COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

RURAL AND REGIONAL AFFAIRS AND TRANSPORT REFERENCES COMMITTEE

Reference: Rural water usage in Australia

MONDAY, 17 NOVEMBER 2003

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SENATE

RURAL AND REGIONAL AFFAIRS AND TRANSPORT REFERENCES COMMITTEE

Monday, 17 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 O'Brien

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 9.57 a.m.

ACTING CHAIR (Senator Heffernan)—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 everyone here today. This is a public hearing and a transcript of proceedings is being made. The format is a program of witnesses invited by the committee. At the end of the hearing, at about 3.15 p.m., the committee invites anyone present to make a short statement on matters relevant to the terms of reference. This statement can be for three minutes and will not be subject to committee questioning. Those contributions will be part of today's record of proceedings and will be considered by the committee in preparing its report. Anyone who would like to speak should give their names and details to the committee research officer, Andrew Bomm. The committee has authorised the recording, broadcasting and rebroadcasting of these proceedings in accordance with the rules of the order of the Senate of 23 August 1990 concerning the broadcasting of committee proceedings.

I place on the record that all committee witnesses are protected by parliamentary privilege with respect to their submissions and evidence. Any act by any person which may disadvantage a witness on account of their evidence is a breach of privilege. While the committee prefers to hear evidence in public, the committee may 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 witnesses concerned before doing this. The committee can also order publication of confidential evidence, as can the Senate.

[9.58 a.m.]

BOWYER, Mr Leith Malcolm, District Manager, Department of Environmental Protection

SHERRARD, Dr Joseph Howard, Research Officer, Department of Agriculture, Western Australia

ACTING CHAIR—I welcome you to this hearing. Do you have any comments to make about the capacity in which you appear before the committee today?

Mr Bowyer—I represent the Department of Environmental Protection, formerly the Water and Rivers Commission/DEP. I have been involved in the water allocation planning processes here on the Ord.

ACTING CHAIR—If you want to make an opening statement, we would be delighted to hear it and then we will ask you a few questions. Thank you very much.

Dr Sherrard—To open, I would like to say that I am here to provide any information I can on water use efficiency on farm in this area. Beyond that, I am probably not able to provide too much more information.

ACTING CHAIR—Do you want to make an opening statement?

Dr Sherrard—No.

ACTING CHAIR—Just to get it on the record, what is the annual flow of the Ord River?

Mr Bowyer—I would not like to answer that, because it specifically depends on what part of the Ord River you mean, particularly when you are looking at inflows into the top dam.

ACTING CHAIR—What about if you talk about the inflow into the dam?

Mr Bowyer—It is over 4,000 cubic metres a second.

ACTING CHAIR—What about in terms of gigalitres or megalitres per annum?

Mr Bowyer—Sorry, I meant that it is over 4,000 gigalitres per annum.

ACTING CHAIR—That is what we want. Just so that we get it on the record, what is the total—

Mr Bowyer—If you want the specifics, I am happy to provide them.

ACTING CHAIR—That would be great. What is the total capacity of the dam?

Mr Bowyer—I cannot recall. You have to be careful when you quote these numbers because, when we talk about the yield of the catchment, the storage of the dam, and the hydrology and availability of water, they all mean different things, particularly with the inflow between the top dam and the diversion dam.

ACTING CHAIR—We are, obviously, starting from a pretty low base. We would just like to start with the first building block and build our information base. If you could provide us with the technical detail as a written submission, we would be grateful for that.

Dr Sherrard—I understand that the information required may be in a publication that is down the back here.

ACTING CHAIR—We might receive that now.

Dr Sherrard—The information on the capacity of the dam and so on is published in that booklet.

Mr Bowyer—It includes the engineering works associated with it. But, in terms of the hydrology, not all of it is in that booklet.

ACTING CHAIR—Going back to Dr Sherrard's expertise, would you like to give us a little snapshot of how efficient the water use is here and perhaps what it is doing to the watertable et cetera?

Dr Sherrard—We have done quite a bit of work looking at water use efficiency and in relation to the management of rising ground water over the last several years. Our aim has been to better manage the rising ground water situation and, at the same time, meet these requirements for improved water use efficiency. Obviously, the two issues are quite closely related. We have been looking at crop water use—what the crop water requirements are—so that we can start matching water application to what the crop requires. We have had some success in this area in reducing water application; for example, on the sugarcane crop at certain times of the year, by identifying when the crop is using less water than we had previously thought. So we are in a situation there of applying less water at that particular time of the year and so on.

When I say 'we' I mean that we are working closely with farmers in the area on this. We are also working with organisations such as the Water and Rivers Commission, with Leith; the Ord Irrigation Cooperative; and the Ord Land and Water group. I think you will hear from them later today. So we have been working in that sort of area. We have also validated a model that is used in other parts of the irrigation industry for improving water application efficiency. We have validated that for this area. It allows us to apply water more efficiently, particularly in situations where we are talking about flood irrigation. It helps us to minimise the amount of run-off during furrow irrigation. At the same time, we are relating that work to trying to minimise the amount of ground water accessions during irrigation.

We are doing that by working with the growers to identify areas which have high permeability so that we will be able to manage those areas better. There is a range of related activities. We have done some monitoring and benchmarking on the efficiency and so on of irrigation practices over the last few years. At this stage, our evidence indicates that the growers are much better

informed about these processes and that they are starting to use some of these processes to increase application efficiency.

ACTING CHAIR—We have seen in some confined irrigation areas in the south some pretty dreadful wetland salinity after a number of years. Based on your records and knowledge, is there a problem with the rising watertable for potential wetland salinity already building into the equation here?

Dr Sherrard—Currently, we have a number of small localised areas where there is surface salinity, which is associated with shallow ground water. Those areas are largely on the fringe of the irrigation area, on transitional soils between areas that are irrigated and those that are not. Usually, that is along the interface between the clay soils and sandy soils. We are trying to identify the best way of managing them on the basis of what is really causing them, whether it is directly associated with rising ground water within the irrigation area itself or other possibilities, such as the management of the surrounding areas and so on. So, yes, we do have those small localised areas. We are not sure how long they have even been there. Anecdotally, there are some suggestions that some of them have been there for a very long time and that possibly the last few very wet seasons that we have had have exacerbated the situation. While they are there, we are not really sure what the entire situation is with them, so we are looking at what we can find out.

ACTING CHAIR—Is there any potential to pump the aquifer down?

Dr Sherrard—Yes, that is already being looked at. A few years ago, we put down two test bores to look at dewatering. They were successful. Following that, there are two in our production dewatering bores in the irrigation area, and they are now operating.

ACTING CHAIR—What sort of water is it? Is it barramundi type saltwater?

Dr Sherrard—That is being looked at in more detail at the moment. We believe that water can be used for irrigation by shandying with other water and perhaps on its own, but we are not sure of that. At least with shandying we are sure that is possible. Over the whole irrigation area, the ground water salinity varies quite a lot. It is quite high in some areas but very low in other parts of the irrigation area.

Senator O'BRIEN—Acting Chair, you have asked a number of the questions I had in mind. There is obviously a lot of work being done on cropping potential and potential crops for the region. Can you give us a bit of an update on current thinking on the opportunities for this region with adequate water and appropriate land resources?

Dr Sherrard—At the moment, for example, the sugar industry is wanting to expand, so they are looking for another 4,000 to 6,000 hectares to allow them to double the existing capacity of the mill and the industry. Beyond that, there is the potential for cotton production: there is a research program that has been going on for five or six years now that has indicated good potential for cotton production. But that cannot go ahead without additional land. Given that the existing area is fully utilised with, in fact, potentially higher value crops such as annual horticultural crops and so on, the cotton industry would require at least 10,000 to 12,000 hectares, possibly, to maintain a gin effectively. So we really would need additional land before that could go ahead as well. The other crop in horticulture that is currently expanding is citrus

production. There are a lot of mango trees going in and a lot of red grapefruit and, if a new area of land was available, that would also potentially help expand those industries.

Senator O'BRIEN—I am presuming that the transport logistics are fairly difficult from this region. Can you help us with some of the obstacles that are faced in generating a successful agricultural or horticultural industry here, in terms of the transport logistics problem?

Dr Sherrard—I am probably not in a position to really provide you with much detail on that one. I probably need to leave that one alone, if I may.

Senator O'BRIEN—Who would you suggest would be best to assist us with that?

Dr Sherrard—Other than transport companies, I guess the Ord River District Cooperative has some dealings with that, as does the sugar mill itself, in terms of movement of sugar. A lot of the growers in the area arrange their own transport with the trucking companies out of the area.

Senator O'BRIEN—Is it an impediment? Is transportation seen as a major problem here?

Dr Sherrard—Again, I probably cannot answer that one accurately, in that I do hear different views. Because of that, I would rather not present an answer.

Senator O'BRIEN—What issues are raised with the department about the cost of water?

Dr Sherrard—The costing of the water has changed from a charge on an annual basis to a charge under different components: a servicing component, a volume charge, a distribution charge and so on. When it comes back to us, the question is really how much water do the crops need, so how much water should farmers be using and so on. With respect to the costing on that basis, I guess we do not really get involved directly with the costing of it as such, but more with how much water do the crops require and the flow-on effect from that towards the costing.

ACTING CHAIR—Is the soil about here peculiar in any way compared to other irrigation areas in Australia? Is it more porous? Does it behave in any way differently? Are the evaporation rates and wastage in the channels higher or lower?

Dr Sherrard—Probably the soils would be very similar to some other areas. The main area of soil here is a Kununurra clay soil, an aquitaine clay soil, ranging from 40 to 60 per cent clay content. That is the majority of the area. We also have lighter textured levee soils as well. For the majority of the area the clay soils would be similar to those found in other areas. There is probably not a lot of difference in the physical characteristics as such, but certainly there is a difference in the evaporation rate here in terms of the amount of water that we require to use those soils. It is much higher here.

Senator O'BRIEN—Mr Bowyer, you were originally known to us as representing the Water and Rivers Commission, but now you are with the Department of Environmental Protection. How has that change come about? Is that just a transfer of responsibility?

Mr Bowyer—The state government has undergone a process of merging the Department of Environmental Protection and the Water and Rivers Commission over a number of months—

probably 12 months now. The functions from those agencies have been pulled together under the one organisation: waterways management, water allocation, and our involvement in licensing matters associated with irrigation use.

Senator O'BRIEN—The Ord Irrigation Cooperative put a submission to us which contains a number of criticisms of the Water and Rivers Commission. Do they, therefore, transfer to the department?

Mr Bowyer—Yes. Those criticisms would be transferred to the Department of Environmental Protection.

Senator O'BRIEN—The submission says:

The commission has proposed an interim water allocation of 330 gls to the Ord Irrigation Cooperative. System efficiency losses are to be the responsibility of the Ord Irrigation Cooperative and not the Water Corporation, the builders of the scheme.

Mr Bowyer—It is probably appropriate for me to work through the licensing in the past to the licensing in the present. I will probably pick up on that point. Over the last 10 years, as a result of the asset transfer from the Water Corporation to the OIC, many processes have been going on. One has been, obviously, the devolution of the business processes and asset processes as well as the broader resource management. The original licence that was held by the overall operator here in the Ord was the water authority, some time ago. Through those years, there has been a process to identify the different elements of water resource management—the storage of the water and the regulation of the river through to the diversion and usage of water. They are the elements that the commission has been working through.

