

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL RESOURCE
MANAGEMENT**

**INQUIRY INTO DISINCENTIVES TO ECOLOGICALLY
SUSTAINABLE LAND AND WATER USE AND OPTIONS AND
CONSEQUENCES FOR REMOVAL**

At Sydney on Wednesday 24 May 2006

The Committee met at 12.15 p.m.

PRESENT

The Hon. P.D. Allan (Chair)

Mr R.S. Amery
Mr G.J. Aplin
Mr I.M. Armstrong
Mr P.R. Draper
Mr G.F. Martin

PETER JOHN ANDREWS, sworn and examined.

CHAIR: For the Hansard record, could you please restate your full name and your professional private address; and also the capacity in which you are here this morning.

Mr ANDREWS: Peter John Andrews from Natural Sequence Farming [NSF]. I have basically two addresses; one at Baramul Stud in the Widden Valley, and one Tarwyn Park in the Bylong.

CHAIR: We have not received a submission from you, Peter, but we have plenty of information, and there is quite a bit of interest in the Committee in your work. Before we fire questions at you, would you like to make any comments?

Mr ANDREWS: Yes, I would.

Mr AMERY: After all that formal approach, you do not have to provide your fingerprints, by the way, so that—

Mr ANDREWS: That is all right. I was not quite sure whether there was a lynching after this show or not. But, yes, I would. Australia has the most extreme climate, the most varied, and it was the most bio-diverse occupied continent, and so we should have understood that in fact the water and the hydrology would have been vital in the way that they worked in moving the landscape. Yet, even in the recent times—I have done a tour from one end of the country to the other fundamentally, with many scientists, and no one has a reference to landscape hydrology and biodiversity. And we should know that biodiversity, plants have to have a relationship in some form, and the only way they can be linked, because they can not get up and walk about, is through the landscape hydrology, through the way the water moves. So while that persists, you people would have to find it extremely difficult to make a decision based on the functioning of this landscape.

Hopefully I can bring together the scientists and the practical processes in this landscape because I am sure there is a major opportunity existing to—I will quote a German scientist. He said that if we can learn to use in-ground water the way that this Australian landscape did, we would have a 70 per cent greater impact on greenhouse than any other process we had, and that includes motor cars, industry or anything else, because the Australian landscape had carbons of 4,000 to 20,000 years old, and it can be accumulated at a massive rate, even monthly, by using the right groups of plants, so our ability to create that huge carbon sink is already proven in our landscape, and we are degrading it rather than developing it.

CHAIR: Peter, what do you think can be done to salvage the situation? Are there strategies that we can apply catchment wide as well as to properties; individual properties? What are your thoughts about solutions?

Mr ANDREWS: Look, it is about recognising the two most fundamental aspects of the environment. Every plant that grows is producing. It is accumulating atmosphere and sunlight into a product that then you can recycle into a product that you can sell. If we took that attitude—farmers, I often say to them, "Go to your door and look out in the morning and say that green surface area, however big it is, however big the tree is, that is my productivity, my profitability is going to be how I can convert that productivity into the most profitable product I can sell." Yet, we have devastated the landscape. We have totally stopped productivity and then tried to get profitability, and we've been doing that by mining the soils, not recycling the environment and the products that are both in the atmosphere and the deeper soil.

Mr AMERY: In relation to—and obviously I think there has been a few references to your battling the stonewalling of bureaucracies and things like that—the issues like biodiversity and some of the things that you talk about do form some components of a number of programs, whether they be under the—there is a lot of catchment management principles and so on, and I would like to hear from you why you think bureaucracies or industries resist some of your findings in light of the fact that you have had some success in your own properties, haven't you? You have had some—I will put this to it—it has been road tested to a certain extent.

Mr ANDREWS: Absolutely; no argument. There is no question. So has biodiversity been road tested.

Mr AMERY: A different model of it, obviously.

