



COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

RURAL AND REGIONAL AFFAIRS AND TRANSPORT
REFERENCES COMMITTEE

Reference: Rural water usage in Australia

TUESDAY, 18 NOVEMBER 2003

DARWIN

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SENATE

RURAL AND REGIONAL AFFAIRS AND TRANSPORT REFERENCES COMMITTEE

Tuesday, 18 November 2003

Members: Senator Ridgeway (*Chair*), Senator Heffernan (*Deputy Chair*), Senators Buckland, McGauran, O'Brien and Stephens

Participating members: Senators Abetz, Boswell, Brown, Carr, Chapman, Colbeck, Coonan, Crossin, Eggleston, Chris Evans, Faulkner, Ferguson, Ferris, Harradine, Harris, Hutchins, Knowles, Lees, Lightfoot, Mackay, Mason, Sandy Macdonald, Murphy, Payne, Santoro, Tchen, Tierney and Watson

Senators in attendance: Senators Buckland, Heffernan and Ridgeway

Terms of reference for the inquiry:

To inquire into and report on:

1. current rural industry based water resource usage;
2. options for optimising water resource usage for sustainable agriculture;
3. other matters of relevance that the committee may wish to inquire into and comment on that may arise during the course of the inquiry, including the findings and recommendations from other inquiries relevant to any of the issues in these terms of reference.
4. the Committee to make its report to the Senate on this matter by the last sitting day in 2003.

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Committee met at 9.31 a.m.

CHAIR—I declare open this public hearing of the Senate Rural and Regional Affairs and Transport References Committee. The committee is inquiring into rural industry water use. I welcome you all here today. It is a public hearing, and a transcript of the proceedings is also being made. The format is a program of witnesses invited by the committee. At the end of the hearing, at about 4.45 this afternoon, I will invite anyone who is present to make a short statement on any matters relevant to the terms of reference of this inquiry. This statement can be for three minutes and will not be subject to committee questioning. Those contributions will also form part of today's record of proceedings and will be considered by the committee when it is preparing its report. Could anyone who would like to speak this afternoon—and I will say this again to those who perhaps arrive later—give their names and details to the committee research officer, Andrew Bomm. The committee has also authorised the recording, broadcasting and rebroadcasting of these proceedings in accordance with the rules in the order of the Senate of 23 August 1990 concerning the broadcasting of committee proceedings.

I also place on record that all committee witnesses are protected by parliamentary privilege with respect to their submissions and any evidence given. Any act by any person which may disadvantage a witness on account of their evidence is considered a breach of privilege. While the committee prefers to hear evidence in public, the committee may agree to take evidence confidentially. However, the committee may still publish or present confidential evidence to the Senate at a later date. The committee would consult the witness concerned before doing this, and the Senate can also order publication of confidential evidence.

[9.33 a.m.]

SMITH, Mr Ian, Controller of Water Resources, Director, Natural Resource Policy, Department of Infrastructure, Planning and Environment, Northern Territory

CHAIR—I welcome our first witness today, Mr Ian Smith. Do you have any comments to make on the capacity in which you appear?

Mr Smith—I am really appearing as the Controller of Water Resources, which is effectively the statutory licensing position under the NT Water Act in respect of all matters for water resource management.

CHAIR—Do you wish to make a short opening statement before we proceed to questions?

Mr Smith—Yes. I would like to explain for the benefit of the committee the water allocation planning policy framework in the Northern Territory. I will give very much an overview of our level of licensing in respect of essentially irrigation, an overview of the irrigation potential that would attach to our allocation policy in consideration of sustainable water resource development and an indication of current levels of use. I will then be only too happy to try to answer any particular questions that the committee wants to put to me.

Our allocation policy is really a reflection of our response to the broader COAG water reform that required a comprehensive system of entitlements and allocation to be in place. The simplest way to explain the allocation framework is that we seek to retain at least 80 per cent of river flows and 80 per cent of the ground water resource for environmental use. Thereby, in a planning sense and in our licensing procedures, we are looking to license up no more than 20 per cent of the available river flow anywhere in a catchment and, essentially, no more than 20 per cent of the ground water recharge. In a ground water balance sense and in a regional sense, that means that we are retaining at least 80 per cent of the discharge to the environment from ground water systems.

I need to explain that the 80-20 rule, as it has come to be known, is largely a framework for the Top End of the Territory, the top one-third, where we have significant rivers. In the arid zone, the southern two-thirds of the Territory, we have a different policy that reflects the different climatic conditions and water resource conditions so that we would retain at least 90 per cent of flow in our streams there, allowing no more than five per cent to be diverted at any time.

The behaviour of our aquifers is different in the south than in the north. Our recharge mechanisms are fundamentally different and are much lower, but we have much larger storage. Our policy for aquifers in the southern two-thirds is to permit mining of the resource over at least 100 years, but our mining at this stage is limited to 80 per cent of the aquifer storage at the start of extraction. These policies, I hasten to add, have been cleared through the COAG assessment process to date. In our last report to COAG, we had 150 licences in place. Most of those would be associated with irrigation in terms of a total number, but they also pick up licensing for public water supply from bore fields.

If I can put the Northern Territory water resources into perspective from a development potential viewpoint, the overall flow that we might be considering to develop over the many years ahead is a median flow level, an average flow level, in, I think, eight river basins out of 30—we are looking at only eight river basins out of 30 with the potential for surface water development. That development would not involve any damming for irrigation purposes on the stream; it would seek to make use of and exploit off-stream diversion of flood flows and storage in off-stream dams. The total quantity of water we think is available as a median flow is in excess of one million megalitres per year. However, what we would be doing in our licensing arrangements and in our permits that relate to off-stream diversion is to limit that to a one in 20 year low flow diversion rate, which would bring us down to about 260,000 megalitres of water that could potentially be diverted from streams for off-stream storage—again, I stress, without any on-stream dams or large dams. Our view is that all of that irrigation development would be, in relative terms in Australia, small-scale and private development—individual farmers, essentially.

On the ground water side, the potential in the Top End—where we seek to retain at least 80 per cent of the discharge to the environment out of our ground water systems, thereby limiting our take to 20 per cent of the annual recharge—is for 270,000 megalitres per year to be available in our Top End aquifers. In our arid zone aquifers, there are some 700,000-odd megalitres per year that could be withdrawn over a period of not less than 100 years with an 80 per cent take of storage. Our current level of rural industry water use is around 100,000 megalitres per year. That is about 56 per cent of the total water take in the Territory, the other 44 per cent being for total water supply usage. I am happy to stop and take questions. I hope that has given you an overview of the Northern Territory water resource scene.

Senator HEFFERNAN—Would you be able to make the associated paperwork available to the committee?

Mr Smith—Yes. Could I ask that you allow me some time to put it in order and get it to you?

Senator HEFFERNAN—Yes, that would be all right. Thank you very much for that. Has the Northern Territory government come to any conclusions on the trading of water when that regime has been put in place? Will the licensing arrangements attach to a particular region or a particular piece of land?

Mr Smith—The arrangement for trading in licences is, again I stress, cleared through the COAG assessment process for water reform implementation. They allow the trading of licences in water control districts. Water control districts are essentially those areas where we have a level of intensity of development that warrants a closer set of rules in relation to water allocation plans and our licensing arrangements. So, yes, trading is allowable within water control districts, of which we have six.

Senator HEFFERNAN—But between which identities? Could Swire of Hong Kong own it?

Mr Smith—Anybody can trade. There is no limit on trade, provided that it is within the water control district and in accordance with the water allocation plan. The water allocation plan would generally say that you cannot trade upstream in a river, only downstream. It will also say that you cannot trade from one aquifer to another, only within an aquifer.

Senator HEFFERNAN—I am sorry to burden you with this. Hypothetically, can ‘Noosa Pty Ltd’, an investment vehicle with the National Australia Bank, go into one of your regions and buy the water?

Mr Smith—They can, but if they do not use the water their licence is removed.

Senator HEFFERNAN—Can they buy the capital base of the water and lease it to a farmer?

Mr Smith—Yes. Trades can be permanent, temporary or part trades.

Senator HEFFERNAN—So you are prepared to transfer the asset base value of the Northern Territory’s water to an investment vehicle?

Mr Smith—Yes, if that investment vehicle is actually going to develop the water.

Senator HEFFERNAN—No, they might just lease it. This is an argument that I have had many times with all the people that you would have been dealing with in COAG—and I have not quite won it yet. According to what you have just said, you are prepared to transfer the ‘river of gold’ value of water that there will be in the future—because you have already restricted the amount of water available—to an investment vehicle.

Mr Smith—Yes.

Senator HEFFERNAN—I think that is a crying shame.

Mr Smith—I consider the licence itself to be an investment scrip which is tradable.

Senator HEFFERNAN—So you are prepared to have your farmers up here becoming tenants?

Mr Smith—That is a decision that the farmer will take; it is a business decision.

Senator HEFFERNAN—No, that is a decision the government will take.

Mr Smith—No.

Senator HEFFERNAN—Lower down in New South Wales that cannot happen at the present time. There is only trading between users. By the way, the environment is a user. We will not allow the separation to an investment vehicle, but they do in South Australia. So you are going to allow a free-for-all?

Mr Smith—Yes, a free market.

Senator HEFFERNAN—I will have to counsel you! What that allows into the marketplace is a situation where the only way that the investment vehicle can make money out of the water is by screwing a margin out of the bloke who is going to use it. I have a strong view that the bloke who has to use it has to keep up with technology. For instance, yesterday in Kununurra we came

across the fact that they still put their tail water back into the river. You get a fine down our way if you do that, which would be one reason that the Territory has got pretty emotional in the last day or two and said, 'No cotton in the Territory,' which I think is skewing the debate a bit. In any event, that is what you are prepared to do, knowing that the farmer probably has to go to smarter technology in the longer term. You are actually going to have an asset transfer from the bush to a bank vault. Anyhow, we will have that debate later. You could not have got that out of COAG, because they have not agreed to any of that. You are well ahead of COAG there. In other words, the water right does not have to attach to a piece of land.

Mr Smith—Absolutely not.

Senator HEFFERNAN—I feel sorry for all your farmers.

Mr Smith—My understanding of COAG is that it is actually supposed to be separated from land.

CHAIR—How long has that regime been in place—for many years now or is it something fairly new?

Mr Smith—It has essentially been in place since 1992, when our water act was established. We clarified the arrangements in respect of trading, licensing and water allocation planning so that it was more explicit. It was always implicit, but it is now explicit in our act.

Senator HEFFERNAN—Can you nominate the streams, the 300 gigalitres that was going to be available from your Top End streams?

Mr Smith—The streams that have the potential are the Victoria, the Adelaide, the Roper, the Macarthur—and I am leaving the Daly until last. The Daly is obviously the one that has some current development and plans in place. Of all the others, only the Adelaide has some development on it of any significance.

Senator HEFFERNAN—I will get the map out. There is a big river that runs over near Western Australia, towards Kununurra. Which one is that?

Mr Smith—The Victoria River.

Senator HEFFERNAN—No.

Mr Smith—The Baines River?

Senator HEFFERNAN—Yes. Is that in that?

Mr Smith—It is part of the Victoria catchment. When I mention streams, I am talking about catchments.

Senator HEFFERNAN—So some people have licences already on those streams?

Mr Smith—There are licences really only on the Adelaide and in the Daly catchment.

Senator HEFFERNAN—And they are access licences. What guarantee comes with the licence?

Mr Smith—I am not sure what you mean by guarantee.

Senator HEFFERNAN—Is it in perpetuity?

Mr Smith—No, they are 10-year renewable licences. I as the controller am able to issue a licence for up to 10 years. The minister can approve me granting a licence for any period—

Senator HEFFERNAN—But they are volumetric?

Mr Smith—They are volumetric both in terms of an annual entitlement and in irrigation they are volumetric on a monthly basis. They require reporting of use on a monthly basis. They require efficient irrigation methodology and techniques and they require annual reporting of crop growth—what they have grown in crop areas.

Senator HEFFERNAN—If I am Billy Bloggs Pty Ltd—just to use this as an example—can I actually come along to you and apply for 100,000 megalitres if I want it?

Mr Smith—Sure, you can apply and then that application is assessed by—

Senator HEFFERNAN—Or an unknown figure of water.

Mr Smith—No, applications are all built around a quantity and a—

Senator HEFFERNAN—Not 100,000—just an amount of water. What if I am Thames London; can I still do that? Thames London is a water investment vehicle that has bought up all the water in central Africa.

Mr Smith—We would want to be convinced that this was a going concern—

Senator HEFFERNAN—I as Thames London might be going to set out a development down there and have tenant farmers, to whom I will charge a margin on the water. But the profit on the water will go back to London. You do not mind that?

Mr Smith—I am not sure how they would charge a margin on the water.

Senator HEFFERNAN—In terms of capital value, you are only just getting a market here; our market has increased in value four times. In the Gwydir now it is about \$2,200 a megalitre. It was \$500 a few years ago. That is what the investment vehicles are after; that is the point that I am trying to make on behalf of your poor bloody farmers.

Mr Smith—With respect, I think that the Thames trading company, or whatever you might call it—

Senator HEFFERNAN—Whatever.

Mr Smith—would have trouble filling out the required application for a licence. While a licence is not tied to the land, the applicant has to say, ‘This is where I am going to use it, this is what I am going to grow and this is when I am going to grow it.’

Senator HEFFERNAN—Yes, but if they have tenant farmers, they would nearly fit the bill, wouldn’t they?

Mr Smith—Possibly.

Senator HEFFERNAN—It would be a great shame for Australia. Thanks very much for that.

Senator BUCKLAND—I have a few questions which come out of what Senator Heffernan was asking. What is your policy in relation to tail water? What is the government’s position?

Mr Smith—I do not think we have tail water. I suppose I need to explain that there are no public or large-scale irrigation schemes in the Northern Territory; they are all run by individual farmers and are small scale in the national sense of things. Water is one of their prime costs. I would be both surprised and disappointed that there would be tail water. However, if that were ever to become an issue, to my mind that would suggest that it was an inefficient use of water. We do not actually have flood irrigation in the Territory through our irrigation systems.

Senator BUCKLAND—That is not to say that it will not happen, though, is it?

Mr Smith—It may happen, but it is something we would not encourage. We could cover it through the licensing. We could say that you cannot have tail water.

Senator HEFFERNAN—You are not in favour of furrow irrigation?

Mr Smith—To the extent that it is relevant, no, I am not in favour of furrow irrigation.

Senator HEFFERNAN—I guess the cotton argument is not your argument. Is that an argument for someone else in government, if cotton is the most profitable crop?

Mr Smith—Yes. Cotton is not a water argument.

Senator HEFFERNAN—What I fear—and I am sure that Senator Buckland is picking up on this—is that there is an attitude of: ‘Ugh, cotton!’ But if you go to Moree you will find that ‘ugh’ has changed a bit in recent times because, as Senator Buckland said yesterday at Kununurra, they dumped the tail water back into the bloody river and there are all the risks of contamination.

Mr Smith—I am familiar with the planning for the possible extension of the Ord scheme into the Northern Territory. I am fully aware that tail water is a key management issue for that extension and that it is not to be put back into the river other than in an uncontrollable contingent storm run-off.

Senator HEFFERNAN—But you do not have a set of rules or laws or regulations that says that. Is that a wink and a nod at this stage?

Mr Smith—There are no rules that you could read in respect of that.

Senator HEFFERNAN—I suggest that you get some.

Senator BUCKLAND—Is it something that the Daly Region Community Reference Group is looking at or is charged with looking at?

Mr Smith—It may come up in those discussions, but in respect of irrigation development in the Daly I cannot see that tail water will be an issue.

Senator BUCKLAND—Your answers to me are your opinion. Is there a policy on that? It needs to be more than Geoff Buckland's opinion; it needs to be an opinion of the committee. Your opinions are fine, and I respect them, but does your department or your government charter charge you with dealing with that issue? Apparently it does not.

Mr Smith—I guess I should explain that the Water Act is not just about water extraction; it is about waste water control and discharge as well. That is also the subject of a licensing system. If there were the tail water issue, if there were an irrigation run-off issue, that would be controlled, under the Water Act, through a waste discharge licensing regime.

Senator HEFFERNAN—Could you provide us with the paperwork that backs that up? Can you point to somewhere in the act where it says that you cannot put your tail water back into the river?

Mr Smith—All I can say is that the act says that pollution is prohibited unless authorised and that requires a licence. The licence is about controlling that effect.

Senator HEFFERNAN—Could you provide the paperwork associated with that to the committee?

Mr Smith—Yes. If I could take guidance, would a copy of the Water Act or an explanation of the Water Act suit?

Senator HEFFERNAN—If you could just point to the relevant part.

Mr Smith—Sure. But the interest is in tail water control?

Senator BUCKLAND—We have many interests, I think.

Senator HEFFERNAN—We are interested in the whole thing, but the tail water is just an obvious aspect. If you are an irrigator and you want to get all the environmental people offside, you put your tail water back with the fish.

Senator BUCKLAND—It seems to me—and rightly so—that there is a very big emphasis on getting it right here. But I have to say that if I were an investor in land I would hate to think 10 years down the track that there was something there that we had not covered to start with. Any potential farmer or existing farmer should be very clear on the rules. I understand there are no

dams and there is no need for dams with the water availability in the Territory. What about on-farm storage? Are there regulations as to the capacity of holding dams?

Mr Smith—Essentially, all dams need a permit to be built. In order for them to be built, they need a permit to be issued. Again, the decisions that relate to the issue of a permit relate to, amongst other things, the environmental impacts, if any, of the construction. All dams essentially need a permit. Currently the act allows the minister to make exemptions, and the exemptions apply to dams that are of less than five square kilometre catchment area. So any dams that are less than five square kilometre catchment and less than three metres high are exempt from the need for a permit.

Senator BUCKLAND—I am following, but my brain sometimes goes a bit slow, so I have to interrupt. Does three metres high mean the dam embankment height or does that mean the depth?

Mr Smith—No. That is the dam embankment.

Senator BUCKLAND—And what about the ratio of depth to surface area; is that something taken into consideration?

Mr Smith—No. In essence it is taken into account through the dam height limitation and the catchment area limitation. The hydrology of the Northern Territory means that a dam of that size—three metres and five square kilometres—is pretty well a stock dam and would not deliver anything by way of a significant irrigation potential.

Senator BUCKLAND—I am more concerned about the waste through evaporation.

Mr Smith—The exemption could be revisited, I have to stress, and the minister can refine that. To clarify, when I am talking about off-stream storage or diversion of floodwaters, for the sake of the economics of irrigation development I am talking about dams such as turkey's-nest dams, ring dams. To indicate the sort of scale we are talking about here, you probably need a 50-hectare dam to do 100 to 120 hectares of irrigation. That is a three- to four-metre dam.

Senator HEFFERNAN—Five square kilometres is a pretty fair dam, but you said it would not be big enough for irrigation.

Mr Smith—The catchment area is five square kilometres, not the actual dam. We use the term 'catchment area' to mean the actual drainage area that the dam intercepts. The dam itself might only be 10 hectares, five hectares or whatever, depending on the topography. We also have high evaporation rates. We lose up to two metres of water. So with a dam that is three metres high you have to use the water fairly quickly or you lose the bulk of it to evaporation. Those dams that are exempt are essentially not players in the irrigation potential. They are more the stock watering dams.

Senator BUCKLAND—Senator Heffernan was talking about water trading, which worries the whole of this committee. I think the farmers are going to get screwed absolutely ruthlessly on that. It is certainly something that the government and your department need to revisit in the fullness of time. With water trading, what is the method for allocating water to a grower? If a

grower comes along and says, 'I'm going to grow small crops: beans, peas and cabbage,' or something like that, and another one comes along and says, 'I wouldn't mind having a shot at a bit of sugarcane,' which is a high water using crop, but one that I think would be very suitable—being a non-farmer, I can think a lot of things—is there a method for saying, 'You're going to use a lot more water growing sugar, therefore your allocation will be higher per hectare?'

Mr Smith—Yes, at this stage of the Territory's development and with the level of use of water resources generally, it is a case of first come, first served. Each application is treated simply on its merit with the overall amount of water still available for allocation, but we would certainly consult with the primary industries department in respect of the viability of major water users. In fact, to explain further, in the water allocation plan for the Ti Tree district, for instance, the use of probably only 100 megalitres per year in that arid zone requires a business case to be put up with the application, and then our process is that we bounce that off the relevant industry department here for confirmation that it is a goer.

Senator HEFFERNAN—When a bloke goes somewhere down to the back of Bullamakanka to put in a turkey's-nest dam, is he required to drill to see whether the soil is porous? One of the great mistakes made in rice-growing areas was that we grew a lot of rice where the soil was very porous and we ended up buggering up the water table.

Mr Smith—No, our practice—as opposed to a written policy, if you like—and depending on the scale of the development he is proposing, is that we do not just issue a permit on the basis of an application; we require engineer drawings and proof of viability. The last thing I want to do is issue permits for things that fall down.

Senator HEFFERNAN—But as part of the approval process, will your department or whoever have certainty that the farmer, just through lack of knowledge, is not putting a turkey's-nest dam where it is going to drain into the—

Mr Smith—We would seek that certainty. I guess we know enough about our backyard—we know the areas where you should do things and where you should not do things and we can advise people. At the end of the day, I can refuse to issue a permit.

Senator HEFFERNAN—So to learn from the mistakes of the south—

Mr Smith—And our own, I must add.

Senator HEFFERNAN—Some of the cotton blokes will have learnt the hard way with turkey's nests—500 megalitres or whatever into a turkey's nest. One of the great problems with a turkey's-nest set-up, as Senator Buckland pointed out, is the depth and the evaporation rate, which they are going to have to come to terms with. If you are pumping into a turkey's nest, whether it is out of an aquifer or a discharging river, and you have a turkey's nest that is, say, 2,000 acres or 1,000 hectares, which is not uncommon, the evaporation rate over the whole area when it is half full is just disastrous—over 50 per cent. You could break up the turkey's nest into smaller areas, so that you have a full turkey's nest, and then discharge it and keep the depth up. You do not have plans to impose that?

Mr Smith—We have a particular problem in the Northern Territory in being able to do that, in that the rivers flow for only three months of the year. We actually have to try and capture that water in the three months of flood flow. Some of these major streams might only flow sufficiently enough to take the water to any degree for three to four months of the year. You actually have to capture that—

Senator HEFFERNAN—These fellows will pinch it all in a week—they have pumps that are six feet across. Do not worry about the ability to get the water out of the streams, because they have use of the water. A lot of mistakes were made at Cubbie Station on the Culgoa, which the Queensland government is now trying to come to terms with. How do you envisage the turkey's-nest operation? Is the water going to come out of the stream?

Mr Smith—Yes, it will. There are rules that apply to the timing that you can take water from the stream. At the moment we are essentially working on the basis that you cannot take it on a rising flood; you have to admit overbank flows for flood plain replenishment.

Senator HEFFERNAN—Will it drop a meter or something?

Mr Smith—Yes, and then move to capture that water then.

Senator HEFFERNAN—Do you see that as a gravitational process or a pumping process?

Mr Smith—It will be pumping.

Senator HEFFERNAN—I am sorry to burden you with all this, but with regard to the size of pumps, you can get a six-foot pump—just a deadset cylinder that taps straight down to the river. They do not actually put it into the river; they bring the river out. What would be wrong with imposing some restrictions on or putting some guidance in place for the construction of turkey's nests? For instance, Menindee lakes evaporate more water than the rest of the upriver uses. We have a huge loss of water at Menindee. Why don't we learn from those mistakes? Why don't you blokes put in place at this early stage some advice for the construction?

Mr Smith—I think we do that. As I said, we do not issue a permit without knowing what we are permitting.

Senator HEFFERNAN—But if I decide to fill the turkey's nest of 20,000 acres three-foot deep, will you stop me?

Mr Smith—Yes. I will not issue the permit. I have the power not to issue the permit.

Senator HEFFERNAN—Is there a set of guidelines? Can you provide them to this committee?

Mr Smith—No, there are not any guidelines that I can provide to the committee.

Senator HEFFERNAN—So this is just wink and nod stuff again?

Mr Smith—I do not see it as wink and nod stuff. The Territory may be different to the other states to some extent—I do not know—but the government departments that are involved have historically been involved in the design of these things, so the skills and knowledge base resides within government agencies to provide relevant advice and guidance to farmers who want to build things.

Senator HEFFERNAN—Could you provide the council with the relevant advice and guidance you give to a farmer on the construction of a turkey's nest?

Mr Smith—Here and now?

Senator HEFFERNAN—No, when you get a chance.

CHAIR—If you could just take that on notice, that would be good.

Senator BUCKLAND—I still have a few more questions. I will just let Mr Smith make that note.

Mr Smith—I hasten to add that there are not any large turkey's nests yet built in the Territory.

Senator HEFFERNAN—That is the very point. Let us learn from others' mistakes.

Senator BUCKLAND—It is very clear that the Northern Territory government is saying no to dams. Are there plans to have weirs at the tapping points, which are quite distinct?

Mr Smith—No.

Senator BUCKLAND—What about aquaculture? Has that been something that has been taken into account as part of this process?

Mr Smith—Yes. Aquaculture is another demand that is treated exactly the same way as an application for an irrigation licence or an application for a public water supply licence. They are all equal players within the overall amount of water that can be allocated.

Senator BUCKLAND—They would be all off-river developments?

Mr Smith—Yes. I guess I know of only one development where there is a caged aquaculture system in the Adelaide River in the estuary portion, but that does not involve any alteration to the flow; that is just making use of the natural estuary system. But the bulk of aquaculture involved here is usually saltwater and seawater driven and involves transferring, pumping or an inlet-outlet system on estuaries.

Senator BUCKLAND—As has already been said, yesterday we were at Kununurra examining the water availability out of the Lake Argyle system. We flew over the lower end of that yesterday afternoon, and it was absolutely impressive. A lot of that water originates in the Territory. Does the Northern Territory government have any intention—and you may not be in a position to answer this—to mine the tributaries that run into the Lake Argyle system or is there any compensation sought for water originating in the Territory?

Mr Smith—No and no.

Senator BUCKLAND—I see.

Mr Smith—The Territory stands to benefit in the long term, with approximately one-third of the scheme out of Lake Argyle being in the Territory.

Senator HEFFERNAN—You are right; there are about 65,000 hectares there, if they can sort out the local issues, and a third of that is in the Territory. Just say that there are 10,000 hectares and I am a pretty smart, up-front farmer and come along and say, 'I want to grow high-tech cotton,' and this is just over the border from the cotton that is grown across the road in Western Australia, will you let me do it?

Mr Smith—Are you talking about an application to grow cotton in the Northern Territory?

Senator HEFFERNAN—Yes. On the other side of the fence from the cotton that is grown over the border.

Mr Smith—No.

Senator HEFFERNAN—That is crazy. What is the logic of that?

Mr Smith—That was a government policy decision.

Senator BUCKLAND—That may be something that we can pursue later on today.

Senator HEFFERNAN—It is a curious way of doing business, I have to say. I can understand the emotional side of that discussion. After reading the paper this morning and seeing all the other issues that are coming up, you could have a very emotional week.

CHAIR—Mr Smith, just moving the subject on a little, you mentioned the issue of evaporation. I understand that there may be limitations on what can be done, whether it is through the department of primary industries or your organisation. To what extent, for example, have you invested in looking at new studies or at research and development to try to deal with that issue? You have probably heard about the proposals from the south to establish the Pratt Foundation to look at trying to harvest some of the rivers in the north to drought proof the country et cetera, and the federal government has given them at least seed funding. Are you engaged at all in any of the discussions or proposals that are being thought through in terms of dealing with evaporation, piping or anything to do with the tapping of the many rivers which have a potential that you have probably already identified?

Mr Smith—No. I am not aware of any involvement at any level in the Northern Territory. I stress: I am not aware of any involvement. I would have thought that, if there had been some discussion going on, I would be aware of it in terms of either evaporation control or the tapping of northern water resource schemes. I certainly have to prepare responses at the ministerial level to notions of such schemes. A fair degree of work was done many years ago when I first arrived in the Territory—30-odd years back—on evaporation, but I am not aware of anything current in respect of management or control of evaporation. We simply allow for the fact that we are going

to have one to two metres of evaporative loss from our surface water systems. I should hasten to add that that is why we like to encourage ground water use more than surface water use.

