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STANDING COMMITTEE ON AGRICULTURE, FISHERIES AND
FORESTRY

Reference: Rural skills training and research

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HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON AGRICULTURE, FISHERIES AND FORESTRY

Wednesday, 17 August 2005

Members: Mr Schultz (*Chair*), Mr Adams (*Deputy Chair*), Mr Martin Ferguson, Mr Michael Ferguson, Mr Forrest, Mr Lindsay, Mr Gavan O'Connor, Mr Secker, Mr Tuckey and Mr Windsor

Members in attendance: Mr Adams, Mr Martin Ferguson, Mr Michael Ferguson, Mr Lindsay, Mr Gavan O'Connor, Mr Schultz and Mr Secker

Terms of reference for the inquiry:

To inquire into and report on:

- The availability and adequacy of education and research services in the agriculture sector, including access to vocational training and pathways from vocational education and training to tertiary education and work.
- The skills needs of agricultural industries in Australia, including the expertise and capacity of industries to specify the skills-sets required for training, and the extent to which vocational training meets the needs of rural industries.
- The provision of extension and advisory services to agricultural industries, including links and coordination between education, research and extension.
- The role of the Australian government in supporting education, research and advisory programs to support the viability and sustainability of Australian agriculture.

WITNESSES

CAMPBELL, Mr Colin Andrew, Executive Director, Land and Water Australia 1

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Committee met at 5.13 pm**CAMPBELL, Mr Colin Andrew, Executive Director, Land and Water Australia****PEARSON, Dr Stuart, Senior Knowledge Broker, Land and Water Australia**

CHAIR (Mr Schultz)—I declare open this public hearing of the House of Representatives Standing Committee on Agriculture, Fisheries and Forestry inquiry into rural skills training and research. This is the third public hearing for this important inquiry. I welcome representatives from Land and Water Australia. Although the committee does not require you to give evidence under oath, I advise you that these hearings are formal proceedings of the parliament. Consequently, they warrant the same respect as the proceedings of the House itself. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as contempt of parliament. Do you wish to make a brief statement in relation to your submission or some introductory remarks?

Mr Campbell—I would like to make some brief introductory remarks. We will be addressing primarily terms of reference 1, 3 and 4 of the inquiry. Land and Water Australia is one of the 14 rural R&D corporations. As such, we are an investor, a manager and a broker of research and development activities, but we operate primarily in the natural resource management domain—the management of land, water and vegetation resources—for the benefit of Australia's primary industries and rural communities. However, for the majority of our work we work in partnership with our fellow R&D corporations who are involved in agricultural commodities R&D, so we are familiar with the broader agricultural scene.

With respect to the first term of reference, I will concentrate primarily on research services in the agriculture and natural resource management sector and make the point that I believe we have a rural R&D model which is the world's best, consisting of the R&D corporations with their very close engagement with industry. That close engagement with industry has a big bearing on the extent to which the research is taken up within industry and it also ensures that generally you are trying to answer the right questions. You are actually answering questions that people are asking and not questions that no-one has asked, so the relevance of the research is good. It has a very strong track record in delivering a very good return on levy payers' and taxpayers' investments. Those R&D corporations are now also collaborating on the very business of extension.

I would also make the point that, as outfits that were primarily set up to fund research collectively and individually, we are finding that we are having to spend more and more of our dollars on what we traditionally call extension. So the research funders are now having to fund more explicit extension activities because of the change in the funding mix, with states winding back their investment in those sorts of services. We can come back to that later.

With respect to the third term of reference on extension and advisory services, and in particular the links and coordination between education, research and extension, there is undoubtedly some wonderful work happening around the country and there are some very good examples, some of which are outlined in the case studies listed in our submission. However, I think there is room for improvement in some of the linkages between education, research and extension. An analogy that I have used in the past is that we are quite good at funding the boxes

but we are not as good at funding the arrows, if you know those organisational diagrams. I think there is room for us to look at ways of improving some of the linkages—for example, between some of the work being done in the universities and industry needs.