Mr ANDREWS: Quite a different model. Biodiversity in some way addresses—you have 3 million compounds in your body. If you want to be the healthy one at the end of it, that is what it has to address, because your relationship in cells, you have 10 per cent of cells are yours and 90 per cent of microbes and that that you use to run your body, so clearly you rely a hell of a lot on your diet to make those 3 million compounds. That is where biodiversity—and when we talk about it, people are happy with biodiversity being five or ten plants, and I started off with an Englishman telling me that 80 plants had to be the basis of a pasture, and I listened to a lecture down in Victoria the other day where a fellow was talking about biodynamics and he said the best producers in biodynamic production were using 90 different plants. It is amazing that we have 89 elements. I see linkages and when we talk about biodiversity we are pretty narrow in terms of the number of plants we think are needed in that process. I am only talking about—under that is a huge number of microbes we do not understand. We are told we only know one half a per cent of them. The plants are really the engineers that feed and grow those microbes which do all the processing.

Mr AMERY: Our teaching really is too limited in that we talk about the theory but using your example quickly, simply put that 10 plants or 20 it does not matter, and you are saying it could be 90, it could be a couple of hundred, you do not know. You are virtually saying that you might have the same principles—

Mr ANDREWS: The principles are fine.

Mr AMERY: We are not going far enough on the ground.

Mr ANDREWS: Absolutely, we are a long way short of it. Clearly, the more extreme the circumstances, the more likely there are gaps to be filled, so that is where the biodiversity is necessary, and if you are in a desert it is necessary probably to have three times what would be in a more moderate area of the country. That is what we tend to forget.

Mr ARMSTRONG: Peter, could you describe a general model farm plan that would encourage a more sustainable land and water use and the principle behind such a plan.

Mr ANDREWS: Basically, all environments—all landscapes—irrespective of the distance between them, go from forestry or coarse vegetation down to wet grasslands or aquaculture at the bottom of the system. That is from one point of the hydrology to the other, so that if a farm were planned, and it can be in a series, my estimate is that it requires about a third of coarse vegetation. Then you have a gradient between coarse vegetation and grass, and then the grasslands, which are the filtering areas of your soil, nutrients and so on, could be the other third. In terms of management, you can move the productivity from the lowest third to above your intermediate bit. Then you are getting close to a sustainable agricultural process. I am suggesting as an extension to that that the middle area be an agriculture strip, and that we should have a farmer rule that says, "When I have the productivity in that area at five times what I presently am working on, I sow my crops," what it does in this climate is almost guarantee a result, and if you get a good year it guarantees the best quality product that we can get, and we can always sell that. And of course it changes nearly all the present agricultural downsides in soil salts and all those things. Everything is—once you get these formulas working, you are in a sustainable situation and your landscape is losing all the problems that it has presently.

Mr MARTIN: How do you measure the productivity—when you say—how do you go about measuring the productivity—

Mr ANDREWS: The potential?

Mr MARTIN: Yes, you made a comment then that—

Mr ANDREWS: Green surface area is my single rule: if it is green and growing, that is productivity. And then the recycling process is about using the soil factory, the microbes, to recycle it into a product that we can then sell as farm produce, be it a cow or a sheep or a goat or a grain.

Mr MARTIN: On that description you gave to Mr Armstrong's question, I was wondering where broad-acre farming would fit into the picture or—

Mr ANDREWS: Absolutely. Look, there is one thing that we forget. In a very arid and dry continent, the most available water is dew, and if we don't organise our landscape with rows of coarse vegetation, permanent vegetation, to keep the overheating factors of the landscape, we lose all that and we will desertify this landscape in a very—we have already done it in many areas. Unless we recognise that we must have that landscape cooling process, which is your coarse vegetation, be it trees, bushes or whatever, we cannot reconstitute the daily dew factor, even if it is there. The only way it is going to be utilised is with a green plant, and if it is not there—I flew to Perth here a couple of months ago, and I was horrified. Within less than an hour out of Sydney, you look down on a desert all the way to Perth.

And you get out and talk to the people. I thought, "This just can't be this bad," and they said, "Yes, we got four inches of rain but we cannot let anything grow; we're wheat farmers." I said, "You're kidding me." And they have salt boiling out of the ground everywhere. So if people want to know what no plants are going to do, go and have a look at Western Australia. It is the extremes of landscape hydrology gone mad. It is running everywhere because there are no plants to manage it.

Mr ARMSTRONG: Peter, it is interesting to think back to, say, some of Oxley's diaries and so forth, and he was surprised at the time he was able to travel, particularly once he got over the top of the mountains, running out to the Darling, and he was surprised at the scant vegetation in many ways. So it is interesting to see how far back we go with vegetation as to—

Mr ANDREWS: We should go back before the Aborigines, because he also—he tells you a hell of a lot about fires everywhere. Everywhere he looked, there were fires.