The original licence held by the water authority entitled them to regulate, store and divert the water. Because of the institutional changes between state government agencies and the COAG principles, these elements have been worked through. We released a draft allocation plan some time ago, with consultation input from various stakeholders. That is currently at an interim stage and has not been released yet.

One element that I did not mention was the water required for the hydro power station. That one licence, which was held by the water authority, also included Argyle Diamond Mine's usage. Essentially what is progressing along is the ADM now have a licence to divert water from Lake Argyle. The OIC, who have been identified, have been working through their responsibilities in terms of providing a distribution service to the growers. They will have a licence to divert water from the Ord River. That is at two locations. In the context of water required for the OIC and future diversions from the Ord River, as well as the environmental water provisions, that has been identified. That will all be included in the allocation plan.

The diversion of water for the stage 1 area includes three major customers: the channel system suppliers, the self-suppliers from the river, as well as the M1 pumpers. The OIC, representing the channel system suppliers, and the water diverted from the M1 diversion and the Packsaddle pump station are the two diversion points. The self-suppliers have their own individual diversion points along the Ord River upstream and downstream of the Kununurra Diversion Dam.

Getting back to the statement that was raised, under that diversion licence at two diversion points it is considered by the commission that there is overall diversion efficiency and an expectation of those stakeholders within that channel system to improve and meet efficiency targets for that area. Reflecting on those comments, I am trying to interpret what is said there. I think the OIC are saying that in respect of a portion of water flows through the channel systems from the supply through to the drainage systems re-entering the Ord River, they are not responsible for the water that finds its way past the onfarm systems. I think that is what they are saying.

Senator O'BRIEN—You are suggesting that they are talking about losses in the channel system that runs from main suppliers. Is that what you are saying?

Mr Bowyer—I think they are talking about that, but you would have to ask them on that matter. Another point is that, under the Rights in Water and Irrigation Act, that matter has been reviewed. The old act talked about diversions from watercourses, which also included channels. The new act is in relation to the natural watercourse. Previously, under the old licence there was an understanding that the Ord River would act like a channel. In fact, it is now a natural watercourse and diversions into channels are system supply assets rather than watercourses.

ACTING CHAIR—I have a couple of questions on the practical farming side of it. If I have a sugar crop and I want to water it, do I order the water? Does it come down the river, released from the dam as an order as it is, say, in New South Wales or is there enough going past here to hook in?

Mr Bowyer—At the moment, because of the power station requirements, there is approximately 80 cubic metres per second required for power generation, but that is up and down depending on the power demands.

ACTING CHAIR—Can you relate that to megalitres or whatever?

Mr Bowyer—No. I do not have a calculator here. I guess that the maximum amount of water that would go down the M1 channel would be of the order of 18 cubic metres a second at the maximum of the growing season.

ACTING CHAIR—I am sure it is impressive, but it does not mean anything to me.

Mr Bowyer—I am saying that, at minimum, 80 cubic metres is being released from the top dam. I am not certain how much Packsaddle would take off, which is the pumped amount. But, currently, what is being taken off would be of the order of 20 cubic metres.

ACTING CHAIR—What are the entitlement arrangements here? Do you get a 1,000 megalitre entitlement or a 10,000 megalitre entitlement? How much does all that cost? Is it tradable?

Mr Bowyer—There are two levels of understanding here. One is the amount of water or the entitlement—or what we call an allocation—from the Ord River. In the OIC context, they will be granted an allocation from the Ord River and then the OIC will take the responsibility for allocating that amount of water into portions for the individual members of the OIC. So the OIC

hold a licence for the diversion from the river, and then there are the shareholder arrangements that the OIC have.

ACTING CHAIR—So they have a head licence, as it were?

Mr Bowyer—You probably call it a head licence. I am not familiar with that term.

ACTING CHAIR—So within the OIC can you trade water? If I want to pack up and go and live in Broome or somewhere and I sell out, can I sell the water off my farm to someone else?

Mr Bowyer—It would be best if you were to talk to the OIC about that issue this afternoon.

Senator O'BRIEN—The submission that I was referring to, under the heading 'Issues with the Water Corporation'—I presume that is now the body you represent?

Mr Bowyer—No. It is a bit confusing. The Water and Rivers Commission/DOE—the department of environment—is responsible for the overall allocation of water for the Ord River. Then there is the Water Corporation, which provides bulk water services to its individual customers—those who want to take the opportunity of the water being regulated. The OIC is a cooperative of growers who have a separate licence. It is a water taking licence, whereas the Water Corporation has a regulation and storage licence with the commission.

Senator O'BRIEN—Is that a state body?

Mr Bowyer—The Water Corporation is a state agency.

Senator O'BRIEN—What department does it affiliate with, if I can put it that way?

Mr Bowyer—It is a corporation. It is an entity.

Senator O'BRIEN—So it is not part of a portfolio area of responsibility? Does it fall into a minister's portfolio?

Mr Bowyer—It is under one of the minister's portfolios. It is not under the environment minister's portfolio?

Senator O'BRIEN—Is it agriculture?

Mr Bowyer—No.

Senator O'BRIEN—Somewhere we will find out.

Mr Bowyer—It is in the business enterprises portfolio.

Senator O'BRIEN—Okay. It is just that the submission says:

The Water Corporation refuses to carry out maintenance on the Packsaddle irrigation system with Grower funds that have been paid to them for that purpose, or to pass those Grower funds to the Ord Irrigation Cooperative for the repairs.

Do you know anything about that?

Mr Bowyer—No, I cannot comment on that.

Senator BUCKLAND—Dr Sherrard, just going back to when you were talking about the salinity, from what you were saying it sounds like you are getting very near to being on top of that. But do you know how much money is being spent on controlling that?

Dr Sherrard—No; I do not have figures on the total amount. The Department of Agriculture contributes to the total funding, I guess, but there are others who are involved with that as well and I would not have those total numbers.

Senator BUCKLAND—Is that all government money or is there a levy placed on water users?

Dr Sherrard—At the moment, there is government funding but there are also funds provided through the growers in the irrigation area, through the Ord Irrigation Cooperative, for example, to run the dewatering bores. That is a control measure. I guess there is a mixture of funds from various organisations, including private organisations, that contribute to the overall management of the ground water salinity issue.

Senator BUCKLAND—Does the hydro-electric power generation take an additional quota of water from the reserve? Or is that just water that was going to come through anyway? Is it similar to Adelaide, where they are installing hydro-electric power generation plants using the water coming down from the reserves in the hills. It is coming down anyway, and they have put in little plants. Is that is what is happening?

Dr Sherrard—I do not know the full answer to that. Certainly at some times of the year the amount of water coming through would be required elsewhere; possibly at other times it is using water that would not be required elsewhere, but I am not sure.

Senator BUCKLAND—Who do you think we could ask about that—the generator?

Mr Bowyer—I am not exactly certain. There are two ways in which the water can be released from the top dam: one is the spill from the spillway. Obviously, if the storage levels get above that spillage level, that is a source. The other way is through the turbines. So it is water released based on demand and based on the service contracts and the power requirements. It is a significant portion released by the power station—of the order of 80 cubic metres per second, and sometimes it goes down to 60 during the dry season. So there is a portion of water that is continuously released from the power station and, of that amount, is diverted by the stage 1 turbines.

Senator BUCKLAND—So for much of the time the water being used by the turbines would be sufficient to provide water to the growers.

Mr Bowyer—Yes.

Senator BUCKLAND—I have had only a very quick look at the booklet we have; it is particularly helpful. Turning to insect pest control, when you are doing anything like you are doing here you always have the problem of pollutants going into the stream downstream, so you create a problem for someone else. I guess you are pretty well quarantined here. Would I be correct in thinking that many of the crops you grow here are free from insects that affect crops in other areas? Do you still need to use sprays? I know you are trying to develop biological controls but what is the process here? Is the quarantining enough for much of what you grow?

Dr Sherrard—Certainly we are free of some pests and diseases that are present elsewhere in Australia and in the world, but there are some here that we do need to manage. Yes, we do use chemicals on some of them. An example would be the sugarcane crop, where there are very few control requirements needed; at the moment there is an exceptional circumstance because we have some locusts in the area. I guess what you are also asking is related to the movement of chemicals off-farm. That is certainly an issue that is being very closely addressed at the moment, and it has been for a few years. Quite a lot of monitoring goes on, again by the Waters and Rivers Commission and so on, of the drainage system and the river system to ensure that we do minimise and manage that particular situation. As you say, we are also looking at integrated pest management as a way to reduce the amount of chemical we use.

Senator BUCKLAND—Is this a quarantine area, such as in the Riverland and grape-growing districts in South Australia and Victoria?

Dr Sherrard—It is quarantined largely on a state-wide basis. Also, we are free of Mediterranean fruit fly, which is found in the south of the state. On that basis, it is also quarantined within the state.

Senator BUCKLAND—When the water leaves the area where irrigation takes place further downstream, is there monitoring of the water quality?

Mr Bowyer—At the moment there are a number of drainage outlets into the river. Those drainage outlets are monitored by the OIC. My organisation has been looking for quite some time at the presence of chemicals in the river system. The answer to that question is yes, downstream.

Senator BUCKLAND—When we flew in this morning—and I cannot tell you whether we were upstream or downstream—we flew over a stand of water, and I noticed a lot of what appeared to be light-green algae. It might have been waterlilies for all I know, but are there algal blooms?

Mr Bowyer—That comment has been made before, and the observations to date are that algal blooms have not predominated. There have been some blooms in the Dunham portion, where water is backed up from the releases from the Kununurra Diversion Dam. That greenish tinge has been observed by people from the air before, and it has been suggested before that it is actually the aquatic vegetation bank beneath the water.

Senator BUCKLAND—It did look a bit coarse for algal bloom. The only other thing that I did want to address is aquaculture. Are there any aquaculture projects in the Kununurra area?

Mr Bowyer—There is the fin fish operation up at Lake Argyle and there are one or two smaller aquaculture projects within the ORIA. A large aquaculture project has been proposed in the estuarine part of the Ord River. That one has not progressed, and there is interest in establishing some small-scale aquaculture projects.

Senator BUCKLAND—But it is mainly fin fish?

Mr Bowyer—That is the major one.

Senator BUCKLAND—Is that mostly barramundi?

Mr Bowyer—Yes.

ACTING CHAIR—We do not have time to go fishing!

Senator BUCKLAND—Sadly; I could have brought a rod.

Dr Sherrard—I would like to add one other comment on your comment about the algal blooms and so on. A number of farmers in this area use polyacrylamide as a means of preventing movement of soil off-farm during the irrigation flow. That prevents the movement of not only silt but also fertiliser and chemicals attached to that soil. So that is one way they are looking at preventing that sort of thing from occurring.

ACTING CHAIR—Did I read somewhere—and you may not be able to answer this—that the Argyle is silted to the extent of 10 per cent of its capacity already?

Mr Bowyer—It is something like 25,000 million tonnes.

Dr Sherrard—A couple of studies have been done on that. I cannot give you the numbers.

ACTING CHAIR—So the silt is just coming off native country, is it?

Dr Sherrard—Yes, possibly from the defined area of that rangeland country around it. I am not familiar with the details.

ACTING CHAIR—Is the catchment from where that silt accumulates pastoral land that gets as bare as bird's arse in a drought?

Dr Sherrard—That is what I am not familiar with: where that country is. There is a reserve around part of a lake that is destocked to prevent that sort of problem from occurring.

ACTING CHAIR—I was just wondering about that because, obviously, it is going to be a big problem in the future if we do not control the silting up of the dam.

