

AgScience



Inside

Election Policies

The Politicians
Promote Science

The Rural/Urban
Divide



John Lancashire
President

We have a science debate in 2008

The election

Recent events show there are real issues dividing the political parties on science and primary sector research which will be debated during the election campaign. Whether this will receive general publicity or seriously affect decisions by the average voter is very unlikely, but at least it is an advance on many previous elections where some major parties did not even produce a science manifesto.

Your Institute has been active in promoting this debate – you will find a report on the political forum held at Massey University, Palmerston North in July in this issue of *AgScience*. We also helped our Waikato section in organising their excellent initiative of asking the politicians "Does agricultural research have a future in New Zealand" on 2 October at Ruakura. We will publish extracts from this debate in the next issue of *AgScience*.

As far as I am aware at time of writing (29 September), only two parties have released their science policies. UnitedFuture actually scored a bit of a coup as they were first off the blocks when they announced their science manifesto at the Palmerston North forum. This picked up many of the scientists' concerns reflected in the manifesto produced by the National Science Panel, such as the need for a national science strategy and an improvement of the inefficient funding system, the establishment of an office of a chief scientist or science council to directly advise the Prime Minister and an increase in government science funding to at least the OECD average. Interestingly, the government's Fast Forward proposal was not mentioned, but the National Party's decision to dump the scheme was confirmed in their recently released policy.

Both the Prime Minister and Jim Anderton, the architect of the scheme, responded very critically to National's statement – Mr Anderton described it as

the worst decision on science since Galileo was condemned by the Inquisition in 1633. National proposes to replace Fast Forward with an increased investment by government in primary sector and food research and the setting up of a virtual centre for greenhouse gas research. Members will need to read the whole policy on their website to get the full picture, but the full response from Labour will not be clear until they publish their policy.

Other initiatives in the National policy, which reflect many of the concerns of the science community, include an emphasis on improving the stability of science funding; the need to reform the overly bureaucratic funding system; and the appointment of a senior science adviser to the Prime Minister. It is important for members to carry on this debate with their candidates in this election, because I cannot recall a similar amount of interest in previous years. Moreover, several observers at the Palmerston North forum noted that the level of understanding of science issues by the politicians was far advanced on that shown by most panellists in our previous political forum at Lincoln in 2005. Hopefully we will see that improvement result in more enlightened policies for science and the primary sector in the next parliament.

National Science Panel

After a delay of more than six months (by factors outside the control of the National Science Panel) the panel's science manifesto or plan for the recovery of New Zealand science was finally released in April. Very well attended meetings to launch the manifesto were held in Auckland, Wellington, Hamilton, Palmerston North, Christchurch (2) and Dunedin. The response was overwhelmingly favourable with the *National Business Review* describing it as the most important review of science in New Zealand in a decade. The main questions asked at the presentations were what

next? and, how do we progress these recommendations? It was always the aim of the NSP to profile the issues during the election campaign and we can claim some success already, as many of the recommendations are included in the two parties' science policies already published (see above). Although the panel is no longer supported financially by the Royal Society, we have decided to carry on, at least until there is real evidence of some fundamental changes in the way science is organised in this country. We are also hopeful that the Royal Society will take a more assertive role in pushing for reform. For those of you who have not read the manifesto it is still on our website www.agscience.org.nz.

Biofuels

The Canterbury section organised an excellent conference on "Biofuels – The future or a folly?" in August at Lincoln. Put together at short notice to cover this very topical subject, there was an outstanding attendance of over 150, who heard some excellent speakers including the chair of the National Science Panel, Jim Watson, and Parliamentary Commissioner for the Environment, Jan Wright. The proceedings will be published in the next issue of *AgScience*. Many thanks to John Keoghan and his team for organising this event.

The last word

At the recent negotiations on a free trade agreement with China, discussions took place on which topics should be included in a joint science programme. The Chinese were keen to see food safety on the agenda, but this was rejected by members of the New Zealand delegation as not being "jazzy" enough. It is very easy to be wise after the event, but given the recent events around contamination of dairy foods in China, perhaps it is time to revisit their proposal.

John Lancashire
President

What the parties are promising

Bob Edlin asked the political parties what policies they were promoting to deal with issues of interest to dairy farmers for the Dairy Exporter magazine. His questions included the commitment to funding agri-science. Not all parties responded to that question. Here are the responses of those that did ...



LABOUR would continue to be New Zealand's most significant investor in research and would further increase innovation through stable funding. It is part of the Labour's plan to transform the economy into a smart, sustainable, high value supplier of the goods and services which global markets demand. For example Labour has committed \$700 million upfront for the New Zealand Fast Forward Fund to promote research, development, and innovation within pastoral and food industries. With interest earnings from the capital and with matching funding from the private sector, around \$2 billion will be generated to invest in our future.



NATIONAL is committed to substantially increasing funding for agriculture R&D. Exact details of the policy will be released in coming weeks, but support of the primary sector will more than match Labour's Fast Forward Fund while providing more certainty and clarity to industry.

National stands by its commitment to abolish the Fast Forward Fund, not because it disagrees with its principles, but because it believes it is the wrong vehicle for delivering R&D funding and lacks certainty: nobody knows exactly how much the fund will pay out on an annual basis and the level of industry commitment is not clear. The Fast Forward Fund also means much more bureaucracy and red tape in the R&D funding process — exactly what scientists, farmers, and business don't want.



THE MAORI PARTY is committed to maintaining environmental integrity in all industries and sectors for long-term sustainability, the health and well-being of communities, and to protect the nation's economic future given its dependence on Aotearoa as "clean and green". Measures to achieve this include research to make environmental gains practicable.



NZ FIRST supports the NZ Fast Forward Fund but believes even more money will be needed because scientists are going to be asked to keep the economy ahead of the competition in innovation. In conjunction with farmers, scientists also will be relied on to reduce agricultural emissions, generating greater

efficiencies (such as more accurate fertiliser applications, electricity from gas extracted from farm waste, selected breeding and biofuel from waste). Industry should help meet the costs, but the government should be the bigger contributor, especially in finding solutions to greenhouse gas problems.




UNITEDFUTURE would encourage and fund national research specialisation, bearing in mind New Zealand's size, as well as specialisation by institution. The medium to longer-term focus should be on agriculture and horticultural efficiency, biotechnology, nanotechnology, energy efficiency and substitution, aquaculture, and bio-security and environmental degradation.



PROGRESSIVE PARTY leader Jim Anderton, as Minister of Agriculture, has been responsible for establishing the New Zealand Fast Forward initiative, which will see up to \$2 billion of Government and industry money invested in the biggest single boost to innovation funding for research and development in the country's history.

Since the article was published in the September issue of *Dairy Exporter*, National has confirmed it will wind up the Fast Forward Fund, although where R&D initiatives have already been established through Fast Forward, consideration will be given to continuing them. National will continue with the same quantum of new funding but will spend it "in a way that ensures better research outcomes."

It will establish an international centre for research into on-farm greenhouse gas emissions and fund it with \$20 million a year, boost funding within Vote RS&T for primary sector and food research by \$25 million a year, and boost funding for research consortia in the primary and food sectors by \$25 million a year.

It will scrap the recently introduced R&D tax credit but will boost funding for research and science by \$315 million in the next three years at universities and it will establish a new secure funding allocation for CRIs, to "allow CRIs to develop and maintain a nationally significant research capacity in their core areas of science, without having to constantly compete for funding." 

The politicians set out their ideas

The AGMARDT political forum in Palmerston North on 8 July was chaired by Rod Oram. The politicians on the panel were Pete Hodgson (Labour), Paul Hutchison (National), Russel Norman (Green Party), Doug Woolerton (New Zealand First) and Robin Gunston (UnitedFuture).

The key question put to the politicians was: "Do you support real increases in science funding? If so – why? If not – why not?"

Other questions were –

1. Is there a viable alternative to the government's Fast Forward funding initiative? And given that agricultural businesses generally only fund short term research with incremental gains in productivity, how will the government ensure that Fast Forward is strongly focussed on research and development that will deliver step-change in the performance of the primary sector.
2. How would you ensure that dollars for research are applied efficiently to research and not wasted through our current enormously costly and overly bureaucratic funding system?
3. Despite many initiatives to encourage greater private sector investment in research New Zealand still lags far behind (about 1/3) of the OECD average. How would you change this?
4. How would you actively encourage innovation (beyond tax credits and a better environment for business)?
5. Is there too much competition between research providers (given that 80-90% of bids for research funds fail)?
6. Is there a danger in too high a dependence on research that is driven by current industry demands / requirements?