Mr ARMSTRONG: That is right.

Mr ANDREWS: And that is what happened. They burnt the hell out of the landscape, and so we inherited a basket case, because it had been burnt to a cinder.

Mr ARMSTRONG: Another one is the role that weeds play in the model. What implications does that have, say, for current legislation dealing with weeds?

Mr ANDREWS: Unfortunately, there is a situation in this landscape that in the absence of hard-foot animals, the clay bodies had big cracks in them, which was almost proportionate to the amount of water that had dried out between rain events or flood events. Therefore, the water fell into the cracks and filled laterally, leaving all the fertility on the surface. As soon as we brought in hard-foot animals and agriculture, those cracks have been filled. Now the only infiltration has to be through the surface, so leeching is a major problem, and our surface fertility has gone—crashed.

I can take you everywhere. This a very simple series of tests we can do. You will find you get 10 inches down in the soil and it is perfect; the top is a desert. Therefore, we have to have plants now, because the hydrology has changed the whole fertility pattern in our landscape, and the plants that used to compensate for the impact of those animals, which we are not going to be able to take away—you are not going to get rid of rats, rabbits, sheep, sparrows, starlings; we are not going to do that. I would like to see Australia as it used to be, but it has gone. We have to realise—we have to deal with what we have today and start to do it—

Mr AMERY: What has been the take up? What has been the pick-up from the farming community of your programs?

Mr ANDREWS: I have not had any—no one has gone—I have been around through the landscape. I have not had anyone that has said, "You're crazy, this can't work."

Mr AMERY: No, sorry. What has been the take up of the program, your concept—

Mr ANDREWS: I am saying, there is no one said, "We can't do it. We don't want to do it." They are at this stage, "Who can tell us? Who can show us how to do it?" That is what they want to know.

Mr AMERY: Right. I see. So you are talking about—whether it is government or industry extension services—

Mr ANDREWS: Absolutely. There is nothing.

Mr AMERY: —are not providing that sort of—

Mr ANDREWS: There is nothing.

Mr ARMSTRONG: Nobody is doing it yet, Peter.

Mr ANDREWS: No, unfortunately, no. There is people doing it but they are guessing, and it is not good. This landscape is quite different. The actual natural hydrology in this landscape is the opposite to what we would have normally expected. Vegetation was able to grow very densely in the hollows because it is a very flat landscape as you had pointed out when we came in. Therefore, the water would be forced to run where there was no vegetation, which was on the high points, so that in fact, you would not believe that all the water was running around this—most of it, not all of it—through the high points. That created an infiltration system and a very rapid recharge, and it left the fertility on the surface in the fertile areas. The infiltration was taken, apart from the cracks in the flood plains, through these high points.

Mr AMERY: You realise when a lot of government agencies, extension services and industry are looking at changing the concept for a region, they often have trials and so on. They often recruit farmers to provide certain parts of the land for trials and so on. Has there been any—apart from your own success, which has been well documented—has there been any trials at any government agency around the country—not just Australia and New South Wales, but around the country as put—they have taken up some of your concepts and put them to a trial, or is this one of the bureaucratic battles you are having?

Mr ANDREWS: Yes, it is a bureaucratic battle because, you see, you have a whole series of people making a hell of a lot of money out of the problems.

Mr AMERY: Yes.

Mr ANDREWS: I have officers everywhere and they have been transferred to the Northern Territory and everywhere else because they are saying, "This is what we have to do," and because it has not the same commercial return, the guy is not allowed to be heard.

CHAIR: Can we pause for a minute. I would like to take this opportunity to swear David in.

DAVID CYRIL MITCHELL, sworn and examined.

CHAIR: David, could you please restate your full name, your professional or private address and the capacity in which you are appearing before the Committee.

Professor MITCHELL: My full name is David Cyril Mitchell. I am currently Adjunct Professor at Charles Sturt University. I have a background generally in lakes, waters, and I am appearing at the Committee I think in relation to my interest, and hopefully my expertise, in terms of managing water in landscapes; particularly in the Australian landscape.

CHAIR: Thank you, David. I feel like we are now in the hypothetical arena, so you are happy to keep seamlessly moving through our discussions?

Professor MITCHELL: Absolutely. I apologise for being late.

CHAIR: We completely understand.