The first case study that we list is about river management, education and training. We have tried to do something about that through getting two courses up at Charles Sturt University in Wagga and Albury. One is aimed at community people and is about river management techniques, and one is a graduate diploma for professionals in the field, arising directly from the needs of the new catchment management bodies and community groups in managing rivers. In those sorts of instances where universities are responding directly to an industry or broader community need, you get good relevance.

With respect to the fourth term of reference about the role of the Australian government, our submission expands on that in some length. But, just by way of introduction, the Australian government is now a very significant investor in rural extension and training in addition to research. In the natural resource management area, the Australian government is now funding several thousand positions around the country, so it is more than pulling its weight in assisting in the really critical job of providing intermediaries between the science and the practice.

In short, if you are concentrating on agricultural production, you can afford to concentrate on the top one-third or top 20 per cent of farmers and you will get the bulk of the production, and the private sector is delivering that pretty well. The fact that there has been a decline in state funding has been picked up by the private sector, and agribusiness is doing an excellent job with that top end of the market on agricultural production. But, for natural resource management, we need to consider all land-holders—big and small, periurban, rural and pastoral and in all parts of the farming spectrum. The best possible model is where you can integrate some of the public benefit concerns in the commercial activities of farmers, which you can do with things like soil health or water-use efficiency, where the measures you are talking about make good business sense and you can deliver that through an industry model. That is by far the best way you can achieve it.

But there will always be some public good issues that are less easy to put in a commercial context, where we will continue to need publicly funded people as intermediaries between the science and the practice. It is not efficient to expect every researcher to be a David Attenborough or whatever and to do their own communication. They should be doing as much as possible, but often their skills are in research, not in media or extension. So we will continue to need professional intermediaries and, in my view, they need to be more skilled than ever when you start to deal with complex issues at a catchment scale. We are funding a lot of those positions at the moment, but I think we could be doing a better job hooking them into the research, on the one hand, and the catchment management and farmer community, on the other.

It is also a fact that we have a system at the moment that is based primarily on people who are on relatively short-term contracts and engaged in projects that have a fixed term nature, usually three- or five-year projects. That is the reality, and I am not suggesting that that should be changed at all. But, where you have a system that is being delivered primarily by people on short-term contracts, you need to be thinking about how to build some long-term memory into the system. As one of my directors says, at least we should be making new mistakes, not remaking old mistakes. I am concerned that we need to be paying more explicit attention to how

people can find out what has happened in the past in other catchments in other states and other regions and how we can find out who is doing what where and what lessons have been learned—building some long-term memory into the system. Again, Land and Water Australia is working on some projects to do just that. Those are some introductory remarks that address the guts of our submission.

CHAIR—Thank you very much for that, Mr Campbell. Dr Pearson, do you have any comments or a short address you would like to make, or are you happy just to take questions?

Dr Pearson—I am happy to take questions, thank you.

Mr ADAMS—Evidence we have received shows that some farmers are being left behind. The old extension services were taken out of the state systems and people have to buy that knowledge. But some people are not buying it. The old field days and everything else that was always run by the state agriculture agencies—I remember my old dad going to them and tagging along as a kid—do not happen, or not much, any more. I went to a soil one dealing with on-farm forestry in my state not that long ago. There were probably 150 farmers there. Is it your submission to us that some people are being left behind on new ways, new sciences, the new way to look at things and the way to go about it? You mentioned university courses, so maybe you would like to elaborate on that.

Mr Campbell—Our submission focuses primarily on the intermediaries—people like the advisers, extension officers, facilitators, coordinators, farm consultants, farm advisers, agribusiness people and resellers, and how we can be sure that they have got the appropriate skills so that the advice they are giving is very sound. For people who are not active information seekers—who are not surfing the web, who are not seeking out field days or badgering researchers for information—it is unlikely that extension on its own is going to have much influence on them. So you need to have a combination of measures; the extension might need to be combined with incentives or, if you are particularly trying to protect a certain bit of river or whatever, you will need some more targeted measures. I think where we are falling down is that we are often trying to fix the problem with one magic bullet or with just one particular type of intervention, instead of thinking about ways of mixing approaches. And for that you need to have skilled professionals in the field but it is difficult for people on short-term contracts to be able to operate in that way.