Dr Sherrard—There have been at least a couple of ongoing studies examining that. But, as I say, I am not aware of the details.

ACTING CHAIR—What is the capacity of the local diversion dam for the Ord?

Dr Sherrard—I do not have that number, I am sorry.

ACTING CHAIR—We are very grateful for your time. Thank you very much.

Proceedings suspended from 10.40 a.m. to 10.59 a.m.

PASFIELD, Mr Richard Thomas, Coordinator, Ord Land and Water

ACTING CHAIR—Welcome. You are welcome to make an opening statement, after which we will move to questions.

Mr Pasfield—I do not have an opening statement.

ACTING CHAIR—Could you tell me what Ord Land and Water does?

Mr Pasfield—Ord Land and Water is a community organisation that is currently encouraging the implementation of a land and water management plan. The plan was put together by the community over a period of two or three years. Implementation has been going now for about 18 months. It is a community organisation, and the land and water management plan came pretty well from that community.

ACTING CHAIR—Is part of what you are about tidying up the environmental side of water use here? Do you pick up the tail water, as it were?

Mr Pasfield—I do not know if that is an entirely accurate description of what we are doing. The plan is divided into four components. There is a river component, a conservation component, a town component and a land component. Essentially, the land component deals with the irrigation area. We have a whole heap of different goals that are associated with the land and river components that deal with water quality, ground water and irrigation efficiency, but we are also looking at fish stock management, water allocation, and the management of the river and lakes themselves. Being a small organisation, I think our primary role is to encourage other larger organisations—be they state government organisations, local industry or local council organisations—to assist with that implementation.

ACTING CHAIR—Would you be able to describe to the committee the strengths and weaknesses of water management that you have discovered?

Mr Pasfield—Probably the weakness of the water management we have here, from a land and irrigation perspective, is the fact that it is a flood irrigated system. That is a weakness because it enhances water inefficiency in terms of its use but also creates difficulties in terms of water quality when the water flows back to the river. There are particular issues with nutrient and pesticide run-off. Of course, the open nature of the irrigation system also affects ground water fairly directly—as, too, does the dam.

ACTING CHAIR—Tail water from the irrigation here is not picked up and brought around again, is it? It just goes back into the river system.

Mr Pasfield—That is correct, currently.

Senator O'BRIEN—What is the aim of your organisation? I have heard your description, but what are its precise goals?

Mr Pasfield—The precise goals in terms of land management are to bring irrigation efficiency up to about the 65 per cent level within five years—that is, from 2000—to reduce pesticide, nutrient and silt run-off by 40 per cent, and to keep ground water below a level of two metres across the irrigation area. Our goal in terms of water allocation is to ensure that the community has the opportunity to comment on any local water allocation plan.

Senator O'BRIEN—Is there an impediment to the community having that opportunity to comment?

Mr Pasfield—I am not sure. I guess it depends on the amount of consultation and how the consultation is done by the relevant state government organisation.

ACTING CHAIR—Obviously, under the old scheme, you were granted a bit of land that had water attached to it. You more or less just turned the tap on, which may have led people to be less efficient and less cautious about the environmental impacts. Based on your impression of the community, do you think that, if a volumetric scheme and more dollars come into the equation, people would be more conscious of water savings?

Mr Pasfield—Certainly that is one way you can do it. I know that the more often I turn the tap on at home the more it costs me so I am conscious of that and do not turn on the tap as often as I would perhaps like to. Yes, associating higher costs with water certainly would encourage people to be a lot more efficient. But that is not the only way you can do that. There are more ways to skin a cat.

Senator O'BRIEN—There is no market pressure. There is no water shortage here at the moment to encourage an effective market in water, is there?

Mr Pasfield—I guess the perceived shortage, if you like, or the constraint on water for use for the stage 1 irrigation area is what is being allocated through—as I understand it—the Waters and Rivers Commission, which is about 318 gigs per annum. I know that that is a figure that, through negotiation between that agency and the Ord Irrigation Cooperative, has been agreed to. That is a target that farmers need to be aiming for in terms of water efficiency. I understand there was some compromise by both parties in how they got to that figure.

Senator O'BRIEN—Do you know what the basis is for the figure? How would we understand that limitation? Is this an artificial cap irrespective of the amount available?

Mr Pasfield—I am not fully privy to that. I understand that there has been some work done on the requirements of crops on an annual basis and by identifying how much land was here they decided by some formula on that figure. Then the toing-and-froing went from there. It was a fairly lengthy process to come up with that figure. I am sure the Ord Irrigation Cooperative could give you a better view of that later.

Senator O'BRIEN—I guess I was just wondering if it was an artificial cap designed to drive efficiencies rather than the efficiencies being driven by actual conservation imperatives.

Mr Pasfield—There may have been some intent in terms of that.

Senator O'BRIEN—In terms of the future of this region and the agricultural and horticultural industries supported by water, has your organisation any views that go into that aspect of water use? In other words, are there opportunities and threats to the region with regard to particular crops or issues with distribution of crops or the like?

Mr Pasfield—No. We do not deal with that.

Senator BUCKLAND—You told us about your organisation, but who is actually on it? What community groups are represented on Ord Land and Water Incorporated?

Mr Pasfield—There are no community groups as such. In other words, we do not specifically have a community representative from an agricultural organisation or a community representative from a conservation organisation sitting in any official capacity. However, the board does have a spread of irrigators, tourist operators, people who you could perhaps say were wearing that conservation hat and general community members as well.

Senator BUCKLAND—Do you have any Indigenous people in the body?

Mr Pasfield—No, we do not. The board realises that is a shortcoming of the board. However, in terms of opening up communication links with traditional owners to be able to get their input into an Ord Land and Water management plan—the next one; the Ord Land and Water management plan 2005—we are doing some work to create those linkages. It is conceivable that some time in the future we will have Indigenous views promoted a little bit more widely on the board.

Senator BUCKLAND—Are you a grower?

Mr Pasfield—No, I am a full-time coordinator. I kind of like the idea of having my weekends to myself now, but for 13 years I was a manager of a horticultural component of a farm here and, for 10 years prior to that, in Dongara.

Senator BUCKLAND—I guess you are probably best suited to answer this question. Do you know what the employment numbers are both of people directly employed by growers and of those associated with that, like the spin-off from the primary producers?

Mr Pasfield—No. I know how many people I had working for me during harvest, but that was just one farm. I cannot give you the overall numbers, I am afraid.

Senator BUCKLAND—I might be able to find that out better this afternoon. Those were the only things I wanted to pursue.

ACTING CHAIR—What do you grow?

Mr Pasfield—What did I grow? It was mainly melons—rockmelons, pumpkins and watermelons—and sweet corn.

ACTING CHAIR—How long ago did you come up here to do that?

Mr Pasfield—About 1990.

ACTING CHAIR—And do you still do that?

Mr Pasfield—No. About 18 months ago I gave that job away and I now work for Ord Land and Water. As I said, I kind of like the idea of having my weekends now—I did not have them before.

ACTING CHAIR—Thank you very much.

Senator O'BRIEN—I was just going to ask about the transport logistics. You obviously know a bit about them from your previous role. Is that an impediment to further development in this area—the ability to ship out horticultural product?

Mr Pasfield—It has always been an issue that growers have needed to deal with. Currently, it is a back-load system either to Perth or to the eastern states which works in. I understand that there are some issues that the rail link will create. Also, as this and other areas in the Northern Territory expand, the call for that back-loading space is becoming a little bit more constant, so transport is certainly becoming an issue, as I understand it.

Senator O'BRIEN—So the rail link will destabilise the efficiency of the trucking industry up here?

Mr Pasfield—I suspect that there will be some destabilisation. It will be interesting to see, once all that has occurred, exactly what opportunities it does create for growers, if any, and whether they outweigh the current way of doing things. Other transport issues were, for example, for export. If we wanted to export anything from the area, the best way to do it was to ship it 3,000 kilometres either to Perth or to Sydney, stick it on a boat plane and then shoot it off from there. That one has always had me scratching my head, but I am getting used to that now, because the easiest way for some of us to get to Perth is actually to get in our car and drive for eight hours to Darwin, hop on a plane and fly to Perth. That is another story, I guess.

ACTING CHAIR—Thank you very much for that. If you want a transcript of what you have just said, it will all come back to haunt you in a few days. We can provide it to you if you would like it.

Mr Pasfield—Thank you very much.

[11.14 a.m.]

CAREY, Mr Bruce Allan, Deputy Chair, Kimberley Primary Industries Association Inc.

McKERRELL, Mr David Stewart, Executive Officer, Kimberley Primary Industries Association Inc.

ACTING CHAIR—Welcome. Do you want to make an opening statement?

Mr McKerrell—No.

ACTING CHAIR—As I said earlier, we are starting from a low base of knowledge and wanting to build the blocks correctly. It would be fair to say that as a committee we are here with a lot of goodwill and, if we can assist the goodwill and cooperation in this area, we will. How much of a problem for the future development of this area is the native title question—the responsibility that has been handed to the Kimberley Land Council on behalf of the local original owners?

Mr McKerrell—The native title issue is obviously the main issue that is holding this area back. It is a very complex issue. The Kimberley Land Council are the recognised body under the Native Title Act who are to negotiate on behalf of the people in this area, so government have to deal with them. It is legislated, so that is the way it is. Unfortunately, I do not believe that the local traditional owners are well represented at the level of the Kimberley Land Council itself. I think that could be a problem.

ACTING CHAIR—My understanding is that Pat Dodson has been nominated by the government or the land council as the head negotiator on one side of this and that there are a couple of new areas coming up for native title negotiation. As I understand it, there has been a determination area. Is that right?

Mr McKerrell—Yes, that would be the Miriuwung Gajerrong No. 1 claim, I would suggest. We have not been given any accurate information on that, so I really cannot comment on where it is at.

ACTING CHAIR—I have had a reasonable amount of experience right around Australia in dealing with Indigenous communities who feel—and there are always people who feel this—that the government stinks, and they may well have reason to. We run into a lot of Indigenous people who think, for instance, that ATSIC does not represent them. I am sure there would be people here who would feel somehow dispossessed from decision making and outcomes for their aspirations. Would it be fair to say that, if you could come to an arrangement where the original owners were satisfied that they had some sort of an income stream generated, you blokes would cooperate by and large with a reasonable position on that?

Mr McKerrell—Most definitely. In fact that was one of the points that we raised with three cabinet ministers from the West Australian government when we met with them back in May. We suggested that, rather than having freehold title to land, perhaps the land could be leasehold

in a similar vein to pastoral lease with the lease payments going to the traditional owners of the land. Whether that is supported or not, we thought it might be a way of breaking the nexus and giving the traditional owners a stake in what was theirs.

ACTING CHAIR—In the future of the area and the wealth growth. You could run into an Indigenous person who wants to be a cane farmer but the bulk of them probably would not want to be. One of the things that I would have thought is as plain as the nose on your face with a lot of the country that I call 'sit-down' country is that a lot of the ILC land would be better sublet somewhere so they get a mainstream cash flow rather than have it as a sit-down property. As a committee, we would be anxious to help facilitate some sort of progress in those sorts of negotiations. Hopefully, out of the process of looking at the water set-up we might be able to assist you. I suppose I could understand if I were one of the original owners sitting here seeing all this go on and with nothing to show for it, but I think a lot of those people probably do not understand that the average person who moves in to make use of the land and water would like to share a bit of it with the local people, so I am pleased that you are able to put that on the record this morning.