CHAIR—Is that a concern for you, though, that there are these proposals coming out of the south and funding is being provided to at least get the ball rolling and you have not been asked or are not aware of the government being asked to engage in and to deal with those particular issues? It is certainly something that has come up in discussions that we have had in other places, from the Wentworth Group right through to what has come up in the media itself. From my perspective it just seems a little odd that, if we are talking about trying to tap seven per cent of the seven main rivers, as I am told, and to harvest it and to keep it for those nine months of the year when you do not have a flow, you are not being asked to engage in the project.

Senator HEFFERNAN—I seek clarification, Mr Chair. There is no proposal to turn rivers from here around and there is no funding for that.

CHAIR—From memory, there was about \$150,000 allocated to the Pratt Foundation through the COAG process.

Senator HEFFERNAN—That was a dreaming thing. There is no active proposal, I can guarantee you, to turn Territory rivers back. There was a bit of shock-jock throwaway at one stage on that but that is all it ever was.

Mr Smith—It comes up every five years or so.

Senator HEFFERNAN—Yes, it is a romantic dream. We prefer to bring the activity up here rather than remove the water down there. That is most definitely the position of the Commonwealth.

CHAIR—Okay, that is fine. As there are no other questions, I thank you, Mr Smith, for coming along today and providing assistance. A copy of the *Hansard* record will be available over coming weeks for your perusal. There are a number of issues that you have taken on notice and Mr Dawson or someone else from the secretariat will be in touch with you about those. If you have any particular questions, please feel free to contact the secretariat.

[10.16 a.m.]

HARRIS, Mr Tom Henry, President, Northern Territory Horticultural Association

CHAIR—Welcome, Mr Harris. Do you wish to make some opening remarks?

Mr Harris—Yes, thank you. I have a couple of statements to make. I am the current President of the Northern Territory Horticultural Association. We are an organisation of growers. We cover all horticultural crops as well as the nursery and garden industry in the Northern Territory. Seeing this from the horticulturalists' point of view, we are very aware that there need to be some firm guidelines and new trials put in place fairly rapidly. I do not think there is any doubt that there are indications that, although a lot of people view the Northern Territory as having an unlimited source of water—and every year we obviously get a great recharge of the aquifer—the reality is that more pressure is being put on it through urban and community use, as well as horticultural and agricultural use, over critical periods during the dry season. That is when you have evaporation and wind and your crop is at its peak usage.

There is an issue with the drawdown levels within the region in the Top End, and I believe the government's data from its monitoring of bores indicate that. From the point of view of sitting and listening, it has been good to come along this morning. However, I have been absolutely horrified by the idea—and in my past life I was a financial markets trader in futures and currencies and I have seen first-hand how you can have manipulations of markets and squeezes on certain markets—that a third party could set up an entity whereby potentially they would go and fill the requirements of a government document and set up a cooperative of growers or a base and then have the harvest rights and also the sale rights for profit. That is absolutely horrendous and I will certainly be taking that up rapidly. I think that idea is antiquated, and there would certainly be no benefit whatsoever for the farmer or horticulturalist. I think that would lead only to tears. Given that point of view, I was a little bit shocked to hear that there is a potential for that practice to occur.

I am a grower in the Top End region of citrus fruits and mangoes. I do not have a great deal of knowledge of or a reasonable background in the harvesting of water from river systems. Mine is mainly to do with the bore fields in the Top End. I state that so you will understand that my technical capacity is limited. I am a grower representative and I may be limited as to what questions I can answer for you.

CHAIR—Thank you, Mr Harris. Please expand on the Horticultural Association as to who you represent, the numbers of members that you have, the types of agricultural products that we would be talking about and the primary location of your members. I presume you are talking about the northern part, the third top part, of the Northern Territory.

Mr Harris—Although it is the Northern Territory Horticultural Association, the reality is we are the vast majority or virtually everyone. The Table Grape Association from the Ti Tree region at their AGM in the next week or so are looking at incorporating with us. But, at the moment, we represent pretty much those from Katherine to the north. The crops are mangos, citrus, rambutans, vegetables, cut flowers, the nursery and garden industry and the exotics. There is a

broad range of horticultural crops. Our actual membership number is about 400 individual growers. We do believe, though, that, in the main region we represent—that is, from Katherine to the north—there are close to 1,200 actual farms.

As to the main goals of the NTHA as such, we do not get involved with internal politics. Every group has its own make-up and all of the individual groups have their own committees and presidents. I am the president of the citrus growers, so I sit on the NTHA board. The NTHA do not get involved with the internal politics of any group or the marketing of their particular product or anything like that. Where there are issues that relate to more than one crop, rather than government having to deal with five individual products, the NTHA was formed to be able to represent the views of the wider community. So obviously, transport, water, nutrition and all of those issues that cross over more than one industry are where the NTHA can come into play.

We are a distribution base for information and we are able to provide training and facilitation of certain courses and things like that for our members. We are quite heavily funded by the Northern Territory government. We have membership funds as well, but, at this stage, in the fairly early stages of our industry in the big picture, we are heavily funded by the Northern Territory government to provide our services to our members. We have an office based at Coolalinga, which is just out in the rural area of Darwin. It has three staff. One person in particular deals with Asian vegetables and vegetable crops, and there are a lot of language issues associated with that. The other two people are basically totally dedicated to any other inquiry that a member, non-member or potential member may have. They can give information on where to go or what information they can gather. It is a reference point and a communication base.

Senator BUCKLAND—What is the average size of your members' blocks?

Mr Harris—Reasonably small. I would not know the average, but I would say that you are talking about only a 10- to 20- acre block.

Senator BUCKLAND—So it is more of a salad bowl type of arrangement?

Mr Harris—It has just developed. I think the bulk, or about 100-odd, of our actual members—there are probably close to 150 or so—are mango growers. Of those, a lot are accidental farmers: they thought it was a nice little superannuation earner or something like that, and they are still working another job. They are smaller blocks. But, within that base, you also have farms with 60,000 or 70,000 trees on them, which is a substantial block. So we really do cover a broad range. But the average size, I would have to say, is probably at the smaller end of the scale.

Senator BUCKLAND—Has your association given any thought to the views on stopping cotton-growing?

Mr Harris—No, we have not been involved at all. The answer is no.

Senator BUCKLAND—That is the quick way of getting rid of that question! There has been mention of limiting the land clearing. It is hard for me to understand how you develop a farm without knocking down a bit of native vegetation. Yesterday we flew over pretty large tracts of the river system and we could not find any open grazing land, really.

Mr Harris—From the horticultural point of view, which is all I can reflect on—horticultural crops, trees, vegetables and so on—the current guidelines in place for general blocks, not including some of the special areas, are for 50 per cent clearing of a block. If you buy a block of land, I think it still stands that you have the ability to clear 50 per cent of that particular block without having to move further on. You can apply to clear 100 per cent of any block, but, as I understand it, without having to go through applications you can clear 50 per cent of a block without going through those guidelines. So you can clear. The issue the Horticultural Association have is that in the Northern Territory there are quite a lot of different zones for land use. My stance, on behalf of the association, has been firmly that, while we accept where there is urban development, in the others there is a mix and you are always going to have troubles. There is specific land that is dedicated to horticultural use and horticultural zones. We do not believe there should be any need for controls. If you are going to zone something for horticulture, you are presuming that it has been identified by government as having good water resources. Obviously there is good land with good transport hubs and those sorts of things. It is obviously—

Senator HEFFERNAN—You have—

Mr Harris—We are presuming that that is the case—that that land has been identified for a good reason. Hopefully, we will not get a lot of the conflicts that occur just out of Darwin where urban has overtaken what was a farming area 30 years ago. Unfortunately, that is not the case. There are still a lot of requirements on that land. That is an area I think we as a representative association need to look at. We are not saying, ‘Open up broad ranges of land.’ We are saying, ‘Just make sure the land that is opened up to horticulture specifically for horticulture is good land and has good water resources available.’ Then we will not get into these conflicts 10 years down the track. But also, with the clearing, one of the members of the NTHA is a representative on the clearing committee. The NTHA realise that there are problems and conflicts. In relation to applying for a larger scale clearing licence on a block that you want to go about the business of horticulture on, sometimes there are requirements in place where there has to be the proving of the water supply before you go ahead and clear. Unfortunately, up here it does not always work—that you source your water and then clear. A lot of the time people just presume that there is a lot of water there, so they clear and then find that maybe they only have two or three litres a second of flow. They are not going to get their 3,000-tree or 4,000-tree orchard on the back of that. That is something that we are trying to push so that there is a bit of solid base—a guideline for clearing. It is not firm; it is not down; it is just what our member who sits on the clearing committee says. That is what we are trying to push—that water resources are available before the clearing gets done.

Senator BUCKLAND—With your water resources, with your membership now and with the potentially expanded—hopefully expanded—activities of your association, are any of those farmers now drawing off the town reticulated system?

Mr Harris—No. When I say no, I will rephrase that. There may be a couple of people who may well be. I could not rule it out. But at the end of the day, with the cost associated with water charges, it would be price prohibitive. You would not do it; you would not take it off the town supply. Generally people are going to sit in our zone if we are talking about Darwin or the Top End. There are certainly people, though, who will be drawing water that may be coming from the same basin that is being drawn on for the Darwin water supply. But that is being pumped and

supplemented into the Manton Dam, which supplies Darwin. There is a bore field that the government operates that does pump into that. But they would not then be taking it back out of that supply and back via the government system onto their farm. That would be price prohibitive.

Senator BUCKLAND—I want to come to something else. Could I just ask you this. As far as the growing of crops in the Territory is concerned, does your association have a policy of being involved in research and development for control of pests and reduction of use of water?

Mr Harris—We work pretty closely with the old primary industry portion of the new DBIRD, Department of Business, Industry and Resource Development. Quite a few years ago they pushed for the formation of the NTHA so that they were not dealing with the individual growers and so that they had one base to deal with. They are on the front foot in making sure that we are fairly heavily involved if there is a pest or disease issue or if there are training requirements. We are generally included at a reasonably early stage and we find that we have a pretty good relationship with them.

Senator BUCKLAND—Do you contribute financially in any way to that?

Mr Harris—A lot of individual farmers do. We get funded via them so we would not give our money back to the NT government because it would just be a spin around of the cash, but individual farms contribute in kind. There is research done on individual blocks and farms. Rather than doing all the research on research farms, which might have specific soil types, they are trying to broaden the base and get it out onto soils that are reflective of what we grow on—rather than the soils that might have built up a lot of fertility over a lot of years with different cover crops and other things that have been put on them. There may not be cash components but there are farmers that contribute and enable their farms to be opened up to quite a wide range of research activities, both with the CSIRO and with the Department of Business, Industry and Resource Development from the Northern Territory side of things. There is quite a bit of collaboration there.

Senator BUCKLAND—Has your association looked at the market potential that the opening of the Alice Springs to Darwin rail link could give you? Have you looked at the advantage that it could give you over the current method of getting your produce to market?

Mr Harris—We have not but it has been six months since I took over the reins. Anyone who knows anything about horticulture or agriculture will know that it is one of those jobs that involve a series of spot fires. You probably do not get as much time as you would like to put a bit of forward planning into place. We have not specifically looked at that. Some of the individual industries have. I think the mango industry has had a look at the potential impacts of the freight link, but we have not.

Senator BUCKLAND—Presumably, what you grow here does not all get consumed here. A lot would go south, I would think.

Mr Harris—The vast majority of it is shipped south.

Senator BUCKLAND—Has anyone talked to the rail operator on your behalf? Are there any plans to talk to the rail operator regarding freight rates for your product?

Mr Harris—From the NTHA's point of view, no, but some individual industries have been involved in talking to them regarding freight rates.

Senator BUCKLAND—What is the time taken for packing, loading and then shipping south to, say, Adelaide? I say Adelaide because I come from South Australia. How long does it take to get a road train down to Adelaide?

Mr Harris—It takes about three days. Depending on where it has to go to—wherever it files off to—it could take another day from there. Some crops, such as rambutans which are high priced at times, are air freighted. Cut flowers and some higher priced items go down that way but generally you would be looking at three to four days. The biggest problem with some of our highly perishable items is that, by the time you pick them, which takes a day; and you pack them, which takes a day—if they can get out on that day—all of a sudden the best part of a week has gone. Some of them have a shelf life of 14 days, and seven of it is taken up with picking, packing and transport. A major problem for Territory produce for sure is the distance from markets.

Senator HEFFERNAN—You require just-in-time shopping for that.

Mr Harris—You rely on it being exactly at the right state when it gets to the market.

Senator BUCKLAND—I tend to think that at home we eat quite a bit of fruit from the Territory. What about the export market north? Is there any involvement there?

Mr Harris—Yes, there is a bit. Although I cannot speak specifically for the mango industry, I know that they are looking for any avenue possible to increase the market potential of their product. The conservative estimate is that the mango industry in the Northern Territory has about one million mango trees in the ground. They believe there is a market window for the consumption of two million trays of mangoes in our season, and they think the Territory has the potential to supply about 10 million trays. So there is a need to find some other markets for that particular product. North of us, certainly, they have done a few export trials and that is ongoing.

Senator BUCKLAND—With the grand plan for water in the Territory—and, as a southerner, having now had a bit of a look I am fairly excited about the potential here—has your association done any forward projections on where you think you will be in 10 or 20 years time, as far as the percentage of land farmed is concerned?

Mr Harris—No. I guess it is really the department that does a lot of that. I am interested in the 80-20 rule that Ian talked about; I only know about the little bit that we see. We have access to information about some of the monitoring bores in our region, which is just south of Darwin. I do not think there is any doubt that the key is not about our recharge—we get the recharge—and the key is not at the bolts. The water is there and there is obviously an excess at a given time of year: at the end of the wet season. Our problem, which I think we are already seeing, is that the drawdown level is a potential problem at the critical time for a crop. That is certainly something that we are pushing. It is why our representative on the clearing committee, which I talked about

before, is pushing this issue about water being a component of land clearing. People have to get their heads around the idea that, because we get a massive amount of meterage over a period, there is an unlimited supply up here.

At the end of the day, for people who use bores in the Top End, there is increased word of mouth—and there is also the information from the government bore monitoring data—that there is an increasing problem with the drawdown levels towards the end of the dry season. For some of the bores, they have 30-odd years of data. There is no doubt that the urban area has spread out. I think the conservative estimate is that there are about 2,500 bores in the rural area just south of Darwin. We have to take into account that the government's bore field is supplementing the Darwin water supply and that there is a proposal for expansion of the government bore field over the next 20-odd years. They need to seriously look at—

Senator HEFFERNAN—How old is the water?

Mr Harris—I am not sure. I would have to defer to the experts. But I believe they get a recharge on it every year. I believe it is young.

Senator BUCKLAND—You have made the comment that you are not too impressed with the idea of water trading. Do you have any other concerns about the government's policy on water use?

Mr Harris—As I said, it was the first time I heard about it. As I said, I do not have a lot of experience. I only know a couple of members of our association that currently draw water from a river system, though there are probably lots of them. I understand that they went for a licence. I think the idea was for a 10-year licence. When you are talking about farms and potential farms that are investing hundreds of thousands of dollars, or millions of dollars, to not have certainty of supply is a joke. From the farmers' point of view I think it is silly. Now that I have heard about it, if I was investing a million dollars in something, I would certainly want to know that I had more than 10 years of water supply up my sleeve. So that is something that is definitely a concern.

With trading, you can get squeezed. They have tried it around the world with electricity markets and all sorts of other markets. There is always a rort, there is always a way to make money, and you are going to get big investment houses that are always looking for a way to squeeze the small end of town. We will certainly be making a representation straightaway on that.

I just think the main thing is that we need to look at the fact that, yes, as I said before—and I do not want to harp on about it, but it is really important to us—every year the water comes back to the same level, and that is great, but at that critical time towards the end of the dry season when the bulk of the trees, say, a mango crop, need water to maintain their crop, when it is their peak season, we need to ensure that that water is there. As I said, it is not an issue about the amount of water available in the wet season; it is more an issue at that critical time from a horticultural point of view when we need to know that there is a supply. It is a balance with the urban supply. As I said, the government are looking at their bore field expansion. They are talking about pulling out—and I heard Ian talking about that. The talk is about huge numbers,

but that is not the reality when you look at some of this bore data. The water may be there at the peak time, but I am not sure it is always there.

Senator HEFFERNAN—Could I just flag in the strongest of terms for the Northern Territory farmer the trading regime that was proposed 18 months ago in Australia. I went to the NFF conference and asked everyone that I met there, including the president, what they thought a nationally traded water right was—which was the proposition that people like Maurice Newman at the Australian Stock Exchange had—and they had no idea. Never take anything for granted. Twelve months ago a lot of key politicians from both sides of the political spectrum thought Australia was going to have some sort of nationally traded water right, which was dreaming, and there is no question that the banks and the investment vehicles in Australia are lobbying heavily to be able to capture the river of gold, which is the capital base of the value of water, where they will have a regime, as they see it, to have the farmer as the tenant to the water. I say that we should not allow the transfer of the wealth of water from the farm to the bank vault, because you guys have to keep up with technology and when you go to borrow the money at the bank you have to have equity. Could I just flag that as a big concern.

Regarding the mining of the aquifer—and I apologise that I did not raise this with Ian earlier—we have learnt from serious mistakes in New South Wales. The Namoi is the most spectacular mistake in miscalculating the mining effect of an aquifer, where we are now taking away 85 per cent of water rights from people who have bought farms with a certain understanding—as I said, do not take anything for a given—because the life of the mining operation was miscalculated. It scares me, as they say down south, shitless to have a proposition put in place to mine an aquifer. The Colorado experience in America was that in 1922 they miscalculated how much water was available and it has been a disaster ever since.

CHAIR—Do you have a question?

Senator HEFFERNAN—I just want to get this on the record, Mr Chairman, because this is pretty important stuff and the market up here is very immature. Cubbie Station is another example where they completely intercepted other people's riparian rights. I wish you well, and we are certainly happy to come and talk to you about all these things if you want us to.

CHAIR—Mr Harris, I want to ask you a few questions. You mentioned your earlier background in relation to tax investments and so on. Has the Northern Territory Horticultural Association been taking advantage of tax effective schemes in a similar manner to what has happened in WA and in Queensland? Firstly, has that occurred in NT; and, if so, to what extent? Secondly, has that placed additional pressure on access to water in the immediate term and over the longer term? There is also the question of infrastructure, which you have already mentioned in terms of transport in answer to Senator Buckland's questions.

Mr Harris—On the tax side, I was a futures and options trader, so I do not have expertise in the taxation area. There have not been too many schemes where you would publish a prospectus, look for investments and things like that. There have been one or two in the forestry section. One has recently gone into receivership. At this early stage of their development, I am not aware of any others where there have been prospectuses. I do not speak for the table grape industry, and I am not sure how some of the larger scale farms down there operate. In the north, I believe it is generally just private investors, individuals or families, who operate the farms. At this stage,

anyway, I am not aware of any that are being formed. There are a couple of cooperative style operations dealing with some of the infrastructure issues—whether they be packing sheds, treatment facilities or things like that—for the possible exportation of crops and things. So there is some collaboration between individuals. It might be deemed more of a cooperative approach than a tax minimisation scheme. At this stage, no, there is not a lot of that going on in the Northern Territory.

CHAIR—Going back to where you mentioned the plantation forests in receivership and so on, are you able to tell us a little more about that, just very briefly?

Mr Harris—No, I did not really know a lot about it. From the outside looking in—and, as I said, I do not have any real knowledge of it—it was just a standard prospectus that was rolling on for one stage after the other with money funding the next stage. I guess it got to a critical point of production and it just did not have the capital required to push the processing facilities and those sorts of things so that they would get an end product out of it.

CHAIR—It is something we might have to chase up. It is an issue that has come up in Tasmania and New South Wales, particularly in terms of water use.

Mr Harris—There are people who, on some horticulture blocks, are looking at tree production and forestry, but nothing on a similar scale to what you are used to. There are some individuals who are looking at that as an option for them on a diversified farm, if you like.

Senator BUCKLAND—More a supplementary income?

Mr Harris—I think so.

Senator HEFFERNAN—Bunny investment.

Mr Harris—It is like a tree crop. A lot of people think there is not a lot of work involved. It is a superannuation view. They see it as something solid. They can see it. So it is possible that that may increase.

Senator HEFFERNAN—I have to say it will be a complete failure if it is outside the hub of a mill, though.

Mr Harris—Exactly, and I think that is where people who have not got the—

Senator HEFFERNAN—We call them bunny investments.

CHAIR—There being no other questions, I thank you, Mr Harris, for coming along and providing assistance to the committee. As I have mentioned previously, a copy of the *Hansard* record will be available shortly. I do not believe there were any issues that we asked you to take on notice but if there are then the secretariat will certainly be in touch. Again, thank you for appearing.

Proceedings suspended from 10.48 a.m. to 11.16 a.m.

BOER, Mr Henry James, Northern Woodlands Campaigner, Environment Centre of the Northern Territory

CHAIR—I reconvene the Senate hearing on rural water usage and welcome the next witness, Mr Boer. I invite you to make some opening remarks relevant to the terms of reference and perhaps to what you may have heard during the morning session.

Mr Boer—The Environment Centre of the Northern Territory is the peak environment non-government organisation representing the Top End and some of central Northern Territory. We work on a range of issues associated with land use, land management, natural resource management and legislative reform in the areas of water policy and water resource management. We have also worked on a number of issues related to natural resource exploitation such as mining and, in particular, irrigated agricultural development and land clearing.

Senator HEFFERNAN—Who pays you?

Mr Boer—The Environment Centre of the Northern Territory receives Commonwealth government funding under the GVEHO program. We also receive money from donations and sponsorship.

Senator HEFFERNAN—Which proportion of your income is Commonwealth government money?

Mr Boer—It is probably about a fifth of the budget of the Environment Centre. That is a rough estimate. We also receive money from philanthropic organisations.

Senator HEFFERNAN—Do you declare that on a document somewhere?

Mr Boer—Yes.

Senator HEFFERNAN—Can you provide that to the committee?

Mr Boer—Yes, I can, but not today.

Senator HEFFERNAN—Thank you, and thank you for coming today. This committee is acutely aware of the environmental sensitivities of what we are on about. One of the quaint things I have come across in the last days up here is, as Senator Buckland said earlier, the COAG water proposition, which is a no-go zone down our way, and some of the issues surrounding the decision. The decision seemed to have been taken by the government here without consulting the various interested parties, to make a blanket statement, ‘No cotton in the Territory.’ It seems to me that that might have been influenced by some considerable lobbying. Were you part of that lobbying?

Mr Boer—We have been engaged with a number of environment organisations across Australia at a national level but also at a state and regional level. We have also engaged with other non-government interests in looking at the cotton issue in Northern Australia. It is our view

that large-scale broadacre cotton in Northern Australia poses some significant environmental impacts. We recognise that in other states of Australia there have been significant problems with cotton impacts on the environment, significant water use and also associated impacts from pesticide and fertiliser use and land clearing.

We would consider that the examples from other areas in Australia show us that broadacre cotton is probably of a scale that we would not like to see in the Northern Territory. It is probably going to cause very serious impacts to the environment if it requires significant increase in water consumption and extensive areas to be cleared of native vegetation and if there are associated impacts from pesticide and fertiliser run-off on what are quite intact and relatively well-functioning aquatic environments and river systems. We have made our concerns known to government on a number of occasions about the impacts from cotton and the serious threat that we think it poses to the Northern Territory environment.

Senator HEFFERNAN—Would you consider yourself to be one of the major lobbyists to the government to have provided the statement in recent times of ‘No cotton in the Territory’? Is that a credit to your organisation?

Mr Boer—The Northern Territory government made a commitment at the last election or post election to look seriously at the cotton issue and from my understanding they have even made a commitment to no cotton in the Northern Territory. There have also been major concerns raised by recreational fishing lobby groups and from the pastoral industry about the threat from cotton. I would say that we have been at the forefront of—

Senator HEFFERNAN—Out of curiosity—have you actually been to see the improvements made in cotton growing?

Mr Boer—I have had a look at the cotton trials conducted in Richmond when I was working in Queensland. I had a look at the systems of management that they were undertaking to—

Senator HEFFERNAN—Fair enough, the emotional argument is your job—but the best way to see what has happened, say with rice and cotton, is to go to the areas where they grow it, and Moree would be a good place to go. Growing cotton now is not what growing cotton was 20 years ago. With GM cotton, you are getting away from the chemicals et cetera. We were told yesterday in Kununurra that probably the better prospect there is cotton rather than sugar. Sugar has its environmental problems but I notice the NT government and probably your organisation are not saying that you cannot grow sugar. Yet sugar could be seen to be a greater user of water especially if you go to a trickle irrigation regime for cotton. Do you have a reflection you want to make to the committee on sugar?

Mr Boer—We consider that there is a significant threat to the catchments and environment of the Top End of the Northern Territory from broadscale irrigated agriculture, whether that includes crops such as cotton, sugar cane, maize or peanuts. We consider that examples across Australia have shown us that undertaking that type of agricultural expansion could lead to short-term, long-term and medium-term impacts, so we would argue that it is the actual activity of broadacre agriculture which is a major threat. If cotton appears to be one that is potentially more viable in the Northern Territory and the Top End due to systems currently being developed, we

would see that as constituting a more immediate threat due to its potential viability and also the potential threat from things such as weediness which have been identified in the latest—

Senator HEFFERNAN—So are you opposed, as a fundamental statement, to broadacre irrigation farming?

Mr Boer—No, we would argue that in terms of potential impacts such as large-scale tree clearing, which is well recognised to be the biggest threat to ecosystems across Australia by the state of the environment report and by the recent assessment of biodiversity, land clearing poses a significant threat to the Top End. If large-scale irrigated agriculture were to be undertaken in the Top End that would require large-scale clearing of catchments which would lead to—

Senator HEFFERNAN—But let's get this into a real situation. We are talking about a few hundred gegalitres of water, which is buggery all land clearing in the greater scheme of things. We were told by Mr Smith this morning that they are talking about an 80-20 rule here, so we are talking about a few hundred gegalitres of water. The Murray-Darling Basin is overtaxed to buggery—pardon my language—because it has only got 6.2 per cent of Australia's run-off and you have 43 per cent of the run-off up here in two catchments. Given the sense of the idea—and I totally agree that we need to learn from the mistakes of the south—if we are talking about just a few hundred gegalitres of water and the best way to create a viable economy for the Territory is to grow the greatest return of crop within the constraints of new technology, as I say, trickle irrigation et cetera where you do not have a tail water, do you still oppose it?

Mr Boer—I would like to refer to the extract I put before you a few minutes ago from the *Independent assessment of jurisdictional reports on the environmental achievements of the COAG water reforms* by the Cooperative Research Centre for Freshwater Ecology. It identifies in point 4.2.1(i) 'an absence of scientific methods for determination of environmental requirements in the Territory'. Also, the Australian natural resources assessments state that currently the 80-20 per cent—the point that you made—is not actually based on any environmental studies; and it is a core component of the COAG water reforms that we have environmental assessment of potential allocation regimes to determine what will be sustainable allocations.

Senator HEFFERNAN—I am not in disagreement with you on that. I think that is eminently sensible. But for you to make a blanket statement and for the government to make a blanket statement, probably urged by you, to disregard a whole lot of potential for the Territory without doing that study is irresponsible.

Mr Boer—Equally, it is irresponsible to allocate 20 per cent of water without having the substantial baseline environmental assessments required under the COAG framework to determine what are environmentally sustainable water allocations in the Northern Territory.

Senator HEFFERNAN—We are dealing with that. Obviously in the Northern Territory they have not come to terms with water trading, and we might light a fuse on that up here too. But you guys make a statement that just blanks out a whole lot of opportunity without doing the work—and you have never been on a decent cotton farm, I presume. How can you do that?

Mr Boer—I have already stated that we have not necessarily opposed the actual irrigated agriculture developments. What we are saying is that the large-scale impacts of irrigated agriculture could potentially threaten ecosystems, aquatic environments and the added catchment scale in the Northern Territory.

Senator HEFFERNAN—We do not disagree with that.

Mr Boer—We do not have the scientific assessment—we do not have the requirements under the COAG framework—to inform us on what types of water allocations we could possibly make, so allocating 20 per cent could potentially lead to big problems. We are not saying that this cannot go ahead; we are just saying that we need a huge amount of research to determine what types of activities we can undertake in a catchment, what is compatible with maintaining biodiversity across the catchment, what is—

Senator HEFFERNAN—My congratulations.

Mr Boer—I am just saying that that is what we qualify it on.