Mr ADAMS—In the past we used to tie it to productivity or increasing herd improvement, improving wool and improving soils. How do we tie this in to the production side of things? Universities tack things such as environmental aspects onto courses and whatever, but it has got to be tied to making money, otherwise people are not going to want to be there. They are not doing it for the love of trying to keep the natural environment there—unless we are going to start paying them for that.

Mr Campbell—I think there are some excellent examples of combining the production and conservation dimensions with some of the work being done through the R&D corporations. We are partners with the Grains Research and Development Corporation, Meat and Livestock Australia and Australian Wool Innovation Ltd in a Grain and Graze program which is aimed at the big mixed farming belt from the wheat belt of WA right around into southern Queensland. That is looking at managing nutrients, water and soils on farms where you have animals and

crops, and how you put it all together. But we are not dealing with water conservation or biodiversity as a conservation issue, we are dealing with them as farm management issues in the context of a commercial business. That is a very constructive way of doing it—where you can do so.

In my opening remarks I meant to remind members of the committee that an event will be held here in Parliament House on 6 September, with events during the day and a dinner in the evening. All of the R&D corporations will present some of the world's best food and fibre to show the outputs of all this terrific on-farm and industry based work. So if I can have a shameless plug—

Mr LINDSAY—We are already coming.

Mr Campbell—Good.

Mr ADAMS—I think that works in with what we heard about some of the wheat farming in Western Australia with the strips now, putting in trees and things.

Mr Campbell—That is a very good model, but ideally it would be great if R&D corporations were not having to fund the extension as well as the research because that means that our research dollars cannot go as far.

CHAIR—The committee has been told that many of the farmers are not taking up the commercial extension services that are being offered in place of government services. How have farmers responded to the changes in extension services? Is it a question of money—that the private sector is offering these extension services and they are costing too much money and they just cannot afford them? Or is it a phase they are going through as a result of the ongoing drought that we have experienced for the last four years? Would you like to elaborate on that?

Mr Campbell—Land and Water Australia has not funded any work on that directly. However, there has been some work done through our joint venture with the other R&D corporations. I refer you to a study recently published by the Rural Industries Research and Development Corporation, done by a fellow called Gordon Stone, looking at the role of agribusiness in southern Queensland and northern New South Wales. Generally, that work shows that agribusiness is doing a pretty good job at the top end of the market.

When you have people who are active information seekers and who understand that information turns into dollars in their business, they do not mind making that investment in external advice. In fact, they probably prefer to pay for the advice than to just access stuff in the public domain. They want advice tailored to their own business, preferably on farm. However, as your question implied, people who are not travelling as well in terms of profit find it difficult to get the resources to purchase advice. That is particularly the case for natural resource management activities where they perceive that it is not going to make them much money anyway. That is where we do still need to be able to reach those people through other means.

CHAIR—Would I be correct in saying that those people, because of the circumstances I alluded to before, are finding it very difficult? They are the people most in need. Are they the people who are not using the extension services?

Mr Campbell—I am not sure about the use of extension services. I have not seen any data on that. But I do know that the Australian government through things like FarmBis has put a lot of resources into making information available and providing training opportunities for farmers. Sometimes you need someone to assist them to make that jump into a training course or to help them see the relevance to their business.

Mr ADAMS—Australian Agriculture and Natural Resources Online is currently pretty underutilised, I understand.

Mr Campbell—Yes.

Mr ADAMS—Maybe it goes towards the chair's question. Maybe people do not want this information and we are offering them something they do not want. They may not want it because they have made a logical decision on that basis or they may not understand it.

Mr Campbell—I think the story is pretty straightforward. We have built a world-class research database and we have not promoted it. There has not been any money spent on marketing. The reviews I have seen show that the users who are familiar with it think it is fantastic and incredibly valuable. But a lot of people who should have heard of it have not.

CHAIR—How do you overcome that if you are not marketing it?