Senator O'BRIEN—On the current allocation model, you probably heard me discussing with the previous witness the reason for the effective cap and the allocation limitations that are being imposed on existing users of water, given the volume available. Do you know the basis for that cap, where the number is drawn from and why there is a cap?

Mr McKerrell—No, I do not. I am relatively new to this area, but there are a few things that I have been made aware of since I have been here. One is that there is now deemed to be a need for a large environmental flow in a river that traditionally did not have one. Traditionally the Ord River used to go dry, back into holes, and now it does not. It has got a forced, false flow that has come as a result of power generation, irrigation and so forth. Now it is deemed that the environmental flow needs to be about 1,700 megalitres or so. I think there needs to be more work to validate that because, as I said, you are creating an environmental flow on something you do not really know much about.

Senator O'BRIEN—I guess the purpose of my question was to see whether there was in fact an imposition of a cap on the basis of encouraging water efficiency or not. You do not know whether that was the case.

Mr McKerrell—Water efficiency has been taking place, and it will continue to take place.

Senator O'BRIEN—What are the imperatives that drive that?

Mr McKerrell—I think it was community recognition of the fact that there needed to be some changes made. That came about with the Ord Land and Water Management Plan that Dick Pasfield spoke about before. There is a recognition by both the farmers and the community that the area needs to be sustainable and that water efficiencies, particularly moving away from flood irrigation, if possible, need to take place.

Senator O'BRIEN—So that is just a proposition that has been accepted by the community apropos of a water conservation philosophy.

Mr McKerrell—Yes, to the extent that you can talk to growers who are making changes into trickle irrigation and those sorts of things. They will tell you that their yields are better. The ones that have moved in there are quite happy to be in that field and quite happy to keep going that way. I think we will see more of it taking off.

Senator O'BRIEN—So there is actually a cost benefit. They are saying that by investing the money in trickle irrigation, for example—I presume there is a cost to that—they are getting a better return. Is that how you understand the drivers?

Mr McKerrell—Yes, I believe that is the case. It depends on what the crop is, but, particularly with row crops like beans and those sorts of things, I believe there have been significant benefits for the grower from trickle irrigation.

Senator O'BRIEN—Your submission talks about transport, so I think I should probably ask you about the transport logistics for different agricultural and horticultural sectors. How does transport currently serve the area and how does that work as an aid or impediment to further growth? How do you see the transport issue?

Mr McKerrell—I hope that the railway line will be successful to the extent that it will see more shipping come into the port of Darwin. That will have a fantastic benefit for us because, if you are sea-freighting produce out at the present time, it generally has to go via Fremantle or elsewhere as the shipping is just not there in Darwin. So we hope that the railway line will have a positive benefit in that regard. The worry associated with that is that, if the 125 road trains that currently come up through the Centre to Darwin go on rail, then the produce backloading is also going to have to be on rail. FreightLink assure us that they will be very cost effective and as efficient as the road transport and that the produce will hit the Melbourne and Sydney markets in less than 50 hours—from Katherine. Although that remains to be seen, they certainly seem to be trying to do the right thing.

Senator O'BRIEN—Does that mean 60 hours from here?

Mr McKerrell—Yes. It is currently 72 in a truck so it will be round about the same.

Senator O'BRIEN—I am not sure if a container load is the right measure, but what sort of trucking costs would you face for a 20-tonne container load?

Mr McKerrell—If they use containers, I suspect that the freight costs will increase, because a container can carry 16 tonnes whereas a pantechnicon refrigerated van can carry about 22 tonnes, so you have a loss of six tonnes and I cannot see that the freight will be any cheaper. So, if they use that form, we would like to talk to the transport companies and say, 'Please use trailers and put the whole trailers on the train, rather than using containers.' The current freight rates, as I understand, to the east coast and down south are probably around $260 and $280 a tonne or palette area. In dry freight, that is probably $150 for unrefrigerated stuff.

Senator O'BRIEN—Do you expect that that is likely to increase?

Mr McKerrell—Yes, I suspect that. I base that on the fact that the freight rate up to Darwin is currently about $450 a tonne or palette area. I believe the railways are trying to come in at about

$350 a tonne. All the railway figures are done on freight coming up and nothing on freight going back. I suspect they would try to pick up the extra $100 a tonne on back freight.

Senator O'BRIEN—That is $300 both ways.

Mr McKerrell—It would be $350 both ways, which would be $100 a tonne lift on the freight—and that will be from Katherine. Also, as I said before, there could be a loss in tonnage with—

Senator O'BRIEN—Plus handling charges?

Mr McKerrell—Yes.

Senator O'BRIEN—So you have at the one level a potential to grow here, if the native title and water issues are sorted. Will the areas in which growth is most likely be affected by the freight issue? In other words, is sugar or cotton or something like that likely to be the area of growth or are you expecting the growth to be mixed, if we can overcome the current impediment to growing—the amount of land under cultivation?

Mr McKerrell—The area is diverse, and I think it will continue to be diverse. I believe that cotton will be a crop that will be looked at considerably. It has potential here because of the two-gene cotton we have now. The sugar industry here can be more viable than on the east coast, because the impediments to it at present are all against the grower. The grower only gets 49 per cent of the crush here, as against 66.6 per cent on the east coast. If we can get economies of scale that would make the mill more efficient then the grower's share could get up to over 50 per cent—to, say, 55 per cent. Even with the low, depressed price of sugar now, that would be quite a viable business for the growers. Because of the economies of scale and the areas they can grow on, sugar can be quite a strong industry here.

Senator O'BRIEN—Where would you see that being shipped from—Darwin?

Mr McKerrell—No, I suggest it would still go out of Wyndham. It goes out of Wyndham now. They do it pretty efficiently. The customer need in Indonesia is high. The customer that buys the sugar from here is in fact a subsidiary company of CJ Ord Sugar, which owns the mill here. They have a requirement of 1.2 million tonnes and they are currently getting about 450,000 to 500,000 tonnes. There is a need for that particular mill to double its intake. The infrastructure and things are there in place. They ship out of there now. That will be improved.

Senator O'BRIEN—Is sugar one of the areas where water efficiencies are being addressed.

Mr McKerrell—I believe so. Ord Land and Water have been doing a bit of work on looking at that and at what the requirements of sugar actually are. I am not au fait with the irrigation levels but I believe the old state requirement was about 28 megalitres of water for sugar. I believe that they are looking at significantly lowering that.

Senator O'BRIEN—Is that 28 megalitres of water per hectare?

Mr McKerrell—Yes.

Senator O'BRIEN—Your submission talks about the so-called out of season flow. You say:

While KPIA see the need to maintain an 'environmental flow' in the Ord River as positive, we believe that the proposed annual flow of 1,700 gigalitres is excessive.

You lay out two reasons. One is:

... 'out of season' flow ... is not natural to the Ord.

The second is:

The proposed 1,700 gigalitre figure does not take into account any 'wet season' flood flows that are natural to the Ord.

Can you explain those points further?

Mr McKerrell—The 1,700 gigalitre environmental flow is the flow that comes down the river out of the dam via the hydro. It does not take any account of the water that comes in the wet season out of the spillway over the top. That is surplus flow, over and above that. That is why we believe that, when you have a natural flow coming over the spillway as well, the environmental flow is excessive.

ACTING CHAIR—I recognise that Bruce Carey, Deputy Chair of Kimberley Primary Industries Association, has just arrived. It looks like he has been doing something; he is sweating. I am sure it is not at the thought of us questioning him.

Mr Carey—No.

Mr McKerrell—Bruce might be able to enlighten you more on the benefits of trickle irrigation as against flood irrigation. He was very heavily involved in it in cropping.

Senator O'BRIEN—I will come back to that in a second. What would your organisation's view be of the appropriate environmental flow required via the hydro system?

Mr McKerrell—We have not got a figure on it. We are not experts in that field. We believe, as I said, that the 1,700 is excessive and there should be ways of measuring what the requirements are. I think we should be trying to use the resource there for irrigation purposes. That is what it was put there for. We think it should be better utilised than it is at present, with 20 per cent of its current capacity in the land area being used. When an enormous amount of taxpayers' money has gone into putting that infrastructure there, we believe that there should be a far greater use of it.

Senator O'BRIEN—What do you mean in the submission when you say that there should be no surplus water available for export from the Lake Argyle system?

Mr McKerrell—That is saying that this area here has a capacity to account for every litre of water that is in the Lake Argyle system. We do not believe that it should be piped back to Katherine or to other areas. We believe that the water that is in there can be efficiently used and accounted for in the agricultural pursuits of this area.

Senator O'BRIEN—That is subject to an expansion, is it not?

Mr McKerrell—Subject to the development of Ord stage 2.

ACTING CHAIR—Of roughly 70,000 hectares?

Mr McKerrell—Yes.

ACTING CHAIR—Why is it proposed to pipe it back to Katherine?

Mr McKerrell—For irrigation purposes.

ACTING CHAIR—What is the logic of doing it there and not here? Do they have an easier regime? I note that there has been a statement by the NT government in the last week that it is opposed to any cotton, for instance, in the Northern Territory. Do you know what the logic is as to why you would possibly want to bring forward a proposition to take water over there instead of using it here?

Mr McKerrell—I think it is a development strategy. Caps are now being put on the aquifers over there. I think they are looking at options of surface water, recognising that a lot of the catchment of Lake Argyle does, in fact, come out of the Territory. There has been a push throughout the agricultural industry there to pipe water back.

Senator O'BRIEN—Mr Carey, we were talking earlier about the reason that farmers here might institute a trickle irrigation system at cost, when there are probably no pressures in terms of availability of water to require that. It has been suggested that you can help us with explaining what the incentives might be to do that.

Mr Carey—We leased a block of land from the state government research station. We were virtually forced to do trickle irrigation because of the inability to get water to this exact block for flood. Even though it is quite an expense upfront—there is a constant pumping cost—one thing we did find is that there is no run-off at all, so you are not wasting water. You only water until that plant is full and the surface area is full, so there is no chance of any pesticides or things ending up back in channels and the river. The other thing was that, because the fertiliser is being placed through the trickle to the base of the plant, the fertiliser usage is significantly lower because there is no run-off and no leaching happens. Even if that plant does not use all that fertiliser that year, it is still there in the ground the next year.

Senator O'BRIEN—What were you growing?

Mr Carey—We were growing just about any vegetable you could think of: beans, capsicums, onions, lettuce, cabbages, eggplants, corn and pumpkins. The tape, with its significant cost, needs to be replaced every year, and there is a problem getting rid of it. That is one of the drawbacks of it. The other drawback, I suppose, is just the sheer time it takes to put it down and take it back up again, but we found that it was definitely on a par with the flood and allowed far better control. You could get tractors and things onto that ground and spray virtually straightaway because you only watered the bed—you did not water the whole thing. You did not have to use furrows.

ACTING CHAIR—Would the ground be better suited than, say, some of the black soil where they have gone for trickle irrigation in northern New South Wales—in the Namoi aquifer, for instance, where they have cut back by 85 per cent their allocation? The ground movement breaks the tape and that sort of thing. Do you have that sort of problem?

Mr Carey—No, we never had any of that problem. We did it for five years, and it took us four years to really perfect it. By that time, the lease was up.

ACTING CHAIR—So where did your melons and capsicums et cetera end up?

