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TRANSCRIPT
OF PROCEEDINGS

PRODUCTIVITY COMMISSION

INQUIRY INTO RURAL RESEARCH AND DEVELOPMENT CORPORATIONS

MR P. WEICKHARDT, Commissioner
DR C. SAMSON, Associate Commissioner

TRANSCRIPT OF PROCEEDINGS

AT CANBERRA ON MONDAY, 8 NOVEMBER 2010, AT 9.25 AM

Continued from 5/11/10 in Sydney

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MR WEICKHARDT: Good morning, ladies and gentlemen. Welcome to the public hearings for the Productivity Commission's inquiry into rural research and development corporations. My name is Philip Weickhardt. I'm the presiding commissioner on this inquiry and with me is Dr Cliff Samson, associate commissioner.

The purpose of this round of hearings is to facilitate public scrutiny of the commission's work and to get comment and feedback on the draft report which was released in September. Hearings opened in Sydney on Thursday and Friday. Following these hearings in Canberra hearings will also be held in Melbourne, Tamworth, Brisbane, Hobart, Adelaide, Perth and Mildura. We will then be working towards completing a final report to government in February 2011, having considered all the evidence presented at the hearings and in submissions as well as other informal discussions. Participants in the inquiry will automatically receive a copy of the final report once released by government, which, under the Productivity Commission's act, may be up to 25 parliamentary sitting days after completion.

We like to conduct all hearings in a reasonably informal manner but I remind participants that a full transcript is being taken. For this reason, comments from the floor cannot be taken but at the end of the proceedings for the day I will provide an opportunity for any persons wishing to do so to make a brief presentation. Participants are not required to take an oath but should be truthful in their remarks. Participants are welcome to comment on the issues raised in other submissions. The transcript will be made available to participants and will be available from the commission's web site following the hearings. Submissions are also available on the web site.

To comply with the requirements of safety principles and relevant legislation you're advised that in the unlikely event of a emergency requiring evacuation of this building that the exits are located straight through this door, straight out into the lift area and then you can turn right or left to either side of the lifts and there are steps down to the street. The assembly point is at the corner of Rudd Street and Marcus Clarke. If an evacuation were required there is an initial warning which goes beep beep beep and a final emergency alarm which goes woop woop woop. I'm sure you will understand at that point it's time to get out. If you require assistance please speak to one of our inquiry team members here today. We have Ian Gibbs, who is the staff member leading the team; and Nick Ford with us here today. Finally, can I also ask the audience to please check their mobile phones are either turned off or switched to silent mode.

I would now like to welcome our first participant, Trixi Madon from the Commonwealth Fisheries Association. Thank you for appearing today. If you could, just for the transcript, give your name and the capacity in which you are appearing

today, please.

MS MADON (CFA): I'm Trixi Madon, chief executive officer of the Commonwealth Fisheries Association.

MR WEICKHARDT: Thank you very much indeed. Well, over to you, if you want to make a brief introduction and then we'll have a bit of a discussion.

MS MADON (CFA): Okay, thank you. Commonwealth Fisheries Association, who I represent today, have been pleased to contribute to this inquiry and the review of the research and development corporations, and particularly with our interest with the Fisheries Research and Development Corporation. We have provided a submission to the initial inquiry. We are happy with the findings of this draft report, in particular that it picked up the interests and recognised the importance of the FRDC in its role and particularly in relation to public good and that it is quite different than other RDCs in nature because of its focus on natural resources and renewable resources.

In appearing today - we will be putting a formal submission into this review but for today I would like to just focus on reinforcing our support for a few of the recommendations for FRDC in general. Overall, we are pleased with the focus of the review and particularly in relation to governance recommendations, which we would support, in general.

MR WEICKHARDT: Okay.

MS MADON (CFA): So in particular, the recommendations that we would like to focus on today are recommendation 6.1. I suppose I can reiterate here, we strongly support this recommendation that the - I will just quote here:

> RRA's remit should not extend to the sector-specific "public good" research undertaken by the Fisheries RDC.

That:

> Following the establishment of RRA, the other RDCs - except for the Fisheries RDC - should focus predominantly on sponsoring R and D of direct benefit to their levy payers. In consequence, the funding contributions from the Australian government for all of the existing RDCs, except for the Fisheries RDC, should be gradually reduced.

CFA strongly supports this position in that the Fisheries RDC is one of the few that receives a non-matching funding component to reflect the public good. Fisheries in

Australia are managed under ESD principles both under the Fisheries Management Act and also the Entitlement Protection and Biodiversity Conservation Act and so goes directly to the matter of public good in their overarching framework. So we find that particularly important.

The contributing factor from the levy is based at the moment on gross value of production. Changes to this without an appropriate contribution from the government just for the public interest or public benefit component will see a fluctuation over time which will impact on the public benefit proportion. For example, fluctuations due to the price of the Australian dollar will make a huge impact on gross value of production. It is an issue that is felt by fisheries at the moment in their shorter and longer term viability in relation to being managed. Most fisheries, Commonwealth fisheries in particular, are largely funded on a cost-recovery basis with some government contribution. Fisheries provide, particularly in relation to research not only the levy contribution to the FRDC but also their levy in relation to management; other research initiatives, for example, through the CRC; and including voluntary contributions through their participation in research events, which probably has not been clearly articulated through some of the public benefit criteria.

MR WEICKHARDT: Can I just clarify one thing?

MS MADON (CFA): Yes.

MR WEICKHARDT: If I may interrupt briefly. In draft report 6.1, which you referred to and say you strongly support, there are two components, I suppose, to that, one of which is that the status quo for fisheries should remain. The second part of the same recommendation is that all the other RDCs, funding should be gradually reduced. Are you strongly supporting that component or are you really only referring to the fisheries?

MS MADON (CFA): No, I'm only referring to the fisheries component. I'm not providing comment in relation to the other RDCs. I think that's for those RDCs to comment on; their industry sectors to provide.

MR WEICKHARDT: Okay, thank you.

MS MADON (CFA): The next recommendation is in relation to recommendation 7.1:

> There should be direct appropriations for the proposed new RDC ... for "public-good" research sponsored by the Fisheries RDC ... However, the cap on matching contributions for all statutory levies should be reduced

> from 0.5 per cent to 0.25 per cent of an industry's gross value of production (GVP). This reduction should be phased in over ten years, with the cap reducing by 0.025 per cent of GVP each year during this period.

In recommending the status quo in the previous recommendation, we support this recommendation in relation to Fisheries Research and Development Corporation as the FRDC is already at that cap, so there is no reduction for FRDC. In relation to recommendation 8.1:

> As a condition of receiving government funding, Rural Research and Development Corporations (RDCs) should ... For its part, the Australian government should ensure that nominated representative bodies for each of the statutory RDCs continue to be suitably representative of the interests of the industries concerned, and not dependent on funding from the RDCs they are meant to oversight.

Again, we support this recommendation. The Commonwealth Fisheries Association is one of those representative organisations for the purposes of the FRDC, the others are the National Aquaculture Council and Recfish Australia. Those three organisations broadly represent the interests of FRDC's focus for fisheries; and that is all the fisheries sectors: commercial, recreational and aquaculture.

In relation to FRDC, again, we support the recommendation as in it is the status quo. None of the representative organisations in relation to FRDC are dependent on funding from FRDC. As is provided in the PIERD Act there is potentially some funding to help cover costs with travel to meetings et cetera but the organisations themselves don't require funding and CFA would not support a position where an organisation was dependent on such funding and couldn't represent their members' interests.

MR WEICKHARDT: Trixi, just on that score, I mean what point - well, you say you'd start to worry about dependency. Do you have a feel for what percentage of your revenues come from the expense recovery, is it 5 per cent or 1 per cent or 20 per cent?

MS MADON (CFA): For Commonwealth Fisheries Association it would be so minor it would be the occasional - I couldn't even put a figure on it. I'm actually fairly new but because we are both located in Canberra there are no costs associated with travel to meetings et cetera. The occasional interstate meeting in relation to - for example, two weeks ago under the Fisheries and Agriculture Research R and D strategy, the development of an extension, some of the industry associations - travel was funded for that. However, even though the mechanism is there to fund it, CFA

hasn't sought reimbursements of funds for that.

MR WEICKHARDT: Okay, thank you.

MS MADON (CFA): The last one is recommendation 8.3:

> The Primary Industries and Energy Research and Development Act 1989 (Commonwealth) should be amended so that the statutory Rural Research and Development Corporations (RDCs) can add marketing to their functions, where this is supported by the majority of levy payers and approved by the minister for Agriculture, Fisheries and Forestry. The amendments should ensure that government contributions to any RDC that takes on marketing functions are only used to fund research and development, as defined in the act.

Again, the CFA strongly supports this recommendation. CFA is a member of the National Seafood Industry Alliance, whose membership is the other jurisdictions' peak industry bodies; so the state fishing industry bodies plus the National Aquaculture Council. In speaking to them in principle they also support this recommendation. The matter of a levy has been discussed quite broadly within industry for some time and we are quite aware there are different views within industry whether a national levy should be collected for marketing purposes. However, there is a strong view that there should be a mechanism in place - and I suppose I should clarify.

We support this recommendation so that a mechanism is provided for the FRDC to enable it to be able to collectively administer a levy. This would not necessarily be a national application of a levy, but the mechanism for how it would best fit. For example, there may be sectors of the fisheries industry, because it is very diverse, who would see the benefit of having a marketing levy collected. There may be, at some point, enough support for an industry-wide levy to be collected, however, that is. Now, the minister in the previous government had advised all of industry nationally that if there was enough industry support for a levy that government would be supportive of this. However, he also indicated that enabling a mechanism for the FRDC to support the collection and administration of such a levy was likely the best mechanism to do this, and CFA in particular supports this.

MR WEICKHARDT: Thank you.

DR SAMSON: Okay, thanks for that. Trixi, just briefly, you mentioned several times your organisation's agency with various principles that we've got in the draft report. Recommendation 5.1, a whole set of overarching principles, if you like, including why government should be in this game; do you have any comments on

those overarching principles?

MS MADON (CFA): Would I be able just to read that through?

DR SAMSON: Sure. Just from a sort of logic flow for us it's useful if we can get a sense of whether people agree or not with some of the overarching principles, and then sometimes the discussion becomes how you implement them. Page 36 of the - you've got the - - -

MS MADON (CFA): Okay.

MR WEICKHARDT: You're in there, no worries, okay.

MS MADON (CFA): Right. In relation to public funding we would agree with recognition to non R and D related drivers of performance improvement in the rural sector. In relation to fisheries, again, this also comes from the direct application of legislation in relation to public good, in particular, environmental and conservation through the EPBC Act. All Commonwealth fisheries are required to be approved under that act in addition to the Fisheries Management Act for environmental and conservation purposes only, not as a mechanism for fisheries management. Those drivers and the resulting requirements on conditions of those approvals does and can have a significant impact on performance and operation, which would otherwise, as a commercial operation, not need to be undertaken.

The principal structural adjustment; I agree the fisheries sector in more recent times did undergo some structural adjustment and research was important for that. It was also important if you consider issues such as marine bioregional planning et cetera and access to fishing areas or just access to resources requiring structural adjustment in relation to that and consistent to other policies and programs to improve performance. The broad ambit of FRDC's plan and strategic direction covers more than that, so that improving performance in relation to say workforce skills development et cetera and leadership are particularly important in those areas.

MR WEICKHARDT: Trixi, perhaps it would be more helpful for us if you could say is there any part of recommendation 5.1 that you disagree with?

MS MADON (CFA): Okay. We will, in our submission, address those.

MR WEICKHARDT: Well, perhaps if you want to take time?

MS MADON (CFA): No, as a principle - most of those principles, I don't think we would have any significant issues with any of those. I think we're quite happy and as I mentioned earlier, particularly in relation to transparency and accountability I think

the FRDC has shown that they have very high-standard governance and transparency. So industry is quite pleased with the way that we operate currently, so that they would, you know, implement any of these overarching principles.

DR SAMSON: Okay, well, thanks. It's just very useful for us to take that as a starting point. If we have principle-based disagreements we will need to sort them out. Trixi, the other thing that we are very interested in across the whole range of the 15 current RDCs, acknowledging that fisheries is different, is the motivation or the capacity or the propensity for some levy payers to increase either an existing levy contribution or to participate in a potentially new levy. What I'm just quite interested in - because it seems very different from one commodity organisation to another. Some industries already make voluntary contributions that take them over the cap for government matching. Some almost to the cent seem to have some sophisticated computer program that tells them when they've hit exactly that government matching cap. Some fall short, to varying degrees, of getting up to the cap. I suspect there's not a simple answer as to what causes that within the industry, but have you got any insights as far as fisheries are concerned as to - acknowledging it's also a very diverse sector - as to what some of the considerations are in people's minds when they look at how much do they want to invest in R and D?

MS MADON (CFA): In how much? Acknowledge that that is a difficult one and over time the motivating factors will change. From, I suppose, my perspective at the moment as I'm reasonably new, I think there is a - from what I understand contributions from the states have shown to be above the matching rate over some time. The value that fishers - particularly as it supports the management regimes of the fisheries over time - not just the public good but the public perception and public goodwill in supporting fisheries is a strong driver in ensuring that fishers do contribute either to the levy or the other activities that we undertake, to support those levies.

In relation to potential decreases, as they are currently based on gross value of production there is incentive for fishers to contribute a levy. However, if the commercial and financial situation of those businesses is under stress - or severe stress, as can happen with particularly Australian dollar and the obligations to meet management conditions or various regulatory conditions - regardless of in-principle support would of course affect their ability to contribute and remain viable, potentially, or at least the profitability of their business; which is a recognised government objective for fisheries - is a sustainable and profitable future for the industry, given that particularly for Commonwealth fisheries the ability to catch more fish, if you like is severely constrained. So the profitability and sustainability of the industry will have to come from value adding et cetera - the supply chain; better mechanisms there rather than just increasing catches. Fisheries sectors understand that and again, that's where RDC plays a role in providing support. That

goes to the fundamental of fishers' business. So any contribution to that will have flow-on benefits, can't but have flow-on benefits for increasing their productivity.

DR SAMSON: Okay, thanks.

MR WEICKHARDT: Trixi, we made some recommendations in the report about the evaluation process of the RDCs. We were trying to pick up best practice from experience with both the industry and corporations that have three or four-yearly reviews which are commissioned by external parties and also the experience with the CRCs that have three-yearly or four-yearly reviews and have external parties who come in and look at the scientific merit of the work that's going on. These would be changes that would impact upon particularly the PIERD Act organisations but also the IOCs to a degree. Do you have any comment on those evaluation recommendations? Did you support those or the fact you were silent about them, did it mean they weren't important to you?

MS MADON (CFA): No, the issues that we were silent on at this stage isn't - as I mentioned earlier, CFA will be putting a submission in and we will more comprehensively address those. But at this earlier stage of the round we just wish to focus on a few of those supporting recommendations. In general I can't make a comment - I won't make a comment on it at this stage but we will later. But a comment that I would like to make in relation to monitoring and evaluation, if you like, rather than at the - like I say, at the end of the line, having something there.

The FRDC currently has what we would consider, I consider as well, quite a good process of that ongoing mechanism in place. They have introduced a structure that at all levels provides input, development of and, if you like, not so much review but contribution and looking back at say research proposals that are generated from the FRABs, the Fisheries Research Advisory Bodies which are down at the fisher and fisheries management level, through to COMFRAB, the Commonwealth Fisheries Research Advisory Body, which is broadly representative not only of fisheries management but also environmental, NGO and other departmental. So the government role in understanding what is going on, being able to provide comment or direction or suggestions at various stages of how those proposals are either structured, funded et cetera throughout the whole cycle of the funding structure, I think, gives some rigour to ensuring that the broader over-policy and regulatory frameworks, and as far as governance, are oversighted.