Senator HEFFERNAN—My congratulations on all of that, but you have discounted without looking at it a whole lot of the market potential. You have said, ‘Sure, we’ll go along with this. We need more science. It might be 90-10, it might be 70-30—who is to know?’ But how can you then say, ‘We don’t want broadacre farming,’ given that, whether it is 70-30 or 90-10, there is not much water involved. It is just a few hundred gegalitres, for God’s sake. There is not going to be massive land clearing, because the water is not there to have massive land clearing.

Mr Boer—There is potential if there is significant extraction of water during the dry season. We have quite different environments to southern Australia. There is a significant wet-dry cycle. During the dry season areas such as the Daly Basin and other rivers in the Northern Territory rely on ground water—

Senator HEFFERNAN—We know all that.

Mr Boer—so if we go down the path of allocating water up front, just because we want irrigated agriculture, that will potentially lead to serious problems with our river systems.

Senator HEFFERNAN—That is not what we are saying.

Mr Boer—We are not saying that there is blanket opposition to large-scale irrigated agriculture; we are looking at the impacts and saying that there is a significant threat here. We need to assess those impacts before we can take a step forward. We need appropriate planning and appropriate frameworks to determine—

Senator HEFFERNAN—Now we are starting to make a bit of progress. Can you make a statement, as evidence to the committee, that when the science is complete—and we would be opposed to development without the science—you will consider what broadacre farming should occur?

Mr Boer—No; then we will consider what types of activities may occur in catchments which are compatible with maintaining the ecosystem values, the biodiversity and catchment health for the benefit of other industries such as recreational fishing, the nature based tourism industry, which is growing—

Senator HEFFERNAN—You are talking to the angels.

Mr Boer—I am just saying that we would assess whether or not the potential long-term impacts on the rivers of the Northern Territory are too great to go ahead with.

Senator HEFFERNAN—But, as a powerful government lobbyist 20 per cent funded by the taxpayers, will you today not rule out—subject to science—broadacre irrigation farming in the Territory as a policy of your organisation?

Mr Boer—We have never stated that we rule out these activities; we have just said that currently we do not know what the impacts are going to be.

Senator HEFFERNAN—So if we can come up with science on cotton you will approve cotton growing?

Mr Boer—No. The assessment has to be conducted in the Northern Rivers to determine the impacts on those rivers. If the best of Australia's available science can tell us—and I am talking about the best of Australia's science—that the impacts on these rivers are not going to threaten a number of core environmental aquatic values and biodiversity values across those catchments, we cannot argue with that fact.

Senator BUCKLAND—That argument does not hold water, with the greatest respect. I would probably be the most green person on this committee.

CHAIR—I would doubt that.

Senator HEFFERNAN—Settle down, Senator Buckland.

Senator BUCKLAND—Sorry, Senator Heffernan; I take that back. That does not hold water—a bad choice of words. The argument is that the trials have to be an assessment of what is sustainable for the Northern Rivers. I appreciate all of that. What Senator Heffernan is asking is: where are you going to get that assessment from if you do not do what he is suggesting—look at these cotton growing areas and look at the developments that are occurring in the southern states? I wanted to pursue this with another witness: I am staggered that the Northern Territory government has put a blanket ban on cotton growing in the Northern Territory. The development potential of it outweighs any argument that I can hear and certainly outweighs any argument that you are putting to us here today. It worries me. I appreciate where you are coming from, because there are a lot of frightening things to do with cotton and rice growing, of course. But it seems that there is this blanket view that is going to hold the Northern Rivers regions of Australia back in development, job potential and the growth of the Territory. Just sitting here as an observer, it is quite frightening to hear the debate between you and Senator Heffernan.

Mr Boer—I can understand that down south there is a view of the north as having unparalleled development potential. There have been a number of attempts in the Northern Territory to undertake irrigated agriculture. There have actually been a number of attempts in the Daly Basin to undertake irrigated agriculture and agricultural development. These have so far led to a number of failures, which have also required significant investment by the Northern Territory government and, subsequently, the Commonwealth government. The last of these failures was in the Daly Basin in the early 1980s. It was called the Agriculture Development and Marketing Authority, ADMA, scheme. It was to set up a number of small-scale farmers undertaking irrigated crop development and mixed cropping in that area. This required, I think, around \$60 million worth of investment. Within a few years, a number of farmers left the area due to either bankruptcy or a lack of returns, and the scheme fell in on itself. Are we again to go down the same pathway in the Northern Territory? Once again we put up these ideas of broadacre agriculture in the north, yet they have not had the required assessments to undertake that.

Senator BUCKLAND—But it does not appear that they have looked at the developments that are going on elsewhere in the world. The attitude is: ‘Well, in the past it did not work.’ The blinkers seem to be on on this question. That is what frightens me.

Mr Boer—We have looked around Australia and we have seen the significant problems with other river systems from large-scale irrigated agriculture. As I have said before, we are not opposing irrigated agriculture or development outright. We are saying that we need the best of Australia’s science to advise us in this process.

Senator HEFFERNAN—We are all with you.

Mr Boer—I will describe a few catchments in Queensland in the dry tropics as other examples. The Burdekin catchment is quite a large catchment in the dry tropics—I think it is around 130,000 square kilometres—and 73 per cent of that catchment has been cleared. Now 15 times the amount of sediment, 19 times the amount of phosphorous and four times the amount of nitrogen is flying into the Great Barrier Reef. Eighty per cent of the wetlands in the lower catchment have also been lost from broadacre cane farming. As an example to us, that makes it pretty clear that this type of development has serious impacts on a river. That river is now impacting on the Great Barrier Reef, which is one of Australia’s greatest assets. It is also a huge asset to the tourism industry in Queensland and nationally. We are saying that we do not want to have these impacts in the Northern Territory. Examples from across Australia could show us that that type of agricultural activity is quite devastating.

Senator HEFFERNAN—Can I just ask you to define that a bit more readily? What is the harvest of the Burdekin that produces that outcome?

Mr Boer—I am not sure of the harvest of the Burdekin. I am taking these comments from the—

Senator HEFFERNAN—We have already got a responsible response from the NT government who have said, ‘Let’s just work out the science of this,’ and they have said 80-20. As I said, that could turn out to be 70-30 or 90-10—I do not know—but you do not even know how much they harvest and yet you are making this categorical statement that that is a glowing

example of what could happen. That is not even what might possibly be proposed in the Territory.

Mr Boer—I was merely pointing out information from a report conducted by the Great Barrier Reef Marine Park Authority into land based sources of impacts on the Barrier Reef.

Senator HEFFERNAN—Yes, but that has no relationship to what is proposed here.

Mr Boer—We are an environment centre: we look at environmental issues and we look at natural resource management—they are the core areas that we focus on.

Senator HEFFERNAN—I applaud you for that, but we want a bit of commonsense applied as well as commitment.

Mr Boer—We agree with commonsense: we agree with the scientific work being undertaken.

Senator HEFFERNAN—But to say that broadacre farming has failed—if they are given a fair shot in Kununurra, they are going to turn Kununurra into something that the Northern Territory will aspire to as a local economy. Thirty per cent of that is across the fence in the adjoining land in the Northern Territory where, according to your dialogue and the government's commitment to no cotton, you could completely disarm the potential through the fence. You say that it is not working. But it is working there. Broadacre farming is bringing wealth to that community. We are committed as a consequence of our visit there yesterday to making sure that the local, original owners are included in the wealth creation.

Mr Boer—How much did it cost to build the dam?

Senator HEFFERNAN—\$20 million.

Mr Boer—And how much in government subsidies have been put in since?

Senator HEFFERNAN—In Sydney the government subsidy on public transport to get people to work is over \$1 billion, so do not use that argument with me.

Mr Boer—I am just saying that massive investment by WA—and, I imagine, the Commonwealth government—

Senator HEFFERNAN—It cost \$20 million to build the Argyle dam.

Mr Boer—And subsequent investment by the Western Australian and other governments to get that program up and running?

Senator HEFFERNAN—What is the logic of that? It costs money to have a subsidy to run people down the railway line. What is going to be the subsidy on the newly built railway line?

CHAIR—Mr Boer, just so you understand the context of the questioning that Senator Heffernan is conducting, do not feel that you are being singled out—Senator Heffernan upset the

farmers in St George when we visited there and he also upset the tree growers in Tasmania when we were down there.

Senator HEFFERNAN—Just to put some vigour into the debate.

CHAIR—I want to make that clear. I think he is trying to probe and test some of the assertions that are being made. Certainly in New South Wales the argument on the irrigation side was the lack of scientific evidence—pretty much the same argument that you are putting forward about whether they should change it or not.

Senator HEFFERNAN—We are not picking on you.

Mr Boer—That is all right; I understand that.

CHAIR—I guess we are saying that, in the context of the views that are being expressed, what is the evidence base to be able to bring that forward or how do you see that unfolding or unpackaging into the future in terms of any additional pressures on water use in the NT? It is really in that context that we are trying to draw some more out.

Senator HEFFERNAN—It really is the right concept to say that we are only going to take a proportion of the water. To give you a snapshot of Australia's water, the Murray-Darling Basin has a run-off of 23,000 gegalitres. We divert about 13,000 gegalitres, we evaporate a quarter and we deliver a quarter to the other end. It is an environmental disaster. There is an absolutely catastrophic overallocation of water. As you know, 85,000 gegalitres flow out of the Timor catchment and 98,000 gegalitres flow out of the gulf catchment. That is 43 per cent of Australia's run-off. What we are saying here is that, if the view of the science is that so many hundred gegalitres can be appropriately taken out of the system without interfering with all the things for all the people you so well represent—the fishermen and the rest—why wouldn't you maximise the profitability of that?

Mr Boer—I have two points to make in regard to your comments. We would argue that the appropriate science has not been conducted in an area like the Daly River basin in a comprehensive enough manner.

Senator HEFFERNAN—We are not arguing against that.

Mr Boer—The second point is that we are actually only now about to enter a planning framework which is going to engage with the broad group of stakeholders, which we fully support.

Senator HEFFERNAN—You have said that several times today. How can you start ruling things out until that happens?

Mr Boer—We are not ruling anything out.

Senator HEFFERNAN—So you are not ruling out cotton.

Mr Boer—No, it is a decision for the NT government to rule out cotton.

Senator HEFFERNAN—No, have you got a mind of your own? Have you ruled out cotton?

Mr Boer—I have already stated my clear intention.

Senator HEFFERNAN—What is that?

Mr Boer—I have said that if large-scale irrigated agriculture will cause significant short- and long-term impacts on catchments in the Northern Territory then most likely it is not appropriate. But until we have determined the science—and that is the best of Australia's available science—on whether or not it is appropriate, and if that science determines—

Senator HEFFERNAN—That it is appropriate.

Mr Boer—where it can happen at some scale then we cannot argue with that element. We are basing our arguments on the best of Australia's available science.

Senator HEFFERNAN—So if the best of Australia's science says we can grow trickle cotton without interfering with the environment or intercepting any of nature's benefits et cetera then you would not oppose it?

Mr Boer—I cannot make that clear, blanket statement. I am just saying that we need that science before we can move ahead, before any decisions can be made by the broader community about—

Senator HEFFERNAN—I am not asking you to rule it in, but I asking: are you in a position to not rule it? Surely, if you are being level-headed on this, the science is not yet in and the amount of water that is going to be harvested is not yet in then how can you rule something out?

Mr Boer—From the Environment Centre's perspective, there is a scale of threats for river catchments in the Northern Territory and we would see on the scale of threats much larger threats such as water impoundment and large-scale clearing. I will clarify my statement. We oppose large-scale clearing in the Northern Territory. I am going to make that blanket comment. That is a policy of the Northern Territory Environment Centre and also a policy of groups I work with.

Senator HEFFERNAN—We are with you, but we think there is a lot of—

Mr Boer—I am just leading up to the next point. We also oppose large-scale dam construction on a number of rivers due to the impacts it has caused elsewhere. If it is a requirement of cotton to require large-scale tree clearing and dam construction, then we would oppose it. That is our current policy. I cannot make any comments beyond that.

Senator HEFFERNAN—Could I turn to something else, with your indulgence, Mr Chair. Will you be putting in a bid on water trading? Have you given any consideration to the catastrophic effects that could come about through an open water market?

Mr Boer—Currently, in the Northern Territory we understand that water trading is in its infancy.

Senator HEFFERNAN—It sure is!

Mr Boer—We have not had the levels of extraction or impacts that we have seen in other parts of Australia and therefore we have not engaged—

Senator HEFFERNAN—You have not thought about water trading.

Mr Boer—We have had a look at water trading.

Senator HEFFERNAN—What is your view? Who should own the water? The access rights to the water is better terminology.

Mr Boer—We believe that, if land-holders are given a water allocation, it has been based on the best science available and there is some allocation—whether it is for that use—then there should be some clarity and some long-term reliability of that water supply.

Senator HEFFERNAN—Fair enough.

CHAIR—Can I ask a question that follows on from that.

Senator HEFFERNAN—Can I complete my question? When that guy has done whatever he wants to do and wants to go to the Gold Coast to wait in God's waiting room, who should he sell the water to?

Mr Boer—That needs to be factored in when the situation occurs in the Northern Territory that we actually have a system where there is water trading, but obviously it should go to the best end of the system and the highest water user, but also where there is the lowest impact on the environment.

Senator HEFFERNAN—Really, what I am asking you is: should it go to an investment vehicle?

Mr Boer—I cannot comment on that area; sorry.

Senator HEFFERNAN—I urge you, if you are interested—and I am sure you are—in getting the right outcome, to have a look.

Mr Boer—Sorry, I am just not aware of that area.

CHAIR—I guess as the follow on to some of the questioning by Senator Heffernan in relation to the collaborative approach that needs to be taken both from an industry perspective and an environmental perspective, you would no doubt be familiar with the COAG processes and recent decisions about establishing a water regulator, for want of a better description, to do with buying back water for environmental flow. It is still open yet as to what the specific details are. Do you think that that is a sensible way to go about trying to deal with the question of the environmental considerations or should they be dealt with as two completely separate parts? I guess I am trying to understand how you actually get it to a point where all the stakeholders—what the Wentworth

Group put out in their blueprint was this suggestion—need to come together to work out these details. Do you have any comments to make about that approach?

Mr Boer—From what I understand, this is about establishing a separate water regulator.

CHAIR—That is the proposal. COAG have made a decision to look at creating an institutional body or an individual position, presumably from moneys that would be made available over the coming years. They would then have the capacity to enter into the national trading system of buying and selling water in order to deal with the issue of environmental flows, particularly for the Murray-Darling. That is the thing that was most in mind when that thought was put forward.

Mr Boer—There is a need in the Northern Territory to have an external regulator of water management and water resources as the current government as both allocator and regulator of water probably leads to a conflict of interest. On the one hand it is issuing licences and promoting water use and on the other hand it is trying to regulate that system. They are doing this from a very small office within government.

I am aware of the proposal by the Wentworth Group to establish a separate body. If it were to be an independent body from the Northern Territory government, that could provide a number of beneficial outcomes to the Northern Territory in terms of overseeing current water allocation and water management and ensuring that a number of water management and water planning processes are undertaken in a transparent, holistic and fully consultative process which takes into account, like I said before, the best available science. It could also take into account other key water users, such as tourism, recreational fishing and Indigenous land owners.

If a regulator were to be established and there was the potential for that regulator to hold control over environmental flows, it could be a positive step for the Northern Territory. Currently we would argue that the Northern Territory government is pretty closed in its access to public information. It also has not undertaken a number of the water planning requirements under the COAG agreements and under the reform process that has been in train for the last five to eight years. Currently in the NT, from my understanding we only have two draft or completed water plans for any catchment.

CHAIR—I have one final question on the approach. Is the Environment Centre of the Northern Territory part of any reference group that meets with the NT Horticultural Association or any of the other groups? We noticed from work that the Wentworth Group or members of it had done that, at least in the St George area in Queensland, there were community reference groups established that represented all the stakeholders. I am trying to get an understanding of how the issues are resolved here.

Mr Boer—The Environment Centre will be afforded the opportunity in the Daly Basin to meet with those organisations and to meet with the multistakeholder group, which the Northern Territory government recently announced would be established. We look forward to that opportunity to discuss the issues openly.

Senator HEFFERNAN—Are you a member of that community reference group?

Mr Boer—Yes. We have been asked to sit on that.

Senator HEFFERNAN—On the science group or the local group?

Mr Boer—On the community reference group, not the expert reference group. That group will comprise scientists and Territory government representatives. We are happy to move into that forum. We think it is a positive step. You are quite correct: we have not been afforded the opportunity to discuss these issues broadly with the NT Horticultural Association or with agricultural associations. We also think it is a significant step towards opening up planning so that we can now have access to a lot of the information which, in the past, we have not had access to under previous administrations.

Senator BUCKLAND—When you are doing your investigations and your research into what is viable for the Northern Territory, do you look at job development and the growth potential for the Territory? Is that a part of what you are about? Or do you just look at what you can grow and what you cannot grow or how much water you can use and how much water you cannot use?

Mr Boer—In terms of the future of the Northern Territory, we very much take into account future prosperity of regional communities. Particularly we look at a number of Indigenous communities who are greatly affected by lack of economic opportunity. When we assess the viability of development or agricultural expansion, we definitely look at these aspects. I think you have to realise that the Northern Territory is not like other states—and you have already made that quite clear. We also have a vibrant tourism industry which relies on very healthy catchments and very healthy rivers. This is a serious industry and it is a growth industry. It also supplies a number of jobs in regional communities. We are very much supportive of that type of development. We are saying that the government also needs to look at securing these industries and supporting these industries.

We also recognise that there are potential future jobs in these industries you have identified. Whether or not that is actually going to lead to jobs in the regional communities is another question. We have to look at whether or not there is going to be improved job opportunities for Indigenous communities; whether or not Indigenous communities will engage in broadacre agriculture or that type of activity; whether they may engage in other on country activities, such as management of protected areas, land management, management of feral animals or weed control; or whether they will engage in the tourism industry itself. So they are definitely taken into account.

I might also refer to the fact that we think there is potential in an area such as the Daly River basin. It is highly reliant on that river. Flows in that river maintain the tourism industry. They maintain the recreational fishing industry. If those flows are affected, or if the aquatic systems are affected, it is well recognised that the fish stocks will be affected, and that directly affects that system. We have looked at that and we have looked at the impacts on that community.

Senator BUCKLAND—Let us have a look at that. We talked earlier about tail water leaving properties and going back into the river. It was a bit of a shock to us that that occurs. Given there would be no tail water going into the river if you were to have such things as cotton, I would suggest the regulations would be fairly tight on that issue. What about other types of crop pest control, such as spraying? How is it done now?

Mr Boer—From my understanding, the requirement in areas such as Litchfield or the Darwin rural area is for tree buffers between properties for spraying of agricultural chemicals onto horticulture and vegetable crops.

Senator BUCKLAND—What about leaching back into the water?

Mr Boer—Yes, there is high potential for leaching to occur. We are aware that there has been some ground water contamination from leaching of agricultural chemicals into ground water systems. A number of the agricultural systems in the Northern Territory so far are reliant on ground water.

Senator BUCKLAND—Where does that occur?

Senator HEFFERNAN—Where are the locations of those?

Mr Boer—I am aware of one small area in the Darwin rural area.

Senator HEFFERNAN—Where?

Mr Boer—I cannot remember the specific name, I am sorry, and I do not have the reference with me.

Senator HEFFERNAN—You have made a categorical statement, and it sounded to me as if there were several instances. But you only know of one in a small area—is that right?

Mr Boer—No, I also know of one not specifically related to agricultural run-off per se—the science is not saying that. One of the reports that was undertaken into agriculture and potential impacts of future agriculture on the Douglas River, which is a tributary of the Daly, indicates that there has been significant nutrient change in that river. That river is one of the main tributaries into the Daly during the dry season. It may have been just because it is a different river, but the report indicates that there may have been change in nutrient loads from agricultural activities in the past.

Senator HEFFERNAN—Can you provide that?

Mr Boer—Yes.

Senator BUCKLAND—If you could, that would be good. There has been a lot of talk here about cotton. I have a couple of questions here, but we really cannot take that too much further. I think we agree where we are on that, although we may not be together. What about other potential crops for the Territory? We have heard a lot about the growing of mangoes up here. Those of us who come from Adelaide enjoy those mangoes immensely. What about things like olives, which in themselves can have the potential for real control problems, in terms of feral olives? Has anyone done any investigation into that, or is it not a potential crop?

Mr Boer—Did you say into feral olives?

Senator BUCKLAND—Into olives generally. As I understand it, once you have the olive tree down, it is almost impossible to get rid of the damn things. But then you have the feral olives that come in with them.

Mr Boer—I am not aware of any assessment or work that has been undertaken on olive crops in the Northern Territory. I suppose our focus so far has been on the other major crops such as cotton and—

Senator BUCKLAND—More the broadacre types of things.

Mr Boer—Yes.

Senator BUCKLAND—I do not know if we formally received these documents that were tabled by Mr Boer. We can do that. You have given us details of some land for sale—and I am a bit interested in this one myself. It is a 629 hectare freehold piece of land called Early Storm. It talks about the unlimited free water supply—and I imagine that is what you wanted to bring to our attention—from bores of 100 litres a second and 70 litres a second and then tells you about its mixed cropping with dry seasonal irrigation of high quality peanuts. My knowledge of peanuts is they come in packets. Could you explain why we have this piece of paper in front of us?

Mr Boer—One of the issues—and this is in reference to the terms of reference for this inquiry as I was emailed them last week—talks about best practice rural water pricing. We would argue that in the Northern Territory there are currently some discrepancies in rural water pricing and that this is an example where, in this case, water use is being advertised as being free and unlimited. You would be aware that huge debates have been occurring across Australia over appropriate pricing for water. There is currently a focus on more appropriate pricing for rural areas. In that we would also argue that there are a number of bores in the Northern Territory which are unlicensed and unmetered, which means that there are probably no administrative costs associated with those unlicensed and unmetered bores. There is probably also a limited understanding across a number of catchments about how much water is being extracted. I am not saying that that water extraction would be large; we are just not sure of what it is. We would also argue that the associated environmental impacts and the environmental assessments should be factored in to any future water allocation and should be covered by some of the costs associated with future water licensing. The reason I have provided you with this example is in a way the Northern Territory is being sold as an area in Australia where there is free and unlimited water. That is a major concern to us. We think, 'Fair enough, water can be made available for different regional uses, but it should not be sold on this free and unlimited claim.' There should be appropriate pricing that factors in these elements according to the COAG framework.

Senator HEFFERNAN—I just want to get a couple of things on the record. What you have just referred to is a buyer beware issue. Obviously we have people in the Namoi aquifer in New South Wales who have bought farms with an allocation of water which, because of the unfortunate miscalculation of the mining life of the aquifer—which is why I was a bit worried when we were told they were going to mine an aquifer in the territory: if you do not get the calculation right, you completely bugger up the whole thing—they are going to lose 85 per cent of their water. It is a buyer beware thing, which is very unfortunate.

Because putting the framework together in the Territory is in its infancy, we would like to think that you could avoid such issues. I probably upset a community reference group in St George. Between St George and the Queensland border there is the Queensland regime. There is a problem there with what you do when it goes over into New South Wales. That is why we want some federal oversight of the whole things. In that St George example, there is a water harvesting capacity of 1,200 gigalitres, which is the mean annual flow of the river system. That has just been a wink and nod arrangement—and there have been a lot of those arrangements—so do not think we are offside on protecting the environment. We have been a great critic of that. Part of the dismay in that process was that, sure, Dr Peter Cullen was given a task of vetting the ecology of the river, which he ticked off on but had a saver in there that said that if the harvesting capacity were put in place and used, a lot of damage would be done to the environment.

Also, in that case a community reference group was set up. The facilitator of that community reference group, a well-known person, is going to get a \$7 million water licence out of the recommendations of the community reference group. So it is an issue. We are trying to responsibly tease out all the arguments. I think it is a serious flaw, on the part of the Northern Territory government, to discount any options before they have looked at the science. I understand that the players in the field were not consulted—it was a purely political decision.

CHAIR—In the advertisement that you have supplied to us, I presume you are saying that, in terms of unlimited and free water, that is not the case with regard to water regulation in the NT?

Mr Boer—From our understanding—and I would once again like to point out that the transparency in water licensing and water management in the NT leaves a lot to be desired—it is very difficult to get any information out of the government about this process. Hopefully, that will be opened up through the water planning process and the water planning framework. We are aware that there are costs associated with water licences per se, but there is no cost associated with the actual research undertaken to determine the water resources in area.

CHAIR—So, at the end of the day, it is not free water? I guess that what I am getting to is whether these sorts of advertisements need to be brought to the attention of the water regulator in the NT? If not that, then, following the line of buyer beware, is it not really a question of deceptive or misleading advertising in relation to the Trade Practices Act?

Mr Boer—It is potentially. I cannot comment on the Trade Practices Act. We would also argue that there is significant underpricing of water resources in the Northern Territory. The fact that it is free is probably misleading advertising, but that also highlights the fact that that is how it is perceived by agricultural growers in the Northern Territory, and maybe that is how it is being seen by other sectors around the country. It is actually portraying the Northern Territory as having free or very low-priced water. We would like to see a water pricing regime brought into the Northern Territory that reflects the investment by the public in the assessment and planning and also looks at the environmental impacts which are costed into it.

Senator HEFFERNAN—That is why you should get your head around water trading. With a limited number of licences—and we have been given some exposure to the limits of what water might be available—water trading is going to make that water very valuable.

Mr Boer—Yes.

CHAIR—Thank you for providing assistance. There are a number of matters that you have taken on notice, and the secretariat will be in touch with you about providing that additional information. A copy of the *Hansard* will be made available to you over the coming weeks. If you have any other questions, please feel free to contact the secretariat.

[12.03 p.m.]

HAUSLER, Mr Philip Adrian, Vice-President, Northern Territory Agricultural Association

CHAIR—Welcome. Would you like to comment on the capacity in which you appear?

Mr Hausler—Yes. I am also a senior extension officer with the primary industries section of the Department of Business, Industry and Resource Development. I have 14 years of experience in Top End agriculture. We have just appointed a new executive officer to our association, so he and others thought it would probably be better if I came along today.

CHAIR—I now invite you to make an opening statement.

Mr Hausler—I have some opening remarks and I would like to respond to a few comments made by Mr Boer, if I may. My remarks are going to take about six minutes.

CHAIR—That is fine.

Mr Hausler—Our association is government funded. We do accept sponsorship from members. We have about 90 members, and they encompass the agriculture, horticulture and pastoral industries from Katherine to Darwin. There has been a lot of focus on and talk about the Katherine-Daly basin, and that is what I will focus my opening remarks on today. The catchment for the Katherine-Daly basin extends from south of Katherine to the mouth of the Daly River, the total catchment area being approximately five million hectares. The bioregion of the Katherine-Daly basin includes an area of about two million hectares. It is contained within the catchment and extends from 80 kilometres east of Katherine and north-west, following the Daly River, to Tipperary Station.

The Katherine-Daly basin has long been recognised for its agricultural potential. In fact, peanuts were grown on the banks of the river in the early 1900s. The Katherine-Daly basin is rated highly for intensive agricultural development because it has good soil resources and good water resources, there is very little likelihood of salinity, there is a higher probability of total annual water recharge, resources are very much underutilised and the region is close to major centres and infrastructure. There is perhaps no other region in Australia with these attributes.

Of the total area of the bioregion—again about two million hectares—63 per cent is pastoral lease, perpetual lease or crown lease; 17 per cent is freehold land granted through the Aboriginal land rights act; 16 per cent is NT freehold, crown lease term and crown lease perpetual; and three per cent is Northern Territory parks and reserves. Thirty-seven per cent of the basin has no viable agricultural potential. Sixty-three per cent has agricultural potential, of which 45 per cent may be suitable for cropping, with 30 per cent suitable for irrigation if water were available. Approximately 206,000 hectares, or about 10 per cent, has been cleared to date. Of this, 92,000 hectares was cleared in the 1960s and 1980s for improved pasture and rain-fed cropping.

While large-scale dryland cropping schemes have largely failed—as did the sorghum projects at Scott Creek and Tipperary Station in the 1960s and the ADMA scheme of the 1980s—mixed

farming in the region has been a success. I would like to point out that Mr Boer referred to the ADMA scheme as a large-scale irrigation scheme. It was not; it was a dryland farming scheme. Mixed farming is primarily the production of beef cattle from improved pastures, with dryland farming of hay, sesame and grain sorghum. The production of irrigated peanuts is mainly in rotation with fodder crops.