Mr Campbell—I expect that the relevant ministerial councils and the agencies under them will be making a modest allocation for marketing. I think \$50,000 spent for the whole of Australia would make a huge difference. That will happen, I should think, in the next few months because that issue has been raised and I know senior officials are considering it. It is a system that has 200,000 research reports sitting behind it and 6,000 existing projects underway. It is extremely valuable for all sorts of people, from consultants to extension officers and really sharp farmers who want to know if anyone is doing any research on the soil organism they are interested in or a particular invention they have heard about from the US. They want to know if there is any Australian work on it. We have a database that pulls all that together. If we let it decline, I am sure in three or four years time we will be having an inquiry into how to better make our research accessible.

Mr ADAMS—Margaret Thatcher always used to say when the public did not like one of their policies that they were not marketing it properly.

Mr Campbell—I think we can make that judgment if we have a go at marketing and there is still no result. But at this stage there has been zero marketing.

Mr LINDSAY—In your opening remarks, you talked about the lack of long-term knowledge in the system and about the project driven models. Why can't there be more long-term employment of people with models like that? Why does it have to be done project by project, with three- or four-year type things? Why can't we have the continuity that you were referring to?

Mr Campbell—I am not sure that I can comment authoritatively on that; it is in the nature of budget cycles. Most government programs these days seem to be funded in three-year or five-

year cycles, although the Australian government, to its credit, has made longer term commitments through things like the Decade of Landcare, which had bipartisan support. It is very difficult for a government to promise a 10-year program without having that sort of very strong bipartisan support.

Mr LINDSAY—But can't there be a system with people in it who are placed into projects and who then come back and go off to another project so you do not lose them?

Mr Campbell—That is what I am suggesting. We need to think about mechanisms that ensure there is some long-term memory built into the system. We need to assume that there will be constant churn and that there will be people on short-term contracts. But where do they plug in and find out what has happened in the past, what is happening somewhere else and who learnt what?

Mr LINDSAY—If you were the government, how would you address that?

Mr Campbell—With some reasonably modest tweaking of our current arrangements. We are already spending enough money; I do not think we need to throw more money at it. We just need to make an explicit allocation to saying: 'Here's where all the different program reviews and evaluations go. Here's where the lessons learnt go.' I do not think we need to establish a new centre. We can do it these days by linking up some of the existing institutions, but we need to give them a mandate to be that memory in the system.

CHAIR—Are you saying that you do not have people in the system who are capable or have the time to recognise where they need to tweak the system to deliver what you are proposing? Or are you saying that you do not have sufficient personnel with the skills employed in the system to do it?

Mr Campbell—I should be clear here. I do not think we ever did this particularly well; I am not suggesting this was done well in the past. But, when you had people who worked from the age of 18 until the age of 65 in the same institution, it did not really matter because it was in people's heads—'We'd better not do that because we tried that 10 years ago and it didn't work,' or 'Now that the situation has changed, it's worth trying that again.' Now we should assume that we are going to have people who have three or four different careers over a 30- or 40-year period and that even within those careers they are likely to shift jobs quite often. We need to think about ways of using web based tools so that people can find out what has happened where, building on things like AANRO with things that are aimed at a community level. AANRO is aimed more at a scientific audience. As more and more of the population have broadband access, we can start to build some of the tools that assist people to do a good job.

Mr LINDSAY—You are resigned to the fact that there will not be continuity of people in the future; that model is gone.

Mr Campbell—I am not saying, 'Let's recreate the state extension services of the fifties and sixties.' I think we should assume they are gone.

Mr LINDSAY—You want to capture the corporate knowledge electronically.

Mr Campbell—That is probably the most efficient way, but I think that alone will not work. There still has to be some face-to-face interaction in the system. There still have to be some places where people can go to get the really deep knowledge. That is the other thing about people on short-term contracts: if you are moving around a lot, it is hard to develop really deep knowledge. I think we have the potential with the regional model of delivery that the Australian government is leading through the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust. We are setting up catchment organisations around Australia that have a lot of local people working for them. They are local people who live in that community, understand that community and know it very well.