MR WEICKHARDT: Okay, thank you for that. In your submission before the draft report you were talking about the advantages - the RDCs in terms of a vehicle through which R and D that was relevant to the rural industries was procured. In contrast you were reacting to an issue that we raised in our issues paper about whether CSIRO or the universities might be an alternate vehicle. You say you don't

think CSIRO and universities would be appropriate because they - and there are a number of bullet points. The last one it says because they have a more strategic approach to research rather than the tactical approach that's often needed.

Now "strategic" is one of those words that's often used, a bit like "sustainability" that everyone should be in favour of. It justifies spending lots of - billions of dollars, according to some governments, because they're being strategic, in our interests. What is it that you don't like about the idea of being strategic and you favour in terms of being tactical?

MS MADON (CFA): I'll just need to qualify, I wasn't with the CFA when this submission - - -

MR WEICKHARDT: So these were not your words.

MS MADON (CFA): These are not my words. But having said that, I think the intent of that dot point was more that research undertaken by universities is more for, if you say research for research's sake. There's a different focus. Not strategic as in meeting policy objectives or regulatory requirements, you know, the direction of regulatory requirements and supporting that, rather than researching at a more intellectual level; if you say - that may not have direct application to the policy framework, or in relation to the tactical approach, issues that are required to be understood in relation to the management of the fisheries at a particular point in time.

MR WEICKHARDT: Okay, all right, that's helpful.

DR SAMSON: Just finally from me, following on from that, can you give us just a personal sense of how robust or how fragile in your view the research capacity is in your neck of the woods? We heard from some commodity groups that you would perhaps define the research capacity as being quite fragile and any reduction in funding in that area would have potentially catastrophic unintended consequences et cetera et cetera. From a fisheries point of view, just a broad sense, do you feel you're well placed with the research capacity that exists at the moment?

MS MADON (CFA): I'm happy to flesh that out in the formal submission when we put that in. I think there are areas in fisheries research where the capacity is probably quite good but there are also areas where it isn't as strong. So, for example, if we're looking at the more biologically focused, et cetera, there probably is across some areas a reasonable level of capacity, but again, it can be over-cited. Having said that, the biology from the environmental point of view, there are issues where capacity just isn't in Australia, and I can give you an example where a department is engaging an overseas expert to undertake a review because there isn't capacity in Australia for an independent review to be undertaken in a certain area. There are areas where

there isn't good understanding, say, in particular in to workforce issues in fisheries, where there isn't good understanding, there isn't good data collected and that's recognised at the government level. In relation to some of the real needs there, there probably is a lack of capacity to deal with those issues in the short term. That has been recognised at a government level as well. The Primary Industries Ministerial Council, in their workforce and training inquiry and review report which I think was last year, recognised that they're focusing on other areas of primary industries and they have actually left fisheries to deal with it at some later stage which was a bit unfortunate, but hopefully FRDC will be able to provide some of that capacity and at least pull some of it together, but I'll be happy to flesh that out in our submission too.

DR SAMSON: That will be very useful, thanks.

MR WEICKHARDT: I guess just building on that, in your submission, if you can comment on quite a few of the other recommendations that may have subtle but nonetheless have some changes to the FRDC, I mean, a cynic might say you've strongly supported all the recommendations that involve maintenance of the status quo. That's sort of easy. I guess we weren't necessarily wanting to complete endorse the status quo. We think all organisations could be improved and I'm sure FRDC probably could be too. So if any of the other principles or recommendations would have a positive or change impact on FRDC, we'd be interested in your comments on those as to how we can improve them.

MS MADON (CFA): No, happy to do that. We weren't focusing on status quo per se, and there are issues and like any organisation, yes, they can always be improved and it is something that CFA, particularly as a representative organisation, is quite keen to ensure that there is that continuous improvement in the process, so yes, we will be looking at some of the other directions, but hopefully you'll enforce those key ones from us.

MR WEICKHARDT: Thank you very much for coming along.

MS MADON (CFA): Thank you.

DR SAMSON: Thanks very much.

MR WEICKHARDT: Okay. Our next participant is Andrew Campbell from Triple Helix Consulting organisation. Andrew, perhaps you could just introduce yourself for the transcript and the capacity in which you're appearing.

MR CAMPBELL (THC): Andrew Campbell, managing director, Triple Helix Consulting. I'm not wearing any other hats today.

MR WEICKHARDT: Thank you. Perhaps you would give an introduction to the scope of what you want to cover and then we can move into a dialogue.

MR CAMPBELL (THC): Okay. I guess I'd prefer to focus my - well, my overall remarks are that I think the inquiry has made a very valuable contribution already through its draft report. I support the broad thrust of the recommendations in the report and I think many of their recommendations around improved valuation frameworks, the restoration of the role of government directors and so on and independent reviews are sensible housekeeping sort of measures that would improve what's already a very good model. I was very pleased to see the commission essentially endorse the rural RDC model as being a very sound one for the management of applied research, particularly in comparison to the alternatives which would be managing research programs from within policy departments or just leaving the scientists to follow their nose. No model is perfect, but I think this is widely recognised around the world as one of the best ones that's been devised, particularly in terms of the partnership between government and industry.

I was particularly pleased to see the recommendations around the establishment of a new R and D corporation focused on water, energy and land, among other things, and that's where I'd like to focus my comments today. My biggest concern about the draft report, however, and the draft recommendations are that the way they're currently framed, it sort of sets up the new R and D corporation against the existing matching funding for the commodity based R and D corporations in the way the recommendations are framed. It sort of says, "You can have a new R and D corp and it should be a considerable one in terms of its funding base of around 50 million," and I think that number is about right. In the absence of any impeccable metric to work out what that number should be, in my view that's of the right order, but the way the recommendations are currently framed, it appears to imply, "You can have a new RDC but only if you cut the matching funding to the existing ones."

In my view, that would make the new RDC start off in a very invidious position of having been seen to be being funded at the expense of the others, and particularly the matching funding for the others. The incredibly important task of developing partnerships and collaborative arrangements would be somewhat compromised from the outset.

I don't think the name proposed in the draft report - I think it was courageous to propose a name but I don't think it was a very good one because of its overlap with RIRDC and because it doesn't really say about the focus of the R and D corporation and I think it should be quite explicitly about water, energy, land, or at least have "natural resources" in its name, something that says, "Here is why this corporation is set up," so something implying that it's not commodity explicit. Just the word "rural", we already have that in RIRDC.

I do think it's an open question as to whether or not you need a new R and D corporation or whether you could just achieve the same objectives through an expansion of the role of RIRDC, and I'm happy to come back to that later in our discussion. My personal view is that the objectives of getting a much more coherent and cohesive national leadership in rural research around water, energy, land, soil, carbon, climate change, climate variability, are more likely to be achieved through an agency dedicated to those issues than just to expanding the role and functions of RIRDC.

If one were to go the latter route, and I could see superficial administrative arguments for that, then I believe essentially you would have to almost abolish RIRDC and then re-establish it with a new charter, a completely new operating framework, new representative organisations and so on. Obviously you would need to look after the existing RIRDC levy streams and so on, but it couldn't just be an add-on, "Let's employ a few more staff and give them extra responsibilities and add a couple of new programs. I don't think that would achieve the ambition that's implicit in the draft report. But nevertheless, I'm not saying it would be impossible, and if there was a view that you just couldn't establish any more corporations, then I certainly think that would be possible, but not as desirable. I still think you would need an extra 50 million a year to make it reasonable.

However, I guess I have a more substantive issue and maybe it's outside your terms of reference, but the issues that I've talked about, climate change, climate variability, carbon, water and a big thing in brackets within water of irrigation, which I think is a glaring hole in Australia's current rural research effort, energy, land, biodiversity, is that those issues are absolutely not constrained to the agriculture portfolio and that from an Australian government point of view, it makes sense to set up a highly professional and intelligent research purchasing apparatus to deal with these issues. But to me, it doesn't make much sense for it to remain wholly the purview of the minister for agriculture when you have a separate department of climate change and another separate department of water which now has sustainability, population and communities with it, and of course energy have a separate department again.

These issues manifest themselves on the ground in a much more connected

manner than they do in Canberra and I think the research has to comprehend how these issues intersect on the ground. I'm currently doing jobs for Murrumbidgee Irrigation Ltd and Coliban Water and I can assure you for those companies which five years ago or 10 years ago anyone would have said were water companies or irrigation companies, they're now in the energy business and the carbon business or they soon will be in the carbon business if and when we get around to putting a price on carbon. They have to think about how these parts of their business fit together and they also have to think about how their operations sit in a rural landscape with respect to remnant vegetation or river health or indigenous heritage issues. They also have to think about how their pricing structures and other things fit into a regional economy and a regional community. We need research purchasing and management arrangements that comprehend that complexity and can look at these things in a more integrated way.

The other domain which I think is underdone in current arrangements but which is becoming more and more important is that of peri-urban; that's another sort of broad basket of issues that currently slips between the cracks, particularly since the demise of Land and Water Australia. So some of the resource conflicts around land, water, vegetation and soon energy will be in sharp focus in the peri-urban area, particularly if there's a steep rise in energy prices. Good soils close to cities will become more and more strategically important. There's a big lot of work to be done there around appropriate planning frameworks. Two weeks ago, I was doing a job with the community recovery people at Kinglake. So you've got an area of more than 40-inch rainfall, even in the drought, with soils that can grow potatoes and whatever you like, and the Murrindindi Shire says they now have three broadacre commercial farmers left in the shire. So the community recovery is saying, "How can we turn this area back into a food-producing area?" because it really should be, because a lot of the land owned by rural residential lifestyle blocks and so on is patently under-utilised and not achieving anywhere near its potential. So they're looking at all sorts of new frameworks, co-ops, leasing arrangements, to try and return really good soils back into food production over the top of planning frameworks and building codes and growth corridors and green wedges and a whole complexity, which the agricultural research framework is just not really set up to deal with, but these issues are very real.

So I do think there's a really important research agenda here that is not commodity specific and I do think it needs a really professionally developed specialist agency to - I say "specialist", but I don't mean in a narrow term. It would need highly developed expertise in areas around breadth and integration and the interface of these different issues. As I said, what starts to look increasingly problematic the more you get into it is it's not just about agriculture. I would love to see the commission in its final report think about potential ways of linking the new R and D corporation to, at the very least, the ministers for climate, water and energy,

as well as agriculture. I'm not saying it shouldn't be in - I think the PIERD Act is the best legislative framework we have for research purchasing and research management and the great strengths of the PIERD Act around its independence and governance and its statutory five-year plans and so on, those strengths I think are well worth hanging on to.

Last week I was in Canada, advising the Canadian government on design and governance arrangements for their new Canadian high arctic research station and one of the reasons they asked me to do it is because they looked around the world and they had identified Land and Water Australia as one of the best models for what they were wanting to do to set up a brokering, cross-cutting, linking, coordinating mechanism across all their science activities in the far north, an area undergoing incredibly rapid environmental change with incredibly deep indigenous dimensions and national strategic dimensions as well. So we shouldn't lose sight of the great strengths in our current model, it is admired around the world, but I do think both its strengths and its weaknesses - that at the moment it is predominantly around agricultural commodities within the agricultural portfolio and it has potential benefits more widely than that.

Another final whole-of-government comment is that we need to do a better job in Australia linking our research effort to our data and research infrastructure agendas. We had that almost by accident in Land and Water Australia through hosting the national land and water resources audit which operated in parallel with the corporation. That was more by luck than design. There's nothing inherent in the PIERD Act that links the research to data. But in this broad area of climate, water, energy, and those three things together will take you into food, we now are developing a very good water accounting framework in Australia through the Bureau of Meteorology and we have a national carbon accounting system which is reasonably comprehensive. The third leg of the stool which is terrestrial data, the condition of terrestrial ecosystems and so on, or even you could argue marine as well, is nowhere near as well developed as what - the BOM has had $480 million to sort out water data. I don't know what's been spent on the national carbon accounting system but it would be significant. We haven't done the same with soil health or with a whole bunch of terrestrial, but in a perfect world data would be closely linked with research planning, research prioritisation and with research evaluation; are we making a difference? The last state of the environment report the introduction said, "We'd like to be able to say whether Australia's environment is getting better or worse, but we're unable to," because our data systems are not good enough to be able to tell us that.

They are my comments. There is enormous opportunity here to do something far-reaching and extremely influential but to me it will be by joining some dots outside the agricultural portfolio as well as within the agriculture portfolio and my

personal view is that the rural research agenda is one in which we should be investing more, not less. So I don't think there's a case for reducing the matching funding, although I do accept the points in the report that I don't think our evaluation framework has been good enough to make that case sufficiently cogently. But, as I said in the intro, the way it's currently framed it almost says, "Well, you can have a new R and D corp but you can only fund it by shifting across some of the levies that are currently going into matching funding." As I said, I think that would get it off to a bad start with the industry.

DR SAMSON: Can I just interrupt you there, Andrew. I think I read on your web site or blog or twitter or some such electronic medium in regards to the inquiry you said the commission has got it half-right.

MR CAMPBELL (THC): Yes.

DR SAMSON: And the good half was the RRA concept and the bad half was to reduce the government contribution, to fairly crudely paraphrase what you said.

MR CAMPBELL (THC): No, it was fairly crude, and I think that's about right.

DR SAMSON: Just on that funding thing, we're not at all saying that the overall spend in rural R and D should necessarily be reduced. What we're trying to draw attention to is that if you examine who the investors are and then examine who the beneficiaries are, to us there seems to be imbalance. So we would be delighted if the overall spend remained the same or indeed increased but we believe there should be more emphasis and more onus on producers who are the principal beneficiaries of a lot of the production based research. So it's not a "we think less is good" we think how the money comes about. Now, we've heard varying views about what the reaction of producers would be to a reduction in government support. We're not surprised that people are telling us "doom and gloom" et cetera et cetera. But we would welcome in a general sense any views you have on the psychology of that funding.

Some producers, some producer organisations are very sophisticated, acknowledge the benefits of R and D, the R and D corporations from their own analyses show very, very healthy returns on investment. In the real world, how do you see - and it would vary from sector to sector - the reaction being if the government were to phase out, over a 10-year period, it's contribution?

MR CAMPBELL (THC): Cliff, I think some of the commodity RDCs would be much closer to the levy arrangements than I but I think there's a rich body of work in the economics literature that would tell you that people place a higher value on stuff that gets taken away from them, than things they might miss out on in the future. So

I would actually place a fair bit of credence in the doom and gloom prognostications in that I think the signal sent by government of reducing the matching funding would be interpreted by levy payers as saying, "Well, they're not as fair dinkum about this, so I don't see why we should be." I don't think they would say, "Oh, well, we'd better pick up the slack here."

MR WEICKHARDT: Yet, Andrew, if I may just interject at that point, there is a fair bit of anecdotal evidence, not a rich data stream, that some of the states have been quietly retreating from funding in this area. They haven't signalled their intentions particularly openly, they have just retreated, perhaps preserved infrastructure but stopped funding extensions certainly and it would appear that given the reality of that that industry have said, "Goodness gracious me, we'll have to do something about it." Whether it's private agronomists or the RDCs, some mechanism has been put in place because people recognise that they haven't got a choice. Now, why wouldn't the same thing happen over time if the Commonwealth made it clear that some of this work, as John Kerin originally foreshadowed when he set up the RDCs, should be shouldered by a greater contribution from the rural industries.

I recognise that nobody likes money taken away from them and there will be mourning and ringing of hands but ultimately, self-interest has got a fairly strong track record of inclining people to do things that they ultimately have to do.

MR CAMPBELL (THC): Enlightened self-interest I think would be required in this area and I think that would inevitably take the research agenda more short-term and more immediately production focused on things that are going to have a direct impact on production levels or price or a substantial impact on reducing costs, short-term costs. So I see that as a recipe for making it more difficult for corporations to fund the more strategic, over the horizon stuff. You can compensate to a degree if you re-establish a corporation focused on those issues but nevertheless it is still a much better model if the commodities are doing that work as well and you can have partnerships between the broadly focused ones and the narrowly focused ones, that's where you get the best combination.