Due to the sandy nature of the soils and the high rainfall—1,000 millimetres in Katherine and 1,200 millimetres at Tipperary—pastoral production from native pasture north of Katherine is very low. The general stocking rate on native pasture is one beast per 25 hectares. This will give approximately 50 per cent calving and 100 kilograms of weight gain per year. With a good improved pasture, 90 per cent calving and 160 to 180 kilograms of weight gain per year can be achieved, with a stocking rate of one beast per hectare. This is an increase in carrying capacity of 25 times.

There are 17 freehold or crown lease convertible to freehold properties in the Douglas-Daly area, ranging in size from 500 hectares to 10,000 hectares and mainly catering to the live export trade. Approximately 27 per cent of the total farms area is either cropped or under improved pasture, with the remaining 73 per cent under native vegetation. In 2002, 16,750 head of cattle were turned off from 16,500 hectares of improved pasture.

Irrigated broadacre agriculture is currently restricted to six commercial farms and two experimental stations, including 400 hectares of peanuts, 100 hectares of forage crops and 75 hectares of cotton under trial. Other forage and seed crops are being trialled as rotation crops. Commercial irrigated horticulture from the Venn subdivision, Katherine rural area, Douglas River, Pine Creek and Mataranka is dominated by 1,300 hectares of mangoes, with a further 840 hectares of melons and vegetables and 160 hectares of citrus production.

In summary, the current annual economic contribution from approximately 19,400 hectares of land developed for agriculture, excluding extensive pastoral production, in the Katherine-Daly basin is \$7.5 million from live cattle exports; \$2.5 million from hay production on mixed farms; \$1.5 million from irrigated peanuts; \$15 million from irrigated mangoes, citrus, melons and vegetables; and 140 full-time jobs.

For the future, there are no large-scale irrigated agricultural projects on the drawing board. The Peanut Company of Australia, PCA, has purchased a 180-hectare irrigation farm near Katherine and is leasing a further 80 hectares for irrigated peanut production. The PCA is attempting to facilitate an NT peanut industry producing 20,000 tonnes by 2010. This would include a further 5,000 to 10,000 hectares of rotation crops, not necessarily irrigated. The Northern Territory has a unique ability to produce agricultural and horticultural crops out of season to the eastern and southern states of Australia. With improvements in transport from the Alice Springs to Darwin railway the production of high-value niche crops will continue to gradually increase. Further expansion of irrigation is likely to occur on land already developed for improved pasture with adequate underground water available.

In summary, large areas of land with suitable soil types and available irrigation water are very difficult to find. The nature of the landscape will only allow a patchwork of land suitable for farming, let alone irrigation. The most suitable land is tied up in pastoral lease or is Aboriginal land. One pastoral lease has freedom from native title and an attempt to subdivide may be made

in future. However, very little land has access to suitable irrigation water. Intensive agricultural development will occur gradually and in line with controls over native vegetation clearing and water extraction introduced by the Northern Territory government.

I will just go over some comments made by Mr Boer from the Environment Centre of the Northern Territory. He mentioned weediness with cotton. A very extensive report, which is for public viewing, states that cotton weed will not be an issue. There have been no significant attempts at irrigated agriculture in the Northern Territory. He referred to ADMA—the Agricultural Development and Marketing Authority—as an irrigation scheme. It was not. There was no irrigation involved with ADMA. It was a dryland farming scheme. Yes, the original farmers did leave, but mixed farming has picked up from their mistakes. Mr Boer needs to get his facts right. I do wonder what else he said that is not true.

As to his reference to early storms and free water, Mr Boer has had many responses to this. The water is free but the farmer has to pay for carrying the water to the crop, and that is the biggest cost. Crops use between five and 10 megalitres of water per hectare. Pumping costs are in the vicinity of \$50 to \$80 per hectare. In some ways the water is free but certainly the carrying is not. I will leave it to questions now.

CHAIR—I will ask one very quick question in relation to the establishment of a community reference group. Noting the comments that you have made in response to Mr Boer, is the NT Agricultural Association also represented through any or all of the committees that are being put together? What is your view about that? Do you welcome that as a positive initiative and do you see that as an opportunity, in the context of broad stakeholder engagement, to deal with many of the issues in terms of correcting the facts, putting evidence on the table or requesting more evidence?

Mr Hausler—In answer to your first question, yes, we are represented on the reference group. I welcome everyone's input. I do not think we have anything to hide, both from an industry viewpoint and from my work viewpoint. If that is what it takes to see development continue, I am happy with that.

CHAIR—Are you proposing to provide the committee with a copy of your submission?

Mr Hausler—Yes.

CHAIR—I just need to get some formalities out of the way. I am presuming that the committee agrees that we accept that submission, and I am presuming that the committee agrees that we accept the earlier submission from Mr Boer. That is agreed.

Senator HEFFERNAN—You say that water is free. The difficulty—and you have to get your head around this—is that water is going to be a river of gold as a capital wealth. There is no such thing as free water. We have already had information from Ian Smith about the restriction on the amount of water that is going to be available. There is a national interest in all of this because obviously we have gone about it the wrong way in the south, and we want to make sure that we get it right in the north. You say the value of that water is actually free, but the transportation of it is the biggest cost. It is not a long-term reality because, once you get a trading regime in place, that water could be well be worth a lot more than the farm. That is why I would urge your

organisation to come to terms with what could happen under an open slather trading arrangement. The main question that I would be interested to hear answered from the industry's side of things is: given this deadset political stunt by the Northern Territory government to count out cotton before they have even done the science, were your organisations consulted about that decision?

Mr Hausler—Not to my knowledge.

CHAIR—As a follow-on to that, I have noted that the ruling out also talks about existing trials being completed. I wondered whether you have any knowledge about that in the Daly region and with regard to the statement by the Chief Minister in relation to the integrated regional land use plan being prepared by September 2004. In the context of being represented on the community reference group, do you see that there is an opportunity to deal with some of the more contentious issues that have been ruled out in this particular case? Do you think the policy as it currently stands is set in concrete?

Mr Hausler—It is very hard for me to answer that question fully. The terms of reference of the community reference group should cover all those things, but it is probably too early to comment too much on it.

CHAIR—Do you know much about the existing cotton trials that are to be completed?

Mr Hausler—I know a little bit. It is through the Cotton CRC. There is a commitment to see the trials through. As far as I am aware they are funded until the end of next year.

Senator BUCKLAND—You talked earlier about the amount and type of produce grown and the employment figures—the 140 people you mentioned. Has your group—either by itself or in consultation with the Daly catchment area people—looked at future projections of job opportunities and opportunities for expanding land use?

Mr Hausler—I do not think there has been a lot of work done in expansion. There are a lot of ifs in the equation. What we are really looking at is trying to consolidate what we have. I mentioned that any further irrigation expansion would be on already developed land. It is always going to be a patchwork process. Ninety-five per cent of the land is tied up either in people who prefer pastoralism or are just in pastoral lease, parks and reserves or as Aboriginal land. So it is going to be a very gradual process of development.

Senator BUCKLAND—Where can you find out what the real intention of growers in the Katherine-Daly basin is? Where can you find out what the real mainstream agricultural intent is? Is there some grand plan that you can look at that says that we're going to concentrate on peanuts, sugar cane, salad vegetables or fruit? Has someone got a grand plan sitting around somewhere?

Mr Hausler—There is no grand plan. It comes down to people's preferences.

Senator BUCKLAND—If it comes down to a preference, my preference might be to get the little block of land that I was talking about earlier—Early Storms—and fill it up with cotton,

because I quite freely admit that I think it is a great place for cotton. What would be the attitude of those in the Katherine-Daly catchment towards that?

Mr Hausler—I think it would be very hard to grow cotton at the moment.

Senator BUCKLAND—Let us put aside that it might be hard to grow and that I might not get a market for it at the moment. If I wanted to come in, what would the attitude be? Would it be ‘do not come in’?

Mr Hausler—There is a very prodevelopment attitude within the industry. You talk about cotton specifically. That is a heavily regulated industry because of GM, with all the regulations and licensing. It is not very hard for someone to just come in and grow cotton.

Senator BUCKLAND—When I go back in my ancestry, I find that there are cane growers from the east coast. What if I decided that I would like to grow some of the cane that I saw photos of yesterday, which is twice as big as I have ever seen in New South Wales? Is there an attitude of the people already in the Katherine-Daly catchment area towards those things?

Mr Hausler—There is a very good basis of knowledge as to what crops are suitable and what crops will grow. Other people have come over with ideas about sugar cane. The amount of area, water and suitable soil that is needed is simply not available.

Senator HEFFERNAN—Could I just interpose there to help you, Senator Buckland. One of the problems with cotton is that you have to have several thousand hectares to get viability for a gin.

Senator BUCKLAND—Yes, I understand that.

Senator HEFFERNAN—You do not have gin viability, so you are highly unlikely to—

Senator BUCKLAND—I know of only one block—

Senator HEFFERNAN—I am sorry to disappoint you, old mate, but milk comes in cartons as well as—

Senator BUCKLAND—I take that point.

Senator HEFFERNAN—Early Storms does not have cotton farm potential.

Senator BUCKLAND—I will have to start small. The other thing that I want to ask you about is the aquaculture potential. At what point on the map—and I have only got the street directory type map here—does the saltwater tidal movement stop when you come up the river?

Mr Hausler—I think you would have to ask someone from the Daly River community, but as far as I know it is the Daly River crossing.

Senator BUCKLAND—It would be better to ask those questions this afternoon in that case. It does not look like I am starting my cotton farm then.

Senator HEFFERNAN—I want to get my head around the NT's recent decision to rule out things. From my quick look around and ring around it seems to have been a purely political decision; there was no consultative process. In fact I think you will find in the fullness of time that not even the Environment Centre people were consulted on that one.

Mr Hausler—It is very difficult for me to comment on that, Senator.

CHAIR—Mr Hausler, thank you for coming in today and providing assistance to the committee. A copy of the *Hansard* will be available over the coming weeks. I think you undertook to provide us with some information. The secretariat will be in touch with you about that. Again, thanks for appearing.

Mr Hausler—It is a pleasure.

Proceedings suspended from 12.25 p.m. to 1.30 p.m.

COWAN, Mrs Valerie Christine, Secretary, Daly River Community Development Association

SINCLAIR, Mr Harold, Vice President, Daly River Community Development Association

CASEY, Mr Mark Hector John, Chairman, Nauiyu Nambiyu Community Government Council

DONOHUE, Mr Paul James, Landcare Coordinator, Wangamaty (Lower Daly) Landcare Group

CHAIR—Welcome. Do you have any comments to make on the capacity in which you appear?

Mr Sinclair—The Daly River Community Development Association have got a bit of land in the Daly River region along Woolianna Road, and a tourist facility there.

CHAIR—I am not sure whether each of you want to make some opening remarks or whether you have nominated one person, but I now invite you to make an opening statement.

Mrs Cowan—When the Daly River Community Development Association was asked if they would like to put in a submission, we decided to actually go outside the association and call on the expertise of other people in the area as well. So we called on Paul and Mark and asked if they could add their perspectives to what we felt was important in the area. Agriculture down there has been going on for a long time. All of us are actually below the Daly River crossing, as against everybody else so far—who have been basically above the crossing.

The changes on the Daly have been going on over a long time. There are natural changes all the time, but since the sixties, when the broad-scale clearing started at Tipperary, the changes have escalated, and since the eighties they have escalated even more. There are big changes in the river—in silting, the increase of weeds, the degradation of the banks due to these weeds, and the river actually becoming shallower because of the banks falling in and all that sort of thing.

We have got a few concerns. One that is totally different to everybody else's is water security. When Justice Toohey made his recommendations on the Malak Malak land claim he gave the traditional owners the river banks and the riverbeds. It was implied that access for other riparian land-holders would be protected. Just recently, two of our mango growers applied to the NT government for water licences and both of them were told that they would have to approach the Northern Land Council for a lease to cross Aboriginal land to access the water. This is something that we feel needs to be clarified and sorted out one way or the other because, as I said, we were under the impression that that was inherent in the original finding.

We also have problems with the NT Water Act, because it does not appear to identify the need for an integrated management. The cumulative impacts of the small-scale developments, if you add one on top of the other—even just residents like my husband and I, who are retirees down

there—can add up to just as much as a large-scale impact. So we feel that there should be an integrated plan before anything goes any further.

On the issue of water usage, we are aware of three water licences below the crossing, but there are at least six commercial operations that we know of. So the government at this point in time has no idea of how much water is coming out of the Daly. As you have been told before, the Daly is not just the Daly; it is the Douglas, the Fish, the Dry, the Flora and the Fergusson. All of these rivers go into the Daly, and the health of the Daly depends on all of them, so we need to know how much water is coming out of the catchment area in total, not just the Daly area. We need a whole-of-basin approach.

The NT government's announcement of the integrated regional land use plan for the Daly is a step in the right direction, but we feel that instead of just stopping land clearing in that region at the moment they need to redress some of the land clearing that has already been done. Until this report has been done, we are not saying we are antidevelopment but we are saying we want it to be sustainable and we want that area to be there for our grandkids and great-grandkids.

Senator HEFFERNAN—So do we.

Mrs Cowan—As far as monitoring the water is concerned, Waterwatch has no funding in the NT. The Nauiyu community have purchased a testing kit so they can monitor the water, but there is no ongoing government funding to continue those things. Paul will be able to tell you more about that. Waste disposal is becoming an increasing problem in the area as well. We are getting an increasing number of tourists and there is an increasing number of people living in the area. At present, the public health (nightsoil, garbage, cesspit, wells and water) regulations as in force at 11 November 1998 state that nightsoil may not be deposited 'within 440 yards from a stream or watercourse' and that an earth privy or closet must not be:

... within 20 feet of any house or water storage tank or within 50 feet of any other water supply;

You also cannot build a septic tank without permission. This legislation is obviously antiquated and needs to be brought up to speed. As far as we are aware, there is no inspection regime within the NT government, even with this as it stands.

With regard to water licences, the association and the people I have spoken to down there are of the opinion that water should not be traded: if a licensee or user has no requirement for the water, or does not require that amount of water, then the water should go back to the river and be reallocated by government to another person. There should not be a dollar value on it. The dollar value should go back to the river, not to some banker in Sydney or wherever.

The Daly is already sick. There are sandbars and silting, the river is already changing course in different areas and the mouth is blocking up. As I stated earlier, native vegetation is being overrun with introduced weeds. A lot of those introduced weeds are past pasture crops that were grown commercially and have run rampant. The fish and other indigenous food sources related to the river appear to be in decline. The river flow rate, according to local reports, is down on previous years. That is basically what I would like to say. Paul may want to follow up on Waterwatch and Landcare.

Mr Donohoe—With Waterwatch, the community is always interested in knowing what is going on in the river and we think the Waterwatch program gives people a hands-on chance to see what is happening in the river. It has just been canned, and there is no funding for it anymore. We have a kit and we have been encouraged to do it, but there is no facilitator to come and plan it.

CHAIR—Do you want to talk a little more about what Waterwatch is as a concept, the kit you referred to and the previous activities you were funded to do? I am not familiar with that, and it would be useful to get on the record.

Mr Donohoe—Waterwatch is a community based environmental program similar to Landcare, Bushcare and Coastcare. Waterwatch is part of that; it is about community involvement in the Landcare movement. You can do what you want, but it involves testing nutrient levels in the river. Its history has been that people do not take the community data seriously and sometimes say that it is not good—which is not true; it is just that sometimes they get figures that may be out of whack with what they expected, but generally the figures are good. We have been encouraged to do Waterwatch and, if we notice anything abnormal, such as nitrogen levels going through the roof, to call the government monitor and make sure it is checked out with proper equipment.

CHAIR—And are you still doing that type of monitoring?

Mr Donohoe—Yes

CHAIR—Are you doing it in a voluntary capacity?

Mr Donohoe—Yes. Also we have been approached by the manager of Tipperary Station. He wants to do it there as well. So it is a voluntary thing, but we would just like to see that funded. It is not a huge amount of funding, but we would like to see that facilitated and coordinated.

CHAIR—Okay. I am just wondering whether Mr Sinclair and Mr Casey might want to also add any remarks.

Mr Sinclair—I am in the tourist industry a bit down there as well, and one of my main concerns is the silting of the river and the degradation of the river. As I stated before, the influence of the tide does go up to the Daly River Crossing. On the big tides you can see the water rise, and it is actually just a back-up of fresh water. The salt water never comes up that far. About 30 kilometres—or maybe a bit more—from the crossing, at what we call Browns Creek, there is a rock bar, and over the last few years the water that has been coming from Browns Creek and through Browns Creek has been getting muddier and muddier with the back-up. The dirty water is getting pushed further and further up the river. Maybe it is because we are not getting the flows we used to get coming down the river in previous years to hold it back. If you are in the area, you can actually see some of the places we used to go with a boat. There is an area just past Browns Creek where there is a little bit of a strait, and the whole river there is silted up with sand and there is that much water going across it.

CHAIR—What sort of tourism activity do you have and how do you—

Mr Sinclair—Fishing, mainly. There are people who come fishing and stay in the cabins. Quite a few tourists come there fishing and like to have a look on the river. A lot of them just like to go on the river and if they catch a fish they reckon it is a bonus.

Senator HEFFERNAN—Do they eat it or chuck it back?

Mr Sinclair—Some of them keep them. Some of them will catch one and keep it and catch and release the rest of them. A lot of people do that nowadays. I was going to say that 10 or 20 years ago you could hop in your boat and belt up and down the river with no problems whatsoever. You cannot do that nowadays. There are sand bars coming up here. I used to go around the rock bar and straight there, but you cannot, because the sand bars are coming across. The whole river is going to finish up as just a string of billabongs if the silting up goes on the way it has been going the last few years. That is one of the great concerns in my industry, plus the health of the river in general. If I do not operate a tourist industry any more that is not my issue. My issue is the river.

CHAIR—Mr Casey, do you wish to add any comments?

Mr Casey—I represent the native community. There are about 450 in the community. I travel up and down that river several times a year at the height of the wet season, at the height of the floods and at this time of the year, when the river is at its lowest. I have been doing that for the last 14 or 15 years. Upriver, seven or eight kilometres of the first 20 kilometres or so from the crossing is sand at this time of year. It is almost impassable by boat—and I am talking about a little 12-foot boat with a 15- or 20-horsepower motor. You can get over it, but you are pushing. Your propeller is hitting sand. Then you get up to a rock bar called Low Yard, and you cannot get over that unless you carry the boat, and then when you get past that there is even more, for another 100 kilometres or so—80 or 90 kilometres—right up to a place there called Beeboom Crossing. Beeboom Crossing has been built by Mr Anderson, I believe, and that has formed a dam upriver. The natural channel of the river is now flowing down one side. He built it on a natural rock structure. Just above that is his water pump that he waters his exotic animals with. I believe Tipperary Station use it to water their other animals as well, the cattle and horses

In the last 15 years the river has been getting shallower and shallower. I remember pulling up at places four or five metres deep. At this time of the year they are now four or five centimetres deep and the sand just stretches back. Then you go down to the mouth of the river. You have your normal tidal influxes and the going out of the tide. That used to be negotiable at low tides in a little boat. Now you cannot get there. You have got to stop—that's it; finished—because for 40-odd kilometres it is sand and that is it. You get on one side of the river and you cannot see the other bank because there is a sandbar stuck in the middle. You go down at high tide and you still have to go to the sides because if you go down the middle in a decent sized boat—anything over a 70- or 80-horsepower motor—you will plough straight into the sandbars. You have got to know and you have got to use your depth sounders. Like I said, 14 or 15 years ago none of this existed.

A mother in Pine Creek told me that the Claravale Crossing where they used to cross was over knee-deep and now it is just over ankle-deep. The river is pushing the sand from up around Katherine way. I believe a lot of the sand came from the Willeroo Scott Creek clearing back in the sixties and seventies. Tipperary added to that. They have got three stations there. It is good to see that they do not clear over on the other two stations—Litchfield and Elizabeth Downs. They

have stopped clearing and the vegetation has come back, but unfortunately the topsoil and a couple more layers are down at the mouth of the river.

The sand that has been coming down has just been washing down with the subsequent floods. Now we have this area to be cleared—or it has been cleared—and that is going to add more sand. When they first started clearing up here, the river ran red because it is all red soil country up around the Douglas, the Daly and Ooloo Station. I worked there as a stockman back in the early seventies and I know what the country is like. Now they have cleared all that country and all the red soil is washing into the river. The river is running red, the sand is building up, and with any more clearing that is going to just build up more and more.

The people of Nauiyu are concerned because they cannot go up there. For some of those people, their traditional lands are up there in that area opposite the Douglas. They cannot get there. The fish stocks are falling. The pig-nosed turtle, the short-necked turtle and the seven other species of turtle that are part of the staple diet of the Aboriginal people, as well as the animals on the banks—the goannas and the wallabies and the birds—are slowly disappearing. Now we cannot use that river. One or two people go up there and come back with one or two turtles, sharks or stingrays. Our fishing holes are gone because they are all full of sand now. The sand is killing off the grass that the turtles live on.

Senator HEFFERNAN—This is a land-clearing issue rather than a water issue that you are raising here, isn't it?

Mr Casey—Yes. It is causing the problems in the river, where the people cannot—

Senator HEFFERNAN—How long since you had a feed of goanna?

Mr Casey—I had to go to Elizabeth Downs and get that! That was last Friday.

Senator HEFFERNAN—How did it eat—all right?

Mr Casey—Beautiful.

CHAIR—Presuming that there is a town water supply of sorts, is that affected in any way by what you have described, either in terms of adequate supply of water or the quality of the supply to the local residents?

Mr Casey—We have got our own bores there. We have got four bores and that water is for consumption. The irrigation water—for the ovals, the yards and what have you—is pumped from the river.

CHAIR—Senator Heffernan has raised the issue of clear-felling in the area and the effect that that might be having on silting up and the prevalence of sandbars et cetera. I think Mrs Cowan said that there were three licences that they knew of down past the crossing.

Mrs Cowan—Yes, down below the crossing.

CHAIR—Are you fairly clear that it is an issue of clear-felling as opposed to just the extraction of water itself or how water might be used? Are we talking about something that might be cyclical in nature or has it always been a river system that has been able to recharge itself on an annual basis?

Mrs Cowan—The river system is recharged every year. It is fed by aquifers. One of the beauties of the Daly is that it has always run either blue or green, depending on the sky and what is going on at the time. It was a beautiful clean river until the clearing started.

Senator HEFFERNAN—Were they all wink-and-nod arrangements for clearing?

Mrs Cowan—I think some of them were, yes.

Senator HEFFERNAN—They are pretty famous for wink-and-nod arrangements up here.

Mrs Cowan—Yes, a lot of them go on around here.

CHAIR—There are a lot in Canberra too.

Mrs Cowan—When Tipperary did the clearing, in theory it was done according to regulation and all the rest of it. I did not fly over and I have got no personal knowledge of it, but I was told by people—

Senator HEFFERNAN—So they got a permit to clear?

Mrs Cowan—Yes. I was told by people that did have access to it that they did get a permit to clear a certain amount, but they went outside those guidelines and there was nothing ever done and there was no follow-up.

Senator HEFFERNAN—Have they sown the land they cleared? I mean generally in the area. There is buggar-all water extracted from the system. How many hectares of irrigation are there in the area? Are you blokes across that?

Mr Casey—With the land that has been cleared in what is called the Foster block at Tipperary there is no irrigation.

Senator HEFFERNAN—I just want to get this down to the water versus the clearing. How much water gets extracted out of the river by the irrigators in your area?

Mrs Cowan—We do not know.

Mr Sinclair—I do not think anybody really knows.

Mrs Cowan—There is no monitoring system.

Senator HEFFERNAN—How many hectares of land? You could take a photo and find that out. Has no-one ever done that?

Mr Sinclair—Not that I know of.

Mr Casey—We only do the community. That's it. It is the houses.

Senator HEFFERNAN—But it is not a vast irrigation area.

Mr Casey—No.

Mr Sinclair—It depends on where you want to go with it. If you go from below the crossing you could probably easily find water extraction there.

Senator HEFFERNAN—But with the three farms that you talk about below the crossing—or the three licences and six—what are you talking about? Is it 100 acres, 10,000 acres or what?

Mr Sinclair—I have got 320 acres. That is all that Dale's got. Woolianna is 320 acres. There might be about 1,000 acres at Perry's and another 1,000 at Mango Farm. Wally's probably got about eight—

Senator HEFFERNAN—So it is not a big area.

Mr Sinclair—No, it is not a big area.

Senator HEFFERNAN—I just want to focus on these licences, though. What do they grow?

Mrs Cowan—Mangoes mainly.

Senator HEFFERNAN—When do they extract? Is it all year round?

Mrs Cowan—No. They do it during the dry season. When the river is most vulnerable is when they extract. In the wet season there is no need, because most of the land is actually under water anyway.

Senator HEFFERNAN—What would happen if part of the licensing regime involved harvesting in the wet season, when—as we heard earlier—there is a metre drop in the maximum flow, and putting the water into a turkey nest? That would appear to me to be a regime in which you would not be harming the environment. Would you people object to that, as opposed to pumping it in the dry?

Mrs Cowan—The idea of a turkey nest below the crossing would be very difficult. It is flood plain. Most of the land is under water.

Senator HEFFERNAN—Can I say that most of the cotton at Moree—I hate to mention the word 'cotton'—is actually grown on the floodplain and they have turkey nests in the flood plain. They have very scientifically applied water rates. Wouldn't that assist the river? I apologise that we cannot go down there on this visit; we would love to. But one of the fishermen said, 'You must come down; there is no water in the river,' and I said, 'There is not supposed to be much water in the river at this time of the year.'

Mrs Cowan—It is low at this time of the year. As to what influence a turkey nest or turkey nests would have, I am not a scientist and I have no idea of the impact.

Senator HEFFERNAN—It is something you should perhaps be looking at. This debate is in its infancy, but obviously if there is pressure on the river at its low point then you take the pressure off the river at the low point and put a bit of pressure on it when it is at a high point, and if that involves turkey nests, well, it is a culture that everyone else has got used to and perhaps it is a culture that would alleviate your concerns.

Mrs Cowan—Taking off at the high point is still dangerous if we do not get sufficient floodwaters going down. This is what has been happening for the last couple of years: we are not getting sufficient floodwaters to take the silt back out to sea and the mouth of the Daly is closing up.

Senator HEFFERNAN—You have had some dry years, though.

Mrs Cowan—We have, and this is what you have to take into account. You cannot just bank on getting the same amount each year; you have to take it at the lowest mean level and work from there. The thing that concerns me is that, if that mouth starts silting up further and the river gets shallower and wider because of all the problems we are getting, when do we start getting the blue-green algae and when do we start getting all the other problems that are relevant to it?

Senator HEFFERNAN—That is a good question, but all of this is about land clearing.

Mrs Cowan—But it is land clearing affecting the quality of the river and water.

Senator HEFFERNAN—One is the other. The amount of land set aside for irrigation is in my terms bugger all but the amount of land clearing is much more extensive. As you said earlier, a lot of Tipperary was land clearing for, I presume, new pasture, dryland pasture. That is obviously a serious environmental issue for the government to deal with but it is not a water issue, though the outcome has a water effect.

Mrs Cowan—We have difficulty separating the two because one affects the other.

CHAIR—But didn't you also say you didn't know how much water was being extracted?

Mrs Cowan—This is it: we have no idea.

Senator HEFFERNAN—The only guidance you can have on that is the amount of land that gets watered.

Mr Sinclair—With what we are pumping from below the crossing we are probably irrigating 3,000 or 4,000 mango trees and a little bit for the tourist industry, which is really small. I do not know what Mark funds for the community. When we talk about water licences and water pumping, we are not really talking about below the crossing. We would like to know about above the crossing, up in Douglas-Daly, up around Katherine and all those areas where they are already pumping. When they say, 'We reckon we can pump 20 per cent of the water and leave 80

per cent in there,' we would like to know exactly how much is being pumped out already, but nobody knows.

Senator HEFFERNAN—That is the challenge for the future. Believe me, there is a great awakening coming to the Northern Territory in water.

Mr Sinclair—We would like to see that.

Senator HEFFERNAN—We are here to sort of facilitate or assist the debate. The land-clearing thing is a serious issue and the silting of the river is a very serious issue. But what we want to hear from you today and what we are here talking about is long-term sustainable use of water.

Mr Sinclair—On land.

Senator HEFFERNAN—Yes. It seems to me that the amount of water that is drawn from the Daly River at the present time, setting aside the land clearing detrimental environmental effect, is not catastrophic.