Some politicians tackled the questions directly. The others handled them in general terms. Here's an edited account of the responses.



Pete Hodgson (Labour)

Do you support real increases in science funding?

If so – why? If not – why not?

Consult my government's history with science funding – it's up 90%. If you deduct the CPI increase over the past nine years you will still come up with a significant real increase.

Except for the past 12 months, the economy has gone through one of its sustained growth periods in that period, so the increase in science funding as a percentage of GDP has been modest. It will improve this year because we've had a reduction in GDP. You have to be careful with statistics, but do we support real increases? Most certainly.

Is there a viable alternative to the Government's Fast Forward funding initiative?

My response is why would you be looking for an alternative? Part of the logic of Fast Forward is to make progress in four areas, starting with environmental degradation as a result of primary production. We need research at the other end, too, much closer to the new foods, new food ingredients, functional foods, nutraceuticals.

How would you ensure that dollars for research are applied efficiently to research and not wasted through our current funding system?

Let's just find out the cost of the system. Ministry of Research, Science and Technology (MoRST) running costs are about 1.9% of total research and development expenditure, at the Foundation for Research, Science and Technology (FoRST) it's around 2.5%. That adds up to about 4.5% – the other 95.5% does make its way beyond Wellington to the science sector. But how do we cut the demands on scientists who spend a quarter or a third of their time writing research bids? There was increased foundation funding in this year's round of around 16%, but that doesn't mean the number of bids went up by only 16%. Ordinarily, applicants will double what they applied for last time. Then you have a bunch of new entrants. One way to address that is to have FoRST take a first

Hon Jim Anderton giving the Opening Address



for promoting science

look – it asks for three to five pages. About half of the bids, they say, proceed no further. The other half become full bids, reducing the time and effort the scientist has to put in. Around half the full bids were funded this year.

We are moving towards negotiated funding. About 15-20% of the total bid this year wouldn't have been contested at all but have been negotiated over recent months. Next year that will rise to about 30-35%. This is a determined effort to shift more of our funding towards a negotiated future. There are some risks with that and some people think we have already gone too far.

Despite many initiatives to encourage greater private sector investment in research New Zealand still lags far behind (about 1/3) of the OECD average. How would you change this?

We would encourage private-sector investment, running at one-third of the western world average. Public-sector investment is around three quarters of the western world average. That's what grants for private-sector research and development (R&D) are all about, along with the tax credits which began on 1 April. Inland Revenue has tried to work out what revenue will be foregone – three or four years from now it will be \$330 million. You can work out from that what they think will be the new total reported R&D private sector investment, double what it is now. There will have been some under-reporting and there will be some new research. But it will allow us for the first time to compare ourselves with other western nations because nearly every other western nation has some form of tax credit.

How would you actively encourage innovation (beyond tax credits and a better environment for business)?

Well that takes us into realms of activity that I just really haven't got time to go into. But do you remember when we had no Venture Investment Fund, when there was no Broadband Investment Fund, no Beachheads programme, no programme called Better by Design. I could go on for a long time. I'm just going to assert that this government has been active in this space.

Is there too much competition between research

providers (given that 80-90% of bids for research funds fail)?

The figure is correct for Marsden (in fact it is closer to 90%) but it is around 75% for the Health Research Council. For most of the rest of us, people put in about four times more bids than there is money and about half is washed away in the first three to five page process. So the figure is about 50%.

Is there too much competition? Yes, there probably is, which is why we are moving towards this negotiated future. I think this will give us a slightly better balance.

Is there a danger in too high a dependence on research that is driven by current industry demands / requirements?

No, too little dependence on research is driven by current industry demands. Haven't we noticed the private sector is absent and therefore its demands are somewhat absent. But it is important, for example, that the Marsden Fund is continued and strengthened and that it becomes a greater and greater proportion of the new public sector portfolio. That's what I would like to see if Labour is returned to government.



Hon Pete Hodgson



Dr Paul Hutchison

National

Dr Paul Hutchison (National Party)

National is committed to a strong science policy because science, research and development are absolutely fundamental drivers of economic development, productivity, a sustainable environment and an enlightened society.

John Key has said this about the Government's Fast Forward Fund: "We support funding models that encourage partnerships between government and industry but we are not convinced that the fund, as described, will be the best model for achieving this collaboration". He also said: "National will make a significant increase in funding for agricultural research and development".

There is no doubt food, innovation, our primary production area, is the backbone of our economy and will be for a long time. National absolutely support R&Ds in this area but we are concerned that to ensure there would be long-term viability of it, there should be a basic agreement as to the elements behind it.

National agrees with the New Zealand Science Panel that there are undue compliance costs and bureaucracy around science funding. The Minister said MoRST and FoRST have costs of about 1% or 2% but people like Neville Jordan, from the Royal Society, has said that only 50 cents or so of every dollar



of science funding actually reaches the laboratory bench. In my view, MoRST and FoRST have slightly strayed from their way. I think MoRST should be a tight policy body and FoRST a clear, tight and lean purchasing agent absolutely with a goal to ensure that compliance costs associated with research bidding are kept to an absolute minimum.

There are mechanisms to do this but it has become a very complicated science system. The same should apply to the Health Research Council and the Marsden Fund.

The New Zealand Science Panel suggestion to bring in a chief scientist has great merit – it has worked well in countries like Canada, Australia and Britain.

National generally favours a high-trust, low-compliance model but with strong accountability elements including international peer review. This mechanism isn't so common to the Crown Research Institutes and could easily be applied. We also see different incentives in the university systems from the CRIs and I think there's no reason why that should be the case.

National says it is vital to get the fundamental environment around science and R&D as optimal as possible, including a low-tax system, a flexible labour market and excellent education system to supply graduates and an optimal regulatory regime. This includes the Resource Management Act, the Hazardous Substances and New Organisms Act and Agricultural Compounds and Veterinary Medicines Act.

I want to reiterate what John Key said about science, research and development in March. He said, "National will be rolling out a comprehensive research and development policy closer to the election. We will make long-term funding commitments that provide certainty to the sector because we see it as a way of lifting productivity and helping to make New Zealand a smarter nation."

In answer to your questions, there certainly is a viable alternative to the Fast Forward funding initiative. We question whether an endowment fund is the optimal method of funding this. The basic concept behind the fund is appropriate and we support it but it has come towards the end of nine years of the government's term when there has been relative under-funding of this important sector. When you have such a significant fund it is important to get it right if we are to have long-term viability and a step-change for New Zealand.



Russel Norman (Green Party)

My love of science has been fostered by two things, one of them being the misuse of science. Rachel Carson's "Silent Spring" was a key moment for the Green movement – how we use science is as important as what is in the science.

The Greens emphasise the finite resources of a finite planet. We live on a finite planet and there is a finite amount of energy. But one thing that isn't finite is knowledge. What makes science and humans special is our ability to infinitely accumulate knowledge and understand the world better. That's what makes science special and why it should get so much attention.

Water is a key resource issue for New Zealand but internationally we face resource limits on everything. We are going to need good science to deal with those problems.

Our key export industries are primary production and tourism and New Zealand therefore has a particular vested interest in using science to make the economy sustainable. We market our export brands as clean and green. We get away with it because we have low population densities, but to protect those brands we have to have more research, science & technology which targets sustainability.

Getting closer to your questions, in general our approach is better funding – not just more funding but a better mechanism for allocating funding. We need to take the balance away from the competitive model. A collaborative model is the better model. And we need to tip the balance towards supporting public institutions. Those are the principles governing our approach to research, science and technology funding.

The Ministry for Research, Science & Technology embraced the New Right model of extreme, competitive tendering, 12-month contracts, the whole business. But science doesn't work well under that kind of model. We also think there should be an increase in the base funding and this funding should be accessible to public institutions. The competitive part of the funding should be available for private institutions.