The best Land Water Australia programs were those where there were strong partnerships with industry because we were relying on the industry connections to deliver the extension pathway and the beauty of the levy stream is that it does give you a direct relationship back to the on-ground producers. So having the collaborative partnerships was a very good way of getting the adoption pathway locked into the research. That's my concern about that element of the recommendation. From a econometric point of view I can see, particularly for a model that is 20 years old, by now the benefits of the R and D should be very apparent to the levy payers and I think it's sensible to recommend there be no cap on the level to which levies operate within an industry. But I do think the Realpolitik of

it is that if the matching funding is reduced there will be a lot more pressure on those levy streams, agri-political pressure within those industries.

MR WEICKHARDT: Yet ironically our cousins across the Tasman in New Zealand have a much greater proportion of private funding, about a fifty-fifty government funding/private funding. They talk about government money being a privilege not a right and ironically in some of the industries their research portfolio seems much more heavily slanted towards strategic deal changing type of research. In the horticultural area, for example, they've got a program running with, I think, about $1 million put against it and contrast that to the HAL portfolio with an average R and D program of $60,000. So why does this work in New Zealand and it couldn't work in Australia?

MR CAMPBELL (THC): I don't know. I haven't had a look at that. I'm starting some work in New Zealand next month but I haven't had a look at their system in detail. One important point I should have made in my remarks is that I think there's actually potential for new levy streams for water, energy, land R and D corporation and an obvious one is a research levy on irrigation water. As I said, irrigation has long been a flaw in the current system. We're incredibly exposed to it now as a nation. If you look at what's happening in the debate in the Murray-Darling Basin, we're spending billions of dollars on upgrades to infrastructure and so on and buying water and trying to correct overallocation issues. Our research spent on irrigation, in my view, has been pitiful and in part that's because up until recently producers have seen themselves as a cotton grower or a dairy farmer or a fruit producer, not first and foremost as an irrigator and there has been a tendency for systemic underspend within the commodity focus on the generic irrigation issuers.

Land and Water ran irrigation programs, but we really struggled to buy in on those. For example, dairy never became a partner, despite it being the single biggest user of water and the response of dairy was, "Well, water is just an input. If water prices get too high, we'll buy grain instead, " so not seeing themselves as a stakeholder in irrigation science. The irrigation CRC has just wound up. I did a national water knowledge and strategy for COAG last year and when you map the research capacity in water across CRCs, National Program for Sustainable Irrigation, a whole bunch of things, there's a very substantial drop-off in Australia's research capacity in rural water management just at the time when arguably it's most needed. It's great there is some water back in the system this year, but you would be optimistic if you thought that this was now the new business as usual. This is the strongest La Nina we've had for 50 years, it's unlikely to persist.

So I think that's an area where if there was a levy on per megalitre of irrigation water that went to research you could establish a substantial pool of funds and dramatically - - -

MR WEICKHARDT: Perhaps we should suggest that to Mike Taylor to make his hearings a bit more interesting.

MR CAMPBELL (THC): Yes, indeed.

MR WEICKHARDT: I'm sure the irrigation sector would embrace that.

MR CAMPBELL (THC): We have come quite close to it in the past.

DR SAMSON: Andrew, on that issue, if I may, as a broad principle where do you sit on the pros and cons of having RRA or whatever it's called or RIRDC mark II or whatever fund its research through appropriated money where they're beholden to nobody other than to government or, at the other extreme, purely levies and new levies, irrigation levies where immediately you have this specific set of private stakeholders who want to see - or it's a mixture obviously. Presumably Land and Water traverse that terrain?

MR CAMPBELL (THC): No, Cliff, Land and Water had no levies and ultimately you can be gone at the stroke of a discretionary pen in a tough budget. That's the weakness of - Land and Water's vulnerability was that it had no levies.

DR SAMSON: If there had been levies, whilst it may or may not have made a difference to the ultimate fate of Land and Water, do you think there would have been negative consequences of having a producer base that provided those levies and therefore their expectations of what you did which may have conflicted with the broader public good/national interest?

MR CAMPBELL (THC): No, I think that's a healthy tension. Certainly there are down sides but on the whole I think the upsides of having some direct industry ownership outweigh the downsides.

MR WEICKHARDT: That's an issue Cotton Australia raised on Friday in the public hearings. I mean, whilst not supporting a reduction to the industry-focused RDCs, they strongly supported the formation of an RRA but their desire and recommendation was that the funds for RRA should come from a compulsory levy on the existing industry focused RDCs, that they have to give up, let's say mathematically about 10 per cent of their funds to an RRA and the argument was that they would therefore see themselves as stakeholders and that that would give a greater chance of adoption. I guess the downside is that potentially you could see the existing RDC saying, "That's our money and, by the way, make sure what you're doing is of direct interest to us," and so you could see the risk of RRA being corrupted, if you like, in terms of the work it did and gradually moving back to a

pseudo industry focused organisation.

MR CAMPBELL (THC): Certainly the RRA would be interesting, yes.

MR WEICKHARDT: But if RRA is pure science and a wonderful playground for researchers but none of it gets adopted, then that's not going to be helpful, so how do you get the best of both worlds here?

MR CAMPBELL (THC): This model is about applied research so I think it's great strength - I'm sure there's a little bit of curiosity-driven research in nooks and crannies within the model but overwhelmingly it's about applied research. We know who the end users are, our R and D plans make quite explicit what we're trying to achieve, so you're right, adoption is the real measure of success. Research that's not utilised is not good value for the tax payer or the levy payer. But in my view part of good portfolio management is balancing that tension between the - well, on the risk-reward axes and also on the short-term versus longer-term, immediate benefit versus longer benefit. You manage a portfolio to ensure that you've got appropriate balance across those. You can't achieve every objective within every project or even within every program, but across a whole portfolio you can make sure that you've got some work going in the more blue sky areas or longer-term issues and some other work that's here and now.

In Land and Water Australia in the year 2000 we commissioned work from CSIRO called Towards A Biofuel Economy and that work was only published last year. But there was certainly no-one in industry asking for that at that time, it was certainly over the horizon at that time. But because of the time frame of research you do need to be asking those questions that are 10 years ahead of the policy need or the immediate industry priorities. But that was in a small part of the portfolio called the innovation program. It was still explicitly about stuff that's over the horizon, not here and now. But we had other programs like Defeating the Weed Menace that were very immediate, here and now, short-term, "What are we going to do about these weeds right now?" and more extension oriented.

I think your point about extension is a very important one. The RDCs have drifted into spending more and more of their money on extension because the states have been disinvesting in extension and to me the most critical element of new national RD and E framework, which seems to be on a fairly glacial time frame, is the E part. We need COAG level agreement on who's going to fund extension because to have it gradually chewing up the research budgets of the R and D corporations, to me, is not good policy. But we need to have a very important debate, in my view, about the role of extension and who funds it, and that is an area where I think we do need more industry funding and more industry ownership. There's a lot more scope for private investment in that.

MR WEICKHARDT: So just to clarify that point in terms of the governance and the source of funds that are going to RRA, the dollars could be exactly the same but optically they might look different. The Cotton Australia suggestion of a compulsory levy and involvement, maybe even a board representation on RRA to ensure - - -

MR CAMPBELL (THC): We'll finish up like the United Nations, I think, Philip, and it would be a tad heavy-handed and mechanistic. I think your fear is right that everyone would be saying, "Where's my 10 per cent? Here's my agenda for this year and I want you to spend that money on this," and they would see it as their money. That's not a good basis for a board to be - they would be criticising board appointments and board compositions and saying, "Well, there isn't cotton grower there," or, "There isn't a wheat cocky on the board," and I don't think that would be a good way to set it up. Just on the levy thing, I also think one of the looming issues is in some regions a conflict between mining and agriculture around resource access and property rights and so on and that there would potentially be levy streams - probably fairly modest ones but potentially around minerals and other things as well and that we do need work on the planning and property rights regimes that allow mining and agriculture to operate as synergistically as possible, and the groundwater issues around colchicine gas and other things, there's a very substantial research agenda there where we're currently underdone.

DR SAMSON: Andrew, not surprisingly the point that you raised about an option of - instead of creating a new entity, whatever you call it, to modify an existing one, where others have not surprisingly raised that as well. We are keen to date to ensure that if there is a new entity it is not encumbered by having commodity based stakeholders pushing a narrow agenda at the expense of the broader one. For the sake of discussion if the focus were to shift to modifying RIRDC as it currently stands, do you have a view as to how easy or not it would be to divest RIRDC of its current responsibilities for emerging industries, some of which seem very reluctant to emerge, I have to say.

MR CAMPBELL (THC): They have been emerging for a long time.

DR SAMSON: The last would be a good example which I would see as a very mature, when they get water, very successful industry.

MR CAMPBELL (THC): Yes, very well organised.

DR SAMSON: Do you have a take on how you could purify RIRDC, as it were?

MR CAMPBELL (THC): Well, firstly, I agree with your initial premise that it would be preferable to create a new institution rather than just modify an existing

one, but if that wasn't feasible, wasn't legally possible, then I think you've highlighted a significant opportunity for the more mature elements of the so-called emerging industries in RIRDC. I think there would be other potential mechanisms, but I think excising them from RIRDC, I can't see that it gains you very much because you still will have genuinely emerging industries, or industries that are too small to justify a dedicated separate corporation, but I think it would be necessary to ensure that the structure that's set up to deal with those isn't the tail that wags the dog if you suddenly load on these very big cross-cutting issues on top of it all.

RIRDC has evolved over the years - charts of accounts and administrative systems and a whole bunch of things that are around - simplifying, as far as possible, the admin arrangements for all these different little sectors. But it tends to lead you into a one size fits all research program management model. There's a call for projects on a certain date each year and then so much time for the process of looking at them and then they come back in and it all comes into one model. In my experience that's quite an awkward model for dealing with some of these big issues with multiple stakeholders where you might want to take more time around some things or do things a bit quicker in some other areas or do it through a different management model. I think that's why in my view if you were to do it through RIRDC you'd need to rebuild RIRDC from top to bottom. You'd need to almost start with a clean sheet of paper, while keeping the best bits, but I don't think it's just adding a new wing onto the building.

MR WEICKHARDT: Andrew, in regard to RRA - and, by the way, in terms of this name, all suggestions are welcome. I think I wrote down 15 areas that you suggested to be in its scope and that's a pretty long acronym.

MR CAMPBELL (THC): Yes.

MR WEICKHARDT: So if you come up with something that's useful we'd be keen to receive your suggestions. But in regard to it, I guess what I'm interested in is, from your experience in LWA, apart from wishing and hoping that you have brilliant, far-sighted, practical people who come up with a portfolio that's forward thinking yet going to be relevant, going to be applied and adopted, how do you institutionalise, do you believe, among the board and the staff, an ability to come up with this portfolio of research that is needed and will be relevant, will be adopted, and yet is unlikely to be funded by any other source, particularly given the points you raise about the fact that it will likely intersect a number of government departments? I don't think the Productivity Commission's scope of work, nor its power of influence, is likely to change that.

MR CAMPBELL (THC): No. For example, even something as simple as some MAUs, or a requirement to consult with some of these other departments in the

development of the strategic plan, or even ministers might agree to share draft plans with other ministers and seek their comment before approving. There are some things that you could do without changing the legislation that would nevertheless give it slightly more reach into those other portfolios. The last thing you'd want is for the climate change department, the energy department, the water department all going out and setting up another institute to borrow R and D in this area.

My consultancy work has convinced me very, very strongly that the research programs managed from within the policy areas of these departments are generally managed very poorly in comparison to those within the RDCs. So I think they do need dedicated research purchasing arrangements, preferably under the CAC Act, not under the FMA Act, but I don't think it would be desirable from a Commonwealth point of view for there to be a proliferation of new agencies within overlapping territory. If there was one under the RDC model that had explicit, if not formal authoritative links, but at least in a goodwill sense we want to be working with you, you'd have a chance of co-investment from those other portfolios, as Land and Water did from time to time.

MR WEICKHARDT: So how do you set up a government so that this works?

MR CAMPBELL (THC): I think the PIERD Act in my view is a brilliant piece of legislation for its time and I think its board selection mechanisms are pretty good. You'd need to make sure that the balance of criteria were there to ensure that you had the expertise. In the two selection processes that I was associated with for the Land and Water Board, we had upwards of 250 applicants each time for around four slots. Competition from very good people to get on the board was very high.

MR WEICKHARDT: Who would you see in this new world with the scope we're talking about that might be the representative of the organisations?

MR CAMPBELL (THC): I don't think it would be sufficient to just have the National Farmers Federation and the Australian Conservation Foundation. I'd be looking at outfits like the Australian Industry Group, potentially the Climate Institute. I'm reluctant off the top of my head - but I do think you would need to have a close look at ensuring that its representing - I'm not sure who the appropriate energy mob would be, but I do think you would need to be quite explicit there. I do think those existing processes are robust. When they're professionally managed those processes are good and they deliver you a good outcome. Obviously in developing the first strategic R and D plan, it would need to be very highly and widely and deeply consultative across.

There would need to be some very serious scoping studies done to ensure that you mapped what else is already happening and where it's happening so that sort of

gap analysis work would need to be very thorough indeed. That would need to be international, as well as within Australia. You'd want to know what was happening overseas. Obviously the recruitment processes would have to be again not rushed and you would need to make sure that you had a management team that had the right combination of depth and breadth. But for an agenda as big as what I've said - climate change and variability, water, irrigation, energy, land, soil, biodiversity, peri-urban planning, ag and mining interfaces.

For that big agenda there's no way you're going to have all the expertise you need in-house. So this outfit, right from day one, would have to have an incredibly strong orientation towards partnerships, collaborations, strategic alliances and outreach. It would need to develop a relationship with CSIRO at a high level from day one; ditto with some of the better think tanks in the universities and some of the other centres of excellence within existing research apparatus. Ideally it would have linkages with the ARC, potentially even the NHMRC in some areas. Certainly with the National Climate Change Adaptation Research Facility and some other existing big national collaborations. It would be through those linkages that you would get the best sense of where are the gaps and where can we best add value, and how should we go about it.

DR SAMSON: The way we've written the draft report at the moment in terms of an RRA, put aside for the minute where the money comes from, we're very much back-end loaded the funding stream.

MR WEICKHARDT: Very sensible, in my view, Cliff.

DR SAMSON: Okay. Appropriately so. On a scale starting off at one and ramping up to 10, is one a good place to start or should we - given the sort of tasks you've just outlined, should we be nearer three to start?

MR CAMPBELL (THC): Yes, I think you wouldn't want to be underdone in some of the scanning/scoping activities and you would want to start very clearly as if you were building a $50 million business, but I thought it was very sensible that you wouldn't want to be trying to spend $50 million in year 1 or you'd splurge a lot of it. The research community wouldn't be able to absorb it, at least not on high quality work. So scaling up the research portfolio I think makes a lot of sense, but you wouldn't want to underdo the intelligence gathering and the planning. You would want to start from day one as very clearly that you're building a $50 million business in terms of the people you recruit and what you're getting them to do. That part of the report I thought was absolutely fine. It would create problems if you go from a standing start to a $50 million outfit in one go.

MR WEICKHARDT: In terms of funding we were conscious of the demise of

LWA. We recommend in the draft report that the funding for an RRA might be set up on a quadrennial basis as CSIRO, ANSTO. That, I guess, has got some pluses. Other options would be to base the funding on a percentage of GVP in the entire rural area, a government commitment to fund X per cent. Do you have any views as to what would work most effectively and what's the likely reserve in real terms, the potential for an RRA or some other name to be effective and continue?

MR CAMPBELL (THC): No, I don't. I think that's one of the more difficult areas. If I was the secretary of DAFF or whatever, I wouldn't want some sort of formula at a given point of time that locked me into that for all time and just remove discretion completely, but you don't want R and D funding to the point where it can be just turned on and off for short-term reasons. But I don't have any blinding insights as to how you can do it. I know when the PIERD Act was set up, RIRDC was the fourth biggest RDC in terms of government funding. It was just behind, meat, wool and grains. Yet just through its budget staying static and the others growing with levies as agricultural production grew and so on, I think even by the year 2000 it was down to eighth in terms of public funding, not in terms of overall size. It was even lower in overall size. So, yes, you do need to think about relativities. In my view this outfit should be. If it was dedicated to the issues I'm talking about it should be around that size, its research budget being of the same order as horticulture, meat, wool and grains.