As someone who runs an organisation of 30-odd people, I know that it is very hard for a small organisation to invest in long-term staff training, to think about succession and so on. That is an issue for these catchment bodies. We need to think about the sorts of supporting networks that are in place so that a new catchment body starting up in the southern gulf region of Queensland, in the goldfields region of WA or wherever can tap into that. They would be able to ask: 'Has anyone else done a project like such and such? What did they learn? What are the traps for young players in that sort of work? How can we avoid repeating mistakes? Has anyone else encountered the same problem we are encountering here and how did they get around it?' These days we should not assume that all the knowledge around a particular issue resides within one state. These catchment bodies need to be tapping into experience across the whole country.

Mr LINDSAY—Let me ask you about state governments. Your evidence articulates the wind-down in support by state governments. Do any state governments still significantly support this field?

Mr Campbell—Some really terrific work is happening around the states, in different parts and within different agencies. But we have a long legacy of delivering advice primarily along commodity lines and not necessarily being able to pull it together across a range of different industries and across the public and private good domain. The regional model with the catchment based organisations gives us a terrific platform now for building that sort of more integrated service, but it is going to need assistance to hook into industry, on the one hand, and into the broader national science providers, on the other.

Mr LINDSAY—Have the states woken up about the platform opportunity?

Mr Campbell—I think so, yes. State governments generally have been focusing on other budget priorities in recent years, other than agriculture and natural resource management. There has been some very good work done and it is still going on in the states, but it has not enjoyed budget increases, as a broad generalisation.

CHAIR—Momentum has slowed down because governments have been rationalising and prioritising their identified areas of demand at the expense of agriculture. Is that what you are saying?

Mr Campbell—Yes. But we should not just expect that we are going to have state public servants driving around in government plated vehicles delivering field days. Industry has a very big role to play. Non-government organisations and voluntary community bodies have a role to play too. Nevertheless, I am suggesting that for tackling issues like salinity, soil acidification or

river water quality we are going to continue to need some publicly funded professionals, and we need to think about their long-term professional development, even though they cycle through lots of short-term positions. That is going to require different sorts of models from the ones we have had in the past.

CHAIR—How much effect has the brain drain had? People with considerable years of experience in the line that you are talking about either retire or are attracted elsewhere. How has that loss at that end of the experience ladder affected the younger ones who are coming up and doing it? Is that mix a problem?

Mr Campbell—At the moment, we have not yet lost a lot of the old wise heads from the system. We have a lot of people in senior positions at the moment, or people who have already gone consulting, who were trained in the sixties and seventies. It is not clear to me who will replace them as they start to retire. At the moment, we are living off the experience that we invested in 20 and 30 years ago. Primarily, those people are not quite out of the system.

CHAIR—Has that being compounded by the short-term contracts that you referred to before? People have that insecurity, but they could pick up the slack if they were employed for a longer period of time?

Mr Campbell—I assume they will continue to cycle jobs through a lot of short-term contracts, but we need to think about ways of ensuring that those people can build their expertise and it not being lost to the system. That might mean making provision within project funding, or within program funding, for skills development training for officers but doing so in a coordinated way across the different levels of government. One of the things that frustrates the community the most—and industry, for that matter—is when state and federal government get into argie-bargie about who should be funding what. It would be very useful to have some sort of framework that makes explicit the roles and responsibilities of the different levels of government and also what we are expecting industry to do.

Mr LINDSAY—Are universities pulling their weight in the area of higher education and NRM? Are they relevant? Are there too many university courses?

Mr Campbell—I could not speak authoritatively on the number of courses, although a review that we funded in 2002 surprised us in that there were so many purporting to be delivering this material.

Mr LINDSAY—Is the material relevant?