Mr APLIN: Peter, I wanted to pick up on the topic which we were speaking about with water, and of course it is David's subject as well. Much of the effort to achieve sustainable water use focuses on the allocation of water through property rights and licensing. What in your view would be the best way to resolve the problem of sharing limited water between the environment and the users?

Mr ANDREWS: Firstly, I have to speak from some of my experiences. I have been in an R&D program in 1994, and the fellow that was the master student told me that when we were allocating water that there were two sets of water being allocated; the river water and the floodplain water. He said, "You can't believe it," because he knew from all our research work that they were one and the same. So to answer your question, we have allocated the same water twice in many areas, and the second issue is that our floodplains were grass-covered dams. As we allocate water away from the floodplains, which were really the only sustainable irrigation system that has ever been created, we are now wetting what was a dry area and drying what was a wet area. Now it is all filling with salt, and we have completely changed the hydrology of our landscapes. It frustrates me to think that we had such an amazing landscape that is now in many areas a basket case. I have been trying to reference as many scientific colleagues as I can, and there is no question that this thing is visible and easy to follow once you take an objective view. I pass it over to David Mitchell. That is rather a difficult one to get to happen.

Professor MITCHELL: Can I address that question?

CHAIR: Absolutely.

Professor MITCHELL: Perhaps if I could preface what I want to say by way of answer to that question by—I do not know what you have talked about before, but I need to put the whole question of this process that Peter is describing into some kind of a historical and long-term consequence. Clearly, scientifically it is important that we do not see things in terms of tomorrow, that we really have to understand what is going on in terms of managing into the long-term future. We also need to look back and see what we have done right and what we have done wrong. If you look at water management in the Australian landscape—and I particularly want to stress the benefits of natural sequence farming in regard to water management and the landscape—they are two problems that we grapple with. What Greg is talking about is a practical issue, which is a real and difficult issue.

What we are trying to do in the long term is to maintain good water quality, and the thing that worries us most is salinity. We spend a lot of our time and energy trying to avoid salinity getting worse; avoid salination. The second is we have to grapple with an uncertain and probably an insufficient supply of water for all the things we would like to have: two difficulties. Conventional wisdom and consequent practice is to store as much water as possible by any means possible—we call it drought proofing—on the one hand, and draining away saline water on the other. Currently, this means we store our water in aboveground artificial lakes, and we therefore see the sorts of things that you can do to increase run-off would improve the storage. The more you have a run-off, the more the reservoirs are going to fill. We know that if you clear native vegetation you increase run-off. It is well known.

We deal with saline water by draining it away, usually into low-lying areas where it evaporates, thereby destroying the pre-existing landscape. This could not be more different than the natural processes that have evolved in the native and plant and animal communities. What we have done in terms of our conventional wisdom which we imported from overseas is to quite drastically change the way this landscape managed itself in regard to those two issues. In the natural processes, water was generally stored in the soil and the vegetation and in underground aquifers if they were present. It is important to recognise that it is not just the storage of water, but the vegetation and the soil cycle. I can illustrate that if we have time later on, how it does that, and particularly how the plants are as mean as hell about letting any water go that they do not have to. Our Australian plants are absolutely incredible in that regard. Sometimes that is a disadvantage. But in terms of the long-term history it was really important.

Also, the vegetation and the soil interacting meant that that little living bit above the mantle of the earth was kept cool. Cooler certainly means less evaporation. It also meant that that area of the earth which is cool tends to attract the hot bits where it has been cleared. The hot air rises, fully ascends. That has a profound effect long term on rainfall. When this hot air is rising you are less likely to have rain, and we now know from work done in Western Australia that where vegetation has been cleared, rainfall in fact gets less over time. It is the rain that we need to worry about. What this really means—I will try and finish that off, but that is giving you the background—it really means that we have to look very carefully and critically at what we are currently doing. As I was explaining to one person the benefit of stuff going into the trees, the water being in the trees, he said, "But they haven't got taps on." We do, to manage the water, we have to be able to deliver it on demand—and that is a question—and to deliver it in relation to some clear guidelines which everybody understands and everybody can adapt to.

I would be saying that we need to explore ways in which we can begin to draw the benefit of millions of years of evolutionary adaptation to this very peculiar and quite difficult country, and to take advantage of those as much as we can. The great excitement to me of the natural sequence farming is what it does in relation to the water management. It is a lot more than that. If the farming is in there as part, it is not natural sequence water management; it is natural sequence farming of which water management is a part. Sorry. I did not mean to speak for so long, but somehow—what do you reckon, Peter?