If you combine it with RIRDC I think it should be as big as GRDC. Now, you'd need to understand that if you were going to do it through RIRDC you'd finish up that that would be the biggest RDC.

MR WEICKHARDT: Indeed, if it attracted some of the other departmental funded programs that you're understandably questioning - and a number of people put it to us before the draft report that there was a problem with some of these departmental programs - it could be very big.

MR CAMPBELL (THC): Indeed. I guess if it was of that order it would probably be less vulnerable to being wiped out overnight.

DR SAMSON: Big and successful is the secret perhaps.

MR CAMPBELL (THC): Yes. You wouldn't want it too big to fail. Provided its performing well you would like to think that something of this order would be part of the institutional landscape.

MR WEICKHARDT: In the assembly of the draft report and trying to get some sensible data, we were struck by the complexity of funding arrangements that exist in this whole area - - -

MR CAMPBELL (THC): Yes.

MR WEICKHARDT: - - - partly because of the point you raised that government is organised such that there are model portfolios funding work that's relevant to this sector. In the draft report we called for information on the idea that there be some sort of coordinating mechanism that did have some sort of oversight of who was doing what and whether or not people were duplicating or leaving gaps and we were conscious of the need not to have a central planning nightmare, indeed in the whole field of research, and I guess having a few bets in the game is not a bad thing but on the other hand, having completely disconnected departments doing things doesn't make a lot of sense. You've talked about MRUs but do you have any idea of how you might best get some sort of oversight coordination in a thoughtful way without it being a bureaucratic nightmare or a United Nations?

MR CAMPBELL (THC): I do think it's a problem that even with the resources of the Productivity Commission it's very difficult to get a map of what's even going on and what's being funded. I did an analysis of the Natural Resource Management Knowledge System and the most striking thing there is that any notion of knowledge management across this whole sector is fanciful, if you can't even find out what's going on and so I came up with a little three-tiered hierarchy of communication, coordination and integration. Communication is just the left hand knowing what the right hand is doing so that you avoid the most egregious duplication and overlap and know where the gaps are. Coordination is having some modest ability then to redirect resources away from overlap and into gaps if necessary and if appropriate. Integration is starting to get some ability for the system as a whole to function more cohesively and coherently.

I concluded that in the natural resource management area we were nowhere near even being able to do communication, let alone any notion of someone sitting in the satellite or the helicopter being able to identify where gaps are and redirect resources accordingly. Across the whole rural research face I think that situation is even worse. I would have thought a sensible first step for a national RD and E framework is to put in place an appropriate data gathering and reporting framework so that you are able to aggregate, analyse and potentially synthesise. So I think that would be a high priority, whether it's through COAG or PMSEC or these other subsidiary ministerial councils to get a reporting framework in place so that we can actually unpick the money-go-round as your diagram portrays only too well and at least get a sense of where our effort is currently going.

It took an enormous amount of work for us in about 2005 to even work out across the RDCs how much we're spending on something like, say, irrigation or natural resource management which we did with a lot of good will and a lot of

crunching of data sets that weren't designed to be aggregated, but we were able to do it as a one-off. Ideally you would be able to do that by pushing a button at annual report time or some other juncture.

DR SAMSON: Finally from me, Andrew, the overall health of the Australian research community, as we've said, not surprisingly have pushed back at the notion of a reduction in government contribution. They have chosen to deduce from that or extrapolate from that there will be an overall reduction in the spend on rural R and D and are saying to us that in some areas this would have potentially catastrophic, unintended consequences on some quite under-resourced, quite fragile areas of expertise. I think mushroom growers are not knee-deep in research with that sort of expertise, is one example we got. There is an alternative picture that a reduction in government matching in our view doesn't automatically lead to a reduction in overall spend and indeed, if you set up an RRA that has the same degree of leveraging with its money that Land and Water used to have, we could actually end up with more money being spent in this area.

So there are differences in where you might end up but would you be concerned about the catastrophic and unintended consequences of a reduction in spending in this area in the research community?

MR CAMPBELL (THC): I think the signal it would send if it was quite explicit, that would be a very unfortunate signal I think, Cliff. In my view this broad area of climate, water, energy, food, development of rural and regional Australia is an area where capacity shortages are going to start biting harder and harder. Recent work by the Council of Agricultural Deans and then subsequently by the forestry deans as well has showed a looming undercapacity, a capacity shortfall that is very, very stark. It also revealed that, I think, the levels of tertiary training in the primary industries are around 7 per cent of the workforce, compared to, say, 20 per cent in mining.

So the perception at school leaver levels that this is old economy where you work your arse off and don't get great salaries with some adverse lifestyle implications, I think that's something we need to be thinking about very seriously and we need to be looking at the number and calibre of graduates in this area. We need to be looking at the way in which we do in-service training and reskilling and retooling of people and we need to be changing the image of the sector overall as one of the most exciting and innovative and new economy areas that you'd want to be in in the world where carbon is priced and water and food and nutrients become potentially part of the security landscape.

So I do think there are major looming capacity issues in the sector and a cut in the R and Ds or any perceived cut in the R and D investment from government

would just be part of a broader signal that is creating problems. This sector compared to mining or compared to services or the financial sector or other areas is suffering from some image issues that I think have strategic consequences for the nation.

MR WEICKHARDT: Andrew, just on that score, our recommendation for a gradual withdrawal of the government funding to the industry-specific RDCs was associated with a recommendation that those industry-specific RDCs be allowed to do what they're best at and that is to focus on productivity improvements and industry-specific R and D. Now, if at the end of that period of time by withdrawing 25 per cent of their funding a lot of which goes towards RRA, even if they didn't respond with some greater industry levies, if that was going to cause a significant diminution in the industry's capacity to progress productivity improvements, it suggests that those industry-specific RDCs, despite the admonition from government to do some public good work that is relevant to the longer-term cross-sectoral areas, it suggests that they really haven't been doing much of that work at all.

What we're saying is, "You industry-specific RDCs focus on doing what you're good at, the only real requirement is you have a balance of shorter-term and longer term work." But if that's going to cause a great hiccup in their work portfolio, it suggests that really, despite the rhetoric they haven't been doing much of the public good, government stuff that would go to RRA anyway.

MR CAMPBELL (THC): What's the question?

MR WEICKHARDT: Do you have a view?

MR CAMPBELL (THC): A lot depends on how you define much and how you define the public good agenda. We had a go at counting that in about 2005 with an NRM working group across all the R and D corporations and that suggested that about 25 per cent was going on those issues and of that, from memory, about 9 per cent was collaborative but I would need to check the figures.

DR SAMSON: But when you take Phil's point, if you accept those figures as being right, Andrew, that 25 per cent of their income was already being spent on public good, the net effect of our recommendations on their focus on productivity based research would be zero because they've still got that 75 per cent of their income that previously had been going to productivity based research still there.

MR CAMPBELL (THC): Yes.

MR WEICKHARDT: Indeed, we have hopefully removed some of the bureaucracy of having to get the minister to sign off on plans and things of that sort.

MR CAMPBELL (THC): Environmental investment was of the order of 20 per cent, about $78.5 million in 2004-5 and of that nine and a half million or 12 per cent was invested in collaborations involving two or more RDCs. That was in NRM, it wasn't some of the social stuff, so RIRDC, women in agriculture or farm OH and S. That was just things defined as environment not some of the broader ones.

DR SAMSON: I would be the first to concede that there's a spectrum of this work and it's easy, depending on the audience, to characterise some of it being for the environment and some of the environmental work will have private benefits and some of the work that you sent ex ante thinking was a public benefit will have private benefits and vice versa.

MR CAMPBELL (THC): Absolutely. Trying to disaggregate it can be very counterproductive. You do want ideally research projects that deliver you a production bang for the buck and either a conservation one or a sustainability one or a resilience one, if you're building a greater capacity in the sector. So I think trying to forensically disaggregate and divide some of these streams is actually counterproductive and ill-advised.

MR WEICKHARDT: Andrew, do you intend making a submission on the draft report?

MR CAMPBELL (THC): Yes, I will be refining a submission on the basis of the draft report and putting in a public submission in this round.

MR WEICKHARDT: That would be very helpful and if you could tease out a few of the issues we have been discussing today and indeed, maybe just keep an eye on other submissions and maybe make an comments that are relevant to those, that would be very helpful.

MR CAMPBELL (THC): Yes, I'm intrigued in the Cotton Australia points. I'll certainly have a look at those and will do so.

MR WEICKHARDT: Excellent. We'll adjourn now and resume at 12 o'clock.

MR WEICKHARDT: Okay. We'll resume the hearings now. Our next participant is Dr Simon Hearn. If you could give your name and the capacity in which you're appearing please and then make some introductory comments.

DR HEARN (ACIAR): Sure, thank you. Dr Simon Hearn, principal adviser to the Australian Centre of International Agricultural Research, known as ACIAR. I'll give a short introduction. ACIAR has put in a written submission to the commission inquiry. What we have very deliberately done, as a research statutory authority ourselves, is not to comment on governance or structure in our submission for the RDCs, but rather to talk on two areas where we feel ACIAR has a wider contribution to make, and that is in the area of international collaboration in agricultural R and D. When I say "agriculture", I include fisheries and forestry, by the way, but for the sake of brevity I'll call it "agriculture". The second side of it is impact assessment and evaluation, not that we in ACIAR necessarily feel that we've got any sort of monopoly on that, but we have got quite a long history in that field and we are working more collaboratively with other organisations, both in Australia and outside of Australia, on issues related to impact assessment and evaluation. I'll come back to that very shortly.

So perhaps in the few words I say here by way of introduction, rather than reiterating what's in the written submission, and having had a look at your draft report - and it's a very interesting read, if I may say so, thank you for that report. Apart from my natural interest in the subject matter, I found it an easy-to-read report. So I'll just stress a couple of matters that came to my mind as I went through there and looked at our own submission to you. One is, in terms of collaboration, both inside Australia and outside of Australia, there is an overarching side of this with both a public and a private component to it, and that is the increasing anxiety of our food security across the world. I think we all know about that but I think it's going to be one of the most important issues facing both food security in Australia, domestic food security which ministers of agriculture have already talked about, but also internationally and the extent to which some of the international community, particularly developing countries but not only, will look to where Australia's agricultural science and related subjects can contribute to food security. I'm quite convinced that we're already seeing much bigger signs of that.

The second point about that is that what the food security scare and the price hike that we had two years ago did was once again alert the international community to the fact that food supply cannot be taken for granted and that since the 1970s and with the green revolution, a degree of complacency might have come in, and in the broader aid community - and I should add that ACIAR is at the crossroads between science innovation in Australia and development assistance, so in that sense we have a fairly unique mandate because we are part of the aid program, an integral part of the aid program, but we also, as with the RDCs, work and depend on the science

community in Australia.

So the aid community I feel is now, if you look at the aid donors around the world, they are being asked to do more for agriculture. Rural development is back on the radar of international aid. If you look typically at a number of OECD countries, including Australia, and I think AusAID will talk for themselves about this but agricultural development assistance, not just research but development assistance, which is part of adoption of research, had dropped from some 20 per cent of aid in a number of countries to about 3 to 5 per cent of aid and I think there's a J-curve happening here. What we're seeing is that aid donors are looking much more seriously at rural development.

What does this mean for agricultural research in Australia and outside? It means that as part of that rural development package, you cannot go past productivity research in that area because in order to get a food supply with all the demography statistics that we're familiar with of 9 billion people by 2050, if that is correct, then the challenge to raise productivity in a sustainable manner is bigger than ever. I think we're all familiar with that. But what I am saying is I think there's going to be much more funds coming into rural development throughout the world because food security is such an overarching issue now for development and future security. That of course overarching title embraces some of the cross-cutting issues that you've identified in your draft report such as climate change, biofuels, water, soil degradation, those cross-cutting issues that you are suggesting in your draft report might go to a public benefit type research corporation. That's my first point of elaboration.

My second main point of elaboration is one of capacity building. We in ACIAR - we're not unique in this - we put very high store on capacity building of science for the future and we do that in two ways: (1) the obvious manner of scholarships which is always very acceptable, but more than that, it's more learning by doing. The feedback that we're getting from developing countries is that by working with Australian scientists - and some of these scientists, let me say, also provide science input to the R and D corporations in a number of their projects - but the feedback we're getting very loud and clear from senior managers of research and developing countries in Asia-Pacific and more recently in Africa, as we've done more work in Africa, is that they really value working and learning by working with our scientists. That's a credit to our scientists. Our scientists often come back and say actually they found they had learnt quite a bit by working in a different environment on a subject of great importance to Australia, such as water or whatever. So it's a two-way flow, it's a two-way benefit, and we in ACIAR try to make it a two-way benefit, although our primary purpose is aid assistance to developing countries.

Now, the point I want to make about capacity building - and it's touched on in

your draft report, but I think it's as common to the RDCs as it is to ACIAR - that is, if you look at the demographics of Australia's agricultural science community and you look 10 years down the track, the prospects are that unless we have renewed interest in subjects related to agricultural science - it doesn't have to be the traditional science degree, that's fine and proper, but subjects that are related to it - unless we engender great enthusiasm there, we can't drive the market for universities, but unless we get greater interest and career interest, there's a chance that we'll lose some of our capacity, a quite considerable amount of our science research capacity in Australia. It's a concern we have in ACIAR and we're very keen to try and push capacity building in Australia for undergraduates, postgraduates, as we are with developing countries through the mechanisms that I just described to you. I think that's something that we and the RDCs have in common, to engender the next generation of scientists.

I was thinking to myself just the other day, giving a career talk at Sydney University, and the undergraduates there are aged about 20, typically; if you look at when they graduate and the 40 years of their career to their 60s, they will see the population, if the demographics are right, going to 9 billion in their working lifetime. What a challenge that's going to be.

So I'll finish on that note of commonalities and just stressing a few points by just saying three things: ACIAR in the next three to four years will continue to work emphatically on productivity and sustainability improvements together; we're going to give greater emphasis on linking that, hopefully as seamlessly as possible, to the supply chain analysis and policy analysis, because the policy in institutional settings in many developing countries - and some may say in some parts of Australia - are quite limiting factors in the adoption of research which is our ultimate objective, so we will continue to push our supply chain because the benefits of productivity enhancement can only really be fully realised at the farm level if we can get market access. If we want to improve economic growth, and by definition, reduce poverty, then you have to get market access for farmers in the different levels of sophistication in developing countries and developed countries. So we'll certainly be doing that. The point about capacity building, we see that as essentially in all countries, to keep sustainability of the research and productivity, so that's my introductory comments.

MR WEICKHARDT: Okay. Thank you very much indeed.

DR SAMSON: Simon, this capacity-building issue, you have seen from the draft report that amongst other things, we're looking at the investment pattern in R and D as opposed to the beneficiaries of the R and D. We're suggesting that the government is making disproportionately high investment for the return it gets in the public good way, so we're suggesting in the draft that over a period of 10 years, the

government reduces progressively its matching contribution to 50 per cent of what it currently is over 10 years.

DR HEARN (ACIAR): Yes.

DR SAMSON: Not surprisingly, there's been a push-back on that from some participants in the inquiry to the point where the suggestion is made that if the government were to reduce its funding, you would find that producers would react in the same way and would not even maintain their current level of levy payments. So overall, there would be a reasonably significant reduction in the amount of money spent on rural R and D. Then the proposition is then put to us that this is very likely to have some quite catastrophic unintended consequences in terms of ceasing to maintain the core scientific research capability in the sector within Australia. Would you in a general sense have any observations about that?