Russel Norman

We must start with unravelling what happened in the 1980s and 90s to the Foundation and the Ministry of Research, Science & Technology. Since the last election Labour has started to unravel some of the New Right stuff in the Ministry. We would continue that process.

The model we favour would devolve decision-making to the scientific community as much as is possible while maintaining accountability.

Academic freedom is another important issue, which is partly why we want to put more resources into public institutions. In fresh water and ocean research, many private institutions don't want to speak up. A number of fresh-water scientists have told me they would be punished if they spoke out. Whether scientists are in a CRI or a public university, they need academic freedom to give individuals the ability to speak out.

Looking briefly at the questions, we agree there is a viable alternative. Fast Forward in many ways is good but it is connected with industry and we need much more money in public institutions.

In terms of private-sector investment in research, tax breaks are important. But I don't know why there is such a low level of private-sector investment in research in New Zealand. Partly it is getting the incentives right through the tax system but maybe it is also cultural. Maybe it is because we have a lot of small businesses who don't have the money.



Doug Woolerton (New Zealand First Party)

NZ First believes the food-producing industries are heading into

an exciting and bright future. But international environmentalism presents challenges – food miles, dirty dairying, emissions trading. Those are the issues that only science can get us through. We are going to have to prove every inch of the way the science behind our emissions, behind how we do business, behind how we treat our animals, how we treat our streams and rivers and so on. If we fall down on any one of these, tariffs and other restrictions on our access to overseas markets will be imposed.

Because it is the scientists who will get us through, we need more money for science.

Question one– NZ First is a great fan of the Fast Forward fund. We think it is innovative, it does not rule out any industry players – it is exactly the sort of thing that we need to take us forward. You will not find us criticising additional money spent on science and it is essential we have a fund that is contestable and transparent so that



Doug Woolerton and Robin Gunston

people know where the money is going and what it is used for.

Question two– tagging funds to projects is a problem area with all government spending – we must make sure the dollar applied to research or an issue actually gets spent at the end of the day.

Question three– NZ First supports tax incentives. We need to have faster depreciation write-downs and we need to incentivise research and development. If you want people to do something, you must give them the right signals and the signal is money. I know we are all supposed to be on a level playing field and have flat taxes and so on, but that's bunkum. Our competitors heavily incentivise research and development and we should too.

Question four– In Hamilton we now have Innovation Park, encouraged and nurtured by the people of Hamilton and part of a cluster of innovative businesses. As far as I know it is going well and doing the job it has set out to do. Again, we have to have a dedicated business in this area.

Question five– Yes, there is too much competition between research providers. If we are going to increase the money that goes into research and put more emphasis on research, then perhaps in the future we will build it up to the level where there won't be too much competition.

Question six– Yes, there has been a danger of too much dependence on research being driven by industry. It is correct to have what I would call applied science, for example paid for by Fonterra, which says it wants research on something, and here is a couple of million bucks to do it. But we still need scientists to go out and come up with discoveries where nobody else knew there was a problem.



Robin Gunston (UnitedFuture)

Today we are launching our research, science and technology policy. We are a future-focused party and family-centred. Some key things influence our policy, such as the need for innovation and sustainability. We need to balance sustainability with a competitive economy – we can't be so inward-looking at preserving ourselves that we forget there is a big wide world out there and we have things to sell them. So that is our mission.

Our key principles include self reliance, personal responsibility and independence and in getting proper reward for effort. If people invest in things like this, and do really well out of it, we should applaud and reward them. That's very important, but we have a long way to go in this country.

The ten policy constructs in which our research, science and technology policy sits is based on a 20-years-plus planning horizon. We believe you have to work collaboratively in this area and you have got to give some certainty.

We also need to focus on what gives New Zealand real benefit as a nation in an area of massive change. We cannot fund everything so we need to start looking for economic efficiency in all that we do, and we have a long way to go. The focus should be on food production (we are very efficient in New Zealand and I'm sure we can be a lot better in many areas); agriculture and horticulture (we applaud the blue-horizons approach and think we should go much further into aquaculture to get the benefits from our oceans) and energy efficiency.


We need to be innovative about our infrastructure. I don't see anyone researching how we are going to build roads when we no longer have bitumen.

New Zealand must continue its focus on biotechnology and nanotechnology. We have built some excellent research areas and companies around this. But we need to balance that with a greater knowledge about biosecurity because of the threat to our key industries.

We believe the wealth of our economy is based on having a very high investment in science over the next five years. We would like to see that go up to near 3% of GDP. You might say that's unobtainable and unaffordable but unless we have a high goal we will never get there.

We want to reduce contestable funding and increase privately funded R&D. And we were behind the tax breaks that took effect this year. We want to simplify the mechanism for research funding – MoRST and FoRST should be combined to become an Office of the Chief Scientist.

We need to make research, science and technology an attractive career option. This has to start right back in the primary school curriculum.

We would encourage centres of excellence to encourage specialisation and we want entrepreneurs to get together at much earlier stages and forge alliances. We believe we need something equivalent to the Halberg Award for research, science and technology. 



A day-long discussion at Massey University, to look at the link between town and country, was set against the backdrop of the sale in the past year of 46,000 hectares of farmland in lifestyle blocks of less than four hectares. This is an abbreviated version of a report filed by agricultural journalist JON MORGAN for the Dominion-Post

Nurturing a new identity

About 100 scientists, academics, farmers, students, lobbyists and other interested observers at the discussion organised by the Institute of Agricultural and Horticultural Science heard from nine speakers – a politician, an historian, a bureaucrat, an economist, a walkways commission member, a geography professor, a local government planner, a farmer and an environmental manager.

Some seemed bewildered by the subject and gave it only passing mention. Others preferred to ignore it altogether as they pursued their specialist field.

The most pertinent addresses came from two people closely involved with the issue – Kapiti Coast District Council strategy planner Gael Ferguson and Rangitikei sheep and beef farmer Ruth Rainey. But first, historian Jock Phillips, editor of the online Encyclopaedia of New Zealand, took an entertaining look at how we came to be in the position we find ourselves today.

As New Zealand's population changed from being rural to urban last century a romantic myth began to grow of the farmer as a larger-than-life sporting and war hero.

This lasted till the 1980s when it began to disintegrate amidst the humour of the Footrot Flats cartoon and television's Fred Dagg.

A rift began to open, according to Dr Phillips. Rural people did not like being made fun of and at the same time two issues arose that further polarised town and country.

They were the 1981 Springbok Tour and homosexual law reform. "These cultural issues became a battleground where people came to terms with their rural and urban identities," he said.

The rift had closed in recent years as farmers had learnt to take on urban values, he said.

For example, country shows had changed to appeal to town visitors – where once pigs were shown in pens now they raced over obstacle courses. City life and values had become central and country people had been forced to turn to that world. They could no longer assume their children would want to stay on the land.

Dr Phillips said that while the physical rural image had been dented it had gained values of science, technical knowledge, education and specialisation. "It is the making of modern agriculture and horticulture."

However, some stereotypes still remained in the thinking of urban people. Many children had a Fred Dagg image of farming and did not see it as a viable career and some city dwellers yearned to escape to the country, seeing it as a "geriatric rest home".

Dr Ferguson agreed with the rest home analogy. "Rural areas are increasingly seen as places to view beauty and contemplate the quiet life," she said.

But some people who moved from the cities to lifestyle blocks developed a "reverse sensitivity".

"They don't like the fact the dogs bark and the cows moo."

"It takes up a lot of district council time."

She pondered what would happen as fuel prices continued to rise. It could force people to decide where they lived and where they travelled.

"I suspect you will see a movement back to consolidation around the edge of major metropolitan areas and rural towns

and away from the rural lifestyle. It is going to be interesting to observe," she said.

The value of rural land to lifestyle farmers would fall.

"You can already see that in the United States where you've got rural lifestyle farmers trapped in some of these peri-urban areas.

"The values of their properties are falling, the transportation costs are huge and they cannot move."

This could happen in New Zealand, she said. Kapiti lifestyle farmers would see a fall in property values in the next round of valuations.

She said that though there might not be an urban-rural rift, there was a form of alienation. It came from having to distinguish between landscapes of beauty and landscapes of productivity in future planning.

"It has never been totally clear about how we handle the tension between the two," she said.