Mr ANDREWS: That is good enough. It is a difficult subject, obviously, to sit in a room in a room and then analyse. I always find it very easy to stand in a creek and look at a hilltop and drive across a desert and say, "See, it is all there", and it is. But to draw the pictures is a lot harder when you sit in a room to explain. The very important issue is that I was at a meeting—to reference David's comments—where they asked me exactly the question you asked about water. It happened to be at Windsor, and a fellow said, "Do you mind if I answer that", and he said, "I've been 10 years with the Sydney Catchment Authority," and I was starting to say what David was saying, how the plants retain it, and he said the areas where we had the vegetation intact yielded a lot more water than the areas that they had cleared, so it is counter-intuitive to what happens. The cooling process and the dew and the recovery process and the efficiency of the plants that David has alluded to means we end up with more water if the vegetation is there, not less.

We do see in the very first instance that run-off alone—back in Broken Hill area back in the 50s we had CSI running around saying, "Yes, you've cleared the ground, 30 per cent more run-off," but that did not say that there was 80 per cent more dew lost as well, so we ended up with a hell of a lot less water in the landscape.

Professor MITCHELL: To add to that very briefly—it has gone out of my head—

CHAIR: It will come back. Ian, quickly, while it is in your head.

Mr ARMSTRONG: Peter, a quick one. I understand you consult and have various clients. Where can we see some of your work?

Mr ANDREWS: There is a video, Gumlu. We have done a property there, which is quite substantial.

Mr AMERY: Queensland, isn't it?

Mr ANDREWS: Yes. It is up between Bowen and Townsville; midway.

Mr ARMSTRONG: What about in New South Wales, back in the 24-28 inch rainfall areas?

Mr ANDREWS: There is a property at Dubbo; two or three at Dubbo.

Mr ARMSTRONG: Dubbo.

Mr ANDREWS: Three at Dubbo. There is one at Binnaway. Let me say something.

Mr AMERY: You have some of these models popping up around—

Mr ANDREWS: Hold on, let me say something. They are only a very small part of the whole picture, because it is impossible to do what this landscape used to do under the present rules.

Mr ARMSTRONG: The next question to you, David. David, it is like going to the doctor. You have told us we have a serious disease; what pill do we take to fix it?

Professor MITCHELL: Yes. You do not just treat a disease, because a disease has impacts on the whole human welfare and the spirit and a whole lot of things. You might treat it with a pill, but if that is all you do your treatment may or may not work because of other factors that you are not treating.

Mr ARMSTRONG: That is what my doctor says to me.

Professor MITCHELL: Yes. I do not want to sound too—

Mr ANDREWS: It is very similar; honestly, it is. It is very similar.

Professor MITCHELL: You have to treat the whole landscape, and while I focused on the water, because that is my particular interest, I did say that the natural sequence farming deals with nutrition of the plants. It deals with taking advantage of plant growth even when it is not the growth you want—there are ways of doing that—then recycling that, rather than see so much of what grows in a plant, how it washes away down the rivers. If you can retain that organic growth, and Peter's system will do that, if you can retain it in the valley and recycle it—I remember what I was going to say. The important thing about this is that what we are looking at now is already degraded, and the capacity of the natural system to hold water has been undermined. If you can imagine—and I will try to draw this—if you can imagine a series of cups overflowing from one into the other, and when they are full not much rain will spill it across. If you drain out of those, which is what we have tended to do, then much more rain is necessary before it will spill. Do you see? There is a way in which we have undermined the capacity of the landscape to hold water, and there now needs more rain before the run-off. The relationship that Peter is talking about and the one I said it is well demonstrated, it is well demonstrated, but it is demonstrated by a degraded landscape.

Mr ARMSTRONG: I have cleared a lot of eucalypt country, which was very wet when it was under forest, natural forest.

CHAIR: We are going to have you for that one day, Ian.

Mr ARMSTRONG: Absolutely. It certainly was very wet, but once it has been cleared, you are right, the moisture has certainly been contained. What do we do, because that country where those eucalypt trees were was very bare except for eucalypt trees—that is all there was—and possums, basically.