DR HEARN (ACIAR): We don't have an ACIAR position on this but what I can say in answer to that is that in my experience, Australian farmers have been in some cases very understanding about the importance of the levy. When I say "understanding", a levy, as we know, is a four-letter word for a tax and it's quite a tough tax because you sometimes pay it on a negative income in bad years. You pay it on production, of course, as is pointed out in here. So I think growers have shown their enthusiasm for R and D by voting with their pockets to maintain that levy and certainly - as with you, Cliff, and others in this room - we've had a long history of working with farmers on R and D and I've always found amongst our key industries in Australia a big enthusiasm for R and D and a big understanding of it. Now, that suggests the elasticity of funding under a reduced incentive. I don't know that that's ever been tested. I think you will certainly find that it will be challenged in that sense. I wouldn't be surprised to hear that at all. You've already told me that it is.

So in that sense, I suggest there's an enthusiasm for research amongst farmers which will continue, even though they would be extremely disappointed, I feel, if there was a phased reduction over 10 years to 50 cents to match each dollar. That's something perhaps others, the NFF and departments, can identify pretty thoroughly on, that side of it.

Insofar as there will be I think according to your numbers here the aggregate reduction after you've set up an RRA would be 60 million. Now, I don't think that 60 million of itself reduction - while it would be noted and lamented, I think it might just be the object of that 60 million rather than the quantity of money that might cause disappointment, which might also manifest itself in some reduction in enthusiasm for research, especially amongst some of the smaller farmers who actually find the levy quite difficult at times but continue to pay it. I mean, the income distribution of farmers across Australia is very skewed and the top

20 per cent, as we know, produce about 60 per cent of the output in many industries. So I think you could find some elasticity of willingness to fund, if that's the right term, amongst the bottom quartile of farmers in particular in income terms.

Now, what does that mean for demand? If we don't have the projects, then you don't have a career structure for scientists. If there aren't the projects either inside or outside of Australia for scientists to engage in and for young scientists to cut their teeth on, then surely the reaction will be through the market that capable young Australian students will move towards other subjects where there's a better career structure. That I think is just a corollary that one would expect to happen, and consequently we could lose some capacity by just not having the career structure for young scientists coming out of universities today.

I should add we're already seeing that. As I said before, we're already seeing that agricultural faculties in Australia, already some of them have had to close, some of them are much reduced. They are responding by giving more flexible degree options and that's to their credit. Also, what I think the agricultural industries need to do through the RDCs and others is to make sure that it's not just agricultural graduates, it's related subjects like zoology and biology. If you can get the youngest and the brightest to come out of, say, a biology degree into agriculture, public or private sector, you've still got some very good talent in some of the science subjects and we've got to look at that as well and make the career attractive.

MR WEICKHARDT: Just on that subject, Simon, in terms of career attraction, I guess all things are relative and at the moment, the mining industry probably looks pretty attractive to a lot of people as new graduates, high incomes, quite high visibility in the industry, high profitability and scarcity of people moving into that industry. In some ways the market responds to an increased world population to feed which, as you say, is probably going to be elevated prices and significant pressure in Third World or developing countries to feed people. It may itself make careers in that area much more attractive anyway.

DR HEARN (ACIAR): I agree, but I think the point I made about to the students the other day was that I think as people come to understand the extraordinary environmental and food supply challenges ahead - and I include environmental sciences as increasingly part of an agricultural agenda, as well as the agenda of other industries but certainly part of the agricultural agenda - and climate change, and carbon sequestration and all these areas of scientific research, I think there will be come natural build-up in interest from an area that's been at the university level languishing a little, declining somewhat. I think you will see some natural interest and therefore some natural growth in demand for those subjects by students. But that doesn't necessarily detract from my other point about there's got to be a demand for projects, particularly if we're going to have a research community that's going to

work.

The other thing that will provide a better career structure in the future is I think the internationalisation which has already occurred but which will occur more in my prediction in terms of addressing food security. The scope for international collaboration on this is going to get bigger and bigger. That in itself too will open up some exciting challenges for scientists to work in Australia, but for Australian scientists to go and work in other countries. We in ACIAR are making some sounds with other agencies and government about how we might be able to take on some scientists and give them an early chance in working overseas to get experience in science research overseas and come back to Australia, but we're a very small fish in a big pond and we alone couldn't make much of an imprint on that. We can only make a start.

MR WEICKHARDT: Given that, as you've said, food security is a pretty hot topic at the moment and a lot of people have said Australia has a moral obligation to make some of its contribution to this area, I'm reminded by the sort of very high returns that you quote in your submission from some of the projects that ACIAR have been involved with. Given the Australian government might have a choice of investing in domestic productivity enhancement or in assisting overseas research which would lift overseas capacity to grow foods, and of course that's linked to market access, as you say - - -

DR HEARN (ACIAR): Yes.

MR WEICKHARDT: - - - do you think that it's likely that the Australian government is going to get a better bang for its buck by an investment in an ACIAR type of program and helping in that international agricultural research community than in simply trying to grow more food itself?

DR HEARN (ACIAR): In terms of global public benefit? Well, I think there is interactive - if good research is done in Australia then what we find with research scientists in Australia is that they can then work offshore in overseas contracts that we give and can take Australian know-how - and much of the research component is adapting some of that know-how. This isn't exclusively how they do it but it's quite important to adapt the know-how that Australia has, for example, we're amongst world leaders in many aspects of arid and semi-arid agriculture. You can adapt that to the circumstances of the partner country that you're working in. So the know-how comes out of Australia but you can't take that know-how and generally just export it and put it onto a group of small farmers in a totally different culture. Even if the ecosystem, the biophysical conditions, are very similar in many cases you can't just transport our science. You have to adapt it, and adapting involves research.

So I think they're interactive. Good research in Australia, therefore a demand for Australian scientists and then when they go into overseas countries, adapt that science to the benefit of those countries, working - we will not do a project unless we have scientific partnership with those countries. That's part of our fundamental decision-making process. I think the two can work really well together like that. Now, the returns that we have in our submission sometimes the benefit-cost ratio is above 50 to one, extraordinarily high and somewhat higher than some of the R and D corporations would be reporting in Australia; not always higher but somewhat higher on average, in median level. I think the reason for that is that the application of science in developing countries is starting - one of the reasons is starting from a lower productivity base.

So there's a scope - the yield gaps that we observe in some parts of the world give us scope to adapt science into that and to get big bangs for the buck by raising and reducing the yield gaps between some of the developing countries and developed countries for different crops and livestock enterprises. That is a critical part of the good returns that we are getting. At some stage you would project - perhaps you get a languishing growth curve as you go forward but at this stage we don't see much of that in developing countries because they've got a long way to go and small farmers often, while they have similar scientific challenges, it's the research into systems that's very important to them. Many of Australia's universities have some very good research into agricultural systems. That can be used in developing countries because often it's the systems that farmers are using that also precludes adoption of intermediate-type technologies that might be suited to small farmers.

There's a number of challenges there, so I wouldn't necessarily say it's an either/or. I think the government in making those sorts of decisions and policy makers in government in Australia would need to look at it in a much more holistic way rather than saying, "Well, we'll put some money over there for research in Asia Pacific but not in Australia." I think - see the two together, and because there's really - many of the research providers in Australia that work overseas are also doing a lot of work for the R and D corporations as well. So that's a natural way where they get human resources and human capital that can work in both places. It's very important to have scientists who don't just know the science but know how to work in countries overseas, because there's particular challenges there working with other cultures.

MR WEICKHARDT: Can you clarify where the government has recently announced a significant additional commitment in this food security area, I mean - - -

DR HEARN (ACIAR): In research.

MR WEICKHARDT: Do you have any idea of where that's going to be spent and how it's going to be spent?

DR HEARN (ACIAR): Sure. As you know the government - I'll give you an example. The government announced in the budget of May 2009 a total package of 464 million for food security driven by AusAID; AusAID can talk to 464. Of that 464, 100 million was set aside for new endeavours in Africa and out of that 100 million about 20 million - well, 16 million, was provided for new research endeavours in Africa, sub-Saharan Africa, and was provided through appropriation to ACIAR.

ACIAR has now supplemented that 16 million new money that came out of the May 2009 budget with four million of our traditional appropriation to set up and have already started to sign a $20 million project on maize-legume system combinations, particularly in niche areas of that, which I can elaborate if you want to, but niche areas of the maize-legume combinations in five African countries which started about three or four months ago, working in partnership with Ethiopia, Kenya, Tanzania, Mozambique and Malawi. That has started. It's a trilateral partnership working with the key research agencies in each of those five countries and also working with CIMMYT, who - well, they're headquartered in Mexico. CIMMYT have a hub operation in Nairobi, Kenya. Also the University of Western Australia and the Queensland Department of - QDEEDI, as they call themselves now, which is - can't get it but QDEEDI in Queensland which also covers agricultural research by the state government in Queensland. So Queensland state government, University of Western Australia, each of which have particular specialist skills, working.

So that's an example of a recent initiative which got fast-tracked. Frankly, we managed to get it up quite quickly because we had the right networks in parts of Africa to get started very quickly. I think that's an example and it's an example we'd like to emulate if more funding is provided for food security with international agriculture research.

DR SAMSON: Simon, in going through the inquiry to date whenever we can we've tried to establish some sort of principle base for the analysis, what we're saying. In the draft report we've put down a series of principles. If you've got the report it's XXXVI where we list some, where we address matters of what's the aim of government funding, recognising some of the non R and D contributors to performance et cetera. Just wondering given your current role and perhaps even daring to suggest previous roles that you've had, would there be any of those principles where you look at them that you would disagree with or feel inappropriate for the purpose?

DR HEARN (ACIAR): There's nothing there - I mean I agree very much that productivity underpins other aspects but the returns from productivity, as I said earlier, need to be retained. But your principles here - a lot of those would be

principles that one would expect a professional organisation to adhere to, in terms of transparency and accountabilities. The only point I would make is proportionality, depending on how far - these principles look fine to me. When you implement the principles, well, nobody would suggest that - and clearly R and D corporations, I'm quite sure, would not suggest that any amount of accountability is not important. But to what extent, how much reviewing and processing can you go through and are you going to - you need reasonable risk management as opposed to, you know, if you're not going to do a - - -

DR SAMSON: Yes, sure.

DR HEARN (ACIAR): So it's a question of proportionality between process and reviewing and the level of risk that is intrinsic in research management and in research delivery too, because research by its very nature is a risky business.

DR SAMSON: Yes.

DR HEARN (ACIAR): So no, clearly the answer to your question is I don't see anything in principle there that would make me sit up in horror. Others might, but I - - -

DR SAMSON: No, okay, I appreciate that, Simon, thanks. The other point when you were talking about the synergies between domestic Australian agricultural R and D and the work that you guys do overseas, you said the interest in Australia is that the Australian rural agricultural R and D community harness a lot of scientific research which then allows you to sort of take that know-how and transpose it and use it overseas. So to my mind the important part therefore is how effectively the Australian rural scientific community coordinate their efforts to create that know-how which you guys then piggyback off. Okay? A fairly crude question, I suppose: what we're saying in the draft report, we think under the current model the R and D corporations are very good at dealing with levy payers and promoting work for (indistinct) and productivity enhancement. We are proposing a different way to deal with the underdone issue of coordinating and developing an agenda for the public good, broader issues - climate change, water - and the other things that you mentioned. Would you share our view that there is benefit in creating a new focus for those broader national public interests, public good issues, and separating them from the current commodity based model? From your perspective, in terms of producing the know-how that you will then use, current system versus what we're proposing, do you have any thoughts?

DR HEARN (ACIAR): I do. I think that's an area of the report that I thought was interesting. It's not the first time I've heard of that analysis, but I think it's a part that needs some more analysis and some more evidence based presentation. I'm not

being critical of what's in the report there but I think it needs more evidence based presentation. The cut-off between public benefit research and private benefit research is very opaque. It's that opaqueness that leaves me a little worried about how you can handpick certain things over there and totally exclude them from industry based R and D corporations who - you're trying to avoid duplication as well because duplication can be wasteful. So it's how in practice you're going to be able to get that border between the two is what interests me as a reader as to how you might do that. We've grappled with this a bit. It's very difficult to get that to the conviction of everybody.

Having said that there, there are cross-cutting issues and they are cross-cutting issues that do need some pooling, in my view. I do think that we can do more there in Australia in pooling in some of those cross-cutting issues. Whether you need to take up the transaction costs of a new R and D corporation - because there will be an establishment in the transaction costs involved, and I suspect that 50 million will build up to more than 50 million in the future because of the important cross-cutting and national interest in some of these cross-cutting issues - whether you can build it into the existing structure by perhaps examining one or two of the R and D corporations that might be able to pick that up with some revamping of their mandate - well, it's not ACIAR position but I would personally say maybe somewhere like RIRDC that has some cross-cutting programs already, whether there can be some examination - that is the micro detail of implementation, I agree, but I don't know whether you really need to set up a new R and D corporation for that but I would like to see greater clarity myself as a reader into how you pick off between public and private benefit. At the far extremes you can probably see it, but there's a middle area there and that's where the opaqueness comes in.

DR SAMSON: I think we'd be the first to agree with you, Simon. It's not universally black and white.

DR HEARN (ACIAR): No. I recall many years ago when I was working in Europe that the then Thatcher government had something similar with their Agricultural Research Council - not particularly important to your report, this is 20 years ago. But the treasury in Britain at the time had a view that the Agricultural Research Council, which publicly funded the universities for research in the UK, should only do basic research and semi-basic research, medium-term and long-term, and that what they called new market research should be picked up by industry, and if industry wasn't picking it up, why was the public sector? So that was the same sort of logic to some extent I was sort of perceiving as I went through that.

They pursued that angle. I'm not sure where they're at now but that was about 20 years ago there and cross-referencing that might be an interesting piece of homework as to where that got to, if you had the time or somebody in your staff had

the time. I don't know where it got to in the UK.

MR WEICKHARDT: Given that this issue is so opaque, I mean, in the first instance when you're looking at a portfolio of research which is inherently risky, you don't know the outcomes in advance, you make some assessment about what the benefits might be, to who the benefits might flow to, and you then make a decision about how to fund it and who will do it, but the outcomes may be completely different.

DR HEARN (ACIAR): Sure.

MR WEICKHARDT: They may be much more exciting than you thought. There may be many more private benefits than you thought. It may be a complete lemon. So there's uncertainty there. Also in terms of the recommendation we've made, which is, as you say, driven by a similar sort of principle to the UK; that is that if the beneficiary is more likely to be a private individual, then that private individual should probably do more of the heavy lifting in terms of funding it. But ex ante you have to predict what behaviour change will occur if the government vacated some of that space but with due notice. Given that all these things are going to be, if you like, judgmental and uncertain, what sort of greater evidence base would you want before you were to make a call on this? You're never going to get, as I see it, an absolute sort of mathematical certainty here.

DR HEARN (ACIAR): It may have to be qualitative, I agree. I'd just like to see that discussed a bit more widely than it is in this report. I don't think you'll get a numeric on it or a metric of some sort. I can't see that happening. It will call for judgment and qualitative judgment but it opens up - because there is the overlap between private benefit and public benefit and vice-versa. One can find many, many examples of where that has happened, where people have taken massive private gain but there has been a public benefit down the track. So I think the logic of that is going to need to be hammered out more in any subsequent finalisation that you do of this draft report to convince the open-minded reader - there will be some open-minded and some won't be, I'm sure, in this area - that there is a real logic in this and it can in practical terms be implemented.

I prefer personally the idea of cross-cutting issues which tend to have a wider public benefit in my sense of it. This is almost nomenclature or wording. But cross-cutting issues very often do have that wider public benefit. For example, things like climate change is cross-cutting. It's not exclusive for any one industry. There are specific aspects to one industry but the broader changes are clearly public benefit research in the main. You talk about water and other public good research, I don't think they're just exclusive, there are some private gains in much of this as we mark it, water et cetera.

MR WEICKHARDT: You would sort of hope that there would be because the challenge of adoption, if all the benefit is going to be a public good, is going to be significantly greater than if there were some private benefits along with a significant public benefit. The fact that it's a continuum is probably a good thing, I suspect.