The Resource Management Act, with its mention of subdivision size and building character, was no help.

A further complication arose from the emphasis of rural productivity on export rather than local food.

The infrastructure that would have supported local production had been dismantled and communities were separated from it.

Urban dwellers were even more remote – "They know it happens somewhere out there, but they're not sure how and they're not even sure about the time, the seasons or the ways in which it occurs."

The peri-urban areas, which were in transition from rural to urban, were where this conflict was most common, she said.

"Often, limited economic value is placed on farmland's productive role. It is traded off against the present value of future urban development; whether it's more economic to convert it into urban uses."

However, some urban people were becoming concerned about the loss of productive land close to the towns in a time of increasing fuel costs.

On the Kapiti Coast, there was a growing resistance to allowing more rural residential living.

"The local government response to this, in my view, is to not be transfixed by the Resource Management Act at the outset.

"We need to be very clear about the role of rural areas over time, particularly where they are areas significantly influenced by surrounding urban areas," she said.

"The key issue is not what production might take place in an area but whether it can over time. It is building in resilience both for the urban and the rural communities."

Mrs Rainey said it was largely up to farmers to narrow the gap with town people.

Efforts by councils to bring country life closer to towns had met with mixed results.

Auckland had a working farm at its centre but in Kapiti a community-owned farm, acquired to run as a sustainability showpiece, was struggling under a heavy financial load.

Farm stays in cottages and bed-and-breakfasts, petting farms and on-farm adventure activities were all options for farmers.

REPRODUCED WITH THE PERMISSION OF THE DOMINION-POST

Myth or reality in our history

In October 1769, just after James Cook reached the East Coast of New Zealand, Sydney Parkinson, the artist on board the Endeavour, wrote that the country around Tolaga Bay was agreeable beyond description and with proper cultivation might be rendered a second paradise. Cook wrote in his diary that the face of the country appeared green and pleasant and the soil seemed to be pretty rich and proper for cultivation.



View of an Arched Rock, on the Coast of New Zealand; with an Hippa, or Place of Retreat, on the Sea.

The first major period of European settlement really began in 1840, when a vision was presented by Edward Gibbon Wakefield, the prime mover behind the New Zealand Company. His vision essentially was that he could recreate a stable rural English society. Wakefield settlements like Wellington and Wanganui were always seen as having an inter-relationship with the country and the society was seen primarily as a rural society. The people encouraged to come here were mechanics, gardeners, agricultural labourers and domestic servants.

The major migration came in the 1870s, when the New Zealand government built up an alliance with the rural unions to attract farm labourers. People primarily came here not from Manchester or London, but from rural areas, wanting to take advantage of free or cheap land and becoming rural land owners. Substantial government action through that period had the effect of portraying New Zealand primarily as an agricultural society; it went as far, in 1881, as changing the electoral system to give a country quota (as it was called) to the rural areas. A vote by someone living in the country counted for 28% more than the vote from someone living in the city.

But between 1890 and 1976 the proportion of the population

living in rural areas declined from around 56% to 16%. In 1911 for the first time more people lived in the city than in rural areas. The numbers of people living in the country didn't change much but there was huge growth in city populations. In 1881 40% of the population was in the primary industries. By 1981 that had shrunk to 12%. New Zealand shifted essentially from a country of primary producers, farmers and – to some extent – miners to a country basically of bureaucrats and white-collar people. Pen-pushers, really.

The key to this was education. You can't be a pen-pusher if you are not educated.

In terms of its identity, however, New Zealand continued to present the idea this mainly was a rural society. In one sense we were, because refrigerated shipping opened the possibility of exporting meat and dairy products whereas the major agricultural export previously had been wool. For the next 80 years or so New Zealand's major export receipts – 90% – came from agricultural primary production. This disguised the fact that by the 1960s only 15% of New Zealanders actually worked in the primary industries and only about 15% lived in rural areas.

So there was a growing mythology about the importance of rural New Zealand and rural identity and a growing hostility to the city, whose growth increasingly was seen as a major threat to New Zealand's identity. Governments encouraged the idea that growth in employment should involve putting people on the land, although the social reality was that people were being educated into white-collar bureaucracies.

For those who lived in the city, the idea was to avoid the dangers of inner-city life and to live in suburbs where – even though they couldn't be farmers – at least they could have their quarter-acre section: a vegetable garden, plenty of sun, in a sense a kind of surrogate farm life allowing them to escape the wickedness of the city.

A rural identity became essential to the country in many ways. It was particularly important in explaining to the world – particularly the British – why we were very good at playing rugby. We had such a good rugby team because we had a good outdoor life, a bracing

climate, plenty of farmers, and none of those nasty cities with houses touching houses. Similarly, when people wanted to explain why we suffered such a high level of casualties in two world wars and won such a high reputation as soldiers, an image was created about this resulting from our rural upbringing. The success of Charles Upham in winning two Victoria Crosses is explained in his biography by his life as a musterer in the Canterbury high country.

But as the percentage of the population living in urban areas rose above 80% we started to get very large cities – Auckland is close to one million people. Large numbers of people have moved into the cities, new immigrants have tended to settle there.



From the very beginning of European assessments of the country, New Zealand was seen as having a great agricultural future. JOCK PHILLIPS looks at our history and the change from an emphasis on rural values to city values.

were rural/urban relationships ever well connected?

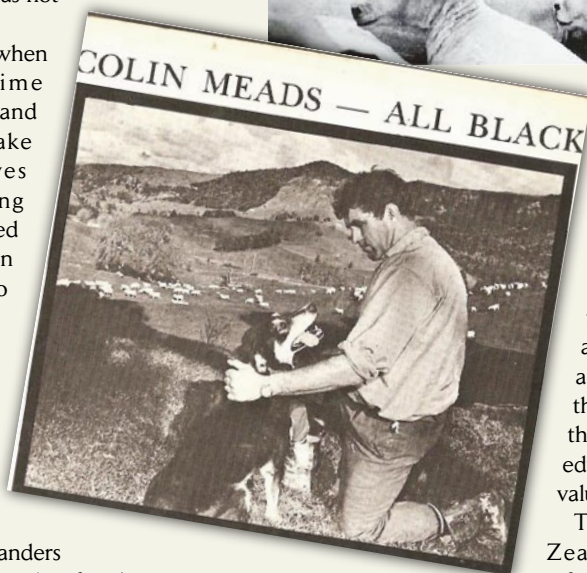
But paradoxically, the rural mythology has become stronger.

When the Queen came here in 1953 the guidebook said "the dominion is essentially a farming country". She was told about how the pioneers transformed a waste of fern and bush and swamp into rich farmland; her itinerary took her train through the pastoral areas of Hawke's Bay, through Palmerston North and up through Taranaki. She twice saw Godfrey Bowen shearing sheep; she visited a dairy factory and Watties cannery. But she didn't go to a single museum, art gallery or concert. The New Zealand shown to her was rural New Zealand. We didn't want to show her our cities because we were ashamed of them, and urban culture was not worth showing off.

That was a time when long-serving Prime Ministers Syd Holland and Keith Holyoake prided themselves on having farming backgrounds. It ended with Robert Muldoon putting sheep on to the welfare system.

But the second great revolution for New Zealand's value system was in the 1970s and 1980s. Most fundamentally in 1984, New Zealanders were forced to realise that farming was not the only place where people could and should invest, that the government should start to invest in education, science and so on. Slowly our society came to grips with a kind of reality that we were an urban society. We had a major explosion and discovery of urban culture. People discovered the inner city, culture and enjoyment, and for the first time started to find city heroes. Rugby players no longer carried sheep but were wearing fashionable underpants. We have people like Peter Jackson, very different role models from Colin Meads or Sir Edmund Hillary. In other words, we were slowly coming to grips with an urban reality.

As our urban culture strengthened and the cities became more confident, the perception of rural New Zealand became increasingly comic. The rural mythology in a sense was reversed: people started to laugh at the country ("Footrot Flats", for example). This created a degree of resentment within the rural community, exacerbated by rural New Zealanders being confronted with difficult situations which challenged their values, such as the 1981 Springbok tour and homosexual law reform. Those two cultural issues provided something of a battleground



about people coming to terms with a rural identity versus an urban identity.