Mr Carey—Mainly Darwin and Perth. We had a ready supply. We were growing like it really was a proper market garden, although on a pretty large scale—38 hectares of it. We were supplying thousands of units to Darwin because of the freshness. We were cutting lettuce and cabbages in the morning; they were in Darwin that night, so you could not get much fresher. We were getting a premium for them. I come from southern New South Wales originally—

ACTING CHAIR—Whereabouts, just for the record?

Mr Carey—Wee Jasper: the Burrinjuck Dam-Yass area.

ACTING CHAIR—You have come out of high, tilted country to come up here.

Mr Carey—You are not wrong—to get away from the cold! We still have country there. I find that, back there, more and more floods are being replaced by overhead sprinklers. I think that eventually it will happen everywhere.

ACTING CHAIR—Do you think that a lot of goodwill is needed by the farmer organisations—and we talked about this earlier—to overcome the difficulties of negotiation with the local original owners to open up more land? Do you think there are things that are not being done now that should be done and that you would like to put on the record or suggest?

Mr Carey—Yes. One thing I would like is to see the farmer meet the traditional owners. We can never get to them because the KLC will not even meet with us. We have invited them, we have asked them and we have gone to do cross-cultural awareness courses. We hear from the other side that the traditional owners want to see progress. We want to see progress, but there seems to be an industry in between that does not want to see progress.

ACTING CHAIR—But their recognition, surely, in terms of the creation of wealth and the development of the area is that, if we all go about it with goodwill and in the right way, there is enough in it for everyone, as it were. There would be a means to an end to give some sort of a reward for the original owners as well as to create new irrigation areas et cetera.

Mr Carey—As I said, I come from southern New South Wales, and I have seen towns going backwards because of the lack of opportunities and things: we have the opposite here. We have a town still going backwards, and it is not through lack of opportunity; it is being stifled. There is no land—there is no land for towns; there is no land for the farmers. There is a tourist industry here that could double, but we cannot get aeroplanes to come in—for numerous reasons, I

suppose. This place could absolutely fly if we could get more land up. We have diamond mines. We have mining, agriculture and tourism.

ACTING CHAIR—And you could say you more or less have unlimited water.

Mr Carey—Yes.

ACTING CHAIR—Perhaps the most important thing this committee could do is to have a barbecue and invite you fellows, the land council and the local owners.

Mr Carey—That would be terrific.

Senator O'BRIEN—What do you think the farming community would suggest to the traditional owners as a potential benefit from the cooperation that you are seeking?

Mr Carey—I do not know. We have never been able to talk to the traditional owners. We have tried and tried. I for one am quite happy to sit down with anybody who wants to talk to me and I will listen. I think that is what we first have to do: we have to listen to what they want and then we can tell them what we would like. But we have never been given the opportunity.

ACTING CHAIR—Anyhow, we will work on that.

Senator O'BRIEN—Is the land that most farmers farm here freehold or leasehold?

Mr Carey—Freehold. But one suggestion that came out of what we were trying to talk about is something like a long-term lease from the Aboriginals, so that they would be getting paid. It can be their land, but we lease it. I mean to say, all over Australia there are all sorts of leases.

ACTING CHAIR—Anyhow, there is plenty to talk about, if you are able to have the talk.

Mr Carey—Yes.

ACTING CHAIR—We are actually very pleased as a committee that we are able to talk to the local Kimberley Land Council person, who was not able to appear here this morning. We are able to talk to him formally, and you will be pleased to know that we have made arrangements next week to meet down in Canberra with the gentleman who is the CEO. We will certainly be doing everything that we can to fairly and equitably progress the whole debate.

Senator BUCKLAND—There is one area arising from what Mr McKerrell was saying earlier on that I want to touch on. In relation to the hydroelectricity, did I pick up correctly that you were not entirely happy with the quantity of water they were taking from the dam for the production of electricity?

Mr McKerrell—No, I did not say that all.

Senator BUCKLAND—I am asking you.

Mr McKerrell—No, I do not have any problem with the hydro. As I understand it, the hydro will be stretched to its limit if the Argyle Diamond Mine goes underground. I think for the Argyle Diamond Mine to go underneath they need 33 megawatts—or whatever it is—of power to be generated, whereas the capacity of the hydro is only 30. So that would leave the town and so forth with a fair shortfall, but hopefully, if we can increase the capacity of the sugar mill, they can generate power. They have power generation and they could become cogenerators into the grid, which would also assist the viability of the sugar mill. We see that the power here could be another plus for the agricultural industry.

ACTING CHAIR—Just out of curiosity, what do Argyle do with the water? Do they use much water at the mine?

Mr McKerrell—I do not know how much they use. They have their own pipe, but I do not know what the capacity is.

Senator BUCKLAND—I appreciate that, because you have just cleared something up for me. With regard to transport—I tried to do a rough count on the map—it is about 420 kilometres across to the rail line from here.

Mr McKerrell—It is 500 kilometres.

Senator BUCKLAND—Either I counted wrongly or the map has it written wrongly. Going out on truck is more beneficial to the growers in that the road trains can carry more to the railhead than a container. What about the export market? Has there been any research into what the area could produce for the export market?

Mr McKerrell—There has been export done out of here, particularly in melons. On 10 December I have to go to the horticultural market access committee hearing in Sydney and put a case to get market access to Japan for cucurbits under our area of freedom status. We believe there is enormous potential for export. Logistics have been the problem; getting them out, we have to go via somewhere like Brisbane or Fremantle. One exporter that came up here from Sydney last year airfreighted melons into Hong Kong, Singapore, Shanghai and Dubai from Darwin. So there are opportunities to work on. That is where the future for this area lies. That is why I would like to see the railway line be successful as that land bridge so that the ships do come into Darwin.

Senator BUCKLAND—To export, would you be containerising your product?

Mr McKerrell—Yes, you would have to containerise for exports.

Senator BUCKLAND—You said that you ship sugar out through the port at Wyndham. Is it only coastal traders that go in there?

Mr McKerrell—Yes. The only international ones that come in are carrying oil or fuel. Sugar boats and cattle boats come in as well. Apart from that, there is coastal shipping that goes around the coast from Darwin down to Fremantle and back all the time.

Senator BUCKLAND—Where does the sugar that goes out through Wyndham go to?

Mr McKerrell—It goes into Indonesia, to Chiel Jedang's factory.

Senator BUCKLAND—So it is in fact an export product?

Mr McKerrell—Yes, sugar and molasses are export products.

ACTING CHAIR—Just as a left-field question, there is a bloody lot of water that goes out of the Fitzroy River. What do you think would happen if there were development there? Do you think that would assist you?

Mr McKerrell—It is a totally different growing climate. It does not have the heat through the winter that we have. The climate is a lot milder and probably a lot drier.

ACTING CHAIR—It would have a pretty hot summer, though, so would they be able to grow short-grain rice down there?

Mr McKerrell—I do not know.

Mr Carey—I honestly do not know. If the Fitzroy can get some development going down there, we will use their recipe to get the rest of it going here, because we do not seem to be doing much good here. It is all held up by environmentalists, environmental problems and the Aboriginal industry.

ACTING CHAIR—Yes, but no mountain is insurmountable if we go about it the right way. Hopefully, we will make some progress beyond that. Are there any further questions? We are very grateful that you have been able to assist us in the way you have. Certainly, we will not be leaving it where we are leaving it today; we will be progressing it. Thank you very much.

Proceedings suspended from 11.55 a.m. to 1.00 p.m.

VERNES, Ms Tanya, Kimberley Wetlands Project Officer, World Wide Fund for Nature, Australia

ACTING CHAIR—Welcome. You are Peter Cozier's mob.

Ms Vernes—Yes.

ACTING CHAIR—Would you like to make an opening statement?

Ms Vernes—I have put together some information as background on our interest in the area, which is the conservation values in Northern Australia. The Northern Australian rivers and their associated wetlands systems are key public resources, providing multiple ecological benefits to the Australian community. North-west Australia is renowned for its major river systems and coastal wetlands, and is the most important region for waders on the continent. It regularly supports over 500,000 birds, and up to 850,000 birds use it annually. Many rivers, wetlands and ground waters in this region have significant biological value. They are also of significance for their Aboriginal cultural and heritage value and social and economic value.

Australia's tropical rivers and wetlands are becoming increasingly threatened by ad hoc and poorly planned developments, which will change their flows and water quality, and so diminish their value to society. Kimberley wetlands are subject to increasing pressure from human activities, including expansion of irrigated agriculture, mining, tourism, aquaculture, feral plants and animal invasions. That is not to say that they cannot be managed sustainably, but without a sustainability framework they are threatening our environmental values.

Water use in WA has doubled in the last 15 years and is set to double again in the next 20 years, putting additional pressure on water resources state wide. The Kimberley contains significant conservation values. There are five Ramsar sites here, which are internationally important wetlands. They include Lake Argyle and Lake Kununurra. There are a number of nationally important wetlands—fresh water mound springs, which are listed as threatened ecological communities. The Department of the Environment and Heritage has also identified that 17 of the state's 26 wild rivers, which are rivers in pristine or near pristine condition, occur in the Kimberley.

This region also holds the majority of the state's water resources. The major development options continue to focus on exploiting these water resources for developments without a sustainability framework. The full ecological impact of stage 1 irrigation development in the Ord River is not fully understood. However, it is clear that the massively altered flow regime and subsequent irrigation systems have resulted in significant ecological changes to the aquatic biodiversity of the river system, as well as severely impacting on cultural values. Inefficient use of irrigated water is already causing ground water recharge, and excessive watering is transporting toxic chemicals and nutrients to the Lower Ord aquatic ecosystems. These threats are likely to increase as more water is diverted from the river in the future without an appropriate sustainability framework.

Therefore, it is vital that decision making processes are transformed to enable a sustainability framework for the whole of Northern Australia to be implemented in managing current developments and planning future activities. WWF also supports the proposal by the Wentworth Group to develop a national water plan. This includes the environmental needs of Australia's rivers having a guaranteed first priority call on water required to keep them healthy, and that Australia adopts a national system for identifying and protecting heritage and conservation rivers.

WWF supports the improvement of water use efficiency in irrigated agriculture. Increasing the cost of water through full cost pricing will help provide an economic incentive to land-holders to invest in water efficiency measures. However, if government subsidises investments in water efficiency by irrigators, some return to the general community should be expected. WWF supports pricing initiatives that would result in reduced demand for water and that support investment in water conservation. Any increased revenue should be used to support investment in efficiency initiatives or environmental programs. WWF supports a pricing regime based on the full recovery of the costs of water, as proposed in the COAG water reform framework. The costs due to the environmental impact of water extraction and use must be included in this price setting process. I seek permission to provide a written submission at a later date, if possible.

ACTING CHAIR—You most certainly can.

Ms Vernes—Thank you.

ACTING CHAIR—The proposition I put to you is that, if we divert 10 per cent of the water that is up here, we will have more water to deal with as a resource than we have in the Murray-Darling Basin. Does the WWF recognise that it is in the national interest to sustain the Murray-Darling Basin and that, if we can create in this part of Australia a new agricultural frontier, as it were, based on sound scientific knowledge, it would greatly assist the overall environmental impact on Australia?

Ms Vernes—There are two things: the first one is that it is not possible to move to a new area without addressing the problems of the past, so the Murray-Darling Basin would need the environmental flows.

ACTING CHAIR—That is a given. You would need your head blown off if you did not do that.