Mr Sinclair—Nobody knows how much is being taken from the Daly River at this time. It is not only the major pumps like Tipperary and some peanut growers—

Senator HEFFERNAN—Does anybody know how much irrigation Tipperary has got?

Mr Sinclair—I know there is a huge motor and pump on some railway tracks. I would not have a clue how often they run it or what volume it pumps.

Mr Donohoe—The Tipperary manager said at a Landcare meeting two weeks ago that it is just an honesty system. He estimates for his own records how much is taken.

Senator HEFFERNAN—We ran into one of those at Cubbie Station, which is another catastrophe in Queensland on the Balonne River. If you want to get some scary statistics into you, they extract 380,000 megalitres—380 gicalitres—on one farm. That is more than the NT government advised us this morning they were proposing to extract in total from all the rivers in your area—and one farm takes that out. That was very much a nod-and-a-wink arrangement, and I presume it is some sort of a nod-and-a-wink arrangement at Tipperary.

Mr Donohoe—Yes, it seems to be.

Senator HEFFERNAN—If there are no meters, it is bullshit.

Mr Donohoe—I am not sure how it works in other states, but in the NT it seems to be just the Controller of Water Resources and the minister issuing licences, without consulting any other natural resource management legislation.

Senator HEFFERNAN—To get your mind around how bad it can become—and the debate is in its infancy here—they extract something like 380 gicalitres and their licence cost them \$3,800.

Mr Donohoe—Which is bugger all.

Senator HEFFERNAN—It is a disgrace—worse than the excesses of Russ Hinze, God bless him.

Mr Casey—The aquifer straddles the river. They take the water out of there, three miles back from the river, and that has to be fed back from the river to replenish the water supply. So you are taking your two per cent here, you are taking your 18 per cent there, and then this is dropping because it is going back over there to replace it—what is going down river? With the silt and the sand in the river, it is a sponge; it soaks it all up.

Senator HEFFERNAN—Pardon my ignorance on this, but is the land that is cleared and produces the silt for the river sown out to some sort of dryland pasture? What is generally happening to the cleared land? A hundred acres of bloody mangoes is not going to make—

Mr Casey—That 100 acres of mangoes down river is not what is affecting us; it is the 500,000 hectares being cleared up river that is going to affect us.

Senator HEFFERNAN—But is there 500,000 acres being cleared up river?

Mr Casey—It is proposed.

Senator HEFFERNAN—No; you have silt in the river now. Do you know—you need to, if you do not—how many acres of land clearing has produced that silt? Also, what is the purpose of the land clearing? Is it because you have had a bad run of seasons and it is dryland pasture that is completely eaten out? We have seen that at Brenda Station, where they ploughed land that was native land and it is just a bloody desert now. Is this country that has turned from native pasture into a desert in a dry time?

Mr Casey—You get something like 100 to 200 tonnes per hectare. You get the big heavy rains when the wet season comes. There is nothing to stop that soil coming into the river.

Senator HEFFERNAN—In its non-native state.

Mr Casey—Yes. So it has been cleared. It is not so bad after the bulldozer has been through with the chains. It is when the river has come in after and broken the soil up that it is at its most vulnerable.

Senator HEFFERNAN—So what does the government say to you fellas about the land clearing issue?

Mr Casey—Nothing.

Senator HEFFERNAN—Well, we will say something about it.

Mr Casey—We found out about it when the bloke that was working before him down there told us in early May that they were clearing some 7,300 hectares.

Senator HEFFERNAN—I presume they have a government permit or something.

Mr Casey—Yes, the government had given them the go-ahead. The thing was that the government had not told—

Senator HEFFERNAN—But there is such a thing as a permit, is there?

Mr Casey—Yes.

Senator HEFFERNAN—So it is not a glass of wine?

Mr Casey—It is a permit. The thing is that, at the beginning of all this, we were not consulted. I have been on the council for five years. That makes it about seven years all up that I have been involved. I have never seen in front of my face a letter saying, ‘President, we are clearing up at the Douglas-Daly. We are taking 200 ...’—nothing.

Senator HEFFERNAN—But perhaps to its credit, the government is now understanding, as we have in the south. What we did 100 years ago in the south has produced a catastrophe with the watertable et cetera. Will the community reference group pick things like this up now?

Mr Casey—Yes.

Senator HEFFERNAN—That will be a very big positive, won’t it?

Mr Casey—Now we are grateful that the government has stopped everything: no dams, no cotton, no more permits—great! But the thing is that people are still ripping into that 7,300 hectares, so you still have a—

Senator HEFFERNAN—But that is just for dryland pasture, isn’t it?

Mr Casey—Is it? We do not know. We do not know what it is.

Mr Sinclair—Some of it was supposed to be for grazing, wasn’t it? They were talking about grazing cattle on it.

Mr Casey—It was to improve the pastures and stuff like that.

CHAIR—Just following from that questioning: I may be overreading the map, but what else is happening in the upper catchment in terms of heading up or in towards Katherine and so on? Is it just a question of looking at examples like Tipperary, or are we talking about other things that might be small and unnoticeable but, incrementally, all add up to something that is affecting the flows?

Mr Casey—Yes. It is what is happening up in Katherine Basin—how much is being cleared up there. We do not know.

CHAIR—So you do not know what is happening beyond Tipperary?

Mr Casey—No, we do not know. The pastoralists, the Cattlemen's Association and the horticulturalists are the only people who know what is happening there—and, of course, the government. But we are not getting any information downriver as to what is happening.

Senator BUCKLAND—Pardon my ignorance, but what is the crossing we keep talking about? Is it just a natural crossing or is it a causeway?

Mrs Cowan—It is the continuation of the Daly River Road out to Port Keats. It is where that road crosses the river.

Senator BUCKLAND—Does that dam water back or is it just a series of holes through the concrete?

Mrs Cowan—It dams it to a certain extent, but it flows over. Harold said that the tidal influence pushes up as far as the crossing. I can remember, when I first went down the Daly back in the sixties, going to sleep on the sandbar with the noise of the water running over the causeway, and then waking up to silence because the tide had come in and the water was running straight. So it does to a small amount, yes, because the original crossing was just a pile of rocks put across the river to drive across. That is still there. There is a proper cement causeway over there now that allows the water to go under but, yes, those original rocks are still there.

Senator BUCKLAND—Thank you. I do not know enough about it, so do not think that I am an expert in the field. Could the silting up of the mouth of the river just be a part of the natural cycle of how our country has developed?

Mrs Cowan—Back in the early days, when they used to farm peanuts, tobacco and even cotton—dread the word!—around Woollianna, barges used to come up the river. There was a copper mine there as well, and these barges used to come up the river and take those crops out. There is no way in the world that boats of that size could make it up the river now. Some of it would be natural—there is no doubt about that—but it has definitely increased. The change has definitely escalated since the sixties. It has been noticed by too many people to be somebody's imagination.

Senator BUCKLAND—Mr Donohoe, you mentioned earlier the community testing of the water. I was interested in that. What is involved in it? Who does the analysis, or are you given a kit and told, 'If this one goes green, you're going to live; if this one goes purple, you want to move out'?

Mr Donohoe—It is a bit of a chemistry experiment. It is a fairly simple kit with a photometer that takes wavelengths, which will tell you what the concentrations of nitrogen and phosphorus are. You test oxygen, salinity and river turbidity. It is fairly simple, but they are indicators of river health. So, if you saw something unusual in that, you would call down the experts.

Senator BUCKLAND—Do the experts come in without being called in? Do they do ad hoc monitoring—three-monthly or whatever?

Mr Donohoe—I am not sure; I would have to find out. I do not think that they do enough. I am not sure how much they do.

Senator BUCKLAND—Is any of your testing sent away to a laboratory somewhere for an audit of your processes?

Mr Donohoe—No, but it is fairly simple.

Senator BUCKLAND—That is fairly important, isn't it?

Mr Donohoe—It is.

Senator BUCKLAND—Your livelihood is based on water availability.

Mr Donohoe—The data that we are producing is not scientifically proven or whatever, but it provides indicators. If you are doing it consistently every fortnight or every month for a number of years and you put it into a database, you will notice changes that are happening and you can alert people who may not be testing it as often as you are.

Senator BUCKLAND—That database is available?

Mr Donohoe—Yes. We have been sent that by the government. That is from an old Waterwatch program. I have heard that there are plans to keep that program going. It is not funded presently.

Senator BUCKLAND—In the submission that we got this afternoon, I was particularly interested in the nightsoil, garbage, cesspit, wells and water regulation. I think I know what nightsoil is—we do not need to go into that in too much detail. One of the problems you identify there is the free camping that goes on.

Mrs Cowan—There are stretches along the river where people, particularly southerners, come and camp, sometimes for very extended periods. They come up to get away from the winter down south and camp by our river.

Senator BUCKLAND—I think that there are things that need to be looked at there in a broader sense. You are very reliant on tourism, from what I can pick up from here. I am a caravanner myself, so I know that there are difficulties, but most of us now carry toilets with us. I have seen a lot of people like me get to a caravan park and empty their toilet before they set up camp, simply because they have been stopped on the side of the road. You would be suggesting here that there are irresponsible campers not doing that and just using the river?

Mrs Cowan—There are some areas down there where you can go out in the bush and it is basically a paper trail. You have to be careful where you put your feet. If we are going to allow that sort of camping, then we need to have dedicated areas for those campers who have toilets et cetera where they can empty them. The chemicals and things that are used in them are just as detrimental to the waterways as if the people were doing it naturally.

Senator BUCKLAND—Absolutely.

Mrs Cowan—That is something that still needs to be catered for if we are going to continue to allow that sort of camping.

Senator BUCKLAND—You might have picked up on some of the things that I said this morning, including my comment that I thought I was the greenest one here. I will not say that again; I will get howled down, I think. You might have picked up that I am fairly pro-development. Unlike many others, I do see a potential for cotton—and I do not say that to be rude or anything of that nature. I will not make that ultimate decision. Do you think that further development of the river, using its resources—which is water—for agricultural use, will increase the potential for tourism?

Mrs Cowan—It probably could do, but we have to do the groundwork first. As you commented earlier to Henry, we have to do the groundwork first. We have to find out exactly what the river is capable of and what the area is capable of and then go from there. We need to put a hold on things—a complete stop to things—until we have the facts that we can go forward with.

Senator HEFFERNAN—But do you think we should rule things out before we have done the study?

Mrs Cowan—Speaking personally, I do not believe that you should rule anything out. You do your homework first and, if it turns out that cotton is a bad thing for the region, then you do not go with it. If it turns out that it is viable and it is not going to wreck everything—and from what I can understand a lot of it depends on not so much what you are growing but how you are irrigating it—then as long as we have done our homework first and we find out—

Senator HEFFERNAN—It seems to me that, generally, the Territory has not come to terms with water trading or the value of water. Water just comes out of the ground, like Senator Buckland's packet of peanuts.

Mrs Cowan—I would rather it stayed that way.

Senator HEFFERNAN—He is beyond the carton of milk; he knows that milk comes out of a cow. There is the potential for a distortion in the market if you exclude things as a competitor in the marketplace for water. You would have a false market, and the great trap would be, for instance, if you excluded a value added crop like cotton. There are some constraints on the development of cotton because of a need for a viable area for a gin. It sounds to me as if it would not be viable there, but there are plenty of places where it would be—certainly the Ord. You then put yourself in double jeopardy by distorting the market among users by excluding some use and then inviting traders and speculators into the market. The Territory faces the risk of a double jeopardy.

Mrs Cowan—I am probably shooting myself in the foot, because I have put myself up to go on that committee, but as far as I am concerned coming out with the comment about banning cotton in the Territory was a warm fuzzy statement. 'No dams on the Daly' was another warm fuzzy, because weirs already exist, as we have pointed out. As far as full-scale dams are concerned—

Senator BUCKLAND—Could I just stop you there. I thought I asked that question this morning.

Mrs Cowan—You did. Tipperary has put in a weir.

Senator BUCKLAND—I was told there were not any.

Mrs Cowan—It is the equivalent of a weir.

Senator HEFFERNAN—A crossing.

Mrs Cowan—Anderson poured cement over an existing crossing and, in effect, it has created a weir.

Senator HEFFERNAN—How much water would it hold in megalitres?

Mrs Cowan—I have no idea.

Senator HEFFERNAN—That is another thing you would not get away with down our way—you cannot hold up artificially in a waterway of over five megalitres.

Mrs Cowan—Research was done on the dams back in, I think, the seventies. It was found that there was not the structure along the Daly to actually put in a dam. To say, ‘No dams’ sounds good, but from what I understand there is no possibility of a decent sized dam there at any rate.

Senator BUCKLAND—How long has the association been established?

Mrs Cowan—We will be 30 years old next year.

Senator BUCKLAND—Have you had any funding for project funding?

Mrs Cowan—We have a community hall that is government funded.

Senator BUCKLAND—What about funding for research into these very things we are talking about here today. I have been involved with development boards myself, and I always thought research for a development board was more important than opening up a dress shop down the street.

Mrs Cowan—Over the past years, we have mainly been concerned with getting our roads bitumenised, getting infrastructure into the area and improving communications. It was not that long ago that we got the telephone down there—it was VJY on the schedule. We have been fighting for basic things, and this is not something we had looked at in the past. Paul is the Landcare representative down there, but the first Landcare group was the Daly River Community Development Association. That was back in 1982 or 1983.

Mr Donohoe—The Landcare group is thinking about putting in for Natural Heritage Trust funding with CSIRO to do that research, especially at the mouth of the Daly River, to try to get some evidence to see what is happening. Everyone is saying that the river is silting up but nobody knows why. Is it natural? Is it unnatural? It is because of clearing? Surely, someone should do some research on that.

Senator BUCKLAND—I absolutely agree with you.

Mr Donohoe—We have heard from an independent scientific body that they have not got funding and they will not until next September, and in the meantime the community groups are already supposed to have come to a decision. We are trying to get our own funding down there to do that and to include that evidence in decisions that are made about water use on the Daly and clearing and everything else.

CHAIR—Do you believe there will be approval of funding on the proposals you are talking about? I ask because we are happy to make some positive overtures about being able to contribute in an informed way and if the resources are there to do it then we can certainly help.

Mr Donohoe—Any encouragement from anybody always helps with funding. Dr Sue Jackson, who is talking later, might have something to say about that. She is involved in that too. Talking about land clearing, I know it is not related to water, but we would just like to see decisions about water taken in a more integrated way with the whole catchment included—

Senator HEFFERNAN—So would we.

Mr Donohoe—instead of everything becoming independent of each other. The natural resource management plans in the whole region might be a step in the right direction.

CHAIR—With the experiences of what you are seeing on the Daly River either in the short term or over the historical term that you described, is that also happening in other places, from your experience, with other communities where you have got similar pressures being placed on the river systems?

Mr Sinclair—We had a professor down there a week ago and he had done studies on the Ord River. He gave a comparison between the Ord River and another wild river close by, how they had taken photographs because the Ord has a dam and the water does not flow through anymore and the area was silted because the water flow had stopped. There was a wild river close by with no cattle and nothing had been done and it was still the same as it was 20 or 30 years ago. It just seems a bit willy-nilly. You read in the paper or you hear of permission being given for this block of land to so-and-so with so many thousand megalitres of water. As you say, it is not a resource that can be guaranteed will be there forever, yet they seem to be handing out these things—

Senator HEFFERNAN—Believe me, there is a brave new world coming.

Mr Sinclair—I hope so.

CHAIR—I was thinking more about places like the Reynolds River or the Finiss River, but from looking at the map they seem to have Litchfield National Park in the upper catchment area, which might counter some of the clearing issues.

Mr Sinclair—We have never heard of any problems down there because when they clear on Tipperary that washes into the Reynolds River. The Reynolds is a very narrow river and it goes down a series of hills before it gets down to the floodplains and washes out to sea. The force of

the water washes it all out. When I came through yesterday the river was dirty, so it is already starting to come down now. But it is forced out. If you go fishing further down you see that the water is very clear. It is all washed down.

Senator HEFFERNAN—Are Tipperary members of the Landcare group? It has been one of the great things in the south, and that is why Senator Buckland cannot say he is a better greenie than I am, because land care was an education process—public education of farmers about the mistakes of the past. Does Tipperary participate in the Landcare group?

Mr Donohoe—They are as of two weeks ago.

Senator HEFFERNAN—The new management may well recognise that this is what you would call a cock-up and do something about it. You can fix these things.

Mr Donohoe—The Landcare group was originally set up to include the Tipperary group of stations and to do particularly weed control and all sorts of other land care activities. Just when it started the ownership changed and they did not want a bar of it. It has changed again and the manager now is really keen on community land care. He wants to do his own water watch.

Mr Sinclair—He wants to clear his own mimosa. He told me on the phone he is going to bulldoze 4,000 hectares of mimosa within the next 12 months.

Mr Donohoe—And employ local Aboriginal people to do ground control. So he is really community minded, and that is great if you have that sort of person.

Senator HEFFERNAN—Community goodwill is what makes all this work.

Mr Sinclair—So it is a step in the right direction—

Senator HEFFERNAN—Good stuff.

Mr Sinclair—if they get involved with us. We are only a small group; they are big business.

Senator HEFFERNAN—Everyone can make a difference.

CHAIR—I am mindful that we are 15 minutes into the next session.

Mr Sinclair—I have got this statement that I would like to make. I do have a rainwater tank on my property so people do not drink the river water. The chap over the road has got a tank and they say, ‘Put a bit a bit of chlorine in it.’ The department of health say, ‘We need to take a sample of your water.’ So he says, ‘All right then. Go down to the river and get a sample, because that is where I am pumping from.’ But they never ever do. So it is under the carpet stuff. If they were really interested in the water health—people taking water from the river and stuff like that—the department of health should be down there taking samples of the water and checking our water quality.

Senator HEFFERNAN—Yes, but if you get them turned on—for farmers this is about survival. There is nothing like survival to incite you. It is the greater survival of the planet as well—the survival of the farm is survival of the planet—so my congratulations to you.

Mr Sinclair—I think a lot of the people do not realise the issues. There was a statement not long ago from the people up in the Douglas-Daly area that said the river is beautiful—there is nothing wrong with it. But they need to see down our end of the river. What is happening down our end of the river is not happening up there. Everything is coming down our end—silting and the widening of channels that were not there before. You cannot get anywhere as places are blocked off. You cannot get a boat in there any more. The problems are down our end of the river.

CHAIR—I might pull it up there and thank Mrs Cowan, Mr Sinclair, Mr Donohoe and Mr Casey for coming in and assisting the committee today. I think it has been a very worthwhile discussion. Certainly, if there is more information that we need to chase up, we will be in touch with you. As I have said to the other witnesses, copies of the *Hansard* will be available over the coming weeks. If there is anything you want to chase up, feel free to contact the secretary. Again, thank you for appearing. As committee members are in agreement, the committee accepts the submission from the Daly River Community Development Association.

[2.27 p.m.]

DAW, Mr William Robert, General Manager, Katherine Region Tourist Association

CHAIR—Welcome, Mr Daw. Could you state for the record the capacity in which you appear and then I will invite you to make some opening remarks for the Katherine Region Tourist Association.

Mr Daw—Thank you, Mr Chairman. I am the General Manager of the Katherine Region Tourist Association. I am here representing the 264 members that we have across the Katherine region.

CHAIR—Do you want to make some opening remarks?

Mr Daw—If you do not mind, I have got a little bit of a prepared speech here. Mr Chairman, other members of this committee, thank you for the opportunity to say a few words regarding rural water use in the Northern Territory. I represent tourism in the Katherine region, which covers an area of approximately 408,000 square kilometres—or, to put it into perspective, it is about the size of Victoria. First of all, the Katherine region is the home of some of the greatest rivers in Australia. It is fondly referred to as the rivers region. I would just like to name a few of those rivers in the Katherine region: Daly River, Victoria River, East Baines, West Baines, Edith River, Flora River, Katherine River and so on—all of which are currently used for a multitude of activities from stock watering, agriculture and recreation to fishing and swimming.

I am here to talk about the impact of these rivers on tourism and recreational fishing. I would like to read an extract from our premier tourist web site, www.fishingtheterritory.com. The extract goes like this:

The legendary Daly River, about 210 km south-west of Darwin, is one of the Territory's top barramundi fisheries and has been reserved for recreational fishing—no commercial fishing is allowed. Many fish over 10 kg are caught each year with some fish in the 18 to 20 kg class—

The photo you can see on the front of that book there is actually a fish caught from the Daly River. The article continues:

The Daly is home to the well-known NT Barra Classic and NT Barra Nationals fishing tournaments. This is a beautiful river, lined with massive trees, many of which have fallen into the river over the years and now provide perfect snag habitats for barramundi. There is prolific wildlife along the river including a healthy population of both fresh water and saltwater crocodiles. It rises and falls by up to 16 m according to the wet and dry seasons. The river drains a huge expanse of country from Katherine to Anson Bay.

The Daly is a big tidal river and the fish move with the seasons and the tides. One day they will be on your doorstep; the next they could be 40 km downstream.

The rivers in the Katherine region are vital to tourism, and every year we see more and more erosion and overuse of our fragile rivers. It is time for a more sustainable approach to all the

practices that derive a use from our rivers, and an approach that considers the investment of sustainable land and water management practices. For too long now we have been a slave to the dollar and we are rushing headlong. It is all about sustainable management. The Katherine Region Tourist Association realises the benefits of our near pristine rivers and uses those to attract tourists here year after year. As you probably know, the Katherine region's main market is the driving market who come up here to visit our rivers to swim, fish, take cruises or just enjoy the near pristine conditions. I have a copy of some selected statistics regarding tourism in the Northern Territory, which the committee may have. On page 29 it states that 44 per cent of all interstate holiday visitors to the Northern Territory come here to go swimming and 22 per cent come here to go fishing. That is quite a large proportion of visitors to the Territory.

In 2000, the Commonwealth government conducted the Australian recreational fishing survey across all states of Australia. I also have some extracts from that here. They concluded that the Northern Territory has the highest number of anglers per capita, with 31.6 per cent of Territorians participating in recreational fishing. Recreational fishing is worth \$37.3 million to the local Territory economy. So our rivers are an important part of our lifestyle and play a big part in the local economy. Tourism relies on our rivers and almost pristine environment and, as a whole, is worth almost \$2 billion dollars to the Territory, second only to mining in contributing to gross domestic product. It is the largest employer in the Territory, with over 8,000 people in the Northern Territory reliant on tourism related jobs.

In summary, we recommend that ground water and stream-flow quantity and quality must be managed holistically and supported by an integrated natural resource management approach. That recommendation came from 'Recommended environmental water requirements for the Daly River, Northern Territory, based on ecological, hydrological and biological principles'. Have you seen that?

CHAIR—No.

Mr Daw—I have brought a copy for the committee's perusal. As this extract from 'Our community our future: a guide to local agenda 2' says, we also need to maintain:

Ecological integrity—to protect biological diversity and maintain essential ecological processes and life-support systems. Recognising that we are part of the natural environment, not separate from it, the protection of the natural environment in its many diverse forms is essential as we depend so heavily on it.

That is it, in short.

CHAIR—I was going to ask you whether you want to also provide a copy of your written submission. The committee members agree that we accept that as a submission on behalf of your organisation. The additional material is fine. Senator Buckland will start questions.

Senator BUCKLAND—You are employed by the Katherine Region Tourist Association. Who funds that?

Mr Daw—The Northern Territory government. They fund us to provide an information and marketing service to the Katherine region. We have a membership base as well.

Senator HEFFERNAN—Did they consult you about the cotton decision?

Mr Daw—No.

Senator BUCKLAND—Are you connected with a local or regional council or anything of that nature?

Mr Daw—How do you mean?

Senator BUCKLAND—Local government.

Mr Daw—Yes, the mayor of the Katherine local government has a seat on our board.

Senator BUCKLAND—I was really taken with the fishing booklet until you started talking about crocodiles. After that I lost interest. But as far as tourism goes, the river cannot be the only issue you look at. Do you see other developments as attractions for tourists as well, particularly in the area of agricultural development?

Mr Daw—Yes. There is a great potential and I am currently talking with the Northern Territory Agricultural Association about setting up some agricultural tours to the Northern Territory. There are possibilities in that.

Senator BUCKLAND—Is Katherine your base? What river are you actually on?

Mr Daw—We are on the banks of the Katherine River.

Senator BUCKLAND—Where does that run into?

Mr Daw—It runs into and forms the Daly. The Katherine River and the Flora River come in and form the Daly.

Senator BUCKLAND—I have not got a map in front of me but I did yesterday. I am trying to refamiliarise myself with that.

Mr Daw—I grew up on the banks of the Daly, so I know that river quite well.

Senator BUCKLAND—Do you have the difficulty that the previous witnesses had—the problem of silting?

Mr Daw—Can I speak from a personal point of view?

Senator BUCKLAND—Yes. I just want to hear—

Mr Daw—Growing up on the Daly and knowing the way that it has happened, for the 25 years that I can remember it always had sand. It seems to be a shifting sort of thing: one year there is a big sandbar and the next year it is gone. My father, who has been on the Daly since the

early fifties, has said the same. No, we have not seen an issue with silting but we have seen an issue with weeds and other things.

Senator BUCKLAND—These are fugitive weeds from earlier pastoralists?

Mr Daw—They are introduced species like the noogoora burr. That is probably the main thing. It has not reached the lower Daly but let me tell you that they will know about it in about two or three years time.

Senator BUCKLAND—So the fugitive weeds could be a problem of the same extent as cane toads are on the east coast?

Mr Daw—Yes.

Senator BUCKLAND—Is there any mechanism in place to eliminate those weeds?

Mr Daw—Not that I know of except for three weeds officers in the Katherine region, who cover the 408,000 square kilometres. I very much doubt that they are going to control the weeds.

Senator HEFFERNAN—We struck a quarantine area for noogoora burr, which is a burr I am very familiar with. It is a pretty hardy burr, I can tell you. It is a lot worse than bathurst burr. It is easy to control if you spray it. We struck a quarantine area at Kununurra. Do they quarantine areas off?

Mr Daw—No. I spent my younger years in Kununurra and that was there in the sixties when I was there—the place where they fenced off the noogoora burr. But they have no quarantine area anywhere in the Territory that I know of. They have been trying to control it with a rust that has not been that successful. When I walk down the banks of some parts of the upper Daly where I go fishing regularly and take my kids I find it is absolutely terrible. From bank to bank there is noogoora burr.

Senator BUCKLAND—Does that affect the water quality?

Mr Daw—Probably not.

Senator BUCKLAND—Does it affect the flow of the river in any way?

Mr Daw—I am not qualified to say that. I would be hesitant to make a guess.

Senator BUCKLAND—Has there been a lot of land clearing around Katherine and the Katherine River over the years?

Mr Daw—Not to a great extent along the river but there has probably been more on the Venn, which is sort of south-east of Katherine heading back. That is probably drawing water from the Tindal aquifer. Probably the major clearings happened up that way, away from the river.

Senator BUCKLAND—Has your tourist association made any approaches to the government to give money to assist in clearing weeds?

Mr Daw—Giving money is probably not our charter. We try and work together with our local NT Agricultural Association, but probably not on a weeds level. But my background before tourism was land care, so I have a personal interest in land care, but not so much the association.

Senator BUCKLAND—And how much agricultural development is going on around Katherine?

Mr Daw—I am not qualified to make that judgment.

Senator BUCKLAND—I see. Do any producers draw water from the river?

Mr Daw—Not that I know of. There are lots of farms along the river that draw water from the river for drinking water, but I do not know of too many farms.

Senator HEFFERNAN—It is mostly from the aquifer.

Mr Daw—Yes. It mainly comes out of the Tindal aquifer.

Senator HEFFERNAN—So would the average cocky down there think you are a devil?

Mr Daw—A devil? How do you mean?

Senator HEFFERNAN—Do they think that the tourism body is anti development?

Mr Daw—We are not. We are into sustainable development. We are not anti development; we are sustainable development.

Senator HEFFERNAN—So you have a good dialogue with them?

Mr Daw—Yes.

Senator HEFFERNAN—Good stuff. One of the things that intrigues us is that a given is not always a given. We are having great difficulty as a committee coming to terms with what is actually happening. We have received a very distressed email from the fishing body—

Mr Daw—That is AFANT—the Amateur Fishing Association of the Northern Territory—John Harrison.