DR HEARN (ACIAR): Yes, I agree with that, if we can it to work that way, because obviously once this public good research comes out you would expect enterprising researchers in the private sector to pick that up. That's what public good researchers make publicly available, I guess, and maybe they can value add that research with or without intellectual property, that's another matter, but they can value add that and that can often happen at the new market stage because a lot of the risk of the basic research has been taken out by the public sector.

DR SAMSON: The other issue - Simon, using your focus on cross-cutting is the prism - it's been pointed out quite widely that some of the issues that we talked about, water, whatever, are actually cross-cutting not just in a agricultural commodity sense but beyond agriculture, and within the government structure you have several departments in the current admin order and configuration involved. But certainly part of our thinking would be that maybe a new body set up outside a strict sort of commodity based structure - given the right remit and the right authority - may have more success in influencing some sensible collaboration between different arms of government which are pure commodity based or even multiple commodity based, like a RIRDC, would find more difficult.

DR HEARN (ACIAR): Those issues, they're all inter-sectoral issues, water in particular - I mean, 70 per cent of the water in Australia is utilised by farmers but the urban use of water is very significant as we all know. Yes, I can certainly see some logic in that. I didn't actually see that come through in this draft, but that could be pushed a bit harder in some of that, these are the sorts of things that I think need to be canvassed and publicly debated. As the government moves from your final report towards the decision-making phases, I think that sort of issue needs to be brought out. It's a little stark in here at present. I didn't catch that. But I think that's a valid point. You can't just say water is only agricultural issue. It clearly isn't. So, yes, absolutely.

DR SAMSON: Okay. Thanks, Simon.

DR HEARN (ACIAR): Just on that, if I may, chair, I also make the point about adoption of research is relevant to this in that you touched on page 72 in your report on extension and research and that was an interesting page to me. There is this issue of how much funding should R and D corporations - and we in ACIAR for that matter - be expending on what you might call literal extension in our enthusiasm for

adoption and how much should actually be focused back at research and where's the cut-off point. Again there's a degree of indistinction between where does extension start and research finish. We are looking at that at the behest of our commission right now. I'm not sure we're going to come up with - we're trying to get a framework around that, because every dollar that you spend on extension is one less dollar on research when you've got a limited envelope.

On the other hand, if you don't get involved to some extent in extension you may just lose - the knowledge transfer may never happen if we won't get adoption. In Australia we're relatively lucky in that the commercial sector, with good research, often becomes the extension officer and that's been an evolution over the last 20 to 30 years in Australia as state departments have slipped under the radar on extension. In developing countries we have a slightly different challenge there because the extension services - there is not a vibrant a commercial sector where farmers are not commercial themselves. They're quasi commercial systems. Therefore you have to go to the government extension services or the NGOs - World Vision and other bodies who are not-for-profit - in order to try and get that extension undertaken. With the extension services in many developing countries - with the exception of countries like India and China who put a lot of money into research and extension - in a lot of these countries, extension services are very much the third rung on the ladder and you don't get extension done. It's a bit of a conundrum, that one. I think it's a conundrum in Australia, but to a greater extent per ratio in developing countries where extension services are moribund in many cases.

MR WEICKHARDT: On that topic you mentioned in your submission - in talking about your evaluation research impact - that you carry out a rolling assessment of adoption and you specifically talk about a three-year survey after completion of the project. This sort of rolling study, do you do this at intervals greater than three years, five years, 10 years?

DR HEARN (ACIAR): No, we take a rough measure every three years above a certain threshold size of project, $400,000, and we do it three years after because we recognise there's always going to be a lag before you start to see early adoption in most subjects. Occasionally you'll get a dramatic pick-up in adoption earlier than that but typically speaking three years is a relatively short space of time, but we might start to see some interest in adoption after three years. That is typically done actually by the research provider. You might say there's an in-built bias in that but in our experience with professional researchers, looking at the adoption, they are very interested from a professional point of view what's happened to their research, and they know the people who they have been working with in the different countries. We take the chance of bias that might come into that in order to get an early assessment of next user adoption. Very often it's next user rather than end user. Sometimes it can be research agencies, sometimes it can be farms. Farmers are

generally the end users, of course.

That's our first look at how do we go with this project. It's not an evaluation as such. It's a very rudimentary type of thing but it gives us some early feedback. It's only later that we then go into the impact assessment evaluation and that is done independently of ACIAR. That is where we take independent economists and other scientists to do a full economic impact assessment on the bigger projects to see what's happened, and that's a bit later that we do that because we again recognise that to start to get economic impacts - and increasingly now we're trying to look at environmental and social impacts as well. They're harder to quantify but we're working on that with new methodologies. But those independent studies are done separately and further down the track to see where we can get some sort of idea of the impacts that we then publish.

MR WEICKHARDT: How much further down the track would they be done?

DR HEARN (ACIAR): It may be between five and 10 years after completion. That's typically where we go. I mean, Dr Phil Pardey from Minnesota University - you may know him, I don't know, but Phil is probably one of the world's leaders in agricultural impact assessment. Being Australian he comes home very often but he has shown that the big breakthroughs in agricultural research, if you look at it around the world from the incumbency stage through to final adoption - complete full adoption - it can be between 20 and 30 years. Of course, if you say that to the decision-makers, people start to get a bit glazy-eyed. But the point he makes is that the saving grace about that is there's incremental adoption on the way through. There's incremental adoption that occurs on the way through. It's not as if it's static for 20 years. I think a lot of the breakthroughs in agricultural research, including some of the great breakthroughs of the green revolution, didn't happen in three years. They were incremental through many years from the 1950s on through to the breakthroughs of the late 60s. I think this point is very valid. What we're trying to do is to reduce that delay. With modern IT and telecommunications options to spread information, we're hoping that gap to final adoption can be reduced with the big breakthroughs.

MR WEICKHARDT: It relevant in my mind that in some of the industries we've spoken to there is a complete disbelief between the benefit-cost ratios being quoted by the RDCs and the end users who say, "These 11 to 1 figures are just made up." When I've looked at a few of the assessments, most of them assume adoption rates very, very rapidly, and I just wonder to what extent your work, in terms of forecasting benefits, in looking at adoptions moderated the rate at which you expect adoption to occur? You talk about the work by Dr Pardey. It seems there's still a belief by some in the research community and some assessing the research community that as soon as you built a better mouse trap everyone is going to beat

their path to the door. This doesn't normally happen in the commercial world. Yet the forecast being put out there was almost unbelievably high benefit-cost ratios.

DR HEARN (ACIAR): One of the inaccuracies - it has got to be done methodically and objectively but you do have to make some suppositions and make them quite clear in impact assessment studies as to what your adoption rate suppositions are. For the farmers in Australia looking at that in disbelief, I guess the line they have got to look at is what does that study say is the adoption rate looking forward to the next 10 to 15 years, we say in Australia, might be a quicker uptake than in developing countries sometimes. That is where if they don't believe that adoption rate then the benefit-cost ratio at the end is for them bunkum. But if they think the adoption rate is realistic, if the independent valuators have done a good job in surveying what's the likely adoption rate, then I think like any forecast it's the suppositions in the forecast that you have to look at before you look at the final product of the forecast. That's what I would suggest has to be done. We in ACIAR are reasonably conservative about our assessment of adoption rates because we do know that it can be quite hard when people haven't got the funds to purchase some of the technologies that may come out, and we try to gear the technologies to the smallholder rather than to the large-scale farmer.

Sometimes you do get a delay. We have recently done a study of the rates of return in different countries with which we deal, and you'll come up with things that you might intuitively think would have happened anyway. Countries like China and Vietnam are very quick uptakers of research. Therefore, because of the net present value in the benefit-cost ratio, you get a very quick return relative to some other countries which may not have the infrastructure or maybe sometimes just the know-how to pick up some of that research. So we find quite a spread across countries, and we would expect that our evaluaters take that into account.

I was going to bring our evaluation manager here. She is in Africa at present teaching evaluation techniques to some African workshops. There will be a big demand for that from Africa. She would be saying, as I have, that we look in quality assuring the evaluations that come back to us. We don't try to alter the end product of that evaluation, but we do want to make sure they have gone through that methodology absolutely thoroughly, to ensure that the adoption rates are the best that you could possibly calculate in the circumstances.

MR WEICKHARDT: The attractiveness to me of your comment about a rolling program of assessing adoption was that over time, having looked at the track record of previous studies, you hopefully will get better at forecasting in the future.

DR HEARN (ACIAR): I think that's right, and also occasionally doing some meta-analyses - or, meta-type analyses, we're not able to complete a proper

meta-analysis, but a meta type analysis; and also we're moving into more thematic type impact assessments, like livestock health type research, looking at that as a theme in a number of countries, to try and get some idea of the returns on a thematic rather than just a project approach.

One of the great challenges I think we're having is that impact assessment and benefit-cost ratio will tell you so much about your research, it doesn't always tell you about the ultimate economic impact, in terms of poverty alleviation, or, in Australia, in terms of economic growth. We know intuitively that it must contribute to it, but sometimes the challenge really is to show how much inclusiveness that research had, in terms of poverty reduction or alleviation. We're working with the big donor agencies to try and see how we can transfer that research into that. On adoption, of course we find that adoption can be done very much more quickly if we can convince donor agencies around the world that this research is worth taking seriously, and therefore putting it into the rural development programs, that I think are going to grow in the future, and allow us the opportunity to get partnerships.

We haven't talked about the CGIAR, Consultative Group on International Agricultural Research, who also have this challenge - and there's 15 of them, as you may know, around the world - and they're going through a very big reform right now, of which we are part. They are looking at how to avoid duplication and get the best cohesiveness across 15 centres. But also they are looking at how to get better partnerships with the World Bank, with the Asian Development Bank, with some of the big donor countries, so that the research can get picked up and then pushed there, and that is a matter of bringing the donors into the research base as we design it. We do that, but I think we need to do it more and more in the future, especially if there is going to be more funding, as I predict, in rural development work.

DR SAMSON: Thanks.

MR WEICKHARDT: Thank you very much indeed, Simon.

DR HEARN (ACIAR): My pleasure.

MR WEICKHARDT: We appreciate your contribution. Do you intend to make a further submission on the draft report?

DR HEARN (ACIAR): We haven't decided whether to do that. We will have a look further and think about that, and maybe I can talk to the Productivity Commission about whether that is needed or not.

MR WEICKHARDT: Okay.

DR HEARN (ACIAR): We'll consider it. But if people do make a further submission, what is the deadline for it? I know it's on the screen somewhere, I can probably read it.

DR SAMSON: 26 November.

DR HEARN (ACIAR): 26 November, okay.

MR WEICKHARDT: Thank you very much. Your input certainly would be welcomed.

DR HEARN (ACIAR): What we will do is, rather than duplicate what we have already done, from the two avenues that we think we can talk about most competently, which is international collaboration and capacity building areas, if we think there's something missing there, we will put in a short submission on that. If not, we'll leave it. But we will certainly be following this with great interest.

MR WEICKHARDT: Thank you very much indeed.

DR SAMSON: Thanks, Simon, very much.

MR WEICKHARDT: We are going to adjourn now until 1.30. thank you.

(Luncheon adjournment)

MR WEICKHARDT: Our next participant, New Rural Industries Australia. If we could get you, for the transcript, just to give your name and the role in which you're appearing today, and then we'll look forward to a brief summary of what you want to say and we'll have a discussion.

MR CHIVERS (NRIA): Perfect. My name is Ian Chivers, deputy chairman of the NRIA.

MR STINSON (NRIA): I'm Darro Stinson, manager, New Rural Industries Australia.

MR WEICKHARDT: Thank you.

MR CHIVERS: Gentlemen, I thought it was probably apposite to start with a bit a bit of a summary of what NRIA is and what it does, so that you can get a bit of a context about where we're coming from. The NRIA is quite a new organisation in lots of respects. It's new industries, but it is also a new organisation. The intention of the NRIA is to represent the smaller and rapidly growing rural industries. These industries are generally those that are probably not on the scale of the larger rural industries.

It's sometimes the case where they have been constricted in growth by relatively small technical hitches or they're new industries with emerging technologies; but, generally speaking, dealing with industries that are growing rapidly and facing very strong markets. Those markets occur from an increasingly discriminating consumer base looking for newer products from a wide range of attributes, be it environmental, be it tastes, be it lower carbon footprint type products. Many of the products that are handled by NRIA members are environmentally beneficial, to their advantage. But, interestingly, they're usually managed by enterprising rural entrepreneurs, and this is I guess the state of the organisation still, it has not differentiated, the people - it's still it's on a small scale, so they're are doing everything.

Many of our members are not just technically expert in their areas, they have had to manage financially into a new industry and they have to do a lot of their own marketing, so they're very close to the market and very close to all of the practical issues. We have people who are getting their fingers dirty at the same time as managing the phone and the market. These industries usually are those that either have no levy or pay a very small levy. Now, while they're relatively small, that doesn't mean they're inconsiderable in input when put in total, and the industries we represent when summed together turn over around $1 billion. That's a thousand million dollars, it's not just one million. If you're interested, there is a list of industries here that may be of interest.

MR WEICKHARDT: Thank you.

MR CHIVERS (NRIA): This is produced out of a publication of RIRDC, which is "Emerging animal and plant industries - their value to Australia," which I guess is the most recent summary of the data that covers this area. As you can see, there's a very broad range of values within that, some that are in the hundreds of millions, some that are in the hundreds of thousands. Where it happens in terms of the research is that they're affected very strongly by research. Sadly, the draft report as it stands virtually ignores these industries. There is a small discussion on one page, page 176, which talks about a submission put in by the apple and pear industry that essentially suggests that the commission should not provide support to an industry based on its growth potentially simply on the basis that it is an existing industry.

That attitude, sadly, seemed to be adopted by the commission. But we would contend that it's probably a reflection of the industry itself, being that the apple and pear is an old and mature, and, some would say, declining industry, in terms of turnover; where actually the newer industries, if you're talking about bank-for-buck, in terms of the R and D, that's where you can get the money, that's where you can get the pay-off. It has been shown many times that these are the industries that can give the greater return to investment in that regard. Overall, these are the industries for which R and D is managed by the RIRDC, we are not dealing with the other RDCs.

These industries really can be divided into two groups, there's the levy payers and the non-levy payers. I will talk about each of those turn. First of all, I'll talk about the levy payer, and I'd like to give two examples, because I think they really do set the scene very nicely, the first being that of goat fibre and the second being lychees. Both, even though they're existing industries and they're paying a levy, would still consider themselves to be fledgling industries. The total levy income for 2008-2009 for each of those respectively was $21,000 for the goat fibre and $110,000 for lychees. In comparison, a like industry to goat fibre would be wool, which obviously is collecting a large amount in terms of levies, 34-and-a-bit million. For lychees you could make a comparison to bananas, being at four-odd million there. So we're dealing with exactly the same period, a vastly different scale of levy collection. But sadly, within the report as it stands at the moment they're treated the same.

I'd like to make another point here, is that the total cost of that revenue levy collection is quite different here in terms of the percentage of the total. For the goat fibre people the $21,000 came at a cost of 14 per cent of that money being lost to levy collection. I will repeat that, that's 14 per cent, it's not 2. Now, wool has - in case of 1 per cent for the wool people. It's just the scale of enterprise. For lychees it was 15 per cent, and you compare that to the bananas again, as I say, it's much larger,

it was 3 per cent that was revenue collection. So it's a very large slice of a very small pie that's going out just in collecting those levies. You could argue that the levy collection is really not worth it in any of those industries, but they do make that effort to collect - the industries - because they want to be part of the game. They want to be part of the R and D game and they see that as something that they're large enough to do. They want to be supporting R and D. They take this on voluntarily, and it's not something that's necessarily easy to manage for a small industry. But I would also ask you to reflect, I guess, on how much R and D the goat fibre people could expect to achieve for a total of $21,000. It's not an awful lot can be done. Sadly under the current draft report they're bundled together with the larger industries and we would suggest that that's probably both inappropriate and unfair.