Mr Campbell—My observations are that generally the universities are much better at delivering stuff within a particular discipline than at delivering people capable of working across more complicated issues, and there has definitely been a significant decline in the university teaching of extension. So you may well have people coming out with subject matter expertise but they are not necessarily very good at understanding how best to get it across. Or you have people coming out with process expertise who do not have sufficient depth of subject matter expertise. The University of Queensland is offering some excellent extension training, in-service training, through its Centre for Rural and Regional Innovation, and Charles Sturt University at Wagga and Albury is doing some good work too. But my personal judgment is that the

universities are not helping us as well as they might in this domain. Dr Pearson has recently joined us from Newcastle university. I know he has had experience in trying to teach sustainability within a university system.

CHAIR—Which leads to the question: how should universities be structuring the environmental and natural resource management degrees they provide? What needs to be done in the universities to reconstruct or restructure those degrees to achieve the outcome that is obviously needed outside of the universities?

Mr ADAMS—There needs to be some productivity views as well, not just environmental. That is a bit of a problem with a few of the people who come in to some of these jobs.

Dr Pearson—Yes. If you look at the distribution of universities, you see that they are weighted, I guess, towards urban populations and so on. So we do get rural students coming through who looking to inherit farms and do those sorts of things and they are frustrated in universities sometimes because they get an education that is narrowly defined as biology or geology or environmental science. It is very difficult in a university to deliver a course that goes across those disciplines. So to have a combination that we might think is useful—say economics and soils, or something like that—would be almost impossible to put into a degree, and it is becoming more difficult. Universities internally are now much more likely to enforce disciplinary boundaries than before, and the academics are not really aligning to regional issues in the way, as I have discovered, that NRM workers would expect them to.

Most universities are aligning with international research profiles and the students who are being trained do not have some of the skills that you would expect, say, to analyse the soil profile, to be able to describe what that means in terms of potential productivity and so on. So there is a real need in the university sector to overcome some of those silos, which are about the way universities are funded and about the way academics' careers are built and all the rest. It is a very complicated thing. Many universities are aware of it and have gone through restructures to try and reduce the discipline-specific learning that goes on—without much joy.

Mr SECKER—In agricultural universities—Longerenong, Marcus Oldham, Glen Ormiston, Roseworthy and so on—they are doing that. Aren't they doing that sort of thing?

Dr Pearson—They may well be, but certainly the natural resource managers that I was involved in training would have got a very discipline-specific education. I cannot comment for all universities.

Mr ADAMS—At the Press Club today, the President of the Council for the Humanities, Arts and Social Sciences was saying exactly what you just said, from his point of view—getting the universities back into breaking down some of the silos so that people have a broader discipline from a university perspective. I find some people who come out and work in this area to be very environmentally sound, which is okay in the sense that they are putting the natural resource management issue, but being able then to relate to some of the rural people who are trying to make a living—which is what we have to balance—is very difficult.

Mr Campbell—That is a critical issue. More than 60 per cent of the countryside and more than 60 per cent of the water is managed by commercial farm businesses. Unless you are

presenting information in a way that can be taken up within the context of someone trying to make a living, its take-up is likely to be very limited. The single biggest opportunity for environmental repair and improvement in Australia is farming practices. To influence farming practices you have to be able to put it in a context that makes sense for people on the ground.

Mr ADAMS—It is not forestry, Mr Campbell!

Dr Pearson—I will add one other thing to what Andrew was talking about. One of the difficult things about multidisciplinary work is the complexities involved. If we wanted a legacy in rural areas, it would be to have people who are capable of thinking about complexity in new ways: the ways that, say, Jared Diamond or some of the big thinkers—I think Attenborough was mentioned earlier—are able to describe. But those big-thinking things do not happen easily. Private consultants and so on do a great job in some extension work, but that ability to think large in the rural skills game is going to be a very difficult thing. Certainly the futures work that Land and Water Australia has funded identifies that, in an uncertain environment with high risks and big stakes, we need very educated people to be able to evaluate risk and cope with that. I just add that to the pool of thought.

Mr ADAMS—Some of the information that we have already received is that there is an end of farming—I do not know whether it is corporate knowledge—and there is corporate farming now which will have some of that expertise and will buy it, versus some of the old family-farming operations. They will be at the top end, but there are a lot of other people who are being left behind, and that will affect productivity and sustainability, in all senses of those words, coming through.