Senator HEFFERNAN—Yes. The distress that it sent to us was that somehow we are there to destroy the fishing environment, where obviously we want to make sure that does not happen. But at the same time we want, if we can, to assist in the development of the Northern Territory in building the wealth and getting the local community involved—the original owners et cetera. What message would you have for us in a couple of sentences? What are the strengths of what is happening and what are the weaknesses of what is happening now?

Mr Daw—The message is to go away and come up with a framework that is going to maintain sustainable development of the Daly or any river region in the Katherine region. As an

industry body we are not opposed to development, but it has to be sustainable and it has to take into consideration that there is a resource there that we need to look after. If we can find some practices and a framework that will look after that, we will certainly support it.

Senator HEFFERNAN—I am personally pretty encouraged, I have to say, to hear that the new management at Tipperary wants to be very proactive with land care; land care is a wonderful thing. A lot of this stuff is driven by ignorance. Some of the dreadful things that have happened to the chair's forebears were all through ignorance, and so it is with the environment. A lot of farmers in my day were told to 'get on the bulldozer and just don't stop'.

Mr Daw—The thing you have to keep in mind is that there is a perception up here that the mistakes that have happened down south are going to come up here and it is all going to happen again. I think that is what needs to be portrayed—

Senator HEFFERNAN—That is why we are up here.

Mr Daw—Yes. And that is why if you can allay people's fears of that then you will have a lot less heartache.

Senator HEFFERNAN—I hope that tourism bodies, the fisherman and everyone else down there take into account that the government is already talking 80-20—I do not know whether that is the right figure—and the fact that there will be no water harvesting until the flood has peaked, which is many times ahead of some of the thinking that has happened in some of those Queensland harvested rivers, which are environmental disgraces. I am pretty encouraged by that. The main thing is that people talk to one another.

Mr Daw—Are you familiar with the Ord River scheme at all?

Senator HEFFERNAN—We were there yesterday.

Mr Daw—That is pretty impressive, isn't it.

Senator HEFFERNAN—You may be able to assist. I think there ought to be a rethink by the Northern Territory government on the cotton question, because it is going to seriously disadvantage the opportunity to grow cotton in the extension of it. About a third of the new area at Kununurra is in the Territory. All of this goes towards the viability of an industry—certainly the viability of ginning et cetera—and if you are excluding the wealth creation through the fence in Western Australia, I think it is a mistake. Sometimes governments make all sorts of political decisions for all sorts of political gain. There may well be a political gain for them but, in the long term, it takes a lot of guts to rethink a decision that may have been a mistake. I just hope the NT government, along with the urgings of the various bodies, including yours—

Mr Daw—They have identified us as one of the bodies to sit on this new board they have set up for the Daly River.

Senator HEFFERNAN—I realise that cotton has a bad name. The cotton industry realises that, and now with GM et cetera they are changing the nature of it, and they needed to change, I might say.

Mr Daw—It is an emotive issue in Katherine. It is a process of allaying people's fears about it, because there are so many different things and I do not think a lot of people know what to believe about it. It is like when the Peanut Company of Australia bought some land in Katherine to grow peanuts and then the next year they were doing a trial with the GM cotton, and people thought, 'Here we go. They've come in under our noses.'

Senator HEFFERNAN—Thank you very much, Mr Chair.

CHAIR—I have a couple of questions in relation to the report you provided about the Daly River ecological, hydrological and biological principles. I have had a quick look through it, and I note it came out in March this year. Are you familiar with whether they held community workshops or consulted widely, because I cannot find anything in the document that suggests that?

Mr Daw—It is a government document and it is from a scientific point of view more than a community point of view. I just brought it along because I thought it might help you in your deliberations about the Daly. It has a lot of water flow and aquifer stuff in there that is quite handy.

CHAIR—I have seen the information and it seems to be suggesting purely from an academic point of view—

Mr Daw—It is a common academic point of view.

CHAIR—that things seem to be okay, but we heard from the Daly River Community Development Association that they have other views about whether things are as good as they could be. I presume the Katherine Region Tourist Association is also involved in the community reference group.

Mr Daw—Yes, we are.

CHAIR—Do you know whether this document will form part of what is considered during the process of community discussions?

Mr Daw—We have not got far enough to decide any of that stuff yet. I only got the paperwork yesterday advising us that we were officially on that reference group.

CHAIR—I want to move to another subject. The previous witnesses spoke about the possibility of it not being a water issue in relation to any perceived silting problems and possibly clear-felling. Does the Tourist Association have a view about that in terms of your own economic survival as an industry, particularly about tourism aesthetics and so on? I only ask that because when we were in Tasmania and we were looking at brochures like this they had a wonderful glossy cover, but when you went to the actual site behind it there were no trees—it was completely denuded from logging. Does that affect some of the tourism values that your association represents?

Mr Daw—Just to give you a bit of an idea, last night I rang around a couple of tourism operators on the Daly. Just from their bed nights, we worked out about 8,000 visitors come to the Daly each year to use the river from a tourism point of view.

Senator BUCKLAND—8,000 daily?

Mr Daw—Not daily, on the Daly River. We call it the Daly. So 8,000 is an estimate of the holiday visitors who come to the Daly region each year.

CHAIR—We heard this morning that the Northern Territory policy at the moment—and I am not sure whether it is correct or not—is that they do not need approval to clear-fell up to 50 per cent, only if they want to go 100 per cent or beyond that 50 per cent. Do you have a view about that particular policy?

Mr Daw—Yes. I believe there should be some framework or some system in place that all clearing needs to be accounted for. We do have a view on that. Yes, it needs to be accounted for. I have seen some places that just push the rivers down the bank, but there needs to be some framework in place.

Senator HEFFERNAN—Who is the largest player in your area? Is it Tipperary or the Packer mob?

Mr Daw—Remembering that my area covers more than the Daly, Heytesbury would probably be the biggest player.

Senator HEFFERNAN—If we can get the cooperation of a bigger player—for instance, Tipperary—and get them onside to be responsible, environmentally sound et cetera and they have the wherewithal to go with it, it sets up a model for the rest of the district, and they think, ‘He can do that.’ It is peer thing then. There is peer pressure to get it right.

Mr Daw—It is not only that. From my experience with the Daly, they are probably three to five years behind the other catchment areas, like the Roper River and Vic River, in terms of land care. The Roper River Landcare Group has been established and has been getting lots of NHT money. I think they have received over \$1 million in federal funding over the past 10 years to fence off the waterways from stock and that sort of stuff. I think the Daly mob need to head that way as well.

CHAIR—What are you hoping for out of the plan that is proposed to be produced by, I think, the integrated regional land use planning for September next year in terms of competing opportunities between tourism and the possibility of the expansion of agriculture in the Daly region?

Mr Daw—A plan and a framework that is going to identify best management practices and a sustainable approach to land management would be the outcome we would be aiming for.

CHAIR—So you would not want to see your industry swamped by a shift in political allegiances?

Mr Daw—No. Cotton has been known to be a boom-bust industry, whereas our natural environment is probably going to be worth more in 40 years time than it is now, and it will probably be worth a lot more than cotton. But you cannot stop development. That is not a problem, as long as it is sustainable and there is a framework in place that is going to monitor that and those benchmarks and best management practices. With only 200,000 people in the whole Territory, we need more of a population base to move forward.

CHAIR—Mrs Cowan, in the last group, said that one of the things that the community development association was looking at was sealing the road down to the Daly River itself. Do you see that as a good or a bad thing from a tourism perspective?

Mr Daw—From a tourism point of view, it is definitely a good thing, because before it is sealed they cannot hire a car to drive out there. Once it is sealed, they can hire any car and travel out there and have access to some of the best fishing in the territory.

CHAIR—So that does not detract from the value of the Daly River being described as a wild river system?

Mr Daw—But we want to share that, and there are lots of people around the world who want to have access to that. That is what tourism is about.

CHAIR—I wonder where you draw the line.

Mr Daw—We locals have spots that we still need a four-wheel drive to get to, and we keep them secret.

CHAIR—So the Daly River is not the real one to look out for—is that what you are saying?

Mr Daw—It is not where I go fishing.

CHAIR—Thank you for appearing today and providing assistance to the committee. A copy of *Hansard* will be available over the coming weeks. If there is anything we need to follow up, we will get in touch with you. Thank you again.

Mr Daw—I hope that information is of some use to you.

CHAIR—I think it is.

[2.55 p.m.]

KENNY, Mr Stuart, Executive Director, Northern Territory Cattlemen's Association

CHAIR—Welcome. I invite you to make an opening statement.

Mr Kenny—Thank you very much for the short time you have given me. It has been difficult trying to organise things. I will be very brief. I would like to give you a bit of a background to the Cattlemen's Association. We are a 100 per cent self-funded organisation. We represent over 92 per cent of the cattle herd in the Territory. Our members pay a subscription—anywhere from \$500 up to \$30,000. Our members completely run and contribute to our organisation. We have an office in Darwin and an office in Alice Springs, and we have four branches: in the Top End, Alice Springs, Tenant Creek and Katherine. We are obviously concerned about the Top End and our Top End members, who are in the Daly Basin, which this inquiry is investigating. I will provide some broad information on that region. There are around 17 major cattle producers in that region.

Senator HEFFERNAN—Is Mistake Creek too far down for that?

Mr Kenny—Yes.

Senator HEFFERNAN—Are they members of your association?

Mr Kenny—No. The 17 members in the Daly Basin—that is, the 'focus group' area, if you like—produce around \$21 million per year. It is a sustainable resource; it is going to be there forever as long as we look after it. Our members understand the importance of environmental sustainability. I heard you talking before about Landcare groups. In the Northern Territory, 65 per cent of our members are members of their local Landcare group, compared with less than 40 per cent around Australia, so environmental issues are extremely important to our members. Ten to 15 of our members would have full-time environmental officers on board, but that is not in the region we are talking about.

The majority of the \$21 million worth of product that comes out of the Daly region is cattle, then there are small crops, hay production and field crops. Nobody in that region has ever suggested that in a commercial sense cotton should be grown. Nobody has ever suggested damming that system in that region. We are looking for a total mixed farming system. That is what we need to investigate. It is not a matter of reducing field crops, horticultural crops or cattle; it is about funding. I know Warren Truss has talked about some money going into a total mixed farming system in the northern part of Australia. That is a system based around cattle, which is the major industry up here, that can include rotational crops—no-one is suggesting cotton; there are plenty of other crops to look at—and horticultural crops. That is what we lack up here. We either have cattle or are cropping. Both those industries are not meshing together. In that region, because of the soil type and the water availability, we believe there is certainly an opportunity there.

We believe that not only are the land clearing guidelines sustainable but also they give a good balance. If you know the type of country we are dealing with, you would know you cannot buy a 10,000-hectare property down there and clear it fencepost to fencepost. You just cannot do it. There are rocky outcrops, slopes and wrong soil types. You cannot do it. It is very mosaic.

I was talking to a producer just before I came here. He has around 40,000 hectares. If he were to clear his entire block to a level of full production, he thought it would be around 25 to 30 per cent of his total landmass. The rest he could not do; it is not suitable. So there is a balance there. Mass land clearing is just not happening down there. There are 3,500 hectares that are looking like being cleared this year and a total of about 7,500 hectares on the table on a three-year plan. The moratorium is on. It does not pull up that 7,500 hectares that are sitting on the table but it certainly pulls up any future developments.

In relation to water in the region, the main aquifer is the Ooloo. It is an extremely good aquifer. You can put a bore down and get between 80 and 100 litres per second. It is suitable for just about anything. If you have a look at what has been allocated to us by the government, you will see that it is about 150,000 megs. To irrigate general crops, you can go from mangoes at about 12 megs per hectare to peanuts at about 6.5. With pasture development or forage crops, you are looking at in the vicinity of four to 6½. So, effectively, we are looking at only 15,000 to 20,000 hectares of irrigation country in that region. We are talking about two million hectares in that region, so we are not talking about a lot of irrigation. That irrigation can be done far enough away from any river systems and put into the right spots. So there is that sort of thing. Of course suitable land is there to be cleared, but it has got to be done sustainably. No-one is disagreeing with that, especially the pastoralists. As I stated, these guys are extremely knowledgeable about their environment and know exactly what needs to be done for it to be sustainable.

Senator HEFFERNAN—Was there a bit of cowboy clearing in years gone by?

Mr Kenny—I would say yes. I certainly would not deny that. But let us say that it is a lot less than what was cleared down south. If you have a look at some of the stations that were cleared earlier, you will see that there is not a lot of erosion. It is 20 years down the track, and it has held up fairly well. I would not say that there are major erosion issues like those in southern states. But we cannot do it now. There has not been a lot of land cleared. Less than 0.05 of one per cent in the Territory is cleared, and that includes townships.

Senator HEFFERNAN—You represent the Northern Territory Cattlemen's Association.

Mr Kenny—Yes.

Senator HEFFERNAN—Are Indigenous cattlemen members of the Cattlemen's Association?

Mr Kenny—Yes. We are working very closely. We are involved in a project that is looking at bringing some of the Indigenous land back into pastoral production. We are working with the NLC, the CLC, the pastoralists and the government to bring these properties back in.

Senator HEFFERNAN—That is getting a bit away from our brief. Do you have opportunities to lease back sit-down country and make use of it?

Mr Kenny—At the moment we are investigating that in a joint partnership with the TOs, the pastoralists, the government and the land councils. It involves everyone coming together. There is a lot of Aboriginal land out there that is sitting there that could come into production. That will be set up—I probably should not be talking about this—in two ways. We will bring it into production, and TOs will work on that place and manage it. Some of that land will be leased directly to other pastoralists who will employ young TOs to work on it. In 10 years time that land will revert back to the TOs. Hopefully, we will have a pool of people who are up to speed to manage and take that property on.

Senator HEFFERNAN—The jingle of the money in the pocket will be a big help to those people.

Mr Kenny—It is probably not so much that but actually getting the younger generation working on the ground.

Senator HEFFERNAN—But once you start to get a few achievements up—

Mr Kenny—Absolutely. We need some runs on the board; there are a couple.

Senator HEFFERNAN—You need some light at the end of the tunnel.

Mr Kenny—Sure.

CHAIR—I want to go to a statement you made in your opening remarks about the guidelines for clear-felling. From memory, you said that they were comprehensive and satisfactory—I do not want to put words in your mouth. We heard from Mr Ian Smith this morning, and I understood him to say that there were not really any guidelines in place but there was the collective wisdom of government departments and practice gained over a period of time. How do you respond to that?

Mr Kenny—Do you mean the land clearing?

CHAIR—That is what the water controller said in relation to clearing.

Mr Kenny—Wrong. Ian should know far better than that. There is a land clearing guideline in place. You have to put in an application form.

Senator HEFFERNAN—Can you provide that to us?

Mr Kenny—Yes. That is no problem. You can get that off the government web site.

Senator HEFFERNAN—We will get it off you.

Mr Kenny—Once you have applied for land clearing you then go to a viewing period, where a nice purple sign goes up on your gate to advertise it to everybody. It then goes into the local newspapers. There is a three-month turnaround, during which there will be community involvement, and then the application will be signed off if it meets the guidelines—that is, the right soil types, the slope and so on.

CHAIR—Does that apply to land clearing up to a certain percentage of the land in question? I understood that what Mr Smith was saying was that if you are clear-felling, say, up to 50 per cent of the land then there is no need to apply for approval—there is no process in place.

Mr Kenny—It is for land over one hectare.

CHAIR—We may need to go back and check some of the things that he said.

Senator HEFFERNAN—I think Mr Smith might have been referring to smaller farms.

Mr Kenny—It is a public document. I can tell you when it was released; it was released in mid-December.

Senator BUCKLAND—I apologise; I stepped out for a moment, so I might have missed some of the things that you said which could have answered my questions. With land clearing, you say all these criteria have to be met—the right slope and other things. If you clear 7,500 hectares in the wrong place it is going to have a devastating effect, whereas if you do it in another place you may have no effect on the environment at all.

Mr Kenny—You are probably right—you stepped out and missed a bit. Effectively, the 7,500 hectares is sitting in a two million hectare basin and split over those two million hectares. So it might be over eight or 10 properties that the 7,500 hectares are being cleared.

Senator BUCKLAND—I understand that, but if you clear the wrong spot—

Mr Kenny—I will step back again to mention the land clearing guidelines that are in place. As long as you have the right soil type and slope and you meet the guidelines, which are clearly set out, how can it cause a problem?

Senator BUCKLAND—That is what I am asking you, and you are saying that it will not cause a problem, because of the guidelines. We will look at the guidelines and my answers might be in there. If you are clearing on slopes, what are the requirements? Down where I am the cereal growers are now going into this contour farming, which I have to say has really had an amazing effect.

Mr Kenny—Yes, contour banks are part and parcel of land clearing. Technically, the amount of land clearing taking place at the moment is not much, and generally people are picking pretty suitable land types which are flat and do not require a lot of contour banks. On the other hand, there are certainly a good number of people who are putting in contour banks. Not only that but they clear on the contour, so they follow the contour around.

Senator BUCKLAND—You made a comment that I thought was interesting. I am trying to push for a cotton farm up here—please forgive me! If not cotton, you said there were alternative crops. What would those alternative crops be?

Mr Kenny—At present there is a range of different crops. There are peanuts, sesame, hay and heavy produce, which is very popular—watermelons, pumpkins, rockmelons and the like; so, the cucurbits. They are certainly taking off. One of the major problems we have with many crops is

that we do not have a suitable rotation crop. But again I am probably stepping outside my cattlemen's hat.

Senator BUCKLAND—I will leave my next question because I do not think it would be fair to ask you.

Mr Kenny—Many of our cattlemen are looking at the total mix farming situation, where they can base a business around cattle but diversify. That is a key part of our future in the Cattlemen's Association: where do we go to next to expand and perhaps develop an enterprise that can bring home the son or the daughter.

Senator HEFFERNAN—Mixed farming is the best insurance, we have learnt from experience.

Mr Kenny—And that is what we need to do. If we need to put money somewhere, we need to look at a total mix farming system that is sustainable in the long term.

Senator BUCKLAND—I would encourage that to occur. Bringing the family home is really something to do. But take your situation as a cattleman. Is any of the land that you currently graze suitable for this agricultural development?

Mr Kenny—Yes, plenty of it.

Senator HEFFERNAN—You can say that again, brother.

Mr Kenny—We cover 620,000 square kilometres in the Territory, which is about 48½ per cent of the landmass. There is certainly suitable land there. We are sitting over a very large water resource, but it has to be managed properly.

Senator BUCKLAND—So it would not necessarily be the development of land that is not already under use at the moment?

Mr Kenny—No. A lot of the land in that region is under cattle production. We would not like to see their wings clipped. We would like to allow them to be looking at another enterprise five years down the track. I think that is the issue: where will a freehold property be in five, 10 or 20 years time? We do not know where it will be. We think it will be more sustainable if it is a mixed farming operation.

Senator BUCKLAND—We have heard this afternoon from a couple of groups. I do not think you were here, so you would not have heard the evidence. We heard from a progress association and a tourism association. Do you think that the further development of the land that you currently use could increase the potential for tourism?

Mr Kenny—Absolutely. It has everywhere else in Australia. If you follow the cotton areas in Australia, you follow the tourism dollars into those areas. It is clearly defined and well researched that where there is agricultural development tourism goes up. Sorry, Billy.

Senator HEFFERNAN—Were you consulted about the political decision of the government not to go into cotton in the Territory?

Mr Kenny—No.

Senator BUCKLAND—Do you have an opinion on that? We have heard varying views on that. We have also heard a few private ones here today, not as part of the formal hearing. Do you have a view as to why it should not go ahead?

Mr Kenny—I think the trials which are taking place in Katherine should maintain their position. The amount of money that is going into those trials is helping to provide information, across a range of different crops, on soil nutrition, pests and pest management and irrigation management. As those trials develop we are gathering information for other crops. I think that is useful. Do I think cotton would come to the Territory? I think you would have to look at a \$20 million gin and I think you would have to have 5,000 hectares behind it and someone with a large amount of money. I cannot see it happening. I think there are far more suitable ways to make money in primary production.

Senator BUCKLAND—Can we put aside the massive amount of money that you might need, because I always believe that there is someone out there who, if they are given the opportunity, will get that money together and develop. Is there that 5,000 hectares? I am told that my idea of buying the little farm that we were shown here today and setting up a few cotton plants is not going to work. Would there be that 5,000 hectares of suitable land in the Katherine-Daly basin?

Mr Kenny—I do not really want to talk about cotton, but I can tell you now that—

Senator BUCKLAND—That is all that I am talking about.

Mr Kenny—It is certainly outside my knowledge of the cattle side of things.

Senator HEFFERNAN—If you do not want to talk about it, just say you do not want to talk about it and do not talk about it.

Mr Kenny—We would like to be consulted. We have a very high-quality product that we export around the world. We exported 240,000 head of cattle last year. We want to make sure that that product maintains its high status. So if cotton were to come here, we would like to be well and truly briefed across the matter.

Senator BUCKLAND—I would trust that that would be part of doing anything of that nature.

Senator HEFFERNAN—Why could that cotton not come out of Moree?

Mr Kenny—Where?

Senator HEFFERNAN—Moree, where they grow all the cotton.

Mr Kenny—There are some good cattle down in Moree, but, again, there are big problems in regard to the neighbouring properties. We could talk about Helix, for example.

Senator HEFFERNAN—I think you could learn from that.

Mr Kenny—Certainly, but we come back to these other crops—there are certainly other crops we could have a look at.

CHAIR—I would like to ask a quick question following on from what Senator Buckland was saying in relation to the cotton issue itself. If the Cattleman's Association has had particular views about that for some time, why has it become a prominent issue in the way that it has, both in terms of the Chief Minister needing to put out a press release to deal with that particular crop and in terms of it being reported in the media in the south-eastern part of the country? What has driven that?

Mr Kenny—You guys are involved in politics; you know exactly how the game is played. Cotton is certainly one issue to hang a moratorium off; dams are another one to hang a moratorium off. You can have a look at the land clearing guidelines. You can have a look at the water allocation and the 80-20 rule. When you flip that around, that is what is happening in the Murray: 80 per cent is going to the environment and 20 per cent to the other users. Cotton is just very topical.

Senator HEFFERNAN—We are trying to be fair to everyone. If the live export of cattle was blocked tomorrow by the group of people who want to do that, it would have a catastrophic effect on wealth creation in the Territory. You make clear, because of a vested interest, a particular angle, but we will not.

Mr Kenny—I can understand that. I would not like anyone to instantly put their hand up and say, 'We are not going to produce cattle in the Northern Territory again.'

Senator HEFFERNAN—Certain sections of the community think that live cattle export is the devil's work.

Mr Kenny—Sure. We are a completely different regime up here. We are a short-haul industry. Our cattle leave from the port of Darwin and take between four and six days to get overseas. They generally put on weight during that period of time.

CHAIR—I would like to ask one final question, although I fear it may open up more discussion. Does the Cattleman's Association have a view in relation to a national water trading system? We have heard some views this morning. The general view seems to be one of either limited support, depending upon certain conditions or circumstances, or no support whatsoever. I just wondered whether your association has had time to review what has been spoken about through COAG and whether you might convey that view to the committee.

Mr Kenny—Trading is an interesting issue. We have a long-term view of it, I suppose, in the sense that we do not mind trading as long as the water is traded within the same sort of water resource—in other words, the same aquifer.

Senator HEFFERNAN—So you do not mind who owns it?

Mr Kenny—I do not think so; it just needs to be tied to a property.

Senator HEFFERNAN—So you are happy if Thames London owns the water?

Mr Kenny—It is moving that way. We believe that it is a resource—

Senator HEFFERNAN—I do not think you have thought about it. Do you think anyone can own water?

Mr Kenny—As long as it is tied to the property. We should be able to trade that water or lease that water out to somebody within that aquifer, but it should stay with that property.

Senator HEFFERNAN—So you do not think there should be a paper market in water?

Mr Kenny—No.

Senator HEFFERNAN—That is better.

Mr Kenny—But it should be able to be leased or traded within the aquifer.

CHAIR—Thank you, Mr Kenny, for appearing today. I do not believe we requested any additional information.

Mr Kenny—Yes, there was a request to do with the land clearing guidelines.

CHAIR—That is right. The secretary will be in touch with you about that. If there is anything that you need to speak to us about then feel free to contact the secretariat. Again, thank you.

[3.20 p.m.]

CASEY, Mr Mark Hector John, Chairman, Nauiyu Nambiyu Community Council

JACKSON, Dr Sue, Research Scientist, Commonwealth Scientific and Industrial Research Organisation

CHAIR—Welcome. Are there other witnesses appearing with you?

Dr Jackson—Mr Eddy Shields was unable to make it. I understand there has been some illness in his family.

CHAIR—I presume you have had a chance to witness the format of how we run the hearing. On our witness sheet it says you are from Tropical Ecosystems Research Centre, Northern Land Council. Can you clarify that?

Dr Jackson—That is a mistake.

CHAIR—So it is the CSIRO?

Dr Jackson—The Northern Land Council was hoping for there to be Aboriginal participation because the focus of my submission is on that dimension of your area of interest—the two were combined. As I mentioned, one of the regional counsellors from the Northern Land Council has been unable to attend today but Mark Casey from the council at Nauiyu is here.

CHAIR—Do you have any opening remarks?

Dr Jackson—I have made a written submission but I understand that Mark has not, so it might be best if he makes some opening remarks.

CHAIR—We have allocated up to one hour for your appearance, so there is an opportunity for you to give us a very quick summary of the submission. We have heard from you earlier today, Mr Casey. I do not know if you have material additional to what you presented earlier today. I will leave it open to you as how you want to use the time available. I am pretty sure that, depending upon what you say, we will use all of the time, but your assistance in making opening remarks would assist that.

Dr Jackson—I have recently commenced research with the CSIRO that is concerned with Indigenous perspectives on the environment. My specific focus is looking at Aboriginal perspectives on water use, water consumption and what I am terming the ‘cultural values of water’. That focus has commenced in the Daly region and may eventually spread to the Kimberley.

Senator HEFFERNAN—Describe what that all means to someone who does not know what it means.

Dr Jackson—It is social research conducted with communities examining their attachment to water resources: how they have historically used them; how they have valued them according to their own cultural principles; what concerns they have about contemporary water use, future water use; and how they might like to be involved and engaged in participatory processes that are concerned with resource management.

Senator HEFFERNAN—Does that include whether they want to be farmers?

Dr Jackson—Yes, it does. In the experience to date that kind of interest has not been expressed in the Daly area.

Senator HEFFERNAN—Have you come across many budding farmers down there?

Dr Jackson—Not in the Daly but I understand that there is interest being expressed by Aboriginal people in the Ti Tree region, which has undergone a water planning process and where a water allocation plan has been developed. There is interest from that community in growing table grapes and perhaps other crops.

CHAIR—I notice from the executive summary that you have produced in your submission that there are a number of issues that have come about as a result of your collaboration with Indigenous people, particularly in the areas that we refer to. You might want to talk about the native title implications, particularly in terms of creating a water market, the emerging industries and the reliance upon water resources and what you see is the social, economic and cultural impact. It would be useful from our point of view to get that on the record and also it would assist in questioning and trying to unpackage some of those ideas or issues.

Dr Jackson—One of the main thrusts of my submission is that the water reform framework that has been progressing throughout the country has started to be applied to the Northern Territory, and one of the obvious issues here is how that framework and those reforms will affect Indigenous interests as a particular group in the community that have special cultural views on the environment, a specific history in particular regions where agricultural development might be proceeding and also some common law rights to aspects of the environment. There is a concern of how those kinds of reforms are going to affect that sector of the community and then how well any policy changes are addressing those concerns and what kind of—

Senator HEFFERNAN—Is that a sort of ownership thing? I do not see anyone as owning the water; but you might have a right to access the water. Are you defining that in some way differently?

Dr Jackson—I think it is up to the Indigenous communities in any particular area to decide for themselves how they would perceive their attachment to the water and whether they would say that they own elements such as water. If I can make the comparison to the sea and seawater, people do say that they own the water.

Senator HEFFERNAN—But then you have an argument about the air as well—who owns the air?

Dr Jackson—In these areas you can imagine seeing some quite significant differences between Western legal precepts that we take for granted now and Indigenous concepts that have developed in different circumstances. My research has not yet examined that aspect of an Indigenous interest in water. My concern really is with the adequacy of the public policy development processes and how well they engender debate across the community. That is where I can see inadequacies.