Ms Vernes—The second thing is that WWF's mission as an organisation is to work with people to solve environmental problems or to plan sustainably. For example, we would not be saying that it is not possible; what we would be saying is that we need all the stakeholders involved to develop a sustainability framework and then determine what the percentage of water could be that maintains all the values that are identified.

ACTING CHAIR—That is what this committee is all about.

Senator O'BRIEN—I am interested in WWF's philosophy for this river system. We have the Ord, which is managed. Lake Argyle obviously is the main water body from a dam system, but there is also the diversion dam just outside town.

ACTING CHAIR—Which we have just had a look at.

Senator O'BRIEN—There is some significant water flowing through that. There is also the Dunham River, which is not managed at all, flowing into the lower Ord system. In the past, I am given to understand, both of those systems would have ranged between no flow and 30,000 cubic metres at the mouth. What would be the most sensible approach to take in the context that we have already altered the environment—there is more consistent flow in the Ord system now than before the dam system and a different environment, including probably more wetlands and greater opportunities for birds and perhaps wading birds? In the view of WWF, have positives come out of that which you might want to preserve now or should we be looking to alter the whole scheme of things?

Ms Vernes—It is a difficult question because we have never had a baseline study for the Ord River, so we have nothing to compare it against. It is actually a river that is still in transition. We do not know what it is going to end up looking like. Are the problems we are viewing now going to manifest themselves at a much greater level in the future? For example, there are reduced flows on the Parry Lagoons flood plain, which is also a Ramsar site—and Lakes Argyle and Kununurra are Ramsar sites. Lakes Argyle and Kununurra post dam have specific ecological values because of their provision for water birds and their habitat. Yet we are impacting on another Ramsar site through that damming system because we are not having the same flow in the lower Ord that was there before. At this stage it is very difficult to tell what is happening or what will happen in the long term.

Senator O'BRIEN—Because the rate of flow at floodtime is reduced, we have reduced the impact on stream side and there is more vegetation?

Ms Vernes—Yes, the vegetation has changed. There are more weeds where the damming has had an influence as opposed to areas that do not have that kind of influence.

Senator O'BRIEN—What are the weed threats?

Ms Vernes—Things like passionfruit, leucaena—the types of things that establish on the riparian edges. So a whole range of things are happening; for example, you are getting a flood with the flows from the lower Ord system, but it is a reduced flood. The vegetation has also adapted over time, prior to the damming, so the seed fall of plants is occurring when the flooding is happening and you are getting the spreading of the species—and the fauna as well, so it is not just the plant species that are being impacted upon; there are flow-on effects. So it is very difficult to say, because all of that has changed. We are seeing new riparian vegetation systems in both Ramsar sites and even out to the Cambridge Gulf. You are getting changes in the geomorphology of the estuary, so some areas are receding and other areas are growing, because the sediment change is different; there are new islands where there were never islands before and reduced channel flows because there is more—

Senator O'BRIEN—Some of that can happen in nature anyway, can't it?

Ms Vernes—It can happen. That is what I am saying: this is still in transition; we are looking at it in a very small time frame. That is my concern. We have to look long term and provide more

science to be able to come up with some of the answers. I have forgotten what you question was now.

Senator O'BRIEN—It doesn't matter; we have a response on the record. There is no test here with marks at the end of it.

Ms Vernes—You were asking about the benefits. There are social benefits because non-Indigenous people have grown up with this system, so they may find it important for economic reasons—irrigation, tour boats and things like that. There are obviously values that have to be considered. On the other hand, some people argue that cultural values have been impacted upon. Those are not addressed; certainly not in stage 1 where you have exclusion from irrigated agricultural areas, just by the nature of irrigated agriculture—you are changing the landscape completely. With the increase in weeds since the damming, for example, you are also getting a lack of access to the river for cultural reasons—fishing, hunting and those sorts of things—so it is very much interlinked. Yes, there may be benefits that are seen by some stakeholders, but you also have the negatives. I do not think that has been looked at to any great degree; except that we are looking at it now.

Senator BUCKLAND—You talked about the social benefits, and you have highlighted a number of the ecological disadvantages. Has it been noted that there have been any ecological benefits at this stage?

Ms Vernes—There have been ecological changes that some people would consider benefits, for example the provision of waterbird habitats. I also read a Wetlands International report saying that an inland water body such as Lake Argyle could provide a very important refuge because of the effects of climate change in the future, which may also increase its ecological value. As far as I know, one species of bird has been lost since damming while other species have increased—but, again, it is very difficult to make those judgments when you do not have any baseline information. We only have one very small study, which was done in a restricted area.

ACTING CHAIR—How long has the WWF had a presence here? Where are you based?

Ms Vernes—I am based here in Kununurra.

ACTING CHAIR—Goodness gracious me! Where are you from?

Ms Vernes—I have been here for about eight years, but I am originally from Melbourne. I have been working for WWF since it started in Kununurra, which was two years ago.

ACTING CHAIR—So two years ago WWF said, 'Let's go and have a look at what is happening at Kununurra'?

Ms Vernes—Yes, WWF recognised that there are increasing pressures on Northern Australia, which will be forced to make some difficult decisions in the future.

ACTING CHAIR—Given that 43 per cent of our water is here and in the gulf, surely we can have a little bit of it to use?

Ms Vernes—You would need to make sure that you are not impacting on the other values, which could be social, cultural or ecological. I believe that the full value of water is not currently recognised. It is very difficult to argue with people—for example Warren Truss, who said that 60 per cent of water in Northern Australia could be used to provide irrigated agriculture. That is not recognising that 60 per cent of water is not water going to waste; it does not flow off to the sea—

ACTING CHAIR—No, and I am sure that Warren Truss did not mean it to mean that.

Ms Vernes—I am sure he did not, but that is, unfortunately, how many people have picked up on it—that the ecosystem services of a river includes allowing the water to flow down a river into the sea.

Senator O'BRIEN—Every aspect of human habitation has an impact. I am interpreting what you have said as suggesting that we should be looking at a means of minimising the impact, and that it is a balancing act.

Ms Vernes—WWF would recommend a sustainability framework for the Ord region as well as Northern Australia, instead of ad hoc.

ACTING CHAIR—So would the farmers, wouldn't they?

Ms Vernes—Yes.

ACTING CHAIR—Do you have a good working relationship with the farmers?

Ms Vernes—I am not directly involved with farmers except through the Ord Land and Water community group, of which I am a board member.

ACTING CHAIR—You are dealing with farmers now.

Ms Vernes—Yes.

Senator O'BRIEN—Are you a part of Ord Land and Water as the WWF representative?

Ms Vernes—No, just as a community person.

Senator O'BRIEN—Issues relating to native title are obviously concerning the farming community here. Does WWF play a role in that?

Ms Vernes—We work with the Kimberley Land Council and traditional owners in other areas of the Kimberley. I could not speak on behalf of traditional owners—

Senator O'BRIEN—I am not asking you to. I just wondered if there was an interaction between WWF and those groups.

Ms Vernes—Yes, there is. WWF certainly respects the traditional ecological knowledge of people who have evolved with the landscape in the last 200 years—much longer than we have.

In fact, one of our projects down at Lake Gregory is working with people with traditional ecological knowledge to improve the management of the wetland. Ramsar sites also recognise that people have evolved with wetlands, and that the use of wetlands and people go together—the ecological values and uses impact upon each other. That is one thing that is very important about Ramsar sites: they are the protection of water bodies for use as well as ecological values. We approach it in that manner.

Senator O'BRIEN—Looking at the country around here from the air, there seemed to be a lot of areas that seem similar—watercourses which obviously run in the wet and not in the dry. Are we looking at a large region with biodiversity characteristics—a part of which is taken up in this scheme—or is the Ord system, for reasons other than human intervention, different?

Ms Vernes—Again, it is difficult to tell. It was probably similar in some ways to the Fitzroy River before damming. It is quite a large river with a large catchment, although Fitzroy has a much larger catchment area. It is difficult to tell; there are different values with every river system.

Senator O'BRIEN—So, if we were to come to grips with the issues around the Ord scheme, would we be able to contemplate replicating it in the Fitzroy?

Ms Vernes—Certainly there would be some similar issues. You could learn a lot from the Ord in terms of how not to do things and having full and proper ecological, social and cultural impact assessments.

ACTING CHAIR—It is a bit like land care for us poor old worn-out farmers from the south. It taught us a lot about what went wrong 100 years ago. It would be fair to say that it would be as much in the interest of the local farmers as it is in your interest to make sure we fix it here.

Ms Vernes—Yes. Farmers are dedicated to that, I think.

ACTING CHAIR—Do you think there is room for improvement? Do you interact with the farm organisations and the original owners in that sort of territory?

Ms Vernes—Not directly, no. In the work to date, we have been working on different issues.

ACTING CHAIR—So you do not have any reflections on how well it does or does not work?

Ms Vernes—Only from the perspective of being a community person.

ACTING CHAIR—Would you like to put your view on the record?

Ms Vernes—I think the awareness has been growing over the years, certainly in the time that I have been here, of the need for farmers to improve the viability of their organisations in terms of environmental sustainability. I think it has certainly been increasing.

ACTING CHAIR—Do you think they are more conscious these days of the original owners' aspirations as well?

Ms Vernes—Yes, I do, but I think it is very difficult. With an outsider's perspective, I can see it is very difficult to come to a decision on a common future when the land uses are so different. I think that will take a lot of work, and it will take addressing stage 1 before we move any further. Those issues of traditional owners and irrigators have not, as far as I am aware, been addressed. That is not to say that farmers do not want to improve that relationship; I am sure they do, and I am sure plenty of them are. But on a broader scale people are still, from what I have been told, kept out of their country, just through the nature of irrigated agriculture. If we are going to plan for the future, perhaps that is something that needs to be taken into consideration.

ACTING CHAIR—One of the failings in firefighting is that often people will come in from the city as the overarching authority to put out a fire in the Pilliga Scrub, for instance, in the north of New South Wales. They have no local knowledge but issue all the orders, greatly to the frustration of the locals who know that they should have gone three miles ahead to put a burn-back in instead of 300 yards. Do you think there is more opportunity to facilitate the aspirations of local Indigenous people by having more local input, rather than some remote body from over the plains?

Ms Vernes—I think the Kimberley is unique in that respect, in that it seems quite strong on local involvement and drivers. There is a lot of scope for people to work at that local level, but I guess there has to be national—

ACTING CHAIR—Maybe we are getting out of your territory a bit here.

Ms Vernes—No. There are other things I would like to say on that.

ACTING CHAIR—Let us go right to it. Do you think it is fair that the custodial powers for the local, original owners should be kept by, for example, the Kimberley Land Council based in Broome?

Ms Vernes—I do not think I can comment on that. That is for them to determine.

ACTING CHAIR—We only arrived in town this morning, so we certainly do not know the answer.

Ms Vernes—There are Kimberley land councils right across the Kimberley. I think one of the most important things, if there are going to be local processes occurring to try to answer some of these questions, is to recognise that the loudest person is not necessarily right and that their view is not the only view. Proper consultation has to be done to ensure that you are doing it in a culturally appropriate manner and including a chance for everybody to have a say and share their values—which is not rocket science.

ACTING CHAIR—You would be tapped into the local set-up here, and you would recognise a fair bit of goodwill. We have picked up on a fair bit of goodwill today.

Ms Vernes—Yes. Hopefully I am not putting across that there is not goodwill. I think that there is. I just think that there are complex problems.

ACTING CHAIR—Is it fair to say that the lack of resolution is holding back decision making for further growth?