The non-levy paying industries such as crocodiles and coffee. They're seen as public good research under the draft report, if I'm interpreting correctly. The expectation of NRIA is that these would simply transfer to the new RRA. Just as a comment, why is it necessary to actually create a new RRA when there's no RIRDC that does the same thing I would see as being questionable. Don't know that there's a great advantage there.

MR WEICKHARDT: Sorry, are you suggesting that our report says that those emerging industry things would go into RRA?

MR CHIVERS (NRIA): Yes. That's the way it reads to me. Maybe that's not the intention.

MR WEICKHARDT: Well, we're reading different words.

MR CHIVERS (NRIA): Okay.

MR WEICKHARDT: You might point out to me where it says that in our report.

MR CHIVERS (NRIA): It was in the - I don't have the report sitting with me but it's certainly - did you have that?

MR STINSON (NRIA): It was certainly my impression as well, but we'd be happy to help clarify the terminology so that we're not the only ones that - - -

MR WEICKHARDT: Well, it certainly wasn't in our mind that those emerging industries would go into RRA.

MR CHIVERS (NRIA): That's wonderful, I guess, in that sort of sense because they belong with RIRDC.

DR SAMSON: Yes. Quite the opposite, is the intent.

MR CHIVERS (NRIA): Fantastic.

DR SAMSON: So if we can identify the offending words at some stage - - -

MR CHIVERS (NRIA): No, we'll certainly get back to you, more than happy to do that. I guess the nub of our submission here, and this is finalising my sort of prelude, is that the distinction that we see between levy paying and non-levy paying is probably inappropriate for the scale of industries we're dealing with. We'd much prefer to see a position where the industries are all seen as fledgling industries up to a certain point in their development. At the moment we'd suggest that that point of development is when the annual levy income exceeds a million dollars or - and, sorry, I should say, and when the collection charges don't exceed 5 per cent of the total amount collected.

DR SAMSON: Total of what, sorry?

MR CHIVERS (NRIA): 5 per cent.

DR SAMSON: Five.

MR CHIVERS (NRIA): Up to that point the industries are, in our contention, better served with staying with outside their own - sorry, within the RIRDC fold. That may well be a sort of kick-off point.

MR WEICKHARDT: I sort of understand the rationale. I won't debate at this stage the size of the overall collection. But the cost of collection - I mean provided DAFF are doing a efficient job in their levy branch, the cost of collection is surely the cost of collection. If there are one million growers with a turnover of $1 each, to be ridiculous, it's going to cost a hell of a lot more than if there are two growers of a revenue of $500,000 each. Why should the size of the collection cost influence whether an industry is regarded as being, if you like, an emerging industry or not? It might be just a completely diverse industry with nobody at sensible scale.

MR CHIVERS (NRIA): You look at the larger industries, they're the complete opposite of that, I guess, when we're talking about the wool, the wheat et cetera. The levy collection charges as a percentage of total are very small.

MR WEICKHARDT: Which reflects the cost. I mean DAFF are only charging what it costs.

MR CHIVERS (NRIA): We're not suggesting that DAFF is trying to make a profit

out of the exercise.

MR WEICKHARDT: They say they're not and the honey bee levy costs, I don't know, 38 per cent or something like that to collect, presumably because there are a large number of very small individual players.

MR CHIVERS (NRIA): It is the combination of both the total annual turnover - total annual income and the cost of collection that seem to be an interplay there. Certainly when you get up a certain point on the scale of annual return then you're going to have a declining percentage of collection. The maturity of an industry will also be reflected by that number. As it gets more mature and a stronger base then you'll have a lower cost of collection that will come with that. With that I guess I can - it's only another point, but that's the main issues.

MR WEICKHARDT: Continue.

MR CHIVERS (NRIA): Okay. Well, there are some other things that do always strike us. I guess one of the questions that was posed within the report was would farmers be prepared to take on this research on their own if there was not being any public moneys involved. That was, I guess, one of the contentions that held within the report. Certainly within the industries we're dealing with I doubt that that's the case. I think you'd find that the public funding component is as very important component, even as a jump-off point to get the research started or to get some sort of scale into the whole exercise. It's a very important part of the value equation in terms of whether you do R and D or not.

I guess a further issue is - I'd like to suggest too that all the larger industries as they are today didn't always start as large. They started as small industries themselves and they all grew from infancy. They all received substantial government investment on the way through. I can give you a couple of nice examples if you're interested. Let me suggest to you canola would be a nice case of an industry that was supported very strongly by various governments and which without substantial R and D would not have been able to control the development of a disease called black leaf which was totally limiting for canola growth. But now with selection of new varieties that have black leaf disease tolerance canola is now becoming a very major crop. That was not the case 20 years ago. Without the R and D being spent at that time to solve that technical issue, canola would still be a very minor crop, if at all. A second example here would be that of lupins, the grain lupins, being produced primarily in Western Australia but also in parts of the eastern seaboard. Lupins came out of essentially a 30-year breeding program conducted in the Western Australian Department of Agriculture. Without that program, which was publicly funded, there would not be a lupin industry. We now have a sizeable lupin industry which has contributed to export income et cetera. Without that

breeding program that would not have happened.

These things don't come quickly but they all started small and they have all had a substantial public component in their development. If we really wanted to push the history card, we could go right back to the development of the wool industry in Australia with Macarthur and he obviously got government funds to bring sheep into Australia. I think the reality here is that for a lot of these major developments, they're not going to happen without some public component into the development.

DR SAMSON: I guess, perhaps a point of clarification, if you like. Our starting point in the draft recommendations in one area is, as you know, currently we have a number of commodity based RDCs and then we have RIRDC. The pure commodity based ones do a combination of commodity based on file productivity improvement R and D, plus attempt to do some cross-cutting broader natural interest work. Similarly, RIRDC has a portfolio of work in new and emerging industries and also has some responsibility for some broader cross-cutting work. What we're actually saying in the draft report is in our view all the RDCs, including RIRDC, do the first part of their remit very well. Undoubtedly, one of RIRDC's strengths is the skill set and the knowledge base that it has developed to deal with new and emerging industries. We see that very much as one of its core strengths.

What we see across the whole spectrum though is that all 15 RDCs do struggle somewhat for various reasons with the cross-cutting work. Hence where we have ended up so far in the draft report is to acknowledge that and create a separation to leave the current 15 alone by and large to do what they do best which in your case would be RIRDC left alone to get on and look after your new and emerging industries and remove the distraction that for various reasons it has not been managed particularly effectively, either by the RDCs or by the government, hence the notion to set up this new entity to allow it to focus on those cross-cutting broader national issues - public good, if you like, R and D projects. So really as written at the moment in terms of generating or retaining the focus on the new and emerging industries, that's what it does.

So there wouldn't be a dissipation of new and emerging, you would actually allow the current entity RIRDC to focus perhaps even more on the areas that interest you. Whether we go through and find some text that doesn't give you that impression - and it's important if we do that - that's certainly the intent of all this. I think it's very useful because one of the questions I had was - one of the problems with the existing model is where do you draw the line; when are you not new and when are you not emerging. I think historically that has been a bit of an issue. Whether we agree precisely with the metric of a million or whatever, I think moving forward it would be very useful for everybody to come up and adhere to some definitions of when you stop being new and when you stop being emerging. There's

some pretty old, fairly successful industries in that category at the moment.

MR CHIVERS (NRIA): Yes.

MR STINSON (NRIA): There's something a little bit confusing for me. Are you suggesting then that the new and emerging industries are not in the public interest?

DR SAMSON: No. We're saying quite clearly, this isn't a black and white situation. Almost any piece of R and D will sit somewhere on the spectrum that will have some public, some private benefit.

MR CHIVERS (NRIA): Which I think is a very important point.

DR SAMSON: It's not a zero-one game at all, but there are some things - particularly those that are cross-cutting across a whole range of commodities, because the model as it exists now is a commodity based model. When you come to cross commodity issues that's where over the last 20 years the model has struggled.

MR CHIVERS (NRIA): It's also been a struggle indeed and I wrote this in my written submission. We've talked about how the commodity base RDCs have an issue dealing with something that's just left field of their commodity because the levy payers - they're paid levies for particularly that commodity and they can't deal with something that might be just outside the door. That to me is always an issue with an RDC.

DR SAMSON: For all that we're furiously agreeing, with the best will in the world the current model where you have two stakeholders, producers and government, each legitimately have agendas that they wish pursued in the way of R and D, but they're slightly different, there's overlap. But if you're looking at climate change, for example, it's very difficult to get 15 commodity based RDCs to come together and effectively - though they are trying to pool their resources to do it. We would say a thing of such significance, of such enormity, that is also bigger than just rural R and D as well - takes in other government departments - you're really going to make some inroads in that. Our view at the moment is you have to create a specific focus for that work and give somebody a specific remit, so there's a benefit in getting the cross-cutting work done. We would also contend that in doing that you also create another benefit which is to leave the commodity based RDCs largely to focus on what they do very well, which is to deal with their commodity based stakeholders.

MR CHIVERS (NRIA): As you say we are in agreement on that.

DR SAMSON: I think you would get more focus for your industries out of the model that's currently in the draft report, not less.

MR WEICKHARDT: That said, can I clarify an issue you do make in your submission. You say a couple of times that -

> A return on R and D investment for new rural industries has been independently calculated as dramatically positive, internal rates of return ranging from 15 to 60 per cent, at times over 90 per cent. Remarkable returns from targeted R and D expenditure.

Then you later on say:

> The challenges associated with the complexity of costs of moving into new and emerging industries cannot be overstated.

My great concern about this area - and I accept the government should and is doing a bit to assist these industries get off the ground, but governments have been notoriously bad at picking winners. They have sunk a lot of money into areas which somebody in the government has got a bee in their bonnet about and it's going to be the great white hope and it's turned out to be a great fizzer. I mean, if these industries and the entrepreneurs who start them are demonstrating remarkable returns, why is it you expect the government should be tipping more money into them?

MR CHIVERS (NRIA): I guess it's that kick-off point that is a difficult one to achieve if you're just a starting entrepreneur in the game.

MR WEICKHARDT: It's a kick-off point and the cut-off point, I would put to you. The trouble is, governments sometimes, unlike entrepreneurs, are very slow to cut their losses. They keep on thinking, "Gosh, these ostriches will eventually be a great thing, so we'll give them another five years," or something. One of the quandaries in this whole area must be when does an emerging industry turn out to be a fizzer and public support stops, and how long should public support stop before it becomes self sufficient and able to stand on its own feet?

MR CHIVERS (NRIA): I think most of those things are covered reasonably well under the RIRDC model, because RIRDC has a series of advisory committees that deal with new plant products, new animal products and so on. These people are largely on the ground people. I think most of those market signals are probably picked up pretty quickly.

MR WEICKHARDT: Okay.

MR CHIVERS (NRIA): I don't see them as being - maybe in the past it's been

different, I don't know. But if someone was to put up a proposal today, you know, I think it would be looked at with a fair degree of market knowledge in mind.

MR WEICKHARDT: Okay. That's good.

MR STINSON (NRIA): Could I also suggest that taking some risk and moving into somebody's new and emerging industries is collectively in our best interest, whether it's around food security, sovereignty, national security - a whole number of issues in terms of the public good. If we're not able to move and take some risk - the public takes some risk - to assist and look at how we might develop some of these new products, we will increasingly become reliant on offshore. We'll be increasingly looking for ways to deal with climate change and drought in terms of looking at - some of the emerging industries are probably better suited for our climate in many parts of the country but we traditionally just haven't moved in that direction. I would suggest that at some point it's in the public's interest that we actually look at what those things are and how they might help us down the track. Having said that I'm in total agreement that if they don't cut it at some point we need to say, "It's all over."

MR CHIVERS (NRIA): A lot of this is about de-risking agriculture too, isn't it? Many opportunities within the new and emerging industries for products and production systems that are based on new materials or that are probably old materials. They're materials that have been around for millions of years in Australia. They're well adapted to Australian conditions. So it's really just taking advantage of that which is de-risking a lot of those things.

MR WEICKHARDT: Certainly. Some of the things on your list - goat, coffee, tea - are hardly new industries. They might be new to Australia but they're not new industries.

MR CHIVERS (NRIA): No, quite right. But in terms of a response to climate change that's probably amongst the best, to look at things like dates, for example. There is nothing better adapted to high, dry conditions than a date. Those overarching climate change considerations or drought considerations or water quality considerations, those sort of plants can fit beautifully into that system.

MR WEICKHARDT: What you're saying is that RIRDC at the moment is working well in this regard.

MR CHIVERS (NRIA): Absolutely.

MR WEICKHARDT: Okay. That's good news.

MR STINSON (NRIA): Even though coffee is relatively new in Australia, there

are many crops that have come to Australia without substantial R and D into them. The diseases that have actually attracted those crops have not showed up anywhere else in the world. For example, canola was a good example. It only emerged here, and without that R and D - so even though it's not a new industry worldwide, the implications in Australia have some serious ramifications.

MR WEICKHARDT: Okay. Apart from this confusion about our intentions opposite RRAs, is there anything else in our report that caused you any angst?

MR CHIVERS (NRIA): There was that just simple lumping together of all levy components. That was the main thing. The leading industries are all lumped together as one, where we would suggest that a lot of the smaller ones are not appropriately lumped alongside wheat, dairy, grains.

MR WEICKHARDT: But they're not lumped in terms of the way the RDC is treated - - -

MR CHIVERS (NRIA): Certainly that was the reading of it. If you're disabusing me of that idea I'm delighted.

DR SAMSON: I believe we are.

MR WEICKHARDT: We're trying; some would say very trying. All right. Thank you very much indeed for appearing.

MR CHIVERS (NRIA): Thank you.

MR WEICKHARDT: We'll now move to our next participant, Mr John Angus. Okay, John, if you could for the transcript introduce yourself by name and the capacity in which you're appearing here today and then tell us what you want to tell us.

MR ANGUS: Thank you, Mr Chairman. I'm John Angus, I'm a farmer from Stockinbingal two hours west of here. I pay levies on grains, wool and meat. I was formerly a research scientist in a national research organisation and I'm currently president of the Australian Society of Agronomy, but I represent only my own views here today. Notwithstanding any reflections about the RDCs that I make later in these comments, I think these organisations provide a great improvement on the block funding arrangements that applied previously and which apply in other countries to this day. The greatest improvement is improving and strengthening the linkages between research and producers which is recognised in the draft report.

It's also anticipated in the green paper from 1974 which I was surprised wasn't referred to in your report because it reads very well after 36 years. I was just looking at it last night. The main point I want to make is a proposal to introduce competition into the RDCs. I wanted to make this point for several years. In case this focus - this one point I want to make - gives the impression that I agree with all other aspects of the draft report, I wanted to include some comments, if I have time, about the amount of research funding and the balance between government and levy payers since the draft report dwelt so much on those two issues.

My main point is about introducing competition into the RDCs. In general I think your submissions and your conclusions were that the RDCs - the structure - is pretty good. There's only three dissenting submissions about the structure and there's two others that are lukewarm, although I noticed that John Kerin's paper that he presented earlier in the year, which was not flattering to the structure of the RDCs, wasn't mentioned in the report.

The RDCs can be considered as brokers between farmers and scientists. They arrange the transfer of farmers' funds so that scientists can conduct research which is intended to improve the information and products with which farmers can increase productivity. Both farmers and scientists operate in competitive markets. There are many farmers in each industry who produce commodities for world and national markets; likewise there are many scientists who compete to produce original results and obtain funds. For each commodity there is only one statutory body that is an RDC for an industry so that each RDC is effectively a monopoly. A government organisation and a statutory body is necessarily a monopoly but the RDCs look progressively less like arms of government than they were when they were set up 20 years ago and they will look even less like arms of government if the draft report that you propose is adopted.

So each RDC has properties of a monopoly, of a monopoly broker and from each commodity farmers' levies go to only one RDC and the industry scientists can obtain research funds only from one RDC for that industry. For rural industries that are relatively small, that are geographically concentrated or relatively homogenous the RDCs are necessarily in close contact with the levy payers and the scientists, so there are few, if any, adverse consequences of monopoly. Where the industries are large, diverse and spread over the continent, there is more scope for decisions that do not have the support of most stakeholders and which may take a long time to correct.