As the city has become more confident, however, we are getting a rural New Zealand which accepts that some city values, such as science and computers, can be used in farming. I sent a survey to all secretaries of all 104 A&P shows asking them what had changed in the last four years. They all said two things had changed:

- The numbers of animals being shown had dropped dramatically. Increasingly people no longer used the shows to show off their good animals, but increasingly were turning to computerisation, breeding programmes and so on to sell their animals.
- There has been a huge increase in entertainment designed to appeal to city folk. Instead of prize pigs being shown, they were raced.

Similarly, city people are attracted to towns like Taihape by the gumboot being turned into an advertising icon.

The way people think of their identity in New Zealand has changed dramatically in the past 20 to 30 years. Whereas the rural mythology was fundamental to our identity for 150 years, city life and city values have become much more important, and rural New Zealand has been forced to turn to that world. Families will be going on to the land, but their major concerns are whether their kids get a good education and a university degree – a different set of values, expectations and hopes.

The loss of New Zealand's identity as a farming country can be seen as a great gain.

The rural image – the Colin Meads image – was of physical strength, Kiwi No. 8 fencing wire common sense, versatility and good blokeism. The new urban image emphasises the importance of education, specialisation, technology and science. These are precisely the values needed in agricultural communities today. In some sense the death of the old rural ideal and the emergence of an urban ideal is actually the making of modern New Zealand agriculture and horticulture. ☐

Dr Jock Phillips is General Editor, Encyclopedia of New Zealand, Ministry of Culture & Heritage.



The need for more information to help rural

There might not be a rural-urban divide but there is a form of alienation in the way we think about urban and rural communities. One problematic issue is that we still labour under a late 18th century notion about landscapes, which is reflected in legislation governing the protection of reserves and so on, and in the way in which the Town and Country Planning Act was morphed into the Resource Management Act. As a consequence it has never been totally clear how we handle the tension between landscapes and productivity.

This can be seen in the imagery around tourism. Much of what we see is an empty landscape, not the rural productive landscape. It might have sheep or pastures in it but it is not about people and the way they work in it.

Another issue is the way in which rural activity essentially is centred on export-driven production. Food production for local communities and cities is incidental to that process. Consequently over the past 20 years to some extent there has been a dismantling of the rural infrastructure that would have supported more local production. That may or may not be a good thing, but it means there is alienation of urban dwellers from the food production process.

Urban dwellers know food production happens but they are not entirely sure how it happens, and they are not sure about the time, the seasons and the way in which it occurs. Rural areas are increasingly places for viewing beauty and contemplating the quiet life.

Farmers and food producers must always

focus primarily on production from the land but they are grappling with decoupling the production effects of what they do from the ecosystem harm.

The Resource Management Act perpetuates the conflict between producers and consumers and doesn't help us resolve the issue. It privileges old paradigms – outstanding visual landscapes, not necessarily productive or sustainable landscapes. The Local Government Act gives us a bit more to manoeuvre around – such as social wellbeing and economic wellbeing – but it doesn't really help us deal with those issues, either.

One of the issues from a local government point of view is what happens in peri-urban areas. People in those areas are often making decisions about farming on the basis of whether it is more economic to convert their land into urban uses. This is logical from a farmer's perspective.

The Kapiti Coast where I work is the edge of the metropolitan area of Wellington, with about 17,000 households. It has a rural area – a small amount of pastoral and a reasonable amount of horticultural activity. It includes the rural town of Otaki which has its own rural labour market. But the overall economic activity in the whole district is construction based on residential growth. The issues to be resolved by local government include urban spill, urban growth management and so on. There has been some success in constraining rural lifestyle development, which I don't see as particularly sustainable in the long term. There is a fairly influential group of landowners and developers who see that rural land being best used through conversion into some form of urban settlement. Our problem is that there is no science particularly on how we respond to the tensions or pressures. Decisions are very much based on received information or planning orthodoxies about minimum lot sizes, character and so on. The Resource Management Act talks about character more than it talks about productive activities.

But the so-called rural-urban divide is overstated. Provincial and small towns still have strong links back into their surrounding communities. Otaki is a very old community with a strong Maori population, a strong Chinese population, a strong farming connection and strong links among farmers, many of whom are involved in cycle-way and walkway developments in their rural areas.

communities build resilience

The costs of oil and fuel, the movement of populations in and out of rural areas, and how these affect the rural economy is increasingly relevant – particularly, what they mean for things like services for rural towns. They must and will affect transportation costs and the decisions people make about where they live and where they travel. Potentially I see a movement back into and consolidation around either edge communities that make up metropolitan areas or towns and away from rural lifestyles to some extent as the cost of fuel rises.

I don't have any particular response to this from a local government point of view. I am just raising the issues and the questions that have been raised in our community by planners and others. One potential consequence is that the economic value of rural lands for a rural lifestyle and rural residential activities will fall. You can already see this happening in the United States where rural lifestyles are trapped in some of the peri-

urban areas, the value of their properties are falling, the transportation costs are huge and they cannot move. You are starting to see it around New Zealand, certainly in Kapiti. The next valuation round will see a drop in the value of rural residential or lifestyle properties.

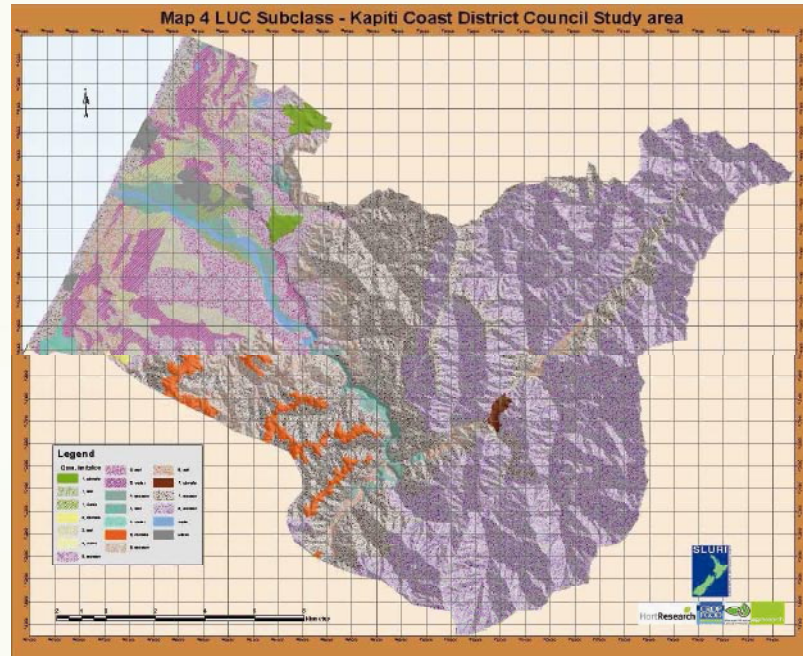
This raises questions for planners or land-use managers about the extent to which they need to regulate and to what extent urban communities will be prepared to pay to maintain productive potential close to urban areas in the short term. If you live in a centre that has to import most of its food from elsewhere, the cost of living will rise. There is also the issue of how communities protect their investment in infrastructure as the cost of living in that community forces people out. There are towns around New Zealand that are grappling with the lack of population to support the infrastructure investment they have already made.

Key questions are how do you maintain the productive potential around your town and how do you ensure that all settlement maximises rural productivity and recognises the barriers to it?

There are huge problems in rural areas, too, about reverse sensitivity. People go and live in rural areas, then don't like the fact that the dogs bark or the cows moo. This takes up a lot of district council time. On the Kapiti Coast, there is a growing resistance to more rural residential living and the landscape and lifestyle expectations that go with that.

We need to undertake some critical research around understanding rural economies, economics, and we need to do that within the emerging paradigm around food and food production.

We need to be very clear about the role of rural areas over time, particularly when they include areas significantly influenced by nearby urban areas. The key issue is not what



production might take place in an area, but whether it can take place over time, thereby building resilience both for the rural and urban communities. Resilience is probably one of the key principles around sustainable development.

Therefore we need to know the productive potential of an area. We need to know this within environmental and ecological bottom lines and we need to know what can be the nature of the rural economy. We are starting to do some work on that, looking at the productive potential of the range of crops and other activities based on soils, climate and so on within the Otaki area, to give an understanding of the economic spin-offs or trade-offs that might result.