I want to come back to the point you were making, Mr Campbell, about keeping that knowledge. I find that people come into short-term work in this area. You talked about building training and whatever, but can those people own some of that? Can they write a report or write up some of what they have done? Can we write that into that structure so that they can write up what they have done? That is a bit of self-discipline about what they have achieved in their 12 months, 18 months or whatever, but at least that information is then put into the system or put onto a web site.

Mr Campbell—My point is that at the moment I am not sure that we are doing a very good job in terms of where those reports go, how they are catalogued, how searchable they are and how accessible they are—even things like before and after photos. Imagine if you could access all the wonderful projects that are being funded around the country and being done by community groups, farmers and so on—even just the photos they are taking. These days, in a digital environment, we should easily be able to tap into that, but we do not have the system joined up to the point where we can. I think we need to use some imagination in looking at that. Land and Water Australia is currently being funded by the department of agriculture through the Natural Heritage Trust to look at how we can better join up some of the existing state information systems so that they can talk to each other in a transparent—

CHAIR—Coordination.

Mr Campbell—Yes. It can be accessed by anyone anywhere. You could be in Tassie or Western Australia or wherever.

CHAIR—That is a theme that we are hearing all over Australia in relation to many issues related to rural skills training: the lack of coordination and cooperation between the various agencies. What do we need to do as a government to get some stimulation into the industry to make that happen?

Mr MARTIN FERGUSON—How does that fit in with your proposed promotional campaign, and what target audience are you looking at?

Mr Campbell—The promotional campaign for something like AANRO is pretty straightforward. You do a simple user needs analysis with the different target groups, and then a conventional marketing campaign that anyone would do for any sort of product would suffice. It has probably got a couple of thousand key users who you would need to contact, and you could almost ring them up. But in regards to the broader job, someone from a government agency said in a workshop we had last week that they know their boss has signed the data standards protocol that all Australian governments have signed up to that says they will collect their data and store it in a certain way, but for them at their desk there is not a compelling business case. So we need to build in reward systems so that doing the right thing gets rewarded.

Mr ADAMS—That comes to your public good, though. We have not managed that yet. We have not got that right. We need to work on that.

Mr Campbell—To be fair, governments are working at it through the National Land and Water Resources Audit, and the relevant ministerial councils are aware of it. In a digital age, this will be a bit more transparent in the future than it was in the past. People will be able to get on the web and see that this stuff is not joined up or coordinated in the way it should be, and they will be demanding it.

Mr ADAMS—We have a lot of pamphlets, a lot of papers, in Tasmania about natural resource management. We have more about weeds than ever before. But we still have more gorse than we need. It gets to the stage where although you are so far advanced in having information you still you have operational needs and the thing to achieve. We are not achieving anything. We have plenty of people who can write papers and pamphlets and do consultancy, but it is really about getting things done. That is what rural Australia wants: they want to achieve things, too. Maybe they are not seeing it. I do not know.

Mr Campbell—I am quite excited by where we are headed with the so-called regional model because if you start to invest at that more local level you build the tools and the people at that level to tackle the problems directly. One of the biggest disconnects that we have at the moment is not just about science getting down on the ground but about the fact that we are not tapping effectively into the local knowledge and into people's practical experience on the ground and combining that with the scientific stuff. That is where the best extension officers in the old days were really good: tapping into what the smartest cockies were doing and mixing that with what some of the things scientists were doing and coming up with something very good.

Mr ADAMS—And, let us face it, that is how it worked: once the cockie did it, everyone else looked over the fence and said, 'Jesus, Bill's doing it, and it's working,' and then they went and did it. It is as simple as that.

Mr Campbell—With some of the public good stuff, we almost need to create a market for some of the greybeards to move into consulting so that they can be providing that sort of translation between the practice and the science. On its own, the private sector will not deliver that because there will not be enough purchasers for it.