Professor MITCHELL: Peter should address that, because he has strong views about it. I do not necessarily agree with them, but I respect them.

Mr ANDREWS: I have quite a history, but it was brought to my attention by a fellow I have a lot of faith in—Flannery is one of the guys that talk in the same vein—but this fellow was Hakai Tan, who was in the Murray Darling planner at the time when I first met him, and he was telling me that the forests in Australia were a third palms, a third pine trees and eucalypts were part of the last third of the forest mix until the Aborigines came here and started burning. It is evident to me in every catchment, wherever eucalypts are 100 per cent of the catchment it is devastated. We have to recognise straightaway that they have polyphenols and they have a whole series of protective mechanisms that make them dramatically compete. The polyphenols and the waxes off their leaves have a huge half-life, which science is getting themselves around, but some of it is as long as 50 years. I am sure that this dominance and the failure of what we are talking about, biodiversity, because in the period of the Aborigines the biodiversity is—I accept it was reduced to one third of what it previously had been. We have looked at a landscape vastly different to what it used to be when it functioned and

the large animals roamed and there were Central Australian arid forests and so on. It is something that I think is all available to us still. We have to get back and understand how to make it work.

Mr MARTIN: Can I clarify something there. In terms of the use of fire in managing the landscape, or mismanaging, we often have the argument about, particularly in relation to bushfire control mechanisms, that we do not burn the landscape enough and the Aboriginals knew what they were doing, because they had that scorched earth policy, but you have debunked that here this morning. Is that—

Mr ANDREWS: Could I tell you very simply every ecologist that writes on the viability of the landscape talks in quantities of energy; available energy. What happens to the energy when you burn it? I rest my case. I am not saying that—

Mr ARMSTRONG: It reverts back to atoms.

Mr ANDREWS: Pardon?

Mr ARMSTRONG: It goes back and becomes atoms again.

Mr ANDREWS: It goes into gas, doesn't it?

Mr ARMSTRONG: It never disappears. It is always there.

Mr ANDREWS: But you have 100 years against an interface. It is a huge change. In terms of viability, you cannot get it back from the gas. You need a plant to do that, whereas you can recycle it in the vegetation. We have to recognise that we have now a fire-prone landscape, and fire-prone forests, which we have to start to deal with; not burn them all and make them worse. We have to recognise that we are not dealing with a sustainable landscape. The Aboriginals did not leave us a sustainable landscape. We have to stop that myth, it is not true.

CHAIR: Can I ask you, you referred earlier to the rules and regulations, which do create difficulties for what you are currently trying to do. Can you be more specific about some of those rules?

Mr ANDREWS: We have certain rules about flow paths and in actual fact the Australian flow path I first pointed out was on the high ground. Now it runs through the hollows, because there is no vegetation to prevent it from doing that, so to return the water to where it used to be is against the law; that is the first issue. There are huge problems in that because of allocation of water and everything else—it is a minefield—to try and do anything. Then we have the native plant problem of we have introduced all these 200 different species, at least, of foreign animals. All have a major impact on our native plants. If we look through any of the explorers and then our early records, most of our floodplain areas were at least five times as productive in the first 50 years as they are today, with all the money we spend on them. That was absolutely automatic and cost nothing. The change in the vegetation once we introduced sheep and cattle was dramatic, and then the change in this water pattern, absolute. You know, I quote a thing in this soil conservation magazine, which said the Governor of Victoria in 1886 banned the cutting down of any more trees, because he said that dry period and then the recent rain and the impact of the animals on the native pasture had been so profound that the ground had opened up 12 feet wide and as deep for miles and salt was boiling out of the ground everywhere. Yet we did not even get that one right. Now, I was sent from Jim Scott of Armidale University a quote from a Chinaman—and I cannot pronounce the name—Gu Wu something—in 400 BC where he said, "They clear the high forests, which will affect the lower forests, which will affect the wetlands and the fertility of the pasture paddocks or the crop paddocks and then the health of man." We watch it happening every day and we still do not realise we have to start at the high forest and look after it.

Mr AMERY: Is your recommendation—obviously, your request to this Committee is to recommend to governments, parliaments, fundamentally what, that we should be trialing, spending, investing more in trials of—I suppose yours is an alternate farming methods. Is it to overcome—you obviously had some—your story refers to the battles with bureaucracy. What is it? What is it, in a

nutshell, are you asking bureaucracies, governments to achieve? Is it more investment in the trials of these?