We also want to know the economic benefits to local communities – not just for exporting – of rural production and the costs of losing productive potential for both the urban community and the rural community and the implications for land values. These values frequently drive decisions around whether or not people stay in a peri-urban area. And how does this change, if you take the peak-oil type of scenario and if servicing local urban consumption needs from local properties is the first principle? How does that ripple out from local productive activity and what is the mix of local export markets? What are the best settlement patterns within the rural area to maintain productivity? And so on. That requires the soil scientist and the rural economist to get together with the sociologist and the land use planners and have a conversation. That is the process we are working through at the moment. We need those expert skills and that information if we are going to properly respond to the tensions that still exist in the rural urban context, even if there is no rural urban divide.

Dr Gael Ferguson is General Manager Strategy and Partnerships with the Kapiti Coast District Council

Nine ways of closing the urban-rural gap

Fifty years ago most New Zealanders had relatives on farms where they often holidayed as children and – through grassroots assimilation – gained an understanding of the practicalities of farming. Today our population is well over 4 million. At 30 June 2005, an estimated 86% of the population was living in towns and cities occupying just 2.7% of our land area. Fewer than 8% of New Zealanders lived in what Statistics New Zealand describes as "rural areas with low urban influence" and "highly rural/remote areas" – farmers basically.

One of Federated Farmers' main jobs is educating policy makers on the consequences of their proposals on rural communities and businesses. It's not that the policy boffins want to make farmers' lives difficult; it's just that too many have little understanding of life down on the farm. Their misconceptions may well worsen as we become progressively more urbanised.

What can be done to bridge the rural/urban divide? Here are my proposals: –

1. Accessibility to rural areas and connection to rural life

The countryside is just an hour's drive from any city (and few farmers are probably more than two hours from a reasonable-sized town). Even so, it is not easy for people to have a rural experience if they want one and we must offer more opportunities.

One initiative was started about three years ago on a 450ha property on the hills above Paekakariki, offering the prospect of a sustainable farm on the outskirts of Wellington that could showcase best farming practices while being open to the public for recreational activities, such as walking, biking and picnicking. A farm plan proposed retiring certain areas, planting significant catchments and trying to get an economic unit from the rest of the property, but the farm was too run-down: new yards,

extensive fencing and a woolshed were required, beyond the means of the Guardians Trust and Wellington Regional Council. An opportunity to combine farming, recreation and conservation close to the urban public was lost.

2. Education

Opportunities should be provided within school curricula to incorporate bursts of rural studies, such as school exchange programmes involving a rural school adopting an urban one and students spending five days in each other's community.

In 2006 an ambitious proposal was outlined to ensure that "every schoolchild in England will be given the opportunity to visit a farm to reconnect people with where and how their food is produced". In a country like New Zealand, so dependent economically on its primary produce, it's even more important that such a concept be instigated here.

The hoof and hook competition, organised by Future Beef NZ, is aimed at encouraging school pupils to learn about and become involved in the beef industry. Competitors are each given a steer which they learn to handle and prepare for showing before the animals are sent for processing and the carcasses judged. The competition includes killing beasts to which students may have become attached.

Young farmers' clubs aimed at 18-30 year olds used to be popular in the country areas but memberships have declined in the past 20 years. They had been attracting young urban people, girls in particular, and the national organisation has recently employed field officers to try to resurrect ailing clubs and start new ones. Like most voluntary groups the clubs struggle for funds and it is unfortunate they no longer come under the Federated Farmers umbrella.

People must be reconnected to the food they eat and with where it comes from. As discussion increases around our carbon footprint, the promotion of growing food at home should get funding from the campaign to fight obesity, not only by encouraging more fruit and vegetable consumption but also the physical exercise of gardening.

Farmers' markets are becoming increasingly popular and help to remind people of the link between farming and food production.

3. Attracting entrants into horticulture and agriculture

As well as bridging the divide we must get more people into the businesses of agriculture and horticulture.

DairyNZ has developed a campaign dubbed Get Fresh, targeting young people aged 15-18 who have yet to make career decisions, as part of its drive to address farmer concerns around on-farm labour shortages. Meat & Wool New Zealand's equivalent "Outstanding in the Field" has been running for about three years and has a number of initiatives.

But before we attract young people who are motivated and industrious into our industry, we must ensure matters like work/life balance, remuneration and working conditions are of a high standard.



Urban and rural dwellers often express similar sets of values, but a lack of understanding causes differences in views and sometimes can polarise communities. But there are many avenues for improving the dialogue and understanding across the divide. RUTH RAINEY sets out nine areas of potential for closing the gap.

Perceptions about a job on the farm are not good in many secondary schools. Agriculture as a career option is too often portrayed as an option for the less academic. The reality is that farmers need a sound scientific base, a good head for business and a commitment to physical fitness.

4. Economic perceptions

One of the benefits of the record payout to the dairy industry this season has been the much increased media coverage dairying has received from all angles. Some coverage has underlined how dairying's contribution to GDP has minimised or delayed a recession. There has been negative coverage, on increased cheese and butter prices. But the publicity has helped remind or inform many urban dwellers of the connection between the country's prosperity, lifestyle and primary sector export receipts.

The leaders of rural organisations such as Federated Farmers and Horticulture New Zealand nevertheless must be careful about how they get their messages across. The old line about farming being the "backbone of the country" comes across as condescending and paternalistic and does not help to communicate our real contribution to the economy.

5. Tourism

Tourism has offered many opportunities to improve understanding between rural and urban communities through farm-stays/cottages, bed and breakfasts and – more recently – adventure-style on-farm activities. About eight years ago, in partnership with farmers down the road, we started a private walk on our farm – the Kawhatau Valley Walk – that attracts mainly urban groups and those in the 50-70 age group. As well as adding a little to our on-farm income this adds to the interest and variety of our own lives – the exchange of information is definitely two-way.

6. Raising the rural profile with the media/improving perceptions

We need to raise a more positive profile in the media. We should press for increased rural coverage in our major newspapers and national radio and maybe provide content ourselves by contributing letters to the editor, phoning talkback radio, and putting school events such as pet days into radio community events calendars.

7. Competing land use

Seven thousand new lifestyle blocks are being created every year and there are around 170,000 lifestyle blocks (compared with 40,000 farms). This growth reflects a desire to live in the countryside and enjoy the perceived peace and space and romanticism of 'living off the land', but competing land use has been a catalyst for some tensions between rural and urban people.

Farming often involves noise, varying hours of operation, smells, sprays and fertilisers. It is important we recognise the potential for conflict and strive to avoid or minimise it.

On the other side of the coin, farmers could revisit their attitudes towards lifestyle or smaller block dwellers. In some



areas there is a surprising amount of industry happening on these blocks and in general their owners seem to plant more trees and fence off more waterways. Sometimes there are animal welfare issues but the arrival of new people has often revitalised rural schools and boosted sports clubs and other volunteer groups. By welcoming new small block holders, helping them or encouraging them to join local groups, rural people would soon find education and information flows two ways.

8. Rural representation on local and regional bodies

Rural people must ensure they have adequate representation on local and regional bodies, especially when rural people are becoming a smaller percentage of the population but rates continue to be assessed mainly on property values. Getting a significant rural perspective around council tables is essential. Because they govern resource use on private land, regional councils are increasing making demands on land owners, who therefore must be fairly represented and properly heard. Regional councils also must enact plans that provide a balance between society's demands and the ability to pay. Becoming involved politically ensures that policy makers don't overlook economic realities.

9. Environmental impact

Urban dwellers are becoming increasingly conscious of environmental issues and are making greater demands without recognising that most farmers hold similar views and want to leave their land and environment in a better state. True sustainability includes economic, social and environmental aspects and must be kept in balance.

Rural people must continue to evaluate their practices and their environmental effects and let others know what they are doing.

The Ballance Farm Environment Awards showcase some wonderful examples of good environmental practices. It would be great to see the national event televised like the Young Farmer of the Year competition.