Ms Vernes—That is not something I can comment on. You would have to look at what the complexities are.

ACTING CHAIR—That is what we are doing.

Senator O'BRIEN—Can I just ask one quick question. What strikes me is that there are problems regarding land clearing and erosion in other parts of Australia. There is obviously some land clearing here, but I cannot see lots of it. What is WWF's view of the importance of the issue of land clearing in this part of Northern Australia?

Ms Vernes—For Northern Australia generally, we have our land-clearing campaign. The main thing is water—and I can only comment on water from my perspective—because water resource use and land clearing are very much linked. So you have to look at all of those impacts, including loss of biodiversity.

Senator O'BRIEN—It does not seem that the degree of land clearing here in any way reflects, for example, the land clearing in the Murray-Darling Basin.

Ms Vernes—No, there has not been that level of land clearing to date.

ACTING CHAIR—I think they do more in a year in Queensland than they have done here in 100 years—

Ms Vernes—Yes.

ACTING CHAIR—as Peter Cozier well knows.

Ms Vernes—Yes.

Senator BUCKLAND—I only have a couple of things left to ask you. You mentioned chemical run-off earlier, in your opening statement. Do you have any data to show that there has been chemical run-off and do you know what the figures for that run-off are?

Ms Vernes—I can certainly provide figures. There have been a number of studies. And that is not to say that chemical run-off has been a war zone or anything like that for farmers and other people; it has been very much farmers working together with everybody else, trying to address these problems. But we had endosulphan reported by the WRC in 1997—I think that has been reported a few times through their sampling measures—and Doupe in 1998 looked at endosulphan too.

Senator BUCKLAND—Do you have a record of that there, do you?

Ms Vernes—It is a summary.

Senator BUCKLAND—Could you produce that for the committee?

Ms Vernes—I can certainly pull out the relevant data.

Senator BUCKLAND—I think you said you were going to make a written submission later.

Ms Vernes—Yes. I can certainly put that information in.

Senator BUCKLAND—That would be interesting to see. My understanding was that the water put on the land itself for agricultural purposes in the valley stayed on the land. I would be very interested to know how those tests were done. Earlier evidence today suggested that there was what I took to be fairly comprehensive measuring of water quality in the river.

Ms Vernes—Yes, there is. A few years ago, I was part of the Ord Land and Water group—part of that process when it was established—and there was no regular testing, to my knowledge. I would have to check that; I cannot remember. But I know one of our first tasks was to get more regular water monitoring by the farmers before the water drained into the river.

Senator BUCKLAND—Have the effects of those run-offs on the ecology been established?

Ms Vernes—It has not been documented to a wide extent. We have noted where chemicals have turned up, but there has not been a lot of follow-up of the exact impact on the different values of the river system. It is more about trying to stop the chemicals from getting into the river system.

ACTING CHAIR—Do you have any indications that people are putting in tail water drains and picking the water up?

Ms Vernes—We are looking at a whole range of things at the moment, through Ord Land and Water, because there is a quite a lot of run-off from the farms into the river and one of the aims of the Ord Land and Water management plan was to decrease that run-off.

ACTING CHAIR—They would not let that happen down our way!

Ms Vernes—It is the nature of the system too—it is flood irrigation.

Senator BUCKLAND—I have to say I was really impressed with the attitude of some of the groups that addressed us this morning. They seem to be very advanced in their thinking about controlling the dangers of chemical run-off, looking for biological control over chemicals. Have you been involved in any of the studies that have been done along those lines?

Ms Vernes—I have only been involved through Ord Land and Water. For example, one of the projects we are looking at at the moment uses PAM, which is a polyacrylamide, to drop the sediments out of the water, because the endosulphan is transported with the sediments down the river. That is one thing that we are looking at to try to decrease that chemical run-off.

Senator BUCKLAND—Has WWF, through studies in other areas, come up with a proposal or plan as to where the testing should be done—half a kilometre, two kilometres or 10 kilometres downstream?

Ms Vernes—No, we have not done that, to my knowledge. There is nothing like that. We would probably rely on government agencies to provide something along those lines.

Senator BUCKLAND—Have there been any studies on the aquatic life?

Ms Vernes—There has been some study on macroinvertebrates and vegetation for the Ord system, and I have some references here also.

Senator BUCKLAND—Could you make those references available to the committee also?

Ms Vernes—Yes.

Senator BUCKLAND—Thank you.

ACTING CHAIR (Senator O'Brien)—In the absence of the acting chair, I thank you for your evidence. A *Hansard* extract of your evidence will be available to you in a few days. You can check it and, if there are any glaring errors, we will do what we can to correct them. We look forward to your written submission and any other material that you have undertaken to supply.

Proceedings suspended from 1.31 p.m. to 2.04 p.m.

GARDINER, Mrs Elaine Margaret, Chairman, Ord Irrigation Cooperative

INNES, Mr Lindsay, Vice Chair, Ord Irrigation Cooperative

KELLY, Mr Andrew Nicholas, Chief Executive Officer, Ord Irrigation Cooperative

ACTING CHAIR (Senator Heffernan)—I welcome witnesses from the Ord Irrigation Co-op. If you would like to make an opening statement, we would be delighted to hear it, or you can table it. One witness went for 40 minutes on an opening statement; I urge you not to do that. We will then ask you a few questions.

Mrs Gardiner—Lindsay will give an opening statement.

ACTING CHAIR—Thank you.

Mr Innes—You would have received the two-page document that we sent on Friday. It is prereading on some of the concerns we have and to inform you about this area and how we see things developing. It is just background information for you.

Senator O'BRIEN—I will ask some questions arising from that.

Mr Innes—Do you want me to continue or would you like to ask the questions?

ACTING CHAIR—No, please continue.

Mr Innes—It is a fairly young area that has just started off. There are only 14,000 hectares under cultivation at the moment. There is an extremely large water resource—massive, in fact. When you look at the outflows of the Ord into Cambridge Gulf, you see that the amount of water that the cooperative is using is around seven per cent of the annual release of the dam. Of that seven per cent, we return around four per cent to the river for environmental flows, but they are not recognised. We feel that the area is underdeveloped, and most residents and the growers alike would like to see the area further developed. We think it is folly that the people of Australia have paid for infrastructure to be put in place, yet only seven per cent of the product that it is producing is being sold. I do not think any business would survive under that pretext. There is water there, there is plenty of sunlight and there is plenty of land on which to grow food. With that, I will conclude. There is a lot more detail in the paper that I have not spoken on.

ACTING CHAIR—Did you say that you put seven per cent of the water used back into the river?

Mr Innes—Four per cent. This system is a high-flow, high-low system developed in the sixties by the Public Works Department, so there is no recycling of water whatsoever. That suits this tropical environment, because the irrigation area and system is actually a drainage system in the wet season for the town. When we are not irrigating, the channels and drains drain all the monsoonal rainfall off. Because it is a high-low system, you need a continual head to run

irrigation water. That head—that is, water that is not being used—runs straight back into the drains and back into the river.

ACTING CHAIR—You would get a fine down where I come from if you did that.

Mr Innes—For wasting water?

ACTING CHAIR—No, for putting your tail water back in the river. So I suggest that, in due course, if you want to win the battle of the good and the great, up here you will have to do the same.

Mr Innes—This is not tail water. It has not gone near a farm. It is a headwater off the channel system.

ACTING CHAIR—So what do you do with your tail water?

Mr Innes—Tail water goes into the river as well—but not the same amount that comes off the channel system.

ACTING CHAIR—Do you have plans to end that practice?

Mr Innes—Yes.

Mr Kelly—Yes, we do. We are putting in infrastructure now to monitor all our drains. We test for tail water quality and turbidity, and the long-term plan is that, sooner or later, there will be minimal water that leaves the farm and goes into the river.

ACTING CHAIR—It makes you an easy target while you continue to do it the way you do it.

Mr Innes—It is a system that the growers have inherited with megaresources from the government.

ACTING CHAIR—I realise that.

Senator O'BRIEN—I asked Mr Bowyer of the Department of Environment about that part of your submission which related to the interim water allocation of 330 gigalitres to the Ord Irrigation Cooperative. You say:

System efficiency losses are to be the responsibility of the Ord Irrigation Cooperative and not the Water Corporation, the builders of the scheme.

Mr Bowyer suggested that statement referred to the distribution channels. Can you give us a further explanation of what you mean in your submission?

Mr Innes—Sure. Our water allocation licence is at the main off-take of the channels, not what is delivered on farm. The losses that are incurred in the transmission are the Water Corporation's

and ours. Because there has been no water balance and no meters put in place, we really do not know what those losses are. That is basically the substantiation of that claim.

Senator O'BRIEN—In other words, you can put no cost beside the figure, one way or the other?

Mr Innes—There is a cost, because we pay for our allocation at the off-take. So, if there are transmission losses through sand lenses in the channels, which we think is happening at the moment, we still pay for the water that is assessed in the aquifer. It does two things, actually—it also prevents us from using our full allocation on farm. The system is 45 or 50 years old now and has not had any remedial works done to it in line with those transmission losses. We feel that the pressure will be on us environmentally to spend money to stop those losses, firstly because it is undesirable and, secondly, because we are not receiving our full allocation.

Senator O'BRIEN—Is there any idea how much it would cost to perform the remediation work?

Mr Innes—None at all. I think we need to actually monitor the amount of water going into the ground water system. That is going to require water balance. When we inherited this scheme there were no meters put in place and that is what we are doing at the moment. That is basically why we have a five-year interim water allocation—to try and see what is happening with the system and determine how to proceed once we have that information.

Senator O'BRIEN—Another part of your submission says:

The Water Corporation refuses to carry out maintenance on the Packsaddle irrigation system with Grower funds that have been paid to them for that purpose, or to pass those Grower funds to the Ord Irrigation Cooperative for the repairs.

Could you expand further on that statement, please?

Mr Innes—Yes. When the Packsaddle blocks were released, the works that were done for access to irrigation water were paid for by the growers that owned those blocks. Part of that payment was for ongoing capital works that would be required for maintenance. Those works have not been carried out and we have a leaky system out there. We are having problems signing off on the transfer of the assets into the Ord Irrigation Cooperative. One of the points of dispute is on how we treat those moneys and how we get those works completed.

Senator O'BRIEN—Presumably there is an enforceable contract in place between the growers and the entity that was responsible?

Mr Innes—It is being negotiated at the moment.

Senator O'BRIEN—No-one is going to take them to court—is that it?

Mr Innes—We hope it never gets to that stage. They are interested in passing the scheme over to the growers and the growers are keen on running their own destiny and getting the system up to where they think it should be. So we believe the two items there that were mentioned will be solved, probably in the next month or so, we hope.

Senator O'BRIEN—By the transfer of the asset—is that how it will be resolved?

Mr Innes—We are going down to Perth next month and we hope that the transfer of the assets will take place. That is one of the sticking points. There have been several, and that is one of the last ones.

Senator O'BRIEN—As I have been given to understand, essentially the water that is now being used by growers is the water that has passed through the hydro scheme?

Mr Innes—That is correct.

Senator O'BRIEN—And about 25 per cent of that is being used by growers?

Mr Innes—No, it is a lot less, we think. Until we have meters in place, we do not know. But we delivered 175 gigalitres on farm to growers last year, and the approximate use of the hydro system is 2,000 gigalitres.

Senator O'BRIEN—That is a lot less. What you are telling me is that farmers have been billed for 175 gigalitres. Is that right?