I want to give a few examples of decisions which may or may not be wrong but which certainly were opposed by many stakeholders. One is about canola which was just discussed. In fact there was early government support for canola but at the time of the introduction of the oil seeds research fund in the 80s there was about a five-year period where canola research lapsed very strongly because the oil seeds research fund was dominated by the sunflower industry and they didn't want the funds to go to canola. So there was a long period from about 87 to 92 where canola languished and I think that's the structure and it took until GRDC started to realise - it was avoidable - that canola was so successful that it took off. So there was an industry bias there. That's example 1.

Example 2, which I'm afraid I can't find the exact details for, but from memory that funds for production research on beef for a long time were confined to the northern region and the permanent pastures areas to the south and there were no funds for beef in the mixed crop/livestock systems even though there were and still are significant levies paid from these systems, so a regional bias. The third example is that in most cropping RDCs there is a relatively large allocation of funds to brand breeding and genetics and less to crop management research. Typically there is about two-thirds in funds go for plant breeding and genetics and about one-third to crop management. Now, that's almost the exact opposite of the returns in terms of productivity from econometric studies by Derek Byerlee and others that show about two-thirds of the returns come from crop management and practices and it's taken about 20 years of questions by particularly the consultants in South Australia that misallocation of resources to plant breeding and genetics.

Now, in the latest GRDC annual report I see that the ratio is up to fifty-fifty and that's in one year it's gone from two-thirds to 50 per cent going to plant breeding, so another example of what I think many people would regard as a misallocation of resources for various reasons. The fourth example is the DAFF submission to your inquiry and that that submission implies that there's not enough funds allocated to research on environmental issues such as climate change and biosecurity. So that expresses a degree of frustration that one's heard from DAFF over the years. The fifth one, and there is a lot of disagreement and, indeed, dissension amongst graziers

about levy funds being allocated for product promotion when it's not clear that the returns are as large for production research. I strongly agree with your draft report on page 29, I think, that says just that. Although it's interesting that I couldn't see where that conclusion sprang from in the body of the report.

The overview on page 29 makes that point very strongly, but I couldn't see it in the body. I think that's a strong point that needs to be made and reinforced as much as possible. Some of these problems have been solved, most of these problems have been solved by the RDCs but I suspect that they are inherent in a monopoly system where there is a group of individuals who are making decisions about the allocation of research funds, that there will continue to be decisions that favour one side or other of a particular question.

So my proposal is that the amount of levies collected would remain as at present or be varied by an industry ballot, as is done now. But farmers should allocate their levies to any RDC, similarly the government should continue on a dollar for dollar contribution but have the right to allocate its funds to whichever RDC it chose to. The number and nature of the RDCs could be varied, for example, by merging or by new RDCs being formed if sufficient number of people thought it was worth doing so. For example, there would be a strong argument for a mixed farming RDC and I think there is almost a proposal from Western Australia for such a thing. Each RDC would compete for funds with a prospectus of the sorts of research it would seek to support. The nature of RDCs should continue to be controlled by prudent standards of government limits on administration. There would be a need to maintain significant reserves in case of sudden unpopularity and this would be similar to the reserves needed to tide over an RDC during a drought.

So this proposal is effectively for a voucher system. If you look up Wikipedia, you find that vouchers have been around for about 130 years in the United States. In practice most farmers are happy with the present situation and would allocate their levies on a commodity basis, as they do at present, so that could be a default. Although a farmer who contributes to several levies may wish to allocate them or some to just one RDC. For example, in our case we would think we contribute to three RDCs and we would think maybe one of them were a better investment; there was more future in one than the other. As in the previous speaker, if there was a banana grower who had a patch of lychees and saw more future in lychees, he could allocate the banana funds to lychee research.

The strength of this proposal is that the RDCs would be seen as more responsive and remain responsive to the levy payers and to the Australian government. The weakness, I must say, would be that the RDCs could spend too much advertising themselves to the levy payers and there would need to be some constraint on that by reporting the amount of advertising and administration. So that

is my main point. If you wanted to discuss that now, I'm happy to do so rather than get lost in these other points which I think many other people will make.

MR WEICKHARDT: If you can just quickly in point form outline the other points that you would like to make, then we can decide how we spend our time in discussion.

MR ANGUS: So on the amount of funding, the draft report criticises the estimated returns from agricultural R and D and suggests that these returns are lower than has been estimated, therefore, the amount of funding doesn't need to be so great. The studies leading to these estimates of returns on research are based on refereed books and articles and indeed the criticisms of these studies may also be based on refereed and careful research but I have no evidence of such rigour in the draft report. For example, the report mentions correctly that much of the science, technology and products originate from overseas and that overseas costs are not included in the estimated returns for research. So this is an anecdotal rebuttal of the estimates of returns on research.

With the importation argument I would disagree, I think. One is that the Australian research contributes to the pool of international research and may come back in complex ways. For example, the biggest improvement, I think, in grain production in the last 20 years has been the break crops and that was imported directly from the UK. The UK started research on that in the 60s based on - - -

MR WEICKHARDT: What was that?

MR ANGUS: The break crops. The biggest effect of canola is not on returns from canola but on the increased yield of the following wheat crop. It's a big effect. But the original work was done in 1942 about five kilometres north of here and it went to the UK and came back again. So it's a complex system of transfer of research. It's an international system. The other query I'd have that much overseas research may appear to apply to Australia but in fact does not do so and it takes a lot of work and costs a lot of money to disprove that it's useful so that you find a new magic product that arrives and you have to spend a lot of time and money disproving it and stopping it from losing a lot of money. So that there doesn't appear to be a return from that sort of work but in fact it prevents loss rather than contributes to gain.

The other point about reduction in funding is that the proposal to start the cut back in government funds to the RDCs in five years' time would be a signal to young scientists that this is a career which lacks promise. So I would think that the effect would be instantaneous rather than in five years' time. I think that it would reduce the number of talented scientists wanting to work in agricultural research. The last point I want to make is the balance of government and levy funding. Recent research

by Phil Pardey and others shows that much agricultural R and D has a 30-year time lag before it has an impact, as you know. Existing levy payers have no incentive to contribute to research for whoever may be the beneficiaries in 30 years' time. If the returns are as great as they appear to be from the large body of refereed high quality research, then a patient source of funds is needed to support that research and the only source of that patient money I think is government.

MR WEICKHARDT: If I can just make a quick comment here and perhaps, as you say, these areas are going to be fairly well traversed during our public hearings, but most of the evaluations that have been carried out do suggest that to get full benefits it may take 25, 30 years but almost all of the assessments that have been carried out by the RDCs is showing benefit cost ratios of over two within five years. That's a very significant return that private industry normally would jump upon and I suspect most farmers have a view that's at least five years long, they wouldn't buy much farm equipment or invest in doing much at all unless they had a five-year return in their mind.

MR ANGUS: That therefore needs quite a deal of research to find out the time horizon of those benefits. If some of it comes in five years time, I agree that levy payers should pay for that, quite agree, particularly if it's export commodity which two-thirds of our production is. So, yes, I agree but I would like to see that broken down in the proportion of returns at different times. But Pardey's work can't easily be dismissed. I think it's very high quality work and it - yes, I'll say no more.

MR WEICKHARDT: Cliff, I don't know about you, but my instinct is to talk more about the competition idea.

MR ANGUS: Please do, yes.

MR WEICKHARDT: That's novel and different. Do you want to start.

DR SAMSON: Yes. Thanks, John, that was very interesting. I suppose I'll take a punt and say that the current model, as it operates to my mind is characterised by a skill based board of a commodity based RDC overseeing a system which results in identifying a series of R and D priorities. We've talked about grains because obviously you're very familiar with grains where in the GRDC they have the regional panels, so you get a fair degree of bottom up input into the system. The executive board also takes a bit of a helicopter view and tries to look at some national issues and then you've got the Australian government that articulates some national rural R and D priorities. So that's how I see the current model working and, yes, sure it inevitably results in some hopefully informed decisions being taken and as with any decision you would expect not everybody out there in the world would agree.

I need to try and understand your proposal a little bit more. Is it possible that under the broad scheme that you are proposing where it seems the decision-making is moved more from that skill based board and the infrastructure that surrounds them to almost - this isn't the right phrase, but a popular poll of levy payers determining an outcome in terms of R and D strategies. Take the grains example again, one scenario might be, as I understand it at the moment, about 60 per cent of grains levies come from Western Australia.

MR ANGUS: Not this year.

DR SAMSON: There is always a strong push that 60 per cent of expenditure therefore occur either in WA or occur on projects that would have demonstrable direct benefit to WA producers. Just off the top of my head, and I stand to be corrected, what you're proposing would be more prone to produce that result than the current system that can take both a bottom-up view of priorities and overlay some national issues. I may be totally oversimplifying or misrepresenting what you say, but just on first pass I would be a little concerned that might be an outcome.

MR ANGUS: That's the extreme position. That would go to the extreme of what I'm suggesting. I'm saying there should be an option of purchasing vouchers with which one could allocate resources but in practice I think most producers are happy with the commodity, with the return of their levy to the commodity. But where the system fails this is an ongoing way of correcting it rather than apparent failure of DAFF's frustration with environmental research that could be fixed with the RRA, although I have problems with RRA uncoupling research from production and environmental research.

But getting back to purchasing vouchers. I wouldn't like to see a dog catcher election type approach, voting on everything. It's meant for the threat of this, the threat of vouchers increasing the responsiveness to the levy payers and possibly even to the scientists because if an RDC is seen to be unattractive to scientists, if they had some potential for migrating to other areas, that could be an additional advantage. So it's as much the threat of doing this. The ability to do it, rather than setting up a completely new R and D corporation.

MR WEICKHARDT: In your model does the government get a vote for its 50 per cent. I don't know how often this vote is exercised.

MR ANGUS: You'd have to have a roll in the system.

MR WEICKHARDT: Is it annual or is it three-yearly?

MR ANGUS: Something like a rolling five year running mean or something. You

couldn't do it year in, year out, that would be disaster. But it would provide teeth for the government to make its point, but the impression I have at present is it doesn't really.

DR SAMSON: Would you see your model applying equally to the statutory corporations and the industry owned companies, because with the industry owned companies for example, they have the added mechanism of AGMs et cetera, and I guess you pay rural levies. So there would be an example where, as opposed to grains, you do have an opportunity at a regular interval, as an individual as part of a collective, to express your satisfaction or not with the way AWI were investing your levies.

MR ANGUS: The majority of voters in AWI have their way. We have seen the dissension in the board two or three years ago. I think that's one of the reasons that I thought of this, that you need some way of the minority being able to have some influence.

MR WEICKHARDT: I mean, research is by its nature quite a long-term investment. You're referring to the work by Pardey, it might be 30 years before you get a full return. So is an individual farmer likely to be able to make a wise election every five years on the prospect of the research that was being funded in the last five years, or the next five years, having a significant return to the industry, to the nation, to his successors, etcetera. On a popularity basis, we're not in a fast-moving consumer good here, we don't want sort of ads on TV for, "Put your money into GRDC, it's the best thing going," but if large amounts of money sort of slosh between the RDCs I could see a lot of administrative cost and churn.

MR ANGUS: Your first point, certainly there is the 25 or 30 year time horizon, but research is done in three or four year modules and some may lead on to others. So I would think that that sort of time horizon could be incorporated by a competitive RDC model. I would see that the changes in popularity, because of some proposal - if the Western Australian mixed farming RDC said that it wanted to incorporate the lamb industry with canola-growing or something, then that might be attractive to growers in WA and they might allocate more of their resources to that.

But I would see that GRDC would have to compete on that basis and there would be a sliding scale of annual resources. If 10 per cent of the farmers changed over from one RDC to another in a year, then you couldn't have all that going at once, you'd have to divide by five or something so as to smooth out the changes. But it would be a signal to the RDCs to be responsive to levy-payers, possibly if there were competing RDCs in the same area the scientists would vote with their submissions also.

MR WEICKHARDT: I understand the idea of trying to keep the RDCs honest and efficient and effective, but, as Cliff was saying, the ability of growers to vote with their feet by voting on the levy is an existing mechanism; if they don't feel a particular RDC is producing the goods, they could put the levy to zero.

MR ANGUS: What I'm suggesting is a much more modulated version of that.

MR WEICKHARDT: Okay. But you don't feel that existing mechanism provides the right sort of answers at the moment?

MR ANGUS: I'd hate to see that happen. I think that would be the end of big industries if that happened.

MR WEICKHARDT: But that's a consequence of competition, isn't it, that some may die and some may flourish?

MR ANGUS: Yes, that's right. But it would improve the judgment of the stakeholders, it would make them more thoughtful about what they were doing.

MR WEICKHARDT: In New Zealand recently, we understand, the wool industry voted to abolish the levy, or to set the levy to zero, we were told. I think that's correct. So that's the ultimate sanction that exists at the moment of the grower base, to say, "We're no longer content with you acting as an intermediary on our behalf," and I suppose in a mixed farming system they could say, "Well, we'll vote to put all our money into grains, because we think that has a greater return."

MR ANGUS: I think a slap on the wrist is preferable to a kick elsewhere.

MR WEICKHARDT: Sure.

DR SAMSON: John, it strikes me that the genesis of your thinking on this was the issue of that it would be a good thing if all the R and D corporations were more responsive to the views of levy payers, as a broad statement.

MR ANGUS: Levy payers and - - -

DR SAMSON: And the research.

MR ANGUS: Empirical research, yes.

DR SAMSON: That one is a bit harder. Stick with the levy payers just for a minute. We deal with the issue in the draft report of industry representative bodies - somewhat a work in progress perhaps. Do you see that they have a role in also trying

to do what you want; that an effective industry representative body would be able to put forward to an RDC the views of the levy payers for that industry and have some influence, or do you see that particular model not being that effective, or a mixture of good and bad?

MR ANGUS: I think that the things like the regional advisory committees of the GRDC and other representative bodies do a brilliant job at the small scale work. I think that the decision-making among projects by the RDCs is very, very good. I errors that I recount tended to be at the large scale: the environment versus production, the breeding versus practices, the marketing versus R and D. I think these are so central to the thinking of the key decision-makers that they are impermeable to persuasion, they have been over a long period. I mean, It has taken 20 years to get the practices up to scale in the grains industry, not just GRDC, in other crop industries.

DR SAMSON: Historically, grains is a good example in terms of the efficacy or not of an industry representative body. The Grains Council of Australia has sort of waxed and waned quite dramatically.

MR ANGUS: Waned, yes.

DR SAMSON: Indeed. When operating well, would you have seen that as an important component of the model, in terms of setting a research agenda for the grains industry?

MR ANGUS: It should have been. At almost the dying stages of the Grains Council indeed in fact we had a graph comparing the time taken for a horse to finish the Melbourne Cup compared with the time taken for a human male to finish the mile. There has been 250 years of breeding in racehorses and there has been no change in the Melbourne Cup time for the last 60 years, whereas the human mile time has come down considerably. There were numerous other examples. Genetics of course inherently is hugely important. Obviously a racehorse runs faster than a Shetland pony, but to actually breed for a faster racehorse is very difficult, and to breed for higher productivity is very difficult. It's necessary to stop the yield declining, but it's very difficult to increase the yield from the very high levels we have at present.

MR WEICKHARDT: Particularly when you've got a handicap, it just piles more weight on you. Anyway, I'm not a racing person.

MR ANGUS: I'm not suggesting you're a handicap.

MR WEICKHARDT: John, thank you very much indeed for coming along and

challenging us with that idea. Some interesting thoughts. Good luck in your farming system.

MR ANGUS: Thank you.

MR WEICKHARDT: That adjourns today's meeting. We will recommence tomorrow morning at 9 o'clock. Thank you very much.

AT 2.41 PM THE INQUIRY WAS ADJOURNED TO TUESDAY, 11 NOVEMBER 2010