Ruth Rainey is the former president of Manawatu/Rangitikei Federated Farmers

The importance of the rural/urban

New Zealand has a fair amount of reasonably flat land; a fair amount of reasonably good soil; and a reasonably temperate climate with a fair amount of well-distributed precipitation, mostly as rain. The goods we can produce from a small range of temperate plant and animal species provide the main base for urban activity in a country without a large industrial population and given our limited mineral resources.

Primary industries produce only about 8% of GDP, but they provide the base input to much of the processing, manufacturing and business services that create about two thirds of GDP, and we need people to carry out all these activities. The services needed to support the people generate over 20% of GDP.

In the towns and settlements in the regions around the country, employment in the core driver industries – particularly in the services to those industries – provide employment and business opportunities for a range of small self-employed businesses for shearers, fencers, logging and silvicultural contractors, and transport operators.

BERL research on the forest and wood industry in Otago/Southland looked at the 13 small to medium settlements in the population range around 300 (Clinton) to 8,000 people (Gore). We found that for every ten people employed in the core "driver" industries of primary, processing, manufacturing and construction there was a steady number of people in urban support industries.

There were:

- Three to four in business services (electricity, wholesale, transport, finance, other);
- Four to five in private services to people, (retail, hospitality, recreational, cultural); and
- Three to four in social services (education, health and community services).

For every ten in the driver industries there were 12 in the urban support industries. The relationship was similar across the settlements with a standard deviation for each around one. We

suspect the situation is similar in other regions. This is the core fabric of complementarity between the rural industries and their urban settlements. The people in the urban industries depend on the primary sector for their work, but in turn they support the social fabric in the rural settlements.

The symbiotic relationship is probably clearest here. Without the urban industries it would be impossible for the "core driver" rural industries, or their people, to exist and operate effectively.

Moving from the small urban centres to the main cities, we are finding positive changes in behaviour. We suggest this is creating an expanding desire or need to be able to have access to space in the rural areas to enjoy the environment, participate in active recreation and the like.

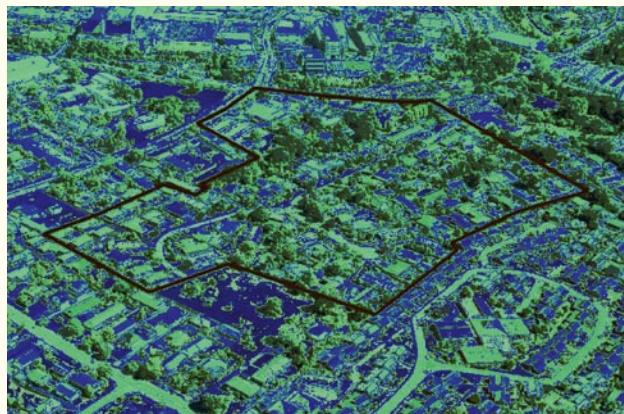
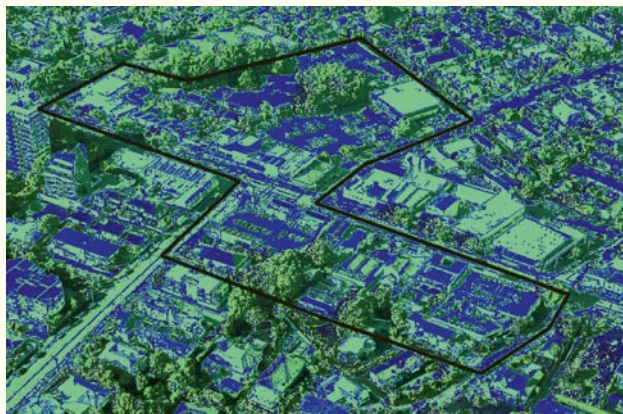
The change in urban behaviour coincides with an increase in urban density, or an increase in the "human stocking rate". This brings with it a range of measurable economic benefits, including:

- At higher density, land values increase and industries move up the value chain;
- This provides a wider range of employment opportunities to the residents;
- Thus the participation in the labour force is higher and GDP generated per person higher;
- A higher share walk, jog or cycle to work, or use passenger transport (PT), reducing emissions; and
- The costs of providing infrastructure, social and community services per person is lower in higher density areas.

In 1903 the average stocking rate of the Auckland urban area was 19 people per hectare and in 2001 the average stocking rate of the (larger) Auckland urban area was 19 people per hectare. But within that sprawl at a similar average stocking rate, some quality, higher density urban areas are developing with densities of about 50 per hectare and above. These areas of higher density in Auckland (and Wellington) are where a lot of the creative, innovative work is developing. This creative, innovative work is



connection to urban New Zealand



in services applied to the product from our rural industries as well as to the film-making industry and others.

There tends to be an impression that increasing urban stocking rates above the suburban average of about 20 people per hectare will generate near-slum conditions.

Not so. This is shown by Auckland Regional Council work on regional urban densities.

One area with a suburban average of around 20 people per hectare is in Henderson, in West Auckland. This can be contrasted with a residential area in Newmarket in the higher density ring around Auckland's central business district, with a residential population density of about 80 people per hectare. Mid-rise apartment blocks are interspersed with townhouses, separate dwellings, and – importantly – some open space and greenery. Also important is that there are clearly commercial and industrial jobs nearby.


A third area is an employment zone in Remuera. This is not East Tamaki industrial, but has about 200 jobs hectare, undoubtedly with a fairly high ratio of business services and other high-value jobs. It is located in a high-value residential suburb with apparently a range of accommodation types and many workers nearby. This urban density supports frequent passenger transport services.

These higher urban density areas have higher productivity and other advantages over the suburban sprawl that would result if

all areas had the density of 20 per hectare in the first shot. It is in the interests of the country (and the planet) to encourage this higher-density urban living. But with this style of urban living, Kiwi people want some respite and those who can afford it are buying lifestyle blocks.

Is that the best use of that land?

The rural sector is already investing in significant work to improve the rural productive environment. BERL research for the Taranaki Regional Council five years ago showed the Taranaki community – including farmers and the energy sector – had been investing significant sums in the environment for some decades. An update of that work shows even more investment.

In one area we visited, a bush remnant is flourishing, and a disused farm house has been renovated for renting as a corporate retreat. In appropriate places this provides a positive way to enable urban dwellers to enjoy a re-kindling of the rural urban connection. Fenced riparian strips in many places could have tracks and paths along them making pleasant retreats, and potentially controllable access for fishing in the streams. The question is whether rural dwellers are willing to share the improvements they are making to the environment. 

Kel Sanderson is Executive Director of Business and Economic Research Ltd (BERL)



Bill Saunders

(William Munro Hutchison Saunders)



Bill Saunders passed away peacefully in Hamilton on 31 August after a prolonged illness. He was 81. His funeral in St. Andrews Presbyterian Church was attended by over 300 family, friends and colleagues.

Bill was a Foundation Member of The New Zealand Institute of Agricultural Science and was made a Life Member before his retirement.

He joined the NZ Soil Bureau of the DSIR as a chemist in Wellington in 1948. Two years later he travelled to the Macauley Institute in Aberdeen to do his PhD (working his passage over on a cargo ship as a "freezer-greaser" to save money). He returned in 1953 with his Scottish wife Mary. His PhD investigated several Scottish soils to see how phosphorus was distributed through the profile. For the rest of his career soil phosphorus continued to interest him.

Bill was the consultant chemist on several soil surveys within the Soil Bureau and wrote the soil chemistry sections of several bulletins. He also published 28 papers on soil phosphorus, soil Mg and potassium.

In 1965 he transferred to Ruakura in charge of the soil chemistry/soil fertility section. As well as his interest in P he worked widely on sulphur. His interest in recycling of nutrients by the grazing animal led him to look closely at distribution patterns of dung and urine in pastures. He became involved with answering the practical questions posed by farmers and gave many addresses to farmers and consultants on soil testing and fertiliser recommendations.

He published more than 30 papers in association with colleagues over the next 25 years at Ruakura.

After retiring in the early 1990s he continued to be involved in the community in various capacities. His work with Newstape (newstapes for the blind), hospital visitation and community security was widely respected. He also had a long involvement with yachting in the Waikato, holding many positions on the Hamilton Yacht Club including Commodore. He enjoyed golf and played regularly until close to his death.

