institutions provide a sound base for progressing the integrated approach advocated here, and these stakeholders need to be involved in the further development of The Natural Country. The Natural Country must be a strategy with which people and institutions want to be associated—it cannot work if it is imposed. Extensive consultation will be needed to flesh out this framework, to build a constituency and a mandate. The first step is to get people talking, to give these ideas currency. The profound cultural, economic and practical changes implicit here will not happen unless all players are aware of and committed to an overarching strategic direction for Australia, articulated at the apex of political power.

In other words if they can see and appreciate the big picture. The Natural Country provides more than just an harmonious backdrop against which other major themes such as Aboriginal reconciliation and the republic can evolve. The Natural Country sets Australia up to play a leading role in the greatest challenge of the next century—giving meaning to sustainability as an overarching goal for human societies, as powerful an idea in its time as 'progress' was in the Enlightenment.

This may seem to be a long way from our *raison d'être* this evening—the Dundas-Black Range group and the Potter Farmland Plan. But it seems to me to be a logical progression. The Potter project was a milestone along the path towards rural sustainability in Australia, as are the thousands of landcare groups, of which the Dundas-Black Range group is a fine example. These are important contributions which we are right in celebrating, but there is a long way to go.