CHAIR—Can I ask you a question about that? I guess I am a little perplexed about that sort of statement, mostly from the point of view that, given that the land councils in the north have a legal interest, if you like, in many things in the Northern Territory, and more particularly as a stakeholder in the question of water reform, I find it hard to understand how it is that they are not involved in the process and are not being consulted or negotiated with, particularly with native title and the Northern Territory land rights act. Given that there are six Indigenous members of the Northern Territory Legislative Assembly, if there is not an adequate consultation or participation process, what is it that is not happening? We have not received a submission, as far as I know, from the Northern Land Council. I do not know whether we invited them to appear, although I am sure we did, but they have chosen not to. You will need to give me something that says, in relation to the issue you raise, whether it is a case of their being excluded because the Northern Territory government or the federal government have actively sought to exclude or that there has not been enough representation through the existing institution.

Dr Jackson—Neither government has established processes where they have actively pursued community engagement. You can amend legislation, but that can still be done in a way which, while it might not be technically exclusive—it is open to the public—people are not aware that it is going on, particularly community oriented people and people in regions. My concern would be to see a process designed where community involvement is actively encouraged and sought rather than a very minimalist one that does not do that. That has been the experience to date. In the case of the Daly, for example, one way in which community participation may have been encouraged would have been through the preparation of a water resources strategy or water allocation plan, which has not been released in any format for public comment despite the fact that other decisions have been made about development in that area. That has been of concern to people, particularly Aboriginal people, in the region. So in that specific case I would say that the planning processes have been quite exclusive.

CHAIR—Aren't the NLC and ATSIC both members of the community reference group which is being established to deal with the development of an integrated regional use plan for release over the next 12 months? Doesn't that deal with the issue you are raising?

Dr Jackson—It is a very important first step in acknowledging that the process has to be open, transparent and rigorous. The government has now made that acknowledgment and has taken steps to try to improve the level of participation. There will be a question of how well those organisations are resourced to be able to encourage that kind of participation from people on the ground. But there is no reason to suggest that the government will not be open to suggestions from organisations like the land council or ATSIC for ways of enhancing participation in the coming year.

Senator HEFFERNAN—Farley is the chairman. For God's sake—if he cannot get all that stuff up, I will eat my hat!

Dr Jackson—I would not see any in-principle problem at this stage. The problem has been with the recent developments in this area and the fact that the announcement you are talking about is very recent.

Senator HEFFERNAN—Do you think that there is a view out there—I still have not got my head around the CSIRO angle in this—from an Indigenous point of view, somehow like the sea thing, that there should be some ownership of the land and waters?

Dr Jackson—As I said before, I think native title issues will have to be determined on a case-by-case basis whereby the High Court recognises that native title is determined by an individual group, how they have organised themselves, and their attachment to their country. It is hard to generalise. As I said from the outset, my research is relatively recent in this area. I have not yet commenced work discussing those property rights dimensions.

Senator HEFFERNAN—Do you think there are some people who have it in the backs of their heads that there may be a separation of the land, the water and the air as a separate right?

Dr Jackson—Given my experience in working with Indigenous people, they would see that separation as an anathema.

Senator HEFFERNAN—I certainly would.

Dr Jackson—In fact, they would say that there are obvious elemental connections between land and water and that separating those rights to resources like land and water would be contrary to their view of the world. To draw a comparison with the sea, I did some work with the Bardi people in the Kimberley, north of Broome, and they expressed that view very strongly. They felt that having rights only over the land caused great problems for them in not being able to extend any say over the maritime zone.

Senator HEFFERNAN—I understand that, but you could extend this argument to the ridiculous. If you drive through country and breathe the air, does that mean you have to pay dues to someone who has the rights to the air over that country? We put it in much the same way this morning with the rivers which flow into the Ord in Western Australia. A lot of that water comes from the Territory. Is the Territory going to make a claim on that water and charge et cetera? It is the same sort of concept. It would be a fearsome thing in my mind if I thought that some proposition in that regard were being developed here.

Dr Jackson—I think, in the first instance, people are going to be talking about protecting customary rights of use, and that most legal judgments today have not seen their way to affording people commercial interests in certain resources like fish and, indeed, salt water. I would say that most people are going to be talking about protecting their customary rights to the use of water resources—

Senator HEFFERNAN—I do not think any reasonable person is going to argue against that.

Dr Jackson—and ensuring that traditional practices can continue as they are to be protected under the Native Title Act.

Senator HEFFERNAN—It would be un-Australian not to.

Dr Jackson—You asked a question about the social, cultural and environmental impacts of various water resource developments. I can talk about the Daly. I am not sure, having missed this morning's presentation from the council, how much Mark has spoken about this. But there is a very strong concern in the community about the downstream effects of agricultural developments and a perception that the scientific community and the broader community do not appreciate the extent of the damage already done to the river through historical land use change and historical use of the catchment. That damage may not have been done in the last couple of years; it might have been done in the last 100 years. That kind of research still needs to be done in order to reconstruct those environmental histories and to be able to attribute any problems that are evident to various land use practices.

Senator HEFFERNAN—If I can just go back, you were given a task by the CSIRO. Give me just two sentences on what you see your task as being.

Dr Jackson—I am examining Indigenous perspectives on the environment. I am specifically looking at how Aboriginal people are attached to river systems—how they use them and how they value them—and their involvement in water resource management.

Senator HEFFERNAN—Are you the only person in the CSIRO who is doing that?

Dr Jackson—Yes.

Senator HEFFERNAN—The CSIRO is a very diverse community.

Dr Jackson—They have recognised that the social and economic dimensions of a lot of resource management issues are quite important and are trying to develop their capacity to usefully address them. Particularly in north Australia, with the significance of the Aboriginal population in total numbers and the significance of Aboriginal land-holdings, there is a need to understand the cross-cultural aspects of that.

Senator HEFFERNAN—In regard to some of the what I call 'sit-down' country, although that might be an unfashionable sort of a word, do you think that in the long term—in a fifty-year snapshot—the coming generations will say, 'Shit; why don't we get out there and make a quid out of this country?'

Mr Casey—We do not believe that we should change something that has been our Dreaming; our spirit. We do not have that right.

Senator HEFFERNAN—But Mistake Creek, for instance, is a pretty successful Aboriginal cattle station. Originally it would not have been a cattle station.

Mr Casey—Yes.

Senator HEFFERNAN—Are they destroying the Dreaming down there?

Mr Casey—I cannot talk for those people, whether I agree with them or not. They want to go into private enterprise and do what they are doing and they are saving the spiritual side of their culture. That is good.

Senator HEFFERNAN—It is possible to do both, isn't it?

Mr Casey—The Daly is the country of the Wagiman and the Wardaman and the Nanggummerri. Where we are talking about now—

Senator HEFFERNAN—Is that your country? Where is your country?

Mr Casey—No. That is my mother's country. They do not believe it should change, because that is the Dreaming; that is the spirit.

Senator HEFFERNAN—But do they think there should be cattle wandering around the country there?

Mr Casey—Cattle have been put on there anyway.

Senator HEFFERNAN—So in principle they are not happy with that.

Mr Casey—No, they are not. They do not like the land clearing because it is not taking sites of significance and sacred sites into account. Even the dropping of the river they do not like. It may just look like a rock bar to somebody but that rock bar is a site of significance because it is in the Dreaming.

Senator HEFFERNAN—I was at Noonkanbah a year or two ago and three brothers came in from Leopold and said, 'We're sick of all this land rights bullshit. We don't want 20,000 cattle for the mob; we want 500 cows for ourselves.' If young blokes in the future say, 'I wouldn't mind sending my kids to university et cetera. I might get stuck into a bit of this farming,' it is possible to farm without destroying the Dreaming, isn't it?

Mr Casey—Yes. You are saying we need progress. Yes, we need progress. Our kids have to go to school because they are in a society now where they have to learn the white man's way, but they also have to retain their traditional way.

Senator HEFFERNAN—Yes. I am all for that.

Mr Casey—If three or four people from a certain language group or tribe go and raise cattle, they can be allocated space if the old people, the traditional owners, say yes. But, if the traditional owners, the old people, say no, then no it is. It is up to the old people who made the law and who are the only people who can change the law.

Senator HEFFERNAN—But is it possible? This CSIRO study is very interesting to me because, if you apply science and not a lot of commonsense, you can often come up with some pretty scary stuff. But it must be possible for one of the original owners to do something on the land that has not happened there in years gone by that will not destroy the Dreaming, as it were.

Mr Casey—Yes.

Senator HEFFERNAN—So you could actually grow a paddock of spuds or something?

Mr Casey—Yes, you could, like with Stray Creek. It has happened. Peppimenarti community is part of my place. It is being done there at Palumpa station.

Senator HEFFERNAN—So there is no great impediment, shall I say, in a 100-year landscape for a lot of—

Mr Casey—But these places were never cleared.

Senator HEFFERNAN—No, but there is no great impediment for a lot of the sit-down country now to be wake-up country and to be rebuilt as a financial investment?

Mr Casey—Yes.

Senator HEFFERNAN—Probably part of that thinking is a very positive way of looking at it, whereas I think a negative way of looking at some of these things is to say that what has happened in the past has to happen in the future.

Mr Casey—Yes. We are talking about us having control over our land. That is what we are talking about. But, when somebody else comes in and wants to start interfering with our sites, it is a different matter.

Senator HEFFERNAN—That is not what I am talking about.

Mr Casey—I know.

Senator HEFFERNAN—We ran into a bit of a problem yesterday at Kununurra, where development has pulled up because of the local negotiations through the KLC, and the local mob are very unhappy about some of the KLC stuff. It was suggested by the farmers there that to facilitate the progress from 14,000 hectares of potential development from the Argyle dam to 70,000 hectares maybe they would be prepared to turn the country into some sort of leasehold where they would pay the local TO mob a lease every year. Do you think that is a sound principle?

Mr Casey—That is for the individual land-holders and landowners. For me personally, no.

Senator HEFFERNAN—But say you—and I am not aware of the individual cases—had a bit of country that you got ownership of and did not want to work yourself. Would there be any impediment in your mind to leasing it to someone who was going to run a few cattle on it? Would you do that?

Mr Casey—No.

Senator HEFFERNAN—You would leave it as sit-down country?

Mr Casey—Yes, because this place we are talking about here is country where my mother hunted, fished and did everything. Now mum is dead and I have an 11-month-old daughter. I want her to enjoy that same river that mum looked after and that I was born by and washed in at birth. I want her to enjoy that too.

Senator HEFFERNAN—There would be no-one who disagrees with that. We do not disagree with that.

Mr Casey—Yes. That is why I do not like my land to be—

Senator HEFFERNAN—But the water that flows through your land—

Mr Casey—You can look at it as an escape from reality too. I can forget about up here. I may be a long grasser up here, then I go home.

Senator HEFFERNAN—I do the same. I put the dogs in the ute and go down the paddock.

Mr Casey—Yes. When I go home that river does the same thing for me. Then, bang, I hit the Douglas River, and I see all these Brahmin cattle looking at me.

Senator HEFFERNAN—This is just a complication in this debate to get these sorts of issues on our records, so if you do not mind me just pursuing you on this. I guess for a lot of non-Indigenous Australians this is all part of education, the same as land care is education, and this is education for how the original owners think about all this stuff. The water that flows through your mother's country then flows on to someone else's country—

Mr Casey—Yes, it comes from somebody else's and comes into mine and continues on, yes.

Senator HEFFERNAN—So you would accept that you do not own the water though.

Mr Casey—When it is on my land it is.

Senator HEFFERNAN—But it is like walking across a bridge.

Mr Casey—That is right, but for that period that it is there from Beeboom Crossing back up to Ooloo Crossing it is mine—what happens after that is not. You see, while it is there it is mine.

Senator HEFFERNAN—So what does that ownership in your mind entitle you to do with the water on its way through? Should you be charging rent from the bloke further down?

Mr Casey—That never ever entered into the equation because we use it for what it was—drinking, fishing, and that is it.

Senator HEFFERNAN—The government this morning said that they are thinking about 20 per cent extraction after a metre fall in the top peak of the flood—they would allow perhaps 20 per cent. Do you think that is—

Mr Casey—Sure.

Senator HEFFERNAN—Do you have a problem with that?

Mr Casey—No, I do not have a problem with that because that water is useless to us anyway because it is dirty; it is full of dirt. What can we get out of it? Nothing. We cannot get fish, we cannot get turtle. We have to wait until it comes back down again within the river banks and down to four or five metres and it starts clearing up and then we can fish and get our turtle.

CHAIR—I want to try to put in a nutshell the issue that you are raising. As a stakeholder with a legitimate interest—whether that interest is brought about through Western law under native title or the land rights act or under cultural law—the process by which the legitimacy of the stakeholding that you have is taken into account is really the issue that you are highlighting to us today and whether or not that is being dealt with adequately. I think you said earlier that the community reference group is a good step in the right direction, but there are other things—and I note here in the submission that Dr Jackson put in a reference to a report by Dr Jon Altman at CAPA at the ANU about water property rights. We have not met with him and I presume we will need to chase up a copy of that report as well; we might even get him to come before the committee in Canberra. But that is essentially what you are talking about in terms of the Senate inquiry into the COAG water reform process as it applies to traditional owners and the cultural values as well as the social and economic outcomes. Is that right?

Dr Jackson—Yes.

Senator HEFFERNAN—Do you have any little amber lights flashing on what is happening?

Dr Jackson—With respect to what aspects?

Senator HEFFERNAN—Just a general community view or a misunderstanding of Mr Casey's dreaming—do you think that we are getting it wrong or we are in danger of somehow coming into serious conflict?

Dr Jackson—Yes, there are a couple of areas I can speak to. One is the general problem of the excluding of already marginalised communities from important debates about resources and environmental protection at the catchment level. So that is a general social impact of further alienation and marginalisation of communities that already feel that they have been excluded for many years. That generates worry and consternation, and that is very obvious in the communities in the Daly right now.

The second area—and this is touched on in my submission and it is one I hope to do more work on in the coming years—is looking at how water quality can be determined to satisfy a different cultural perspective on the environment. At the moment scientific measures determine beneficial uses, and we have targets and guidelines for determining water quality that meet certain beneficial uses or environmental values. It relates to how we are going to operationalise those, I suppose, in a context where Aboriginal people have specific cultural values that may not be obvious to others. For example, with the Daly one issue that has come up—it does not relate so closely to water quality but perhaps it could—is the question of sacred sites in the riverbed

including those that need to be covered constantly by water. What happens if water flow drops to the point where those sites are revealed?

Senator HEFFERNAN—They would be revealed now, wouldn't they?

Dr Jackson—I am sorry, I mean if the river ceased to flow.

Senator HEFFERNAN—You could see plenty of those sacred sites now.

Mr Casey—You can see them now, yes. You could not see them before.

Senator HEFFERNAN—Surely that is nature at work.

Dr Jackson—Not in a river that is constantly flowing.

Senator HEFFERNAN—But the river does not constantly flow.

Mr Casey—It does.

Senator HEFFERNAN—It flows at a very low ebb.

Dr Jackson—Yes.

Senator HEFFERNAN—What is wrong with that?

Dr Jackson—If people say those dangerous elements in the bed should not be exposed to air and then they are exposed, that will cause consternation to those communities.

Senator HEFFERNAN—But surely, if there is a drought or a dry time and the aquifers that contribute to the river get to a low point, that has to be dealt with as part of nature.

Dr Jackson—I would expect that those communities have ways of dealing with those kinds of situations and I would expect that, given that kind of flux, they do. But it is an issue that is raised now that is not being taken into account—

Senator HEFFERNAN—Yes, it is important that we understand that.

Dr Jackson—in current water resource management planning. I have had brief discussions with Territory government officials and they would like to know how to do this kind of work—how to incorporate those kinds of values. That has not been done to date. There is interest; there is an expectation that it needs to be done, given national reforms and the importance of Indigenous involvement in all of this. It is just that these methodologies have not yet been developed. I think it is a question of the kind of priority that is being given to them.

For example, I will just finish with the Ti Tree water allocation process. In that area I think 80 per cent of ground water has been allocated to irrigation and other uses. In the absence of any knowledge about the cultural values of ground water that strategy commits the government to

examining those values in coming years and in fact puts it as an action for the year 2003. However, I understand that research has not been conducted. So you have ground water being allocated in the absence of knowledge about the cultural values. You would expect in a desert region that there would be cultural values in ground water. I would expect that to be the case, although I do not know that region.

Senator HEFFERNAN—I think the gentleman who is sitting at the back of the room looking through his specs told us this morning that perhaps there was a government decision to mine some of that aquifer down there. When that was said a little amber light went off in the back of my head. We often miscalculate the rate at which something like that should be done and the whole environment can be absolutely destroyed. The committee is very interested in things like that. Yesterday, for instance, we were faced with a dilemma in that the creation of the Argyle Dam—and I think it could be argued that the Snowy River probably would not have been built under the constraints existing in the community today—had itself created two new wetlands even as we are damaging one of the original wetlands. These are the kinds of things we have to tussle with.

CHAIR—But, just to finish up, isn't it also an issue that is being raised more in the context of the interplay between the policy regime that might be in place for water resource management and cultural site protection or heritage protection—that is, the Northern Territory Aboriginal Sacred Sites Act and the federal heritage legislation? Isn't that what the issue really is?

Dr Jackson—I am not aware of any instance where an environmental planning process has triggered the sites act. So for the Daly region, as far as I understand, there is no development proposal on the table. People are aware of an expectation that it will grow in future years and that a land use structure plan will be prepared. You would need to make sure that those processes mesh—that is right.

CHAIR—I am not familiar with the sites protection act of the Northern Territory, but I am presuming that what we are talking about here, with something like the Daly River for example, is the recording and registering of sites that are of high cultural significance to the local traditional owners. If there is a development application then presumably anything that is done by the government, particularly about water plans or future plans, takes the cultural values into account as a result of other policies that the government has in place.

Dr Jackson—And indirect impacts too, because you might run into problems under the sites act with the indirect nature of some of these impacts: taking water out upstream has indirect impacts downstream. Yes, it is an area that needs more investigation.

Mr Casey—The aquifer up towards Hayes Creek, where the Douglas hot springs are, just comes straight out of the ground. If you take that water from further down, it will stop that aquifer. It will also stop the hot springs coming out and it will stop feeding the Douglas River, which is spring fed from the same aquifer. Over at Stray Creek, you only need to go down a few metres and the water comes out at 200 litres a minute.

CHAIR—I certainly see it as an important and significant issue, although it has not come up in other parts of the inquiry. I know that at Lake Victoria in New South Wales, which is used as a backwater pond for the Murray-Darling, there are 15,000 Indigenous burial sites there—

depending on whether the water is up or down. The Murray-Darling Basin Commission are aware of that; they have been taking that into account with their water management. They are there on the radar but on the edges, and we have an obligation to bring it forward in a much more prominent way.

Mr Casey—I have a book here by the anthropologist Betty Meehan who went right through there; Mum took her through there with the old people. If anything should happen to some of those sites through strangers, lo and behold; I have got the book there about the sacred sites. Those are sacred sites and they are now being interfered with.

Senator HEFFERNAN—By whom?

Mr Casey—By the people who are clearing the land.

CHAIR—Does the committee have any more questions for the witnesses?

Senator HEFFERNAN—I would love to go on for an hour or two, but I had better not.

CHAIR—Do you have any other comments you wish to make? Do you want to add to what you have already said or point out things that have not been brought to the attention of the committee?

Dr Jackson—I would like to follow on from your comment about the adequacy of public participation in policy debates. I want to turn to an example from Western Australia where the water reforms generated a great deal of discussion. Public research institutions were commissioned by the Water and Rivers Commission to publish research and to hold seminars. There are at least five volumes on water law reform in WA. The Water and Rivers Commission has also commissioned research into the Aboriginal cultural values of water bodies—particularly ground water in the case of the Broome region, the Canning Basin and the Ord. So there are instances in other jurisdictions where this kind of work is commencing and I would say that, given the substantial numbers of Aboriginal people and their land-holdings and their connection to the country in the Northern Territory, that kind of work should be fostered here.

Senator HEFFERNAN—I have got no idea; all I have got are wool-classing and welding certificates—I have not got much. Do you think there is room, in the talks you have had and the study you have done, for the Indigenous community to take steps to take advantage of some of the resources in their country?

Dr Jackson—Firstly, I think they already are with their very heavy dependence on the subsistence economy. That has not been quantified to any great extent—the volume of fish and aquatic life that people are relying on. If you are talking about a market—

Senator HEFFERNAN—Can I just define it a bit more for you? I have run into a lot of people—Indigenous people—who want to go to uni, buy a unit on the water in Sydney or want to get away somewhere. You also run into a lot of people who still want to live in the desert. We must make provision for the people who want to make an income out of their country rather than live traditionally—who want to live non-traditionally, if I can put it that way. Do you have that sort of stuff in the scope of your study?

Dr Jackson—My research is not examining specifically how people may participate in economic opportunities in the area.

Senator HEFFERNAN—Do you wish it was? Is it incomplete study?

Dr Jackson—Research that I would like to see done in the area would be research that tries to estimate some kind of economic value of a healthy river system which would include Aboriginal subsistence use and then look at what kind of trade-offs you need to make. At the moment we do not have that kind of information, so decisions tend to be made using orthodox development models—more cattle, more horticulture etc—instead of looking at what economic contribution other industries could make to the region or how current industries might be adversely or positively affected by the kinds of developments that are being planned. CSIRO is very interested in trying to develop a better understanding of the regional economy in that Daly region and how a healthy river system contributes to that regional economy.

Senator HEFFERNAN—It is a question to my mind of making provision for people who want to live in a community versus people who want to live in their own house, have their own TV and not share it with the rest of the street, as it were, if you know what I mean.

Dr Jackson—Yes. I suppose it is up to—

CHAIR—Perhaps I could try and clarify or assist in giving some clarity to what you are asking, Senator Heffernan. On the idea that you are putting forward to do with cultural values, I guess the question is: is that an idea that is exclusive in the sense of rejecting ideas to do with whether it is community development activity in the economic forum or individuals within the community who want to do economics? Certainly from my experience they have been compatible ideas and ventures in many Indigenous communities across the country. I think Senator Heffernan probably needs to hear whether in what is being put forward you are talking about something that is so pristine in its form that it excludes everything else—and, if so, how would that work in today's circumstances?—or are you talking about examples of many things that the town council might do, or the Peppimenarti example that Mark mentioned as well?

Dr Jackson—It is probably best that Mark talk as a long-term resident of that area.

CHAIR—In other words, people want to do both.

Dr Jackson—Yes, and that is the struggle for many populations across the world, isn't it? It is how to do it carefully and sustainably. I have not directly asked people if they are for or against any kind of development. Most of the discussion at the moment has developed in the current context of some controversy. There has been a preoccupation with a feeling of threat, so that is the context in which I have been working in the last few months.

Senator HEFFERNAN—Can I just give you a little analogy. Down at Condobolin, at Murrumbidgee, there is a bloke called Rambo Rich; we nicknamed him 'Rambo' as he took after a mob with an axe one day. He rang me up, in the middle of a drought, from Booberoy—the block where they have 20,000 acres—and said, 'Mate, can you talk to the local mob? My horses are starving and I want to put 100 acres of oats on 28,000 acres of land where there was no crop at all.' I said, 'That sounds pretty bloody sensible to me' so I rang up the mob and in a

day or two they came back and said, 'No, no. Rambo can't have 100 acres of oats for his horses because there is no community benefit.' For a bloke like Rambo that was devastation that they were the rules. So I would hope that in your study you would try to draw out a bit of that from people who have this other aspiration.

CHAIR—That might have been an economic consideration, Senator Heffernan. Are there any other comments?

Mr Casey—In the Dreamtime, all the animals came together to have a corroboree. They asked sand frog to come along, but he said no. When all the other animals had left, sand frog said, 'I will do something to these animals.' So he went away and drank up all the water from the rivers, the creeks and the billabongs. The animals were having their corroboree and they got thirsty. They went looking for water but could not find any. Bush bee flew around and found a billabong that had just been emptied. He saw, sitting on a big rock, sand frog. He flew back down and told all the other animals where sand frog was; so that all went over to see sand frog. They said, 'Give us back our water; we are thirsty.' He said no and ignored them. So they got their weapons and threw them at him, hitting him to try to get him to release the water—but he would not. Brolga grabbed a spear and flew up high. He threw the spear, hitting sand frog in the guts. All the water came out, filling up the rivers, creeks and billabongs again. All the animals were happy. They drank and they continued their corroboree. Today, you will never see a sand frog in the dry season. He is buried deep in the sand, too ashamed to come out. Thank you.

CHAIR—Thank you. We will finish on that note. I thank Dr Jackson and Mr Casey, again, for appearing.

Dr Jackson—I have some information on the work of the CSIRO here in Darwin if you would like it.

CHAIR—Thank you, that would be wonderful.

[4.08 p.m.]

REA, Dr Naomi, Associate Dean, Research and Postgraduate Studies, and Lecturer, Resource Management, Charles Darwin University

CHAIR—Dr Rea, I welcome you to the committee's hearing today. I invite you to make some opening remarks before we go to questions.

Dr Rea—Thank you. The summary in my submission reads:

The following is a general discussion, centred around issues pertaining to rural water resource management in the NT. The comments are intended to place the current and past situation into perspective, as opposed to identifying key directions and recommendations. The historical circumstances are considered relevant context. Some solutions are put forward as suggestions to the committee about much needed reform.

The three areas where I have made comment are: firstly, the lack of a water management process—the lack of a framework and the inadequate institutional structures within the government to support sustainable and equitable water use; secondly, Indigenous issues; and, thirdly, some of the underlying reasons for the status quo.

CHAIR—Do you wish to provide us with some details of those three broad areas that you talked about? I noticed that on the water management process—or the lack thereof—you refer to issues that have arisen since the COAG meeting in 1994-95, so you might want to bring particular things to our attention, such as the issue of poor legislation. I am presuming that you have taken a broad-brush approach to looking at the water legislation in each of the states and territories, but there may be something in particular you want to raise about the Northern Territory framework. You heard the issues that were raised by the previous witnesses, so there may be comments you want to make in the context of both what you have put forward and what has been said.

Dr Rea—In the first area, which is the lack of a management process or legislation, there were two reviews in 2001 and there has been little change since then. I have summarised some of the conclusions of those reports—Nevill 2001 and the CRC for Freshwater Ecology, Jones et al, 2001. I have dot pointed some of the findings of those reports. My previous position with the Northern Territory government was for about 4½ years and, prior to coming to the Territory eight years ago, I worked in water resource management in New South Wales. My background is as a freshwater ecologist for 20 years, working on environmental water requirements.

I was struck, when I arrived in the Northern Territory, by how minimalist the approach was to water management—and there has been very little change to date. The water act stands out because of what it fails to say. It is an extremely slim document. In terms of the lack of a management process, jurisdictions were required in the 1998 first tranche assessment to have a process, a step-by-step process with boxes to tick, which made water allocation and assessment transparent and accountable, and repeatable between different catchments. We still do not have that process in place. That means that when water resources are being developed it is 'anything goes'. There is no requirement to do certain things because these boxes are not there to tick.

The water resource management strategy in Ti Tree came four or five years after that irrigation development was under way. It is 17 short pages. It is an extremely slim document, as I said. As Sue Jackson said, there is an absence of knowledge about the cultural values of the Ti Tree region. At the time, we told the government that there were significant environmental values. The aquifer discharge is to a swamp called Sterling Swamp, in which there is a threatened species. There was no action taken on that recommendation. To say that there are no cultural values is quite astounding. The Anmatjere region has a significant Aboriginal population and their participation has been restricted by the process not being amenable to or allowing enough time and so on for meaningful representations from those communities. One member of the Anmatjere council has a seat on the water advisory committee. There are no representatives from environmental groups on that committee. That person went on two occasions and found it quite difficult. The language being used was new and foreign. Indigenous representation on that advisory council has not continued. I believe the CLC have nominated someone to participate on their behalf, but again that has not been resolved.

I am getting off the track here, but Indigenous people in the Anmatjere region, which is the one area where we have a strategy and an advisory committee, have been left out of the management process. They were promised upwards of 1,000 jobs on the Ti Tree farms. I was in Alice Springs the other day talking to people from the area and they said there is no Aboriginal participation—the jobs are going to migrant workers from the Riverland. The lack of a management process is what is holding things back, and at present the government are hamstrung by this in the Daly basin. The inadequate legislation is also preventing them from being able to do things and roll out processes in a meaningful way.