Bill was very much a gentleman, held in high regard as a scientist and as a man by all his colleagues. He was honoured with Life memberships from both the New Zealand Soil Science Society and The New Zealand Institute of Agricultural Science (now The New Zealand Institute of Agricultural and Horticultural Science).

Bill is survived by his wife Mary, his four children and ten grandchildren.

— Mike O'Connor/John McCraw

Award Winners

Honorary Fellow

John Lancashire

John Lancashire had a distinguished career as a ecologist and agronomist with DSIR Grasslands from 1965-1985 and became director in 1985, overseeing work on grass, forage herbs, white clover breeding, basic plant science and sustainable farming systems. Extensive and immensely valuable additions of seeds and cultivars were made to collections at the Fitzherbert Centre. With the DSIR restructuring in 1992 John was appointed general manager of the Grasslands Division of the newly formed AgResearch, one of five general managers running pastoral agricultural science in New Zealand.

John left AgResearch in 1998 to set up his own strategic science consultancy business.

He joined NZIAHS in 2001, becoming a council member in 2003 and president in 2006. He has organised highly successful conferences in conjunction with the Primary Resources Forum of the Royal Society – "Good for Growing" at Napier in 2006; "The Importance of High Productivity to the NZ Economy" in Wellington in 2007; "Rural/Urban Connections – New Zealand's Life Blood" at Palmerston North in 2008.

John was appointed to the Royal Society National Science Panel in 2006. Its recently issued "A Science Manifesto" has been labelled the most significant review of NZ science in the last 25 years.

John has been a consistent and effective voice in both public and professional media over the last few years, supporting the betterment of New Zealand agricultural and horticultural science and highlighting its immense economic benefits. He was recently elected to the Royal Society Council in recognition of his prominence in primary sector science.

Fellow

Professor Hong Di

Hong Di, a staff member at Lincoln University since 1995, completed a Master of Applied Science in Soil Science with First Class Honours at Lincoln in 1988 and a PhD in 1991. He also holds a degree from the Agricultural University of Hebei, near Beijing, where he taught soil science.

After completing his PhD he was awarded a Postdoctoral Research Fellowship in Soil Science, then worked in the Department of Soil Science and Plant Nutrition at the University of Western Australia. He returned to Lincoln University as a research scientist, and became associate professor in 2003 and professor of soil and environmental science in 2004.

Professor Di was the winner of the Best Publication Medal by a Young Scientist from the Australian Society of Soil Science in 1995 and won the NZ Society of Soil Science's ML Leamy Prize for the most meritorious published contributions to soil science in New Zealand in 2000. The Leamy prize stamped him as New Zealand's top soil scientist of the year.

He was elected a fellow of the NZ Society of Soil Science in 2004. He has served as an associate editor for the Journal of Environmental Quality published in the USA and is frequently invited as a keynote speaker at international conferences. His publications have made significant contributions to knowledge



John Lancashire receiving his Honorary Fellowship from Dr Jon Hickford



Prof Jacqueline Rowarth and John Lancashire



Philippa Stevenson receiving the Sir Arthur Ward Award

and understanding about the transformations, leaching and environmental impacts of nutrients and agrichemicals in the soil. Professor Di's "breakthrough work" in this field enabled him to develop new decision support models to predict the leaching levels of nitrate and pesticides from soil.

For the past 13 years he has been leader of Lincoln University's research on the use of nitrification inhibitors to decrease nitrate leaching and greenhouse gas (nitrous oxide) emissions in intensive grazed pasture systems, work which led to the development of the eco-n technology.

AGMARDT Technology Transfer Award

Dr David Scobie - a leading advocate for low-input, ethically-improved, low-care sheep to enable the industry to cut costs, increase revenue and safeguard market access under increasing animal welfare standards and scrutiny. His work has recently featured on TV One's Country Calendar, Radio New Zealand's Country Life and in the magazine Unlimited. He has taken examples of these sheep to the Southern Field Days at Waimumu and several Meat and Wool New Zealand Monitor Farm Field Days so that farmers can better understand his concepts and the progress being made. David has an outstanding record in technology transfer.

Doug Campbell Award

David Harrison - who joined the Canterbury Section Committee in 1997 and has been a major contributor to the planning and implementation of all activities carried out by the committee over the past decade. He had a particularly important role in helping to organise the Gene Technology Workshop and the 2007 convention forum "The Future of Canterbury Farming in a Changing Environment."

Sir Arthur Ward Award

Philippa Stevenson - a widely respected journalist who has specialised in writing on primary industry and environmental issues. She is a former editor of *Rural News* and agricultural editor at the *New Zealand Herald* and regularly contributes to *Farmers Weekly*. She stepped down recently as founding editor of the internet-based *Rural Network*.

2008 PGG Wrightson Seeds Significant Achievement Award

Dr Jolon Dyer - from AgResearch Lincoln, for his research on the characterisation and control of wool discoloration. This was breakthrough research on what perhaps has been the most significant problem for the wool industry for decades.


The Queen's Birthday Honours 2008

Special congratulations to NZIAHS members:

C.N.Z.M.

Professor Jacqueline Rowarth for services to agricultural science.

O.N.Z.M.

Professor Keith Cameron and **Professor Hong Di**, for services to agricultural research. 

Royal Society Council 2008 Elections

John Lancashire was recently elected to the revamped Royal Society Council for a three year term as the representative of the 49 constituent organisations. Many primary sector societies are paying constituent organisations of the Royal Society and John is very keen to hear their views on any issues relating to the activities of the Society. There is also an opportunity to discuss these at the annual meeting of the Society in Wellington on 11th November so get your thoughts to John before then.

THE NEW ZEALAND HORTICULTURAL SCIENCE ADVANCEMENT TRUST 2008 AWARDS

Are you working in horticulture and need financial assistance to develop your ideas, attend a conference, disseminate information or sustain a project that might advance horticultural science in New Zealand

If so, and you are a member of NZIAHS (including a Student member), then you are encouraged to apply to the
New Zealand Horticultural Science Advancement Trust
for year 2008 awards.

Applications are considered on their merits,
including the benefits to New Zealand horticulture.
In recent years individual awards typically ranged between
\$1,000 and \$2,000.

While most applications are for assistance to attend international symposia and meetings, consideration is given to any project that advances horticultural science in New Zealand.

Application forms are available from:

Jenny Taylor : secretariat@agscience.org.nz

The closing date for applications is 3rd November 2008

New members

We welcome

Diane Fraser (Auckland)
Philippa Stevenson (Waikato)
William Aitkenhead (Manawatu)
Kirsty Dickins (Manawatu)
Helen Free (Manawatu)
Adam Goldwater (Manawatu)
Amy Taylor (Manawatu)
Michael Walker (Manawatu)
Wayne Anderson (Nelson)
Jeff Bennett (Nelson)
Bronwyn Braithwaite (Canterbury)
Jolon Dyer (Canterbury)
Pedro Evans (Canterbury)
Tony Henderson (Canterbury)
Eline van Zijll de Jong (Canterbury)
Mei Meiyalaghan (Canterbury)
Linda Newstrom-Lloyd (Canterbury)
Tammy Roush (Canterbury)
Matt Ryan (Canterbury)
Craig Sixtus (Canterbury)
Simon Lynn (Otago)

Corporate members

- AGMARDT
- AgResearch
- Ballance Agri-Nutrients
- Catalyst R&D
- Crop & Food Research
- DairyNZ
- Federated Farmers of New Zealand
- Horticulture New Zealand
- HortResearch
- Lincoln University
- Massey University
- PGG Wrightson Seeds
- Ravensdown Fertiliser Co-op

THE NEW ZEALAND INSTITUTE OF AGRICULTURAL & HORTICULTURAL SCIENCE INC

National Secretariat

P O Box 121 063 Henderson, Waitakere City
Phone 09 812 8506 Fax 09 812 8503
secretariat@agscience.org.nz

Contributions to the Editor

Phone and fax 04-237-8074
bob.edlin@paradise.net.nz

www.agscience.org.nz

AgScience is published by the The New Zealand Institute of Agricultural & Horticultural Science Inc The opinions of contributors are their own and not necessarily those of the publisher or editor. The entire contents of AgScience are copyright and no material may be reproduced in any form without the permission of the NZIAHS Council. All enquiries to the editor.

ISSN 1175-3927