Mr GAVAN O'CONNOR—On that very point that you are making—and it might have come up in discussion before I arrived—the assumption of agriculture departments into environment departments at state level and the dismantling of the public extension services that have taken place have been pet subjects of mine. Dick has talked about the sorts of situations where enormous regional benefits were available to groups of farmers from work done on a farm and then the knowledge gained from that being dispersed in a very practical way—as only farmers can do it. A lot of that has been lost and the extension stuff is being financed and undertaken now under the auspices of corporations that have a profit interest in peddling their particular products. What is your level of funding now? What is your budget?

Mr Campbell—We have an appropriation from the Australian government through the agriculture portfolio of about \$12.5 million.

Mr GAVAN O'CONNOR—How has that grown over the last 10 years?

Mr Campbell—In the year just gone we had a research spend of \$21.5 million on that \$12.5 million investment because of our partnerships with industry. So other RDCs and other parts of government are getting us to manage funds on their behalf. Our appropriation has grown with the CPI for the last decade or so.

CHAIR—Is that adequate?

Mr Campbell—I am not here to ask for more money. We could always use more.

Mr GAVAN O'CONNOR—In dealing with the corporation over a long period of time I have found that the standard answer to that is there is never enough money for these sorts of purposes. What I have seen as the value of the work that the corporation does is in the cross-disciplinary approach that it brings to problems and the way in which it draws quite unique partnerships into an area of critical importance. As you know, the knowledge about loss to the productivity of the sector from problems associated with land and water and the great efficiencies that can be gained far outweigh the extra few million dollars that, in my judgment, ought to have been allocated to this task by governments of all persuasions over time. You mentioned before the industry specific research efforts. The issue of efficient use of water cuts across a lot of industries, and it is the same with salinity and those sorts of issues.

Mr Campbell—I must give a pat on the back to our fellow corporations. We have just done an analysis across all the R&D corporations and collectively we are spending about \$80 million a year on natural resource management and research. We are involved in a fair bit of that through our work with the other corporations.

Mr GAVAN O'CONNOR—How is that being co-ordinated? Is it a case of spending \$80 million but not really getting a good bang for that buck? You have to be honest here.

Mr Campbell—We have just formed a working group which one of my officers chairs. That is meeting three or four times a year and it is going really well. The first step for that group is to have the left hand knowing what the right hand is doing. We are all now much more conscious of the other corporations' activities and we are working together very well. We are not yet to the point where someone is going to say, 'You should be doing this,' or, 'You should be doing that.' Those industry priorities will remain a big driver for what the other corporations do. I do not think anyone should be ashamed of that.

We are in a position now where there should not be any really obvious or unnecessary duplication and we can now identify gaps and work out how we are going to tackle them. I think that at that level it is pretty good but, as I said in my opening remarks, collectively we are having to spend more and more money on what we traditionally call 'extension' and my fellow CEOs are getting concerned that—because farmer levies are increasing the pie is getting bigger, which is fortunate—a bigger proportion of the pie each year is having to fund the extension activities. If that trend continues I think we will need to be concerned.

A final concern is that we need to be careful about the signals we are sending with our research quality frameworks. There is a risk in applying too high a loading in assessing research quality on the extent to which people have published internationally or whatever. A lot of the work we are talking about is very Australian, very local—

Mr GAVAN O'CONNOR—Exactly.

Mr Campbell—and very grounded. Some of our best people would score pretty low on some of those international publishing scoresheets but nevertheless are doing work that is—

Mr GAVAN O'CONNOR—Effective.

Mr Campbell—of great value to the nation. So we need to be careful in the reward systems. If you set up reward systems so that researchers get promoted and get big salaries for publishing internationally, that is what they will do and that is where the best people will go.

Mr GAVAN O'CONNOR—That is a good point.

CHAIR—Thank you, Mr Campbell and Dr Pearson, for giving your valuable time here today to assist the committee in its inquiry. Your contribution today has been very valuable.

Mr ADAMS—The title that Dr Pearson has, 'senior knowledge broker', is new.

Resolved (on motion by **Mr Gavan O'Connor**):

That this committee authorises publication of the transcript of the evidence given before it at public hearing this day.

Committee adjourned at 6.06 pm