There are plenty of guidelines and frameworks available on the Net. There is the national action plan attached to NHT2 funding and there are the COAG water reforms—there is a whole raft of examples and opportunities for the Northern Territory to pick up where other jurisdictions have left off. It is really a gift; the Northern Territory IC is in a position where we can learn from other people's mistakes. Those initiatives have not been taken up. There has been a reluctance to take up Commonwealth initiatives and opportunities, and I think over the last 10 years or so since the COAG water reforms process began there has been no development of institutional structures in the Northern Territory government.

The Controller of Water Resources position is still essentially an office of one. There have been a number of small contracts and positions attached to that particular office but the legislation, the pricing, the trading, the legislative changes, the environmental allocation, the assessment—the whole raft of considerations necessary to meet those commitments which our ARMCANZ and ANZAC ministers signed off on—are still the domain of a single person. So the government has not taken the opportunity to build a water resource management unit, to develop a framework, to endorse process. We do not have a water policy in place.

In this environment it is very difficult and, with the increasing public awareness which is taking place at the moment, it is very difficult for the government to know what to do. I feel that they are possibly in a situation of having to play catch-up very quickly and make decisions to try and accommodate, for instance, some of the Commonwealth requirements for NHT2 funding such as integrated natural resource management planning in priority areas such as the Daly Basin, which is earmarked for development. So this is sort of management on the run.

Senator HEFFERNAN—That is all pretty scary. I think there is going to be a substantial culture shock in the Northern Territory in the near future on water. In your submission, you say:

Mining companies, a significant user of water in rural districts, are exempt ... water can be mined to the extent of completely de-watering aquifers and this has occurred more than once.

Can you tell us where and how?

Dr Rea—There is a mine in Pine Creek which has de-watered an aquifer. The Nabalco mine, which is now called Alcan, at Nhulunbuy is also on the second aquifer.

Senator HEFFERNAN—How old is the water we are talking about? Is this short-term 30-year water, 1,000-year water or what?

Dr Rea—The water in the north is younger water. It is recharged annually and, because the aquifers are held under pressure, that water is also discharged so that there is plenty of ground water ecosystems in this environment. In the arid area the water is a lot older and discharges less frequently.

Senator HEFFERNAN—Do you know of any arid long-term water that has been mined to the point where it is—

Dr Rea—I think Alice Springs has a water supply issue. I think they are on their second aquifer or possibly their third. They are having to implement restrictions that recognise that these underwater dams or aquifers are not necessarily renewable.

Senator HEFFERNAN—One piece of your submission jumped out at me. You said:

No trading rules have been developed. The NT submission argues that until there is resource scarcity, there will not be the demand to drive water trading.

I would have thought that was reverse psychology in effect because, if you want to make a water saving, you ought to put some value on the water so that there is some sort of penalty for waste. Is that a fair statement that there is no resource scarcity?

Dr Rea—The statement is a quote from the Northern Territory report to COAG that was assessed by Jones et al in 2001. It is included there as one of their findings to demonstrate one of the areas in which they thought that the commitment had been inadequately addressed. I am sorry; can you repeat the question?

Senator HEFFERNAN—I was just wondering whether you think it is a fair statement that there is not a resource scarcity, given that we heard evidence earlier from the Controller of Water Resources that there was some sort of sensible proposition to perhaps use 20 per cent of the ground water resource to protect the environment et cetera. We are only talking some hundreds of gigalitres of water. I would have thought there is a scarcity of water which is going to become very valuable.

Dr Rea—Yes. There is a misconception and an awareness throughout Australia that there is unlimited water and untapped potential in the north. Indeed there is a lot of water in the wet season, but we also have a prolonged drought in which water is limited. In the wet season, that water is actually tied up in the environment. It already plays a vital role. Warren Truss's recent statement that 60 per cent of annual discharge flows from the northern rivers and 'We'll take the irrigators to the water; not the water to the irrigators' assumes that that water is in excess. In actual fact, that water runs off very quickly. It supports our commercial fisheries. Commercial fish catchers are known to be correlated to annual discharge. So the water is neither abundant nor scarce. It is already tied up. It has a role to play.

Senator HEFFERNAN—But there would be a cut-off figure. It might be that if you harvested 10 per cent of the water it would not interfere with the ecology et cetera, which would of course generate more water than we have got totally in the Murray-Darling Basin.

Dr Rea—The different ecological character of tropical rivers is a factor that we are only beginning to grasp an understanding of. I have quoted a report by Sandra Brizga in North Queensland, who calculated with a whole variety of hydrological statistics. She used performance indicators—no impact, minor impact and significant impact. She found, for a range of statistics, that extraction between nought and 10 per cent had no to minor impact, and between 10 to 20 per cent extraction had minor to major impact. The 20-80 rule was originally an interim figure, invented for the need to have something to report to COAG. It has not been formalised but it is not endorsed; it is not written into any legislation. It has got no statutory link. It was always touted as an interim rule, to be reviewed accordingly, and to expand from the present half-page to some sort of water allocation management process, which might be a 100-page document—something similar to the WAMPs in Queensland and other jurisdictions. This half-page 20-80 rule is dictating our allocation of water.

One of the problems is that then 20-80 rule draws a line, and environments do not work like that and neither do cultural considerations. Other stakeholders can say, 'We need 10 megalitres per day for six months of the year.' You can create a black box water model or water budget for a whole variety of stakeholders, but the environment, when it needs to be cued by variability, is not that simple. So the 20-80 rule is a risk in that it does draw that line and it is allowing allocation up to that level. We do not have the studies to determine what that means ecologically, economically, culturally, socially and recreationally to fisheries and so on.

Senator HEFFERNAN—That is blindingly apparent.

Dr Rea—There have been some environmental flow studies work. I was involved in a three-year project on the Daly River, in which we looked at environmental water requirements, and our studies focused on end of dry season flow. We recommended that the river, at a particular section where a particular value is identified, should not fall below 12 Q_{max} at the end of the dry season. There has been no work on wet season flows. When you are talking about extracting 20 per cent of wet season flows, that is a significant amount of water. The amount of water flowing for the six months of the year in the dry season is one to two per cent or something of the annual discharge, so 20 per cent of wet season flow is a very significant amount of water.

If there were flood harvesting into off-river storages that would have an ecological impact. We know from other river systems that every flow has a function. A particular first-flush flow,

breeding flows or overbank flows—those particular wet season flows, and particularly those peaks—enable the floods to get out of the river onto the floodplain to bring organic matter back into the system. The billabong carries millions of different micro-organisms that reseed the river and so those overbank flows are very significant.

They also play a geomorphological role in recarving the river in what they call ‘channel forming flow’. So there is a need for the 20-80 rule to be shelved while we look at a realistic way of assessing and allocating water and a methodology for determining environmental flows, which was also a requirement under COAG and is still not available. The announcement last week about no dams on the Daly did not mention off-farm dams. I think the idea has been accepted that damming the river will not occur, that private investment for that sort of infrastructure development is just not available and that the ecological impacts and so on would be too great in this era. But it has left the door open in terms of off-river dams and off-farm storages.

Senator HEFFERNAN—But there must be a cut-off point where that would be all right.

Dr Rea—Certainly. The sort of method that the Queensland people use in determining environmental flow allocations—I do not know whether you have seen the traffic—

Senator HEFFERNAN—No, don’t take us there because they have made a lot of mistakes.

Dr Rea—There are traffic light diagrams which go from green to orange to red and decision support tools are developed where the community decide on a particular option and they can make trade-offs. They can say that it is okay if the per cent of extraction is in the orange—they can accept that. They will be getting some water for some economic gain but they will be losing certain values. There is a green area between nought and 10 per cent where there is some fat in the system.

Senator HEFFERNAN—We have seen some pretty good cowboy rules in Queensland.

Senator BUCKLAND—On your comments in relation to the limitations to economic gain from water, I was interested that you tend to think that the problems confronting agricultural developers today are basically the same as they have been in the past—and you go back some 50 years. You highlight uncertain markets, the distance from paddock to plate, and the lack of infrastructure due to the expense of other things. Surely, if you look at that in the clear light of day, those three issues that I have just identified from this document are not as relevant today as they were 20 years ago, 30 years ago or 50 years ago. I have difficulty with that idea and I am hoping you can explain to me why it is the same today as it has been in the past. For instance, there is a ready market for quality produce. The distance from paddock to plate in real terms has decreased because of easy access to transport and, as for the lack of infrastructure, infrastructure in remote communities today is far better than it was in the past. So we have in fact put in place a lot of things to develop these areas. How do you come to that conclusion?

Dr Rea—Those particular limitations were in addition to the intractable pest problems, climate change, infertility and so on. If those limitations were not there, the developers would have put their money where their mouth is. There has been enormous interest amongst developers in the north, but to date there has been very little broadscale investment. The

development that is taking place is incremental, and it is by local people or people from the Kimberley and so on. I think it sends a very clear signal to government that, if those limitations were not there to water use, economic gain and irrigated agriculture and if clear profits could be made from water in the north, we would have seen development occur. The problems in the Kimberley and the myriad problems over the years in making the Ord profitable demonstrate that this is not an easy climate or an easy region in which to do business. The particular points that you mention—uncertain markets, distance from paddock to plate and lack of infrastructure—I believe are issues that have yet to be resolved sufficiently enough for developers to make those investments.

Senator BUCKLAND—You can even go through the other issues that you have raised—defoliating insects, the various birds and the plant pathogens—and say, ‘We’ve moved on a little bit since then; we are developing resistant strains to those problems; we’ve got better controls and we’ve got more knowledge.’ From hearing the evidence here today from the growers and those who want to see development, it seems to me there is an air of excitement about what the future can hold. I get a little concerned when what I think are artificial barriers to moving produce to market are put. I can remember the very first time I drove across the Nullarbor Plain.

Senator HEFFERNAN—Was that with a horse and sulky?

Senator BUCKLAND—I am old, but I am not that old. I can remember the great difficulty I had in the Volkswagen. It was very hard: it would fall down the potholes rather than drive over them. On that occasion, it took us four days to drive from Port Augusta to Perth. I can easily and comfortably do it now in fewer than four days: I can do it in a day and a bit. The same applies to the transportation of goods down from the north.

So, quite frankly, I find that statement lacking in sufficient merit to be used as a barrier. I understand what you are saying; I just think that relating the circumstances of today’s agriculture industry to what it was like 50 years ago is drawing the bow just a little bit too long. I understand, as we heard earlier, that cultural issues are the real issues which we have got to grapple with. I make those observations. I think that is being a little bit unfair and a little bit—

Dr Rea—Pessimistic.

Senator BUCKLAND—Pessimistic? That is your word. I do not know about that. There was a lot of optimism among the producers. I think there is an optimistic air about developing the north. Maybe as a nation we have not addressed the issue properly. As my colleague Senator Heffernan says, some of the real cock-ups we have made in the south cannot be allowed to occur here in the north.

Dr Rea—But they are.

Senator BUCKLAND—There is the potential that they could. There is no evidence that they have to any real degree.

Dr Rea—There is no evidence because there has been no monitoring. The little monitoring that has taken place indicates that there is significant change when there is significant land clearing and application of fertilisers to land. I take your point: I guess I would respond to that

that one of the requirements under COAG was the demonstration of economic viability and that has not occurred. The optimism you talk about is the same optimism that occurred in the eighties, the seventies, the sixties and the fifties. I commend to you a paper, *Davidson's Myth*, written in the early sixties. He rewrote it in the seventies. Wayne Mollah from the primary industries department here has also written about this. There are significant reviews and analyses of why agriculture has failed repeatedly. There have been attempts that have failed and there have been analyses of why that has occurred, and some of the points that I have mentioned here, which are limitations to economic gain, continue. The idea that there is a technological fix—that we now have these strains, pest control, markets, road trains and so on to overcome it—is optimistic. I do not believe that there is the infrastructure or the ability to deal with it.

In the Douglas-Daly region, the main problem with peanuts is brolgas. They have to grow six metres of peanuts and three metres of maize and then six metres of peanuts and three metres of maize so that the brolgas do not go onto the peanuts because they cannot see. The brolgas like to have open country, so they have a sacrificial crop around the outside. The ibis and the magpie geese are devastating the mung beans and so on. They have tried all sorts of controls to deal with this. The agriculture that is proceeding in the Daly basin is proceeding without a whole arm of government working on water use efficiency, whether it is economically viable, preventing nutrient run-off from paddocks into water courses and pesticide minimisation. The farmers are in a developers' paradise because they are being encouraged to settle and to build the north. It is that same dream and vision of the food bowl of Asia but it is without regulations, controls and costs. So, if for instance through COAG and other regulations there was a requirement to factor in externalities, impacts and costs of delivery, these farmers would not be there. In the last 30 years most of the farms in the Douglas-Daly region, where the initial clearing and subdivision of that first property took place, have changed hands seven times.

Senator BUCKLAND—Yes, you say that in this document.

Dr Rea—I would not say that they are not viable, but it is a very difficult place to farm.

Senator HEFFERNAN—Why is the Ord working and that is not working?

Dr Rea—The Ord has had a lot of money thrown at it over the years and if you look at it from other perspectives the Ord has not worked. It did not deliver what it was intended to deliver.

Senator HEFFERNAN—For God's sake, that is because they have only developed 14,000 hectares! Please give me some optimism so I do not jump out the window tonight!

Dr Rea—I think there is a whole variety of land use options in Northern Australia. One of the issues that I am concerned about at the moment with the new CRC for Irrigation Futures and other comments and the encouragement for people to come here is this misconception about abundant water and this idea that people can come from somewhere else and use water in other people's country. As we have seen with markets falling apart, and states like South Australia, Victoria and Tasmania having problems, there is much more of a patchwork of different opportunities on the land. There are fewer broadscale land use options.

Senator HEFFERNAN—What do you mean by ‘coming into other people’s country and using their water’?

Dr Rea—The consultation process that has been announced will look at all the residents in that region and anybody who has a stake in the place and will canvass what people would like to see in their environment. Over the last year or so it has emerged that the only people who really wanted this type of broadscale irrigated in the Daly basin, for example, was the bureaucracy.

Senator HEFFERNAN—When we say broadscale, we are talking about a bloody hundred acres; we are not talking about 20,000 acres! I consider that to be toy farming.

Dr Rae—I think the figures were slightly more than that.

Senator HEFFERNAN—Yes, but I mean individual broadacre farms—a few hundred acres at the best. Obviously, there is a lot of pressure on the Murray-Darling Basin. With the right science, the right studies etc, there must be an amount of water that we can take out of the system up here and farm it. What you have not talked about is the value of the water. One thing that is wrong up here at the present time is that no value has been put on the water. Value will drive what people do with the water; whether they decide to grow mung beans and let the broilgas eat it or whatever will be driven by the cost of the water. Can you give us a little bit of optimism? Are you opposed to irrigation?

Dr Rae—With any land use, the decision is made by the people who have a stake in the place. If people decide that irrigation is what they want to do, that is okay. It is the decision-making process and the involvement as a community in that that has been lacking to date.

Senator HEFFERNAN—We heard from cattlemen and various others this morning. Obviously, I am a mixed farmer. The reason I am a mixed farmer is that I do not like to put all my eggs in one basket because I do not go want to go broke if something goes wrong. Say I own Bullamakanka Station and I want to get a water access licence and grow a bit of whatever: you do not object to that?

Dr Rae—If that use of water does not impact on identified values that the community in general have identified and to which objectives are attached and to which monitoring programs—

Senator HEFFERNAN—Well, that is sort of talking against the angels a bit. But if I have 100,000 acres and I want to put 1,000 acres of irrigation on it, and it is in the middle of the 100,000 acres?

Dr Rae—If it impacts on the environmental, cultural, social and recreational values that have been identified through the consultation process, it would have to be considered accordingly. Nearly 50 per cent of the land is owned by Indigenous people—

Senator HEFFERNAN—I do not think anyone disagrees with that, though, by the way. Everyone—we certainly as a committee do—wants it to be developed. There is not too much of politics in this committee, I can tell you; we want to do the right thing, even though we are from all persuasions.

Dr Rae—I detected in a comment you just made then: what is wrong with coming up and farming at least a little bit of this country; why should some of this land not be made available for some of these options?

Senator HEFFERNAN—Subject to the constraints you are talking about. I am not so sure that you are with us on this.

Dr Rae—Some of the options to date have been imposed; there has been a direction from government that this is what will happen. Only last week there was a complete sea change in that attitude for the first time. Community consultation in the Northern Territory has consisted of: you make a submission and it disappears into the ether. It is not a dialogue. It is not a process. The process of that consultation is what is important, not the plan at the end.

Senator HEFFERNAN—Traditionally, business has been done up here as we term it by a wink and a nod. I am not saying that is for the future, but traditionally.

Dr Rae—The imposition of a particular land use, particularly where the land is cleared, levelled and cropped is fairly final. It precludes future options. The Daly basin for instance is a patchwork of different land tenure. More than half of the land is owned by Indigenous people. Water runs through that land—over it and under it. Decisions need to be made about the impact of one particular sector on a whole lot of other sectors.

Senator HEFFERNAN—But is there some sort of peer pressure? If I am a young Indigenous bloke down there and for some reason I have palled up with someone whose dad is a cotton grower or whatever and I have played footie with him and thought, ‘Bugger it; I’ll go out to my Indigenous place and grow a bit of cotton’ or mung beans or whatever, is there some sort of peer pressure that would prevent me from doing that?

Dr Rea—For an Indigenous person?

Senator HEFFERNAN—Yes.

Dr Rea—I could not speak on behalf of an Indigenous person. But I guess that the diversity of Aboriginal nations within Australia is such that each group, or clan, has a right to make decisions on behalf of its people.

CHAIR—I think the nub of what you are saying is that, not unlike anyone else in the broader society, there is a range of different views.

Senator HEFFERNAN—They are in the broader society. There is no such thing as not being in the broader society. Everyone is in the broader society.

Dr Rea—There is a section here in the submission on the Indigenous considerations.

CHAIR—It is an artificial distinction; that is all.

Dr Rea—Pat Dodson, in the Lingiari Foundation 2002 report, which is a really useful document, talks about ‘government policy that relegates Indigenous people to the status of

merely another stakeholder'. Twenty years ago we got the environment out of the bin and on the table. It now has a legitimate and legal entitlement to water. It was not factored into resource use for many years. It not only was out of the bin and on the table as a relevant stakeholder but underpinned things. COAG water reforms stemmed from the Commonwealth saying, 'We're not going to bail you out anymore for these problems that could have been avoided: salinity, blue-green algal blooms and so on.' So now we have 10 years of COAG with the word 'Indigenous' not even mentioned; the 2003 water property rights report by the high-level CEO group of advisers continued to omit reference to Indigenous people. It has hit the radar screen. R&D agencies have identified it. The Commonwealth has identified it. New South Wales people have identified it. There needs to be some very rapid catch-up in embedding Indigenous rights, responsibilities and values into NRM processes and frameworks. Sue Jackson referred to the management processes and structures at the moment. You asked: 'Why has this consultation not occurred? Why are ATSIC not participating?' Nobody has been participating. There has not been consultation of a whole variety of groups.

Senator HEFFERNAN—They could be here today, though. They could all be here today, if they wanted to be.

Dr Rea—It is a poorly resourced area. There are higher priorities. I do not think that it is not relevant; it is just that for many years the door was closed and it was pointless to enter into any sort of debate, because decisions had already been made. The point I wanted to make about Pat Dodson's idea that Indigenous people have been relegated to being merely another stakeholder is that the Commonwealth at the moment is seeking research and recommendations about how to have Indigenous issues, rights and responsibilities not merely recognised as another stakeholder but, as with the environmental considerations, underpinning a lot of the decision making about water.

Senator HEFFERNAN—No-one is going to argue with you on that.

CHAIR—Dr Rea, are you saying it is more than just triple bottom line; that cultural considerations and cultural values have to be acknowledged in the same way as you might deal with economic, social and environmental issues?

Dr Rea—That is correct. There are international obligations, conventions and so on to which Australia is a signatory. The failure to have these issues included in the process has been startling. It now is very much on the radar screen. I believe we are entering a decade where these—

Senator HEFFERNAN—Robust discussion.

Dr Rea—The scary part about the water property rights documents, numerous as they are, is that this issue of water property rights is galloping very fast and the CEO group looking at this particular issue are stitching up water; it is owned and it is traded to the highest commercial use. This water rights framework in Australia, which is evolving very fast and not bringing with it the Indigenous issues, will negate the possibility of Indigenous people's participation in a lot of water decision making and the opportunity to gain economically from water beneath the country.

Senator HEFFERNAN—Are you talking about the Murray, the Murrumbidgee and the Lachlan?

Dr Rea—No, I am talking about the Commonwealth level initiatives about water property rights, the national water initiative, the recent documents to forward the issue for all jurisdictions to adopt robust—

Senator HEFFERNAN—Let me get this into my head a little bit further. Is the flaw in the way the country is held? Let us say I am a local young bloke who is part of the local mob and we have got a bit of country out here somewhere. If I actually want to make some use of the water that Mr Casey down the back there said goes past my property, don't I have the opportunity to do that now by applying for a water allocation licence and using it?

Dr Rea—Yes, you do.

Senator HEFFERNAN—So they are not excluded? The Indigenous person that wants to grow a mango tree can do it if he wants to.

CHAIR—I think we are talking about two parallel lines of thought.

Senator HEFFERNAN—I realise it is slightly off. There is this segregation. I am not too sure how to use the best terminology. I do not want to create any sort of controversy or offence.

CHAIR—I hear what you are saying and I understand what Senator Heffernan is saying. I think that there are issues that need to be raised.

Senator HEFFERNAN—I do not think it is as bad as—

CHAIR—I have a problem with the way that you describe the Northern Territory one. The concern for me, mostly, is that if you have such significant representation, however you put it—whether it is in political institutions like the NT assembly, the presence of two of the most powerful land councils in the country, 25 per cent of the population or land-holdings that are significant—I am confounded by your comments that you think there is exclusion. How is that exclusion occurring when you have such significant representation and such a powerful base to come from? If it is a case of competing priorities, that needs to be said. But you somehow paint that picture of exclusion by way of the system itself. I am finding it difficult to agree with what is being put forward, in the Northern Territory at least. If it is such a significant issue, wouldn't you move to it?

Dr Rea—Yes, it is a significant issue. The exclusion is by default. Because there is no process and framework, there is no requirement to necessarily consult. The consultation in the COAG framework is with all relevant stakeholders. Technically that is a loophole. If, for instance, management sees that a particular group or person is not a relevant stakeholder, they will not consult them. There has not been any consultation process to date.

Senator HEFFERNAN—But the difficulty is that there is scope to have that consultation. It is like ringing someone and then using the excuse that they have not rung you back. You ring them again. If the door is there, knock on the door and say, 'Hey, this is what I think.' Do not

wait for someone to give you the call. That is why we are here today. We are not waiting for the call.

Dr Rea—Things have changed. Historically, I think the door was closed. Land councils are extremely strapped financially and they are doing core business. This issue is not insignificant. But, as with many other issues, was there any point in trying to negotiate with a government where the door was closed?

Senator HEFFERNAN—Can I take you to that. Some land councils—I am not going to nominate them—have too many bloody lawyers. They have got all these people feeding off them. With great respect, you can pay consultants until the cows come home, because consultants live off continuing the argument. They do not want to finalise the argument; they want the next round of negotiations, so they get paid. You need some commonsense in the bloody equation.

CHAIR—I think water resource management is part of core business, because land councils are set up to deal with land resource issues. If you do not see that as a priority, something is wrong. I am not referring to you but making that as a general comment. Water is integral to the question of land and vice versa.

Senator HEFFERNAN—Get out there and kick the door in!

Dr Rea—It is not for me to talk on behalf of the land councils, but maybe requesting some feedback on them might assist.

CHAIR—We are happy to follow that up with them. We did invite the land council to appear or present a submission. I know that Senator Buckland has some questions, and we are already over time.

Senator BUCKLAND—I was asking them, but I was interrupted.

CHAIR—It is just that it is an interesting discussion; that is all.

Senator BUCKLAND—It is interesting. I had been talking about what is really reflected in this paper. In my view—and I am happy to be proved wrong—it is a reflection on views that have been held over many years. I have picked that up more today than I did yesterday at Kununurra. There seems to be a lack of acceptance, particularly by academics in the Territory, that there is great potential and opportunity here, and that worries me greatly. I think that too many are saying that we have to be mindful of the Indigenous views on this. This committee is very conscious of that, and has gone to extreme lengths at times to ensure that we are taking everyone into account.

But when I keep hearing about the need for health care, housing and access to educational opportunities, I think we are doing the Indigenous people a disservice in not moving forward, in conjunction with them, to develop a resource that is there. I think that a very telling point is what Senator Heffernan has just said: we have too many consultants creating an environment that they can feed off for a long time. We have too many people giving advice that is often ill conceived,

which is taking opportunities at the expense of people who can go ahead. The other thing is that I think we are holding the Northern Territory back.

On the issue of consultation, I agree with Senator Heffernan: kick the doors down to get it happening. We are certainly not waiting for anyone to ask us; we are going out and finding out. I think there is a great opportunity for the Northern Territory to move ahead with its water resources. I do not think they are as restricted as what is suggested in this paper. I am not an expert, but I do like to go and find out. What I am finding out is that we are living—and wanting to live—too much in the past.

Dr Rea—I did say that this paper was the context.

CHAIR—Before you answer, I will just say, so that we are very clear about the committee, that it is not the role of the committee to presuppose any value systems that have to be placed upon any group in Australian society, including Indigenous people.

Senator HEFFERNAN—In other words, you can do and say what you bloody-well like.

CHAIR—Members of the committee are entitled to their own personal views about these things, but it is not our role to report on or recommend what Indigenous people should or should not do. In the context of this inquiry, I would say to you that we have gone to lengths to make sure that Indigenous people are asked for their views in stakeholder form and so on. As I have said to previous witnesses, if there is a need to look more closely at some of the legislative regimes, where it is about much more than just being a stakeholder in the community—it is about having a legal right at the table—that will certainly be put forward. But the issue of choices that Indigenous people might make individually or collectively is, from my perspective, a matter for them and it is not for us to report on.

Dr Rea—The interface between Indigenous people and others—and I think Senator Heffernan has been trying to get to the bottom of whether we have one system that fits all or different frameworks for different people—is a matter that needs resolution. I draw an analogy with customary law versus Western law, in terms of criminal activity. The jury is out. There are repeated cases where crimes are committed and the court may make a decision that the person can go back to the community for payback or it might enforce the maximum penalty.

There is the nexus and the debate about how to fit customary law into Western law and which overrides the other in which circumstances. You could draw an analogy with Indigenous resources and cultural values in relation to water. We cannot necessarily say ‘Okay, the Western law is going to come over the top of Indigenous issues. We are going to say that these values are more important than cultural values and spiritual identity’—and water is central to culture. There is that debate about how to fit these two different systems together. To date, I do not think that has been resolved.

CHAIR—I think you have to see it, though, in two different ways. One is that there can be, if you like, a set of principles that might be dealt with through a COAG process that looks at recognition of the issue. But essentially land resource or water resource issues are in the state and territory domain. So the nexus or how it might work in a parallel sense is a matter for the Northern Territory government to resolve, as they would in relation to the criminal justice

system and traditional and customary law. I am mindful of the fact that we are limited in our terms of reference as to the extent that we can go.

Senator HEFFERNAN—We really cannot sort that out.

CHAIR—The issues that you are talking about are really issues that only the Northern Territory government can resolve. I understand they are looking at that in the context of traditional and customary law. Perhaps it is something they need to look at in relation to land resource management issues in the Northern Territory.

Senator HEFFERNAN—It has been a useful forum to get all this out on the bloody table.

CHAIR—Usually we start to fall asleep at this time of the afternoon, but it has been a very engaging discussion. Unless there are any other things that you wish to mention before we finish—we are 20 minutes over the time that we had allocated—I will say thankyou on behalf of the committee for providing assistance. A copy of the *Hansard* will be available shortly, and, if there is anything that we need, we will certainly be in touch, and vice versa. Thank you.

Dr Rea—Thank you for the opportunity.

CHAIR—As I said to the members of the audience, for those who were not here earlier, if there are other people that want to make any statements or comments, we are going to provide an open forum for 15 minutes. We are asking people to speak for no more than three minutes. The comments will form part of the *Hansard*, and we will certainly take them into account. There will be no question time during that. The opportunity is there for people who might want to avail themselves of it.

Senator HEFFERNAN—We might throw things at you if we think you are being outrageous.

CHAIR—We do not seem to have received any requests for that, so I thank all of those who gave their assistance to the committee and I adjourn the hearing for today.

Committee adjourned at 5.03 p.m.