Mr Innes—That is right. We know what we deliver on-farm through Dethridge wheels, but we do not know what we receive from the dams because of the lack of metering. We are putting metering in place. It is costing growers a million dollars; it is being put in place now.

Senator O'BRIEN—The Pacific Ord Hydro figure of 1,940 is something that they published as their water usage, is it?

Mr Innes—That is standard off the web site of the Waters and Rivers Commission.

Senator O'BRIEN—So effectively the environmental flow is 1,700 gigalitres roughly?

Mr Innes—Yes. Probably a little bit more. I think the annual release of the dam is around 2,500 gigalitres and we draw off 175. On-farm, maybe it is double. We do not know what the transmission losses are in the channel system, and we will not know until those meters are installed.

Senator O'BRIEN—How do I understand this proposed interim water allocation of 330 gigalitres to the Ord Irrigation Cooperative in the context of what is now being paid for by farmers but not necessarily used?

Mr Innes—The figure has been arrived at after much debate, which we are unhappy with, in any case. We have a Waters and Rivers Commission officer sitting in Perth 3,000 kilometres away telling us what he thinks we should be using, and that is at the off-take. We know what we are selling on-farm to our growers. We do not know what the losses are, but the growers who are growing sugar cane are beyond their allocation now, and it is not the end of the year. It is far too short. We have an interim allocation until a water balance can be determined, then perhaps we go in and renegotiate it.

Mrs Gardiner—There is some land that is not being irrigated. There is a significant amount of land for which we are waiting for a release. That does not come under that 330 gigs. So much as it looks like there is a lot of water there that is not being used, it is there for the future of this other land. With regard to your comment a minute ago, water that gets sold is not wasted. The water that goes through the Dethridge wheels gets put under crops.

Senator O'BRIEN—I did not mean to say it was wasted. Are there any users of water that do not fall under the description of the Ord Irrigation Cooperative drawing water off you?

Mr Innes—Yes. The irrigation cooperative is the major growers cooperative. There are pumpers from the lake that grow small crops. There are also pumpers from the main channel which the Water Corporation still own. They include the sugar mill and the shire four ovals et cetera. There are small growers who have smallholdings and who are growing small plantations who still remain the Water Corporation's customers and not Ord Irrigation's customers.

Senator O'BRIEN—Do we know how much is consumed by those sources?

Mr Innes—No. There is no water balance yet but as soon as we can find out we will be onto it.

Senator O'BRIEN—You do not know the basis for the 330-gigalitre proposal by the Water Corporation?

Mr Innes—It is by the Waters and Rivers Commission.

Senator O'BRIEN—They do not exist anymore. I think it is the Department of Environment.

Mr Innes—The Waters and Rivers Commission is still in there. One particular officer has determined what he thinks we need. He has added up all the land and the crops that are grown on that land and has said that that is what we need. As Elaine alluded to earlier, that includes land that is not under production at the moment. It also includes an 8,000-hectare cane industry, and there is only 5,000 hectares being grown to cane, which is a major water user crop of the valley at the moment. So we are completely underresourced as far as water goes.

Senator BUCKLAND—Is the land that is not under production, which both Mrs Gardiner and Mr Innes talked about, available for someone who says, 'I want to start'?

Mrs Gardiner—That land is still under native title.

Senator BUCKLAND—It is still under native title; no-one can use it at this stage?

Mrs Gardiner—Not at this point, no. There are developers who have an interest in it—they have more than an interest, really.

Mr Innes—There are two sections. There is a boundary fence of 14,000-odd hectares that the allocation has been worked out on. Our best guess is probably around 11,500 to 12,000 hectares net actually green. There are some blocks that have been bought by superannuation funds. Trees

have been planted on them and they have gone into receivership so the trees have not been receiving water. There is also the area under native title that we talked about.

Senator BUCKLAND—What trees were they?

Mrs Gardiner—Sandalwood.

Senator BUCKLAND—Why were they not getting water? Was it because they did not have an allocation?

Mr Innes—The business has gone into receivership. I think two businesses have gone into receivership and two blocks have not been allocated a water supply.

Senator BUCKLAND—So when they went into receivership they stopped watering the plants?

Mr Innes—Yes.

Senator BUCKLAND—Would those blocks be available to a developer who wanted to grow small crops?

Mr Innes—Yes.

Senator BUCKLAND—I imagine that it is hoped that someone will take it up.

Mr Innes—Yes, we hope so. It is certainly included in the allocation but, being a superannuation fund, it is pretty well tied up with litigation.

Senator BUCKLAND—That was just an aside that arose out of something you said—thank you for that. The other thing I wanted to ask about is the number of people who are directly employed on the farms. Do you have a figure on that? I know there is a lot of seasonal work.

Mrs Gardiner—Do you mean farm workers?

Senator BUCKLAND—Yes, directly employed workers.

Mrs Gardiner—We take a lot of seasonal workers from the melon farms. There are not many left at the end of each year, depending on the size of the farm. For instance, I have a 69-hectare farm. We have 40 hectares of sugar cane and 20 hectares of bananas and we have three full-time people plus a manager on all year, because bananas are very intensive.

ACTING CHAIR—Do you have bananas for breakfast?

Mrs Gardiner—Lunch and tea—that's all we can afford! The bigger farms that grow annual crops—obviously bananas are perennial crops—keep on their men, which would be two or three.

ACTING CHAIR—How many individual farms are there in your co-op?

Mr Kelly—We have around 50 shareholders but there are 21 big farms.

ACTING CHAIR—What is a big farm?

Mr Kelly—It can vary from probably 100 hectares to 200 hectares. We have growers who have bigger lots but they lease a lot of them out.

Mr Innes—There are some fairly large holdings. The average, I guess, is from 350 up to 1,500 hectares for the larger growers. The multiplying factor for irrigated horticulture is about eight, as far as what is provided in the way of transport, labour, cardboard cartons and fertiliser—it goes on and on. I guess if you are looking for a net economic understanding of the system, that would be some way we could certainly find it for you.

Senator BUCKLAND—It would be nice to have some figures on people who are directly employed. As you say, three plus a manager full time on a block that size must be labour intensive, although I know that bananas are very labour intensive. Do you know what the employment spin-off is for transport companies, the shops in town, local government and tourism? Do you know what the employment figures are for Kununurra?

Mr Innes—I am not conversant with that, Senator. The Kimberley Development Commission would certainly have those figures to hand. I can get them if you like.

Senator BUCKLAND—Yes, if you could provide us with that, that would be good. Could you break it down into as many components as you can? We heard earlier today—and it might have been in private conversation—that backpackers make up a fairly substantial part of the peak work periods. With the cost of transport, what is the situation? Do you pay for a truck to come and pick up a load and you pay for its travel each way or do you pick a truck up with a back load?

Mr Innes—The freight system out of the valley has probably matured over the last 15-odd years since I have been growing horticulture. It is road train access and a lot of freight is brought from the southern capitals to Darwin and a lot of those trucks go back empty. I guess they factored in their round circuiting just how much we would pay. For instance, you can load a trailer of rockmelons now on a Tuesday and you can have them sold in the Sydney markets on Friday—two drivers up pulling a road train. So, as for access, it is blacktop right across the main highway system and that has helped to develop the horticultural industries in town and I guess it has been one of the mainstays for the area. Certainly, as has been pointed out, the road system is the lifeblood of this town agriculturally.

Senator BUCKLAND—There was some evidence this morning regarding the rail line through to Darwin and the benefits that that could create. Does the cooperative share that view that the rail link could develop advantages for getting your freight to market?

Mr Innes—I really do not know yet. It has been used extensively in the past from Alice Springs to Adelaide, Melbourne and Sydney. The Northern Territory Freight Service were the main user of that. I guess now, if there is a loading system in Katherine, that is perhaps what they might do, loading straight onto the train and then straight down and downloading in Port Augusta.

Senator BUCKLAND—What about the export markets going north?

Mr Innes—I think it is a little bit like the chicken and the egg. We are far too small to command ships to be taking seatainers overseas. We have had a good look at things like mangoes and high-value crops. With a lot of the tariffs in place it is fairly difficult to enter a lot of those markets. We successfully sell in Australia because we grow out of season, but we are in season to South-East Asia. What product we do get out of the place goes out of Perth and is usually airfreight.

Senator BUCKLAND—Are there any transport companies specifically set up here at Kununurra to service the needs of the community?

Mr Innes—Yes. They all have major depots in town.

Senator BUCKLAND—But there is no specific Kununurra company; they are depots for out-of-town people?

Mr Innes—There is a local company that runs from Broome to Darwin. They will cart anything, not just purely produce.

Senator BUCKLAND—There were smiles on many people's faces and I will not ask you to read anything into that. I do not have any other questions. If we can get those employment figures that would be very helpful though.

ACTING CHAIR—The uncapped potential of this neck of the woods is how many times the present use, in irrigation terms? Is it three or four times?

Mr Innes—The area itself I think that has been delineated for expansion in the latest study, which was done by Marubeni/Wesfarmers, was around 35,000 hectares.

ACTING CHAIR—It is 14,000 now, isn't it?

Mr Innes—Yes.

ACTING CHAIR—As a given that you will pick up the tail water and all those other little venial sins in the system, there is no reason why with sensible science and environmental planning that that cannot happen?

Mr Innes—It is our responsibility, now that we are owner of the scheme, to meet those mandatory requirements in reporting to the Office of Water Regulation.

ACTING CHAIR—I presume that for other communities down our way, if you can double or treble the viability of the infrastructure et cetera, the sums will be that much easier.

Mrs Gardiner—Yes, and the water should remain at a good price.

ACTING CHAIR—Yes. Do you think that part of the solution for that will be to have a better dialogue with the local Indigenous people?

Mrs Gardiner—Yes.

Mr Innes—Yes.

ACTING CHAIR—As a committee we would certainly like to be of assistance in any way that you feel we could be. There are some discussions going on at the back of the room now, in fact. As you do not have anything further to add, I would like to say that we are delighted to have come here today. It has been a great experience for us. Obviously there is a fight going on in the Murray-Darling Basin. This neck of the woods has over six per cent of Australia's run-off and the Top End has 43 per cent of the run-off. If we could scientifically utilise 10 per cent of your water, we would be a long way in front. Obviously the Murray-Darling Basin is seriously overburdened and there will have to be some reduced activity and shared pain, and we would like to think that we could assist you in creating a new agricultural frontier up here. Thank you very much for your time and patience. The committee would like to make public the submissions that are detailed here. There being no objection, it is so ordered.

[2.32 p.m.]

VERNES, Ms Tanya, Kimberley Wetlands Project Officer, World Wide Fund for Nature, Australia

Ms Vernes—I just have a question to ask the committee. How do you define 'sustainable agriculture' in the submission that was put out earlier?

ACTING CHAIR—This section is designed for you to make a statement, not to ask any questions.

Ms Vernes—I can make a statement.

ACTING CHAIR—You can make a statement and we will not ask questions.

Ms Vernes—The only thing I wanted to add, which perhaps did not come across as strongly as I wanted it to before, is that a full sustainability framework for Northern Australia goes beyond identifying a particular direction and then making sure a few other things are addressed along the way. I guess that is the main point that I wanted to make. If we are going to be applying principles of ecologically sustainable development and integrated resource planning, it has to be approached from the perspective of looking at all stakeholders and all options, not necessarily defining one particular industry and making sure that some economic, environmental and social components are met.

ACTING CHAIR—Thank you very much.

Committee adjourned at 2.34 p.m.