Mr ANDREWS: No way in the world. In a nutshell, there is a very profound story written in our landscapes. We have a very dramatic landscape and the story is very easy to see. We need a few people to go out there. It does not cost a lot of money. It used to run for nothing. We need to go out there and be fair dinkum and see what is there.

Mr AMERY: But to sell it to the farming community, who own most of the land, you have these places where they have adapted these concepts on their properties, and if those farmers have a—those producers have a story to tell which means that, "by adopting this, my property is now more sustainable, it is now more profitable" et cetera, et cetera, then the chances of it being taken up by the broader farming community is greater. What I am probably getting to is that you are probably asking—I do not want to put words in your mouth, but you are asking governments and parliaments to recommend more investment in the trials of these concepts, aren't you or not? You are not in relation to that?

Mr ANDREWS: I want to see the money that is being presently invested in those processes stop being wasted. I think at the present time we are wasting it.

Mr AMERY: All right.

Professor MITCHELL: Can I also—the interaction between economics and ecology or sustainable management—let's get away from an esoteric academic term—a lot of people do not know what ecology means, including a lot of ecologists, I might add. But when we are talking about management by people who are making a living out of that management, we are talking about—to me, if you look back in history, it is getting more and more difficult for land holders to be certain of making an income on an annual basis. Why is that so? It has complex economic issues, marketing et cetera. But at the root of it, it is mismanagement of the environment. But we are not going to get back to where we could be had we not mismanaged it. Even with adopting NSF wholesale, it is still going to be a slow process to take degraded properties and to get them back. I think what the real challenge is to people in Parliament, and people in senior bureaucracies, and people who have the power and the capacity to begin to recommend a different way, is to find a way in which land holders who have a profound interest in restoring their property to a sustainable basis—it is a profound, long-term interest—and a day-to-day immediate economic interest in getting that balance right

I think the community needs to assist in that regard, because restoring something that was there before is going to cost money, which is not saleable. You do not sell a restored landscape. If we are to support people as they go through this process to restore the landscape to something which is then sustained, out of which they can then make a sustainable income, as the first farmers did; you know, this country, gold and mining and so on was clearly important, but farming was incredibly important. Is that still true? It is coming at a huge cost to the environment. Go to Western Australia and you can see it is becoming a desert, and once it is a profound desert, it has gone. There are examples in history. I always cite the Carthaginians, who were powerful enough to take on Rome; You know, Hannibal in the Alps and all that. Go to where Carthage is now. It is bare earth. Why? Because they took down all the trees. Why? Because that was their energy source, and it has not recovered. This is what faces—if you really want to worry about the future, we face an incredibly serious challenge and we are fiddling with it; fiddling as Rome burns kind of stuff. And it is partly because we have a fixed view that what we're doing is right, because it is the best we know, but it is not getting there. Anyway, I am sorry I am getting carried away, but it really is—

Mr AMERY: No, it is good. It is very interesting.

CHAIR: That is the end of the story. We really appreciate you coming in today, and we will pursue—I have not seen the Australian Story and I am going to see that and we will circulate that, because Peter appeared in that. We can always contact you again, perhaps, if you—

Mr AMERY: And there are some questions here that are yet to be answered, too.

CHAIR: Yes. We will put that to David. When he is on his big plane flight, sitting there in first class, he can answer them for us. We really appreciate you coming.

Mr ARMSTRONG: It was one of the most interesting parts of our discussions.

Mr AMERY: Yes.

CHAIR: Before we run out of the room, can I—I am sorry.

Professor MITCHELL: Very quickly, the whole landscape process was about getting fertility out of the sea to the tops of the hills. If we think about that and do it, most of the other problems disappear. We can grow trees. That is a slow process of doing exactly the same thing, but if we could stop the fertility going in the sea and put it on the mountain tops—

Mr AMERY: I would not mind seeing that property out—

Mr ARMSTRONG: We have still to find the pills.

CHAIR: While we are here, can I say, is it possible for the for the Secretariat at some point to give us a quick synopsis of the water, the Federal Budgets in Murray decision; so we know. A bit of a summary of the usefulness of that of what it was.

Mr AMERY: If we miss that vote, then we will not have a Committee.

(The Committee adjourned at 1.02